Amazon Elastic Compute Cloud

API Reference

API Version 2016-11-15

Amazon Elastic Compute Cloud: API Reference

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Welcome

This is the *Amazon EC2 API Reference*. It provides descriptions, syntax, and usage examples for each of the actions and data types for Amazon EC2 and Amazon Virtual Private Cloud (Amazon VPC).

The topic for each action shows the Query API request parameters and the XML response. You can also view the XML request elements in the WSDL.

Alternatively, you can use one of the AWS SDKs to access an API that's tailored to the programming language or platform that you're using. For more information, see AWS SDKs.

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Note
We have deprecated the SOAP API for Amazon EC2. For more information, see SOAP Requests (p. 897).

To learn more about Amazon EC2 and Amazon VPC, see the following resources:

- Amazon EC2 product page
- Amazon EC2 User Guide for Linux Instances
- Amazon VPC User Guide
- Amazon EC2 Command Line Reference

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Actions

The following actions are supported:

AcceptReservedInstancesExchangeQuote

Accepts the Convertible Reserved Instance exchange quote described in the GetReservedInstancesExchangeQuote (p. 479) call.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ReservedInstanceId.N

The IDs of the Convertible Reserved Instances to exchange for other Convertible Reserved Instances of the same or higher value.

Type: array of Strings

Required: Yes

TargetConfiguration.N

The configurations of the Convertible Reserved Instance offerings that you are purchasing in this exchange.

Type: array of TargetConfigurationRequest (p. 850) objects

Required: No

Response Elements

The following elements are returned by the service.

exchangeId

The ID of the successful exchange.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AcceptVpcPeeringConnection

Accept a VPC peering connection request. To accept a request, the VPC peering connection must be in the `pending-acceptance` state, and you must be the owner of the peer VPC. Use the `DescribeVpcPeeringConnections` request to view your outstanding VPC peering connection requests.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcPeeringConnectionId
The ID of the VPC peering connection.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

vpcPeeringConnection
Information about the VPC peering connection.

Type: VpcPeeringConnection (p. 877) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example accepts the specified VPC peering connection request.

Sample Request

```
https://ec2.amazonaws.com/?Action=AcceptVpcPeeringConnection
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<AcceptVpcPeeringConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <vpcPeeringConnection>
   <vpcPeeringConnectionId>pcx-1a2b3c4d</vpcPeeringConnectionId>
   <requesterVpcInfo>
     <ownerId>123456789012</ownerId>
     <vpcId>vpc-1a2b3c4d</vpcId>
     <cidrBlock>10.0.0.0/28</cidrBlock>
   </requesterVpcInfo>
   <accepterVpcInfo>
     <ownerId>777788889999</ownerId>
     <vpcId>vpc-111aaa22</vpcId>
     <cidrBlock>10.0.1.0/28</cidrBlock>
     <peeringOptions>
       <allowEgressFromLocalClassicLinkToRemoteVpc>false</
allowEgressFromLocalClassicLinkToRemoteVpc>
       <allowEgressFromLocalVpcToRemoteClassicLink>false</
allowEgressFromLocalVpcToRemoteClassicLink>
     </peeringOptions>
   </accepterVpcInfo>
   <status>
     <code>active</code>
     <message>Active</message>
    </status>
   <tagSet/>
  </vpcPeeringConnection>
 </AcceptVpcPeeringConnectionResponse>"
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AllocateAddress

Acquires an Elastic IP address.

An Elastic IP address is for use either in the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Domain

Set to `vpc` to allocate the address for use with instances in a VPC.

Default: The address is for use with instances in EC2-Classic.

Type: String

Valid Values: `vpc | standard`

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

allocationId

[EC2-VPC] The ID that AWS assigns to represent the allocation of the Elastic IP address for use with instances in a VPC.

Type: String

domain

Indicates whether this Elastic IP address is for use with instances in EC2-Classic (`standard`) or instances in a VPC (`vpc`).

Type: String

Valid Values: `vpc | standard`

publicIp

The Elastic IP address.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example request allocates an Elastic IP address for use with instances in EC2-Classic.

Sample Request

```
https://ec2.amazonaws.com/?Action=AllocateAddress
&AUTHPARAMS
```

Sample Response

```
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <publicIp>192.0.2.1</publicIp>
   <domain>standard</domain>
</AllocateAddressResponse>
```

Example for EC2-VPC

This example request allocates an Elastic IP address for use with instances in a VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=AllocateAddress
Domain=vpc
&AUTHPARAMS
```

Sample Response

```
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <publicIp>198.51.100.1</publicIp>
   <domain>vpc</domain>
   <allocationId>eipalloc-5723d13e</allocationId>
</AllocateAddressResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AllocateHosts

Allocates a Dedicated Host to your account. At minimum you need to specify the instance size type, Availability Zone, and quantity of hosts you want to allocate.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AutoPlacement

This is enabled by default. This property allows instances to be automatically placed onto available Dedicated Hosts, when you are launching instances without specifying a host ID.

Default: Enabled

Type: String

Valid Values: `on | off`

Required: No

AvailabilityZone

The Availability Zone for the Dedicated Hosts.

Type: String

Required: Yes

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

InstanceType

Specify the instance type that you want your Dedicated Hosts to be configured for. When you specify the instance type, that is the only instance type that you can launch onto that host.

Type: String

Required: Yes

Quantity

The number of Dedicated Hosts you want to allocate to your account with these parameters.

Type: Integer

Required: Yes

Response Elements

The following elements are returned by the service.

hostIdSet

The ID of the allocated Dedicated Host. This is used when you want to launch an instance onto a specific host.

Type: array of Strings

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example allocates a Dedicated Host to your account, on to which you can launch m3.medium instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m3.medium
&Quantity=1
&AUTHPARAMS
```

Sample Response

```
<AllocateHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <hostIdSet>
        <item>h-00548908djdsgfs</item>
    </hostIdSet>
</AllocateHostsResponse>
```

Example

This example allocates a Dedicated Host to your account with auto-placement `off`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AllocateHosts
&AvailabilityZone=us-east-1b
&InstanceType=m3.medium
&Quantity=1
&AutoPlacement=off
&AUTHPARAMS
```

Sample Response

```
<AllocateHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <hostIdSet>
        <item>h-00548908djdsgfs</item>
    </hostIdSet>
</AllocateHostsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssignIpv6Addresses

Assigns one or more IPv6 addresses to the specified network interface. You can specify one or more specific IPv6 addresses, or you can specify the number of IPv6 addresses to be automatically assigned from within the subnet's IPv6 CIDR block range. You can assign as many IPv6 addresses to a network interface as you can assign private IPv4 addresses, and the limit varies per instance type. For information, see IP Addresses Per Network Interface Per Instance Type in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Ipv6AddressCount
The number of IPv6 addresses to assign to the network interface. Amazon EC2 automatically selects the IPv6 addresses from the subnet range. You can't use this option if specifying specific IPv6 addresses.

Type: Integer

Required: No

Ipv6Addresses.N
One or more specific IPv6 addresses to be assigned to the network interface. You can't use this option if you're specifying a number of IPv6 addresses.

Type: array of Strings

Required: No

NetworkInterfaceId
The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

assignedIpv6Addresses
The IPv6 addresses assigned to the network interface.

Type: array of Strings

networkInterfaceId
The ID of the network interface.

Type: String

requestId
The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example assigns two IPv6 addresses (`2001:db8:1234:1a00::123` and `2001:db8:1234:1a00::456`) to the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssignIpv6Addresses
&NetworkInterfaceId=eni-d83388b1
&Ipv6Addresses.1=2001:db8:1234:1a00::123
&Ipv6Addresses.2=2001:db8:1234:1a00::456
&AUTHPARAMS
```

Sample Response

```
<AssignIpv6AddressesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>c36d17eb-a0ba-4d38-8727-example</requestId>
    <networkInterfaceId>eni-d83388b1</networkInterfaceId>
    <assignedIpv6Addresses>
        <item>2001:db8:1234:1a00::123</item>
        <item>2001:db8:1234:1a00::456</item>
    </assignedIpv6Addresses>
</AssignIpv6AddressesResponse>
```

Example 2

This example assigns two IPv6 addresses to the specified network interface. Amazon EC2 automatically assigns the addresses from the available IPv6 addresses within the subnet's IPv6 CIDR block range.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssignIpv6Addresses
&NetworkInterfaceId=eni-d83388b1
&Ipv6AddressCount=2
&AUTHPARAMS
```

Sample Response

```
<AssignIpv6AddressesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>c36d17eb-a0ba-4d38-8727-example</requestId>
    <networkInterfaceId>eni-d83388b1</networkInterfaceId>
    <assignedIpv6Addresses>
        <item>2001:db8:1234:1a00:3304:8879:34cf:4071</item>
        <item>2002:db8:1234:1a00:9691:9503:25ad:1761</item>
    </assignedIpv6Addresses>
</AssignIpv6AddressesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssignPrivateIpAddresses

Assigns one or more secondary private IP addresses to the specified network interface. You can specify one or more specific secondary IP addresses, or you can specify the number of secondary IP addresses to be automatically assigned within the subnet's CIDR block range. The number of secondary IP addresses that you can assign to an instance varies by instance type. For information about instance types, see Instance Types in the *Amazon Elastic Compute Cloud User Guide*. For more information about Elastic IP addresses, see Elastic IP Addresses in the *Amazon Elastic Compute Cloud User Guide*.

AssignPrivateIpAddresses is available only in EC2-VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AllowReassignment

Indicates whether to allow an IP address that is already assigned to another network interface or instance to be reassigned to the specified network interface.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

PrivateIpAddress.N

One or more IP addresses to be assigned as a secondary private IP address to the network interface. You can't specify this parameter when also specifying a number of secondary IP addresses.

If you don't specify an IP address, Amazon EC2 automatically selects an IP address within the subnet range.

Type: array of Strings

Required: No

SecondaryPrivateIpAddressCount

The number of secondary IP addresses to assign to the network interface. You can't specify this parameter when also specifying private IP addresses.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example assigns two secondary private IP addresses (`10.0.2.1` and `10.0.2.11`) to the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&PrivateIpAddress.1=10.0.2.1
&PrivateIpAddress.2=10.0.2.11
&AUTHPARAMS
```

Sample Response

```
<AssignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AssignPrivateIpAddresses>
```

Example 2

This example assigns two secondary private IP addresses to the specified network interface. Amazon EC2 automatically assigns these IP addresses from the available IP addresses within the subnet's CIDR block range.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&SecondaryPrivateIpAddressCount=2
&AUTHPARAMS
```

Sample Response

```
<AssignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AssignPrivateIpAddresses>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateAddress

Associates an Elastic IP address with an instance or a network interface.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the *Amazon Elastic Compute Cloud User Guide*.

[EC2-Classic, VPC in an EC2-VPC-only account] If the Elastic IP address is already associated with a different instance, it is disassociated from that instance and associated with the specified instance.

[VPC in an EC2-Classic account] If you don't specify a private IP address, the Elastic IP address is associated with the primary IP address. If the Elastic IP address is already associated with a different instance or a network interface, you get an error unless you allow reassociation.

Important
This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error, and you may be charged for each time the Elastic IP address is remapped to the same instance. For more information, see the *Elastic IP Addresses* section of Amazon EC2 Pricing.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AllocationId

[EC2-VPC] The allocation ID. This is required for EC2-VPC.

Type: String

Required: No

AllowReassociation

[EC2-VPC] For a VPC in an EC2-Classic account, specify true to allow an Elastic IP address that is already associated with an instance or network interface to be reassociated with the specified instance or network interface. Otherwise, the operation fails. In a VPC in an EC2-VPC-only account, reassociation is automatic, therefore you can specify false to ensure the operation fails if the Elastic IP address is already associated with another resource.

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance. This is required for EC2-Classic. For EC2-VPC, you can specify either the instance ID or the network interface ID, but not both. The operation fails if you specify an instance ID unless exactly one network interface is attached.

Type: String

Required: No

NetworkInterfaceId

[EC2-VPC] The ID of the network interface. If the instance has more than one network interface, you must specify a network interface ID.

Type: String

Required: No

PrivateIpAddress

[EC2-VPC] The primary or secondary private IP address to associate with the Elastic IP address. If no private IP address is specified, the Elastic IP address is associated with the primary private IP address.

Type: String

Required: No

PublicIp

The Elastic IP address. This is required for EC2-Classic.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

associationId

[EC2-VPC] The ID that represents the association of the Elastic IP address with an instance.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example request associates an Elastic IP address with an instance in EC2-Classic.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-1234567890abcdef0
&PublicIp=192.0.2.1
&AUTHPARAMS
```

Sample Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AssociateAddressResponse>
```

Example for EC2-VPC

This example request associates a Elastic IP address with an instance in a VPC. The `AllowReassignment` parameter allows the Elastic IP address to be associated with the specified instance even if it's already associated with a different instance or a network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-0598c7d356eba48d7
&AllocationId=eipalloc-5723d13e
&AllowReassignment=true
&AUTHPARAMS
```

Sample Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
   <associationId>eipassoc-fc5ca095</associationId>
</AssociateAddressResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateDhcpOptions

Associates a set of DHCP options (that you've previously created) with the specified VPC, or associates no DHCP options with the VPC.

After you associate the options with the VPC, any existing instances and all new instances that you launch in that VPC use the options. You don't need to restart or relaunch the instances. They automatically pick up the changes within a few hours, depending on how frequently the instance renews its DHCP lease. You can explicitly renew the lease using the operating system on the instance.

For more information, see DHCP Options Sets in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DhcpOptionsId

The ID of the DHCP options set, or `default` to associate no DHCP options with the VPC.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example associates the DHCP options with the ID `dopt-7a8b9c2d` with the VPC with the ID `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=dopt-7a8b9c2d
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</AssociateDhcpOptionsResponse>
```

Example 2

This example changes the VPC with the ID `vpc-1a2b3c4d` to have no associated DHCP options set.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=default
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</AssociateDhcpOptionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateIamInstanceProfile

Associates an IAM instance profile with a running or stopped instance. You cannot associate more than one IAM instance profile with an instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 679) object

Required: Yes

InstanceId

The ID of the instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

iamInstanceProfileAssociation

Information about the IAM instance profile association.

Type: IamInstanceProfileAssociation (p. 678) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example associates the IAM instance profile with the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateIamInstanceProfile
&InstanceId=i-1234567890abcdef0
&IamInstanceProfile.Name=AdminProfile
&AUTHPARAMS
```

Sample Response

```
<AssociateIamInstanceProfileResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>e10deeaf-7cda-48e7-950b-example</requestId>
    <iamInstanceProfileAssociation>
```

```
        <associationId>iip-assoc-0750e3af14e2b40ad</associationId>
        <iamInstanceProfile>
            <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</
arn>
            <id>AIPAJEDNCAA64SSD265D6</id>
        </iamInstanceProfile>
        <instanceId>i-1234567890abcdef0</instanceId>
        <state>associating</state>
    </iamInstanceProfileAssociation>
</AssociateIamInstanceProfileResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateRouteTable

Associates a subnet with a route table. The subnet and route table must be in the same VPC. This association causes traffic originating from the subnet to be routed according to the routes in the route table. The action returns an association ID, which you need in order to disassociate the route table from the subnet later. A route table can be associated with multiple subnets.

For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

RouteTableId

The ID of the route table.

Type: String

Required: Yes

SubnetId

The ID of the subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

associationId

The route table association ID (needed to disassociate the route table).

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example associates a route table with the ID `rtb-e4ad488d` with a subnet with the ID `subnet-15ad487c`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateRouteTable
```

```
&RouteTableId=rtb-e4ad488d
&SubnetId=subnet-15ad487c
```

Sample Response

```
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateSubnetCidrBlock

Associates a CIDR block with your subnet. You can only associate a single IPv6 CIDR block with your subnet. An IPv6 CIDR block must have a prefix length of /64.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Ipv6CidrBlock

The IPv6 CIDR block for your subnet. The subnet must have a /64 prefix length.

Type: String

Required: Yes

SubnetId

The ID of your subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: SubnetIpv6CidrBlockAssociation (p. 846) object

requestId

The ID of the request.

Type: String

subnetId

The ID of the subnet.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example associates IPv6 CIDR block `2001:db8:1234:1a00::/64` with subnet `subnet-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateSubnetCidrBlock
&SubnetId=subnet-1a2b3c4d
&Ipv6CidrBlock=2001:db8:1234:1a00::/64
&AUTHPARAMS
```

Sample Response

```
<AssociateSubnetCidrBlock xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <subnetId>vpc-1a2b3c4d</subnetId>
   <ipv6CidrBlockAssociation>
        <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
        <ipv6CidrBlockState>
            <state>associating</state>
        </ipv6CidrBlockState>
        <associationId>subnet-cidr-assoc-3aa54053</associationId>
   </ipv6CidrBlockAssociation>
</AssociateSubnetCidrBlock>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AssociateVpcCidrBlock

Associates a CIDR block with your VPC. You can only associate a single Amazon-provided IPv6 CIDR block with your VPC. The IPv6 CIDR block size is fixed at /56.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AmazonProvidedIpv6CidrBlock

Requests an Amazon-provided IPv6 CIDR block with a /56 prefix length for the VPC. You cannot specify the range of IPv6 addresses, or the size of the CIDR block.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: VpcIpv6CidrBlockAssociation (p. 876) object

requestId

The ID of the request.

Type: String

vpcId

The ID of the VPC.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example associates an IPv6 CIDR block with VPC `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AssociateVpcCidrBlock
&VpcId=vpc-1a2b3c4d
&AmazonProvidedIpv6CidrBlock=true
&AUTHPARAMS
```

Sample Response

```
<AssociateVpcCidrBlock xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <ipv6CidrBlockAssociation>
        <ipv6CidrBlockState>
            <state>associating</state>
        </ipv6CidrBlockState>
        <associationId>vpc-cidr-assoc-e2a5408b</associationId>
    </ipv6CidrBlockAssociation>
   <vpcId>vpc-1a2b3c4d</vpcId>
</AssociateVpcCidrBlock>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AttachClassicLinkVpc

Links an EC2-Classic instance to a ClassicLink-enabled VPC through one or more of the VPC's security groups. You cannot link an EC2-Classic instance to more than one VPC at a time. You can only link an instance that's in the `running` state. An instance is automatically unlinked from a VPC when it's stopped - you can link it to the VPC again when you restart it.

After you've linked an instance, you cannot change the VPC security groups that are associated with it. To change the security groups, you must first unlink the instance, and then link it again.

Linking your instance to a VPC is sometimes referred to as *attaching* your instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of an EC2-Classic instance to link to the ClassicLink-enabled VPC.

Type: String

Required: Yes

SecurityGroupId.N

The ID of one or more of the VPC's security groups. You cannot specify security groups from a different VPC.

Type: array of Strings

Required: Yes

VpcId

The ID of a ClassicLink-enabled VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example links instance `i-1234567890abcdef0` to VPC `vpc-88888888` through the VPC's security group `sg-12312312`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachClassicLinkVpc
&VpcId=vpc-88888888
&InstanceId=i-1234567890abcdef0
&GroupId.1=sg-12312312
&AUTHPARAMS
```

Sample Response

```
<AttachClassicLinkVpcResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AttachClassicLinkVpcResponse>
```

Example

This example links instance `i-1234567890abcdef0` to VPC `vpc-88888888` through the VPC's security groups `sg-12312312` and `sg-44455566`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachClassicLinkVpc
&VpcId=vpc-88888888
&InstanceId=i-1234567890abcdef0
&GroupId.1=sg-12312312
&GroupId.2=sg-44455566
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AttachInternetGateway

Attaches an Internet gateway to a VPC, enabling connectivity between the Internet and the VPC. For more information about your VPC and Internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InternetGatewayId

The ID of the Internet gateway.

Type: String

Required: Yes

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example attaches the Internet gateway with the ID `igw-eaad4883` to the VPC with the ID `vpc-11ad4878`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-11ad4878
```

```
&AUTHPARAMS
```

Sample Response

```
<AttachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AttachInternetGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AttachNetworkInterface

Attaches a network interface to an instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DeviceIndex

The index of the device for the network interface attachment.

Type: Integer

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachmentId

The ID of the network interface attachment.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example attaches the specified network interface to the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachNetworkInterface
&DeviceIndex=1
```

```
&InstanceId=i-1234567890abcdef0
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS
```

Sample Response

```
<AttachNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>ace8cd1e-e685-4e44-90fb-92014d907212</requestId>
    <attachmentId>eni-attach-d94b09b0</attachmentId>
</AttachNetworkInterfaceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AttachVolume

Attaches an EBS volume to a running or stopped instance and exposes it to the instance with the specified device name.

Encrypted EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.

For a list of supported device names, see Attaching an EBS Volume to an Instance. Any device names that aren't reserved for instance store volumes can be used for EBS volumes. For more information, see Amazon EC2 Instance Store in the *Amazon Elastic Compute Cloud User Guide*.

If a volume has an AWS Marketplace product code:

- The volume can be attached only to a stopped instance.
- AWS Marketplace product codes are copied from the volume to the instance.
- You must be subscribed to the product.
- The instance type and operating system of the instance must support the product. For example, you can't detach a volume from a Windows instance and attach it to a Linux instance.

For an overview of the AWS Marketplace, see Introducing AWS Marketplace.

For more information about EBS volumes, see Attaching Amazon EBS Volumes in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Device

The device name to expose to the instance (for example, `/dev/sdh` or `xvdh`).

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

VolumeId

The ID of the EBS volume. The volume and instance must be within the same Availability Zone.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachTime

The time stamp when the attachment initiated.

Type: Timestamp

deleteOnTermination
Indicates whether the EBS volume is deleted on instance termination.
Type: Boolean

device
The device name.
Type: String

instanceId
The ID of the instance.
Type: String

requestId
The ID of the request.
Type: String

status
The attachment state of the volume.
Type: String
Valid Values: `attaching | attached | detaching | detached`

volumeId
The ID of the volume.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example 1

This example request attaches the volume with the ID `vol-1234567890abcdef0` to the instance with the ID `i-1234567890abcdef0` and exposes it as `/dev/sdh`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachVolume
&VolumeId=vol-1234567890abcdef0
&InstanceId=i-1234567890abcdef0
&Device=/dev/sdh
&AUTHPARAMS
```

Sample Response

```
<AttachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <device>/dev/sdh</device>
  <status>attaching</status>
  <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</AttachVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AttachVpnGateway

Attaches a virtual private gateway to a VPC. For more information, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachment

Information about the attachment.

Type: VpcAttachment (p. 872) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example attaches the virtual private gateway with the ID `vgw-8db04f81` to the VPC with the ID `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AttachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<AttachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <attachment>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>attaching</state>
   </attachment>
</AttachVpnGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AuthorizeSecurityGroupEgress

[EC2-VPC only] Adds one or more egress rules to a security group for use with a VPC. Specifically, this action permits instances to send traffic to one or more destination IPv4 or IPv6 CIDR address ranges, or to one or more destination security groups for the same VPC. This action doesn't apply to security groups for use in EC2-Classic. For more information, see Security Groups for Your VPC in the *Amazon Virtual Private Cloud User Guide*. For more information about security group limits, see Amazon VPC Limits.

Each rule consists of the protocol (for example, TCP), plus either a CIDR range or a source group. For the TCP and UDP protocols, you must also specify the destination port or port range. For the ICMP protocol, you must also specify the ICMP type and code. You can use -1 for the type or code to mean all types or all codes.

Rule changes are propagated to affected instances as quickly as possible. However, a small delay might occur.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrIp

The CIDR IPv4 address range. We recommend that you specify the CIDR range in a set of IP permissions instead.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. We recommend that you specify the port range in a set of IP permissions instead.

Type: Integer

Required: No

GroupId

The ID of the security group.

Type: String

Required: Yes

IpPermissions.N

A set of IP permissions. You can't specify a destination security group and a CIDR IP address range.

Type: array of IpPermission (p. 721) objects

Required: No

IpProtocol

The IP protocol name or number. We recommend that you specify the protocol in a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupName

The name of a destination security group. To authorize outbound access to a destination security group, we recommend that you use a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupOwnerId

The AWS account number for a destination security group. To authorize outbound access to a destination security group, we recommend that you use a set of IP permissions instead.

Type: String

Required: No

ToPort

The end of port range for the TCP and UDP protocols, or an ICMP type number. We recommend that you specify the port range in a set of IP permissions instead.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example request grants your security group with the ID `sg-1a2b3c4d` access to the `192.0.2.0/24` and `198.51.100.0/24` IPv4 address ranges on TCP port 80.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24
&AUTHPARAMS
```

Sample Response

```
<AuthorizeSecurityGroupEgressResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
```

```
</AuthorizeSecurityGroupEgressResponse>
```

Example 2

This example request grants egress access from the security group with the ID `sg-1a2b3c4d` to the security group with the ID `sg-9a8d7f5c` on TCP port 1433.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c
&AUTHPARAMS
```

Example 3

This example request grants your security group with the ID `sg-1a2b3c4d` access to the `2001:db8:1234:1a00::/64` IPv6 address range on TCP port 22.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

AuthorizeSecurityGroupIngress

Adds one or more ingress rules to a security group.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

[EC2-Classic] This action gives one or more IPv4 CIDR address ranges permission to access a security group in your account, or gives one or more security groups (called the *source groups*) permission to access a security group for your account. A source group can be for your own AWS account, or another. You can have up to 100 rules per group.

[EC2-VPC] This action gives one or more IPv4 or IPv6 CIDR address ranges permission to access a security group in your VPC, or gives one or more other security groups (called the *source groups*) permission to access a security group for your VPC. The security groups must all be for the same VPC or a peer VPC in a VPC peering connection. For more information about VPC security group limits, see Amazon VPC Limits.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrIp

The CIDR IPv4 address range. You can't specify this parameter when specifying a source security group.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

FromPort

The start of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 type number. For the ICMP/ICMPv6 type number, use `-1` to specify all types.

Type: Integer

Required: No

GroupId

The ID of the security group. Required for a nondefault VPC.

Type: String

Required: No

GroupName

[EC2-Classic, default VPC] The name of the security group.

Type: String

Required: No

IpPermissions.N

A set of IP permissions. Can be used to specify multiple rules in a single command.

Type: array of IpPermission (p. 721) objects

Required: No

IpProtocol

The IP protocol name (`tcp`, `udp`, `icmp`) or number (see Protocol Numbers). (VPC only) Use `-1` to specify all protocols. If you specify `-1`, or a protocol number other than `tcp`, `udp`, `icmp`, or `58` (ICMPv6), traffic on all ports is allowed, regardless of any ports you specify. For `tcp`, `udp`, and

`icmp`, you must specify a port range. For protocol `58` (ICMPv6), you can optionally specify a port range; if you don't, traffic for all types and codes is allowed.

Type: String

Required: No

SourceSecurityGroupName

[EC2-Classic, default VPC] The name of the source security group. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the start of the port range, the IP protocol, and the end of the port range. Creates rules that grant full ICMP, UDP, and TCP access. To create a rule with a specific IP protocol and port range, use a set of IP permissions instead. For EC2-VPC, the source security group must be in the same VPC.

Type: String

Required: No

SourceSecurityGroupOwnerId

[EC2-Classic] The AWS account number for the source security group, if the source security group is in a different account. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the IP protocol, the start of the port range, and the end of the port range. Creates rules that grant full ICMP, UDP, and TCP access. To create a rule with a specific IP protocol and port range, use a set of IP permissions instead.

Type: String

Required: No

ToPort

The end of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 code number. For the ICMP/ICMPv6 code number, use `-1` to specify all codes.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

[EC2-Classic] This example request grants TCP port 80 access from the `192.0.2.0/24` and `198.51.100.0/24` IPv4 address ranges to the security group in EC2-Classic named `websrv`.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
```

```
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24
&AUTHPARAMS
```

Example 2

[EC2-Classic, default VPC] This example request grants full ICMP, UDP, and TCP access from a source group called webserver1 (in AWS account 123456789012) to a security group in your account with the ID sg-1a2b3c4d. For EC2-VPC, the group owner ID parameter is not required, and the source security group must be in the same VPC. For an example of granting access to specific protocols and ports, see example 3.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&SourceSecurityGroupOwnerId=123456789012
&SourceSecurityGroupName=webserver1
&AUTHPARAMS
```

Example 3

[EC2-Classic, default VPC] This example request grants TCP port 80 access from the source group named `OtherAccountGroup` (in AWS account `123456789012`) to the security group named `websrv`. For EC2-VPC, the user ID parameter is not required, and the source security group must be in the same VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Groups.1.GroupName=OtherAccountGroup
&IpPermissions.1.Groups.1.UserId=123456789012
&AUTHPARAMS
```

Example 4

[EC2-VPC] This example request grants TCP port 80 access from the source group `sg-2a2b3c4d` to the security group `sg-1a2b3c4d`. In EC2-VPC, you must use the security group IDs in a request, not the security group names. The source security group must be in the same VPC or in a peer VPC (requires a VPC peering connection).

Sample Request

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Groups.1.GroupId=sg-2a2b3c4d
&AUTHPARAMS
```

Example 5

[EC2-Classic, default VPC] This example request grants your local system the ability to use SSH (port 22) to connect to any instance in the security group named `default`. For a nondefault VPC, use the GroupId parameter instead.

Sample Request

```
https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32
&AUTHPARAMS
```

Example 6

[EC2-Classic, default VPC] This example request grants your local system the ability to use Remote Desktop (port 3389) to connect to any instance in the security group named `default`. For a nondefault VPC, use the GroupId parameter instead.

Sample Request

```
https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=3389
&IpPermissions.1.ToPort=3389
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32
```

Example 7

[EC2-VPC] This example grants SSH access (port 22) from the IPv6 range `2001:db8:1234:1a00::/64`.

Sample Request

```
https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

BundleInstance

Bundles an Amazon instance store-backed Windows instance.

During bundling, only the root device volume (C:\) is bundled. Data on other instance store volumes is not preserved.

> **Note**
> This action is not applicable for Linux/Unix instances or Windows instances that are backed by Amazon EBS.

For more information, see Creating an Instance Store-Backed Windows AMI.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance to bundle.

Type: String

Default: None

Required: Yes

Type: String

Required: Yes

Storage

The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error.

Type: Storage (p. 842) object

Required: Yes

Response Elements

The following elements are returned by the service.

bundleInstanceTask

Information about the bundle task.

Type: BundleTask (p. 635) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request bundles the specified instance.

Before you specify a value for your access key ID, review and follow the guidance in Best Practices for Managing AWS Access Keys.

Sample Request

```
https://ec2.amazonaws.com/?Action=BundleInstance
&InstanceId=i-1234567890abcdef0
&Storage.S3.AWSAccessKeyId='AKIAIOSFODNN7EXAMPLE'
&Storage.S3.Bucket=myawsbucket
&Storage.S3.Prefix=winami
&Storage.S3.UploadPolicy=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MD
laIiwiY29uZGl0aW9ucyI6IFt7ImJ1Y2tldCI6ICJteS1idWNrZXQifSxbInN0YXJ0cy13aXRoIiwgI
iRrZXkiLCAibXktbmV3LWltYWdlIl0seyJhY2wiOiAiZWMyLWJ1bmRsZS1yZWFkIn1dfEXAMPLE
&Storage.S3.UploadPolicySignature=fh5tyyyQD8W4COEthj3nlGNEXAMPLE
&AUTHPARAMS
```

Sample Response

```
<BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
      <instanceId>i-1234567890abcdef0</instanceId>
      <bundleId>bun-c1a540a8</bundleId>
      <state>bundling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <progress>70%</progress>
      <storage>
        <S3>
          <bucket>myawsbucket</bucket>
          <prefix>winami</prefix>
        </S3>
      </storage>
  </bundleInstanceTask>
</BundleInstanceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V2

CancelBundleTask

Cancels a bundling operation for an instance store-backed Windows instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

BundleId

The ID of the bundle task.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

bundleInstanceTask

Information about the bundle task.

Type: BundleTask (p. 635) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request cancels the specified bundle task.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelBundleTask
&BundleId=bun-cla322b9
&AUTHPARAMS
```

Sample Response

```
<CancelBundleTaskResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
      <instanceId>i-1234567890abcdef0</instanceId>
```

```
      <bundleId>bun-cla322b9</bundleId>
      <state>canceling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <progress>20%</progress>
      <storage>
        <S3>
          <bucket>myawsbucket</bucket>
          <prefix>my-new-image</prefix>
        </S3>
      </storage>
  </bundleInstanceTask>
</CancelBundleTaskResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelConversionTask

Cancels an active conversion task. The task can be the import of an instance or volume. The action removes all artifacts of the conversion, including a partially uploaded volume or instance. If the conversion is complete or is in the process of transferring the final disk image, the command fails and returns an exception.

For more information, see Importing a Virtual Machine Using the Amazon EC2 CLI.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ConversionTaskId

The ID of the conversion task.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ReasonMessage

The reason for canceling the conversion task.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request cancels the conversion task with the ID `import-i-fh95npoc`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelConversionTask
&ConversionTaskId=import-i-fh95npoc
```

```
&AUTHPARAMS
```

Sample Response

```
<CancelConversionTaskResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</CancelConversionTaskResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelExportTask

Cancels an active export task. The request removes all artifacts of the export, including any partially-created Amazon S3 objects. If the export task is complete or is in the process of transferring the final disk image, the command fails and returns an error.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ExportTaskId

The ID of the export task. This is the ID returned by `CreateInstanceExportTask`.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request cancels the export task with the ID `export-i-1234wxyz`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelExportTask
&exportTaskId=export-i-1234wxyz
&AUTHPARAMS
```

Sample Response

```
<CancelExportTask xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<return>true</return>
</CancelExportTask>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelImportTask

Cancels an in-process import virtual machine or import snapshot task.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CancelReason
The reason for canceling the task.
Type: String
Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

ImportTaskId
The ID of the import image or import snapshot task to be canceled.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

importTaskId
The ID of the task being canceled.
Type: String

previousState
The current state of the task being canceled.
Type: String

requestId
The ID of the request.
Type: String

state
The current state of the task being canceled.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelReservedInstancesListing

Cancels the specified Reserved Instance listing in the Reserved Instance Marketplace.

For more information, see Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ReservedInstancesListingId

The ID of the Reserved Instance listing.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesListingsSet

The Reserved Instance listing.

Type: array of ReservedInstancesListing (p. 780) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request cancels a Reserved Instance listing in the Reserved Instance Marketplace. The response shows that the status is cancelled.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelReservedInstancesListing
&ReservedInstancesListingId=3ebe97b5-f273-43b6-a204-7a18cEXAMPLE
&AUTHPARAMS
```

Sample Response

```
<CancelReservedInstancesListingResponse>
    <requestId>bec2cf62-98ef-434a-8a15-886fcexample</requestId>
    <reservedInstancesListingsSet>
        <item>
            <reservedInstancesListingId>3ebe97b5-f273-43b6-
a204-7a18cEXAMPLE</reservedInstancesListingId>
            <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
            <createDate>2012-07-12T16:55:28.000Z</createDate>
```

```
            <updateDate>2012-07-12T16:55:28.000Z</updateDate>
            <status>cancelled</status>
            <statusMessage>CANCELLED</statusMessage>
            <instanceCounts>
                <item>
                    <state>Available</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Sold</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Cancelled</state>
                    <instanceCount>1</instanceCount>
                </item>
                <item>
                    <state>Pending</state>
                    <instanceCount>0</instanceCount>
                </item>
            </instanceCounts>
            <priceSchedules>
                <item>
                    <term>5</term>
                    <price>166.64</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>4</term>
                    <price>133.32</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>3</term>
                    <price>99.99</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>2</term>
                    <price>66.66</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>1</term>
                    <price>33.33</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
            </priceSchedules>
            <tagSet/>
            <clientToken>XqJIt1342112125076</clientToken>
        </item>
    </reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelSpotFleetRequests

Cancels the specified Spot fleet requests.

After you cancel a Spot fleet request, the Spot fleet launches no new Spot instances. You must specify whether the Spot fleet should also terminate its Spot instances. If you terminate the instances, the Spot fleet request enters the `cancelled_terminating` state. Otherwise, the Spot fleet request enters the `cancelled_running` state and the instances continue to run until they are interrupted or you terminate them manually.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SpotFleetRequestId.N

The IDs of the Spot fleet requests.

Type: array of Strings

Required: Yes

TerminateInstances

Indicates whether to terminate instances for a Spot fleet request if it is canceled successfully.

Type: Boolean

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successfulFleetRequestSet

Information about the Spot fleet requests that are successfully canceled.

Type: array of CancelSpotFleetRequestsSuccessItem (p. 641) objects

unsuccessfulFleetRequestSet

Information about the Spot fleet requests that are not successfully canceled.

Type: array of CancelSpotFleetRequestsErrorItem (p. 640) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example cancels Spot fleet request sfr-123f8fc2-cb31-425e-abcd-example2710 and terminates all instances that were launched by the request.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelSpotFleetRequests
&SpotFleetRequestId.1=sfr-123f8fc2-cb31-425e-abcd-example2710
&TerminateInstances=true
&AUTHPARAMS
```

Sample Response

```
<CancelSpotFleetRequestsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>e12d2fe5-6503-4b4b-911c-example</requestId>
    <unsuccessfulFleetRequestSet/>
    <successfulFleetRequestSet>
        <item>
            <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</
spotFleetRequestId>
            <currentSpotFleetRequestState>cancelled_terminating</
currentSpotFleetRequestState>
            <previousSpotFleetRequestState>active</
previousSpotFleetRequestState>
        </item>
    </successfulFleetRequestSet>
</CancelSpotFleetRequestsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CancelSpotInstanceRequests

Cancels one or more Spot instance requests. Spot instances are instances that Amazon EC2 starts on your behalf when the bid price that you specify exceeds the current Spot price. Amazon EC2 periodically sets the Spot price based on available Spot instance capacity and current Spot instance requests. For more information, see Spot Instance Requests in the *Amazon Elastic Compute Cloud User Guide*.

Important
Canceling a Spot instance request does not terminate running Spot instances associated with the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SpotInstanceRequestId.N
One or more Spot instance request IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

spotInstanceRequestSet
One or more Spot instance requests.

Type: array of CancelledSpotInstanceRequest (p. 638) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example cancels the specified Spot instance request.

Sample Request

```
https://ec2.amazonaws.com/?Action=CancelSpotInstanceRequests
&SpotInstanceRequestId.1=sir-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<CancelSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet>
</CancelSpotInstanceRequestsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ConfirmProductInstance

Determines whether a product code is associated with an instance. This action can only be used by the owner of the product code. It is useful when a product code owner needs to verify whether another user's instance is eligible for support.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

ProductCode

The product code. This must be a product code that you own.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ownerId

The AWS account ID of the instance owner. This is only present if the product code is attached to the instance.

Type: String

requestId

The ID of the request.

Type: String

return

The return value of the request. Returns `true` if the specified product code is owned by the requester and associated with the specified instance.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example determines whether the specified product code is associated with the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=ConfirmProductInstance
&ProductCode=774F4FF8
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<ConfirmProductInstanceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <ownerId>111122223333</ownerId>
</ConfirmProductInstanceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CopyImage

Initiates the copy of an AMI from the specified source region to the current region. You specify the destination region by using its endpoint when making the request.

For more information, see Copying AMIs in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

Description

A description for the new AMI in the destination region.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Encrypted

Specifies whether the destination snapshots of the copied image should be encrypted. The default CMK for EBS is used unless a non-default AWS Key Management Service (AWS KMS) CMK is specified with `KmsKeyId`. For more information, see Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.

Type: Boolean

Required: No

KmsKeyId

The full ARN of the AWS Key Management Service (AWS KMS) CMK to use when encrypting the snapshots of an image during a copy operation. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. The ARN contains the `arn:aws:kms` namespace, followed by the region of the CMK, the AWS account ID of the CMK owner, the `key` namespace, and then the CMK ID. For example, arn:aws:kms:*us-east-1*:*012345678910*:key/*abcd1234-a123-456a-a12b-a123b4cd56ef*. The specified CMK must exist in the region that the snapshot is being copied to. If a `KmsKeyId` is specified, the `Encrypted` flag must also be set.

Type: String

Required: No

Name

The name of the new AMI in the destination region.

Type: String

Required: Yes

SourceImageId

The ID of the AMI to copy.

Type: String

Required: Yes

SourceRegion
The name of the region that contains the AMI to copy.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

imageId
The ID of the new AMI.
Type: String

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request copies the AMI in `us-west-2` with the ID `ami-1a2b3c4d`, naming the new AMI `My-Standard-AMI`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CopyImage
&SourceRegion=us-west-2
&SourceImageId=ami-1a2b3c4d
&Name=My-Standard-AMI
&Description=This%20is%20the%20new%20version%20of%20My-Standard-AMI
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS
```

Sample Response

```
<CopyImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
   <imageId>ami-4d3c2b1a</imageId>
</CopyImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CopySnapshot

Copies a point-in-time snapshot of an EBS volume and stores it in Amazon S3. You can copy the snapshot within the same region or from one region to another. You can use the snapshot to create EBS volumes or Amazon Machine Images (AMIs). The snapshot is copied to the regional endpoint that you send the HTTP request to.

Copies of encrypted EBS snapshots remain encrypted. Copies of unencrypted snapshots remain unencrypted, unless the `Encrypted` flag is specified during the snapshot copy operation. By default, encrypted snapshot copies use the default AWS Key Management Service (AWS KMS) customer master key (CMK); however, you can specify a non-default CMK with the `KmsKeyId` parameter.

Note
To copy an encrypted snapshot that has been shared from another account, you must have permissions for the CMK used to encrypt the snapshot.

Note
Snapshots created by the CopySnapshot action have an arbitrary volume ID that should not be used for any purpose.

For more information, see Copying an Amazon EBS Snapshot in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description
A description for the EBS snapshot.
Type: String
Required: No

DestinationRegion
The destination region to use in the `PresignedUrl` parameter of a snapshot copy operation. This parameter is only valid for specifying the destination region in a `PresignedUrl` parameter, where it is required.

Note
`CopySnapshot` sends the snapshot copy to the regional endpoint that you send the HTTP request to, such as `ec2.us-east-1.amazonaws.com` (in the AWS CLI, this is specified with the `--region` parameter or the default region in your AWS configuration file).

Type: String
Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

Encrypted
Specifies whether the destination snapshot should be encrypted. You can encrypt a copy of an unencrypted snapshot using this flag, but you cannot use it to create an unencrypted copy from an encrypted snapshot. Your default CMK for EBS is used unless a non-default AWS Key Management Service (AWS KMS) CMK is specified with `KmsKeyId`. For more information, see Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.
Type: Boolean
Required: No

KmsKeyId

The full ARN of the AWS Key Management Service (AWS KMS) CMK to use when creating the snapshot copy. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. The ARN contains the `arn:aws:kms` namespace, followed by the region of the CMK, the AWS account ID of the CMK owner, the `key` namespace, and then the CMK ID. For example, arn:aws:kms:*us-east-1*:*012345678910*:key/*abcd1234-a123-456a-a12b-a123b4cd56ef*. The specified CMK must exist in the region that the snapshot is being copied to. If a `KmsKeyId` is specified, the `Encrypted` flag must also be set.

Type: String

Required: No

PresignedUrl

The pre-signed URL that facilitates copying an encrypted snapshot. This parameter is only required when copying an encrypted snapshot with the Amazon EC2 Query API; it is available as an optional parameter in all other cases. The `PresignedUrl` should use the snapshot source endpoint, the `CopySnapshot` action, and include the `SourceRegion`, `SourceSnapshotId`, and `DestinationRegion` parameters. The `PresignedUrl` must be signed using AWS Signature Version 4. Because EBS snapshots are stored in Amazon S3, the signing algorithm for this parameter uses the same logic that is described in Authenticating Requests by Using Query Parameters (AWS Signature Version 4) in the *Amazon Simple Storage Service API Reference*. An invalid or improperly signed `PresignedUrl` will cause the copy operation to fail asynchronously, and the snapshot will move to an `error` state.

Type: String

Required: No

SourceRegion

The ID of the region that contains the snapshot to be copied.

Type: String

Required: Yes

SourceSnapshotId

The ID of the EBS snapshot to copy.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

snapshotId

The ID of the new snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request copies the snapshot in the us-west-1 region with the ID `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CopySnapshot
&SourceRegion=us-west-1
&SourceSnapshotId=snap-1234567890abcdef0
&Description=My_snapshot
&AUTHPARAMS
```

Sample Response

```
<CopySnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
  <snapshotId>snap-1234567890abcdef1</snapshotId>
</CopySnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateCustomerGateway

Provides information to AWS about your VPN customer gateway device. The customer gateway is the appliance at your end of the VPN connection. (The device on the AWS side of the VPN connection is the virtual private gateway.) You must provide the Internet-routable IP address of the customer gateway's external interface. The IP address must be static and may be behind a device performing network address translation (NAT).

For devices that use Border Gateway Protocol (BGP), you can also provide the device's BGP Autonomous System Number (ASN). You can use an existing ASN assigned to your network. If you don't have an ASN already, you can use a private ASN (in the 64512 - 65534 range).

> **Note**
> Amazon EC2 supports all 2-byte ASN numbers in the range of 1 - 65534, with the exception of 7224, which is reserved in the `us-east-1` region, and 9059, which is reserved in the `eu-west-1` region.

For more information about VPN customer gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

> **Important**
> You cannot create more than one customer gateway with the same VPN type, IP address, and BGP ASN parameter values. If you run an identical request more than one time, the first request creates the customer gateway, and subsequent requests return information about the existing customer gateway. The subsequent requests do not create new customer gateway resources.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

BgpAsn

For devices that support BGP, the customer gateway's BGP ASN.

Default: 65000

Type: Integer

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

IpAddress

The Internet-routable IP address for the customer gateway's outside interface. The address must be static.

Type: String

Required: Yes

Type

The type of VPN connection that this customer gateway supports (`ipsec.1`).

Type: String

Valid Values: `ipsec.1`

Required: Yes

Response Elements

The following elements are returned by the service.

customerGateway
Information about the customer gateway.
Type: CustomerGateway (p. 648) object

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example passes information to AWS about the customer gateway with the IP address `12.1.2.3` and BGP ASN 65534.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateCustomerGateway
&Type=ipsec.1
&IpAddress=12.1.2.3
&BgpAsn=65534
&AUTHPARAMS
```

Sample Response

```
<CreateCustomerGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <customerGateway>
      <customerGatewayId>cgw-b4dc3961</customerGatewayId>
      <state>pending</state>
      <type>ipsec.1</type>
      <ipAddress>12.1.2.3</ipAddress>
      <bgpAsn>65534</bgpAsn>
      <tagSet/>
   </customerGateway>
</CreateCustomerGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3

- AWS SDK for Python
- AWS SDK for Ruby V2

CreateDhcpOptions

Creates a set of DHCP options for your VPC. After creating the set, you must associate it with the VPC, causing all existing and new instances that you launch in the VPC to use this set of DHCP options. The following are the individual DHCP options you can specify. For more information about the options, see RFC 2132.

- `domain-name-servers` - The IP addresses of up to four domain name servers, or AmazonProvidedDNS. The default DHCP option set specifies AmazonProvidedDNS. If specifying more than one domain name server, specify the IP addresses in a single parameter, separated by commas. If you want your instance to receive a custom DNS hostname as specified in `domain-name`, you must set `domain-name-servers` to a custom DNS server.
- `domain-name` - If you're using AmazonProvidedDNS in "us-east-1", specify "ec2.internal". If you're using AmazonProvidedDNS in another region, specify "region.compute.internal" (for example, "ap-northeast-1.compute.internal"). Otherwise, specify a domain name (for example, "MyCompany.com"). This value is used to complete unqualified DNS hostnames. **Important**: Some Linux operating systems accept multiple domain names separated by spaces. However, Windows and other Linux operating systems treat the value as a single domain, which results in unexpected behavior. If your DHCP options set is associated with a VPC that has instances with multiple operating systems, specify only one domain name.
- `ntp-servers` - The IP addresses of up to four Network Time Protocol (NTP) servers.
- `netbios-name-servers` - The IP addresses of up to four NetBIOS name servers.
- `netbios-node-type` - The NetBIOS node type (1, 2, 4, or 8). We recommend that you specify 2 (broadcast and multicast are not currently supported). For more information about these node types, see RFC 2132.

Your VPC automatically starts out with a set of DHCP options that includes only a DNS server that we provide (AmazonProvidedDNS). If you create a set of options, and if your VPC has an Internet gateway, make sure to set the `domain-name-servers` option either to `AmazonProvidedDNS` or to a domain name server of your choice. For more information about DHCP options, see DHCP Options Sets in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DhcpConfiguration.N

A DHCP configuration option.

Type: array of NewDhcpConfiguration (p. 748) objects

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

dhcpOptions

A set of DHCP options.

Type: DhcpOptions (p. 650) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a set of DHCP options with a domain name `example.com` and two DNS servers (`10.2.5.1` and `10.2.5.2`). The DNS servers' IP addresses are specified in a single parameter, separated by commas, to preserve the order in which they are specified.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateDhcpOptions
&DhcpConfiguration.1.Key=domain-name
&DhcpConfiguration.1.Value.1=example.com
&DhcpConfiguration.2.Key=domain-name-servers
&DhcpConfiguration.2.Value.1=10.2.5.1,10.2.5.2
&AUTHPARAMS
```

Sample Response

```
<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptions>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <dhcpConfigurationSet>
        <item>
          <key>domain-name</key>
          <valueSet>
            <item>
              <value>example.com</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.1</value>
            </item>
            <item>
              <value>10.2.5.2</value>
            </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
      <tagSet/>
  </dhcpOptions>
```

```
</CreateDhcpOptionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateEgressOnlyInternetGateway

[IPv6 only] Creates an egress-only Internet gateway for your VPC. An egress-only Internet gateway is used to enable outbound communication over IPv6 from instances in your VPC to the Internet, and prevents hosts outside of your VPC from initiating an IPv6 connection with your instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC for which to create the egress-only Internet gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request.

Type: String

egressOnlyInternetGateway

Information about the egress-only Internet gateway.

Type: EgressOnlyInternetGateway (p. 659) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates an egress-only Internet gateway in VPC vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateEgressOnlyInternetGateway
```

```
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<CreateEgressOnlyInternetGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>c617595f-6c29-4a00-a941-example</requestId>
    <egressOnlyInternetGateway>
        <attachmentSet>
            <item>
                <state>attached</state>
                <vpcId>vpc-1a2b3c4d</vpcId>
            </item>
        </attachmentSet>
        <egressOnlyInternetGatewayId>eigw-01eadbd45ecd7943f</
egressOnlyInternetGatewayId>
    </egressOnlyInternetGateway>
</CreateEgressOnlyInternetGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateFlowLogs

Creates one or more flow logs to capture IP traffic for a specific network interface, subnet, or VPC. Flow logs are delivered to a specified log group in Amazon CloudWatch Logs. If you specify a VPC or subnet in the request, a log stream is created in CloudWatch Logs for each network interface in the subnet or VPC. Log streams can include information about accepted and rejected traffic to a network interface. You can view the data in your log streams using Amazon CloudWatch Logs.

In your request, you must also specify an IAM role that has permission to publish logs to CloudWatch Logs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.

Type: String

Required: No

DeliverLogsPermissionArn

The ARN for the IAM role that's used to post flow logs to a CloudWatch Logs log group.

Type: String

Required: Yes

LogGroupName

The name of the CloudWatch log group.

Type: String

Required: Yes

ResourceId.N

One or more subnet, network interface, or VPC IDs.

Constraints: Maximum of 1000 resources

Type: array of Strings

Required: Yes

ResourceType

The type of resource on which to create the flow log.

Type: String

Valid Values: `VPC | Subnet | NetworkInterface`

Required: Yes

TrafficType

The type of traffic to log.

Type: String

Valid Values: `ACCEPT | REJECT | ALL`

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request.

Type: String

flowLogIdSet
The IDs of the flow logs.
Type: array of Strings

requestId
The ID of the request.
Type: String

unsuccessful
Information about the flow logs that could not be created successfully.
Type: array of UnsuccessfulItem (p. 852) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a flow log that captures all rejected traffic for network interface eni-aa22bb33. The flow logs are delivered to a log group in CloudWatch Logs called my-flow-logs in account 123456789101, using the IAM role publishFlowLogs.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateFlowLogs
&ResourceType=NetworkInterface
&TrafficType=REJECT
&ResourceId.1=eni-aa22bb33
&DeliverLogsPermissionArn=arn:aws:iam::123456789101:role/publishFlowLogs
&LogGroupName=my-flow-logs
&AUTHPARAMS
```

Sample Response

```
<CreateFlowLogsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>2d96dae3-504b-4fc4-bf50-266EXAMPLE</requestId>
    <unsuccessful/>
    <flowLogIdSet>
        <item>fl-1a2b3c4d</item>
    </flowLogIdSet>
</CreateFlowLogsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateImage

Creates an Amazon EBS-backed AMI from an Amazon EBS-backed instance that is either running or stopped.

If you customized your instance with instance store volumes or EBS volumes in addition to the root device volume, the new AMI contains block device mapping information for those volumes. When you launch an instance from this new AMI, the instance automatically launches with those additional volumes.

For more information, see Creating Amazon EBS-Backed Linux AMIs in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

BlockDeviceMapping.N

Information about one or more block device mappings.

Type: array of BlockDeviceMapping (p. 634) objects

Required: No

Description

A description for the new image.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Name

A name for the new image.

Constraints: 3-128 alphanumeric characters, parentheses (()), square brackets ([]), spaces ( ), periods (.), slashes (/), dashes (-), single quotes ('), at-signs (@), or underscores(_)

Type: String

Required: Yes

NoReboot

By default, Amazon EC2 attempts to shut down and reboot the instance before creating the image. If the 'No Reboot' option is set, Amazon EC2 doesn't shut down the instance before creating the image. When this option is used, file system integrity on the created image can't be guaranteed.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

imageId

The ID of the new AMI.

Type: String

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example request creates an AMI from the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-1234567890abcdef0
&Name=standard-web-server-v1.0
&AUTHPARAMS
```

Sample Response

```
<CreateImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
```

Example

This example request creates an AMI from the specified instance, and sets the NoReboot parameter to true (the instance is not rebooted before the image is created).

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-1234567890abcdef0
&Name=standard-web-server-v1.0
&NoReboot=true
&AUTHPARAMS
```

Sample Response

```
<CreateImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateInstanceExportTask

Exports a running or stopped instance to an S3 bucket.

For information about the supported operating systems, image formats, and known limitations for the types of instances you can export, see Exporting an Instance as a VM Using VM Import/Export in the *VM Import/Export User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description

A description for the conversion task or the resource being exported. The maximum length is 255 bytes.

Type: String

Required: No

ExportToS3

The format and location for an instance export task.

Type: ExportToS3TaskSpecification (p. 664) object

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

TargetEnvironment

The target virtualization environment.

Type: String

Valid Values: `citrix | vmware | microsoft`

Required: No

Response Elements

The following elements are returned by the service.

exportTask

Information about the instance export task.

Type: ExportTask (p. 662) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request creates an Export VM task that makes a Windows instance available as an OVA.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateInstanceExportTask
&Description=Example%20for%20docs
&InstanceId=i-1234567890abcdef0
&TargetEnvironment=VMWare
&ExportToS3.DiskImageFormat=VMDK
&ExportToS3.ContainerFormat=OVA
&ExportToS3.S3bucket=my-bucket-for-exported-vm
&ExportToS3.S3prefix=my-exports/
&AUTHPARAMS
```

Sample Response

```
<CreateInstanceExportTaskResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <exportTask>
   <exportTaskId>export-i-1234wxyz</exportTaskId>
   <description>Example for docs</description>
   <state>active</state>
   <statusMessage>Running</statusMessage>
    <instanceExport>
     <instanceId>i-1234567890abcdef0</instanceId>
     <targetEnvironment>VMWare</targetEnvironment>
    </instanceExport>
    <exportToS3>
     <diskImageFormat>VMDK</diskImageFormat>
     <containerFormat>OVA</containerFormat>
     <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
     <s3Key>my-exports/ export-i-1234wxyz.ova</s3Key>
    </exportToS3>
  </exportTask>
</CreateInstanceExportTaskResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateInternetGateway

Creates an Internet gateway for use with a VPC. After creating the Internet gateway, you attach it to a VPC using AttachInternetGateway (p. 46).

For more information about your VPC and Internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

internetGateway

Information about the Internet gateway.

Type: InternetGateway (p. 719) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates an Internet gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateInternetGateway
&AUTHPARAMS
```

Sample Response

```
<CreateInternetGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <internetGateway>
      <internetGatewayId>igw-eaad4883</internetGatewayId>
      <attachmentSet/>
      <tagSet/>
```

```
   </internetGateway>
</CreateInternetGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateKeyPair

Creates a 2048-bit RSA key pair with the specified name. Amazon EC2 stores the public key and displays the private key for you to save to a file. The private key is returned as an unencrypted PEM encoded PKCS#8 private key. If a key with the specified name already exists, Amazon EC2 returns an error.

You can have up to five thousand key pairs per region.

The key pair returned to you is available only in the region in which you create it. To create a key pair that is available in all regions, use ImportKeyPair (p. 488).

For more information about key pairs, see Key Pairs in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

KeyName

A unique name for the key pair.

Constraints: Up to 255 ASCII characters

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

keyFingerprint

The SHA-1 digest of the DER encoded private key.

Type: String

keyMaterial

An unencrypted PEM encoded RSA private key.

Type: String

keyName

The name of the key pair.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example request creates a key pair named `my-key-pair`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateKeyPair
&KeyName=my-key-pair
&AUTHPARAMS
```

Sample Response

```
<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <keyName>my-key-pair</keyName>
  <keyFingerprint>
     1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f
  </keyFingerprint>
  <keyMaterial>---- BEGIN RSA PRIVATE KEY ----
MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD
VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z
b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
rDHudUZg3qX4waLG5M43q7Wgc/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE
Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb
FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE
-----END RSA PRIVATE KEY-----</keyMaterial>
</CreateKeyPairResponse>
```

Saving the File

Create a file named `my-key-pair.pem` and paste the entire key from the response into this file. Keep this file in a safe place; it is required to decrypt login information when you connect to an instance that you launched using this key pair. If you're using an SSH client on a Linux computer to connect to your instance, use the following command to set the permissions of your private key file so that only you can read it.

Sample Request

```
chmod 400 my-key-pair.pem
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateNatGateway

Creates a NAT gateway in the specified subnet. A NAT gateway can be used to enable instances in a private subnet to connect to the Internet. This action creates a network interface in the specified subnet with a private IP address from the IP address range of the subnet. For more information, see NAT Gateways in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AllocationId

The allocation ID of an Elastic IP address to associate with the NAT gateway. If the Elastic IP address is associated with another resource, you must first disassociate it.

Type: String

Required: Yes

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.

Constraint: Maximum 64 ASCII characters.

Type: String

Required: No

SubnetId

The subnet in which to create the NAT gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier to ensure the idempotency of the request. Only returned if a client token was provided in the request.

Type: String

natGateway

Information about the NAT gateway.

Type: NatGateway (p. 733) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a NAT gateway in subnet subnet-1a2b3c4d and associates the Elastic IP address (with the allocation ID eipalloc-37fc1a52) to the NAT gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNatGateway
&SubnetId=subnet-1a2b3c4d
&AllocationId=eipalloc-37fc1a52
&AUTHPARAMS
```

Sample Response

```
<CreateNatGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>1b74dc5c-bcda-403f-867d-example</requestId>
    <natGateway>
        <subnetId>subnet-1a2b3c4d</subnetId>
        <natGatewayAddressSet>
            <item>
                <allocationId>eipalloc-37fc1a52</allocationId>
            </item>
        </natGatewayAddressSet>
        <createTime>2015-11-25T14:00:55.416Z</createTime>
        <vpcId>vpc-4e20d42b</vpcId>
        <natGatewayId>nat-04e77a5e9c34432f9</natGatewayId>
        <state>pending</state>
    </natGateway>
</CreateNatGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateNetworkAcl

Creates a network ACL in a VPC. Network ACLs provide an optional layer of security (in addition to security groups) for the instances in your VPC.

For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

networkAcl

Information about the network ACL.

Type: NetworkAcl (p. 736) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a network ACL in the specified IPv6-enabled VPC. The response includes default IPv4 and IPv6 entries for egress and ingress traffic, each with a very high rule number. These are the last entries we process to decide whether traffic is allowed in or out of an associated subnet. If the traffic doesn't match any rules with a lower rule number, then these default entries ultimately deny the traffic.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkAcl
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

Sample Response

```
<CreateNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <networkAcl>
      <networkAclId>acl-5fb85d36</networkAclId>
      <vpcId>vpc-11ad4878</vpcId>
      <default>false</default>
      <entrySet>
         <item>
            <ruleNumber>32767</ruleNumber>
            <protocol>all</protocol>
            <ruleAction>deny</ruleAction>
            <egress>true</egress>
            <cidrBlock>0.0.0.0/0</cidrBlock>
         </item>
         <item>
            <ruleNumber>32767</ruleNumber>
            <protocol>all</protocol>
            <ruleAction>deny</ruleAction>
            <egress>false</egress>
            <cidrBlock>0.0.0.0/0</cidrBlock>
         </item>
        <item>
           <ruleNumber>32768</ruleNumber>
           <protocol>all</protocol>
           <ruleAction>deny</ruleAction>
           <egress>true</egress>
           <ipv6CidrBlock>::/0</ipv6CidrBlock>
        </item>
        <item>
           <ruleNumber>32768</ruleNumber>
           <protocol>all</protocol>
           <ruleAction>deny</ruleAction>
           <egress>false</egress>
           <ipv6CidrBlock>::/0</ipv6CidrBlock>
      </entrySet>
      <associationSet/>
      <tagSet/>
   </networkAcl>
</CreateNetworkAclResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateNetworkAclEntry

Creates an entry (a rule) in a network ACL with the specified rule number. Each network ACL has a set of numbered ingress rules and a separate set of numbered egress rules. When determining whether a packet should be allowed in or out of a subnet associated with the ACL, we process the entries in the ACL according to the rule numbers, in ascending order. Each network ACL has a set of ingress rules and a separate set of egress rules.

We recommend that you leave room between the rule numbers (for example, 100, 110, 120, ...), and not number them one right after the other (for example, 101, 102, 103, ...). This makes it easier to add a rule between existing ones without having to renumber the rules.

After you add an entry, you can't modify it; you must either replace it, or create an entry and delete the old one.

For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrBlock

The IPv4 network range to allow or deny, in CIDR notation (for example `172.16.0.0/24`).

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Egress

Indicates whether this is an egress rule (rule is applied to traffic leaving the subnet).

Type: Boolean

Required: Yes

Icmp

ICMP protocol: The ICMP or ICMPv6 type and code. Required if specifying the ICMP protocol, or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode (p. 680) object

Required: No

Ipv6CidrBlock

The IPv6 network range to allow or deny, in CIDR notation (for example `2001:db8:1234:1a00::/64`).

Type: String

Required: No

NetworkAclId

The ID of the network ACL.

Type: String

Required: Yes

PortRange

TCP or UDP protocols: The range of ports the rule applies to.

Type: PortRange (p. 753) object

Required: No

Protocol

The protocol. A value of `-1` or `all` means all protocols. If you specify `all`, `-1`, or a protocol number other than `tcp`, `udp`, or `icmp`, traffic on all ports is allowed, regardless of any ports or ICMP types or codes you specify. If you specify protocol `58` (ICMPv6) and specify an IPv4 CIDR block, traffic for all ICMP types and codes allowed, regardless of any that you specify. If you specify protocol `58` (ICMPv6) and specify an IPv6 CIDR block, you must specify an ICMP type and code.

Type: String

Required: Yes

RuleAction

Indicates whether to allow or deny the traffic that matches the rule.

Type: String

Valid Values: `allow | deny`

Required: Yes

RuleNumber

The rule number for the entry (for example, 100). ACL entries are processed in ascending order by rule number.

Constraints: Positive integer from 1 to 32766. The range 32767 to 65535 is reserved for internal use.

Type: Integer

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates an entry with rule number 110 in the network ACL with the ID `acl-2cb85d45`. The rule allows ingress traffic from any IPv4 address (`0.0.0.0/0`) on UDP port 53.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=udp
&RuleAction=allow
&Egress=false
&CidrBlock=0.0.0.0/0
```

```
&PortRange.From=53
&PortRange.To=53
&AUTHPARAMS
```

Sample Response

```
<CreateNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</CreateNetworkAclEntryResponse>
```

Example 2

This example creates an entry with rule number 120 in the network ACL with the ID `acl-2cb85d45`. The rule allows ingress traffic from any IPv6 address (`::/0`) on TCP port 80.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=120
&Protocol=tcp
&RuleAction=allow
&Egress=false
&Ipv6CidrBlock=::/0
&PortRange.From=80
&PortRange.To=80
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateNetworkInterface

Creates a network interface in the specified subnet.

For more information about network interfaces, see Elastic Network Interfaces in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description

A description for the network interface.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Ipv6AddressCount

The number of IPv6 addresses to assign to a network interface. Amazon EC2 automatically selects the IPv6 addresses from the subnet range. You can't use this option if specifying specific IPv6 addresses. If your subnet has the `AssignIpv6AddressOnCreation` attribute set to `true`, you can specify `0` to override this setting.

Type: Integer

Required: No

Ipv6Addresses.N

One or more specific IPv6 addresses from the IPv6 CIDR block range of your subnet. You can't use this option if you're specifying a number of IPv6 addresses.

Type: array of InstanceIpv6Address (p. 704) objects

Required: No

PrivateIpAddress

The primary private IPv4 address of the network interface. If you don't specify an IPv4 address, Amazon EC2 selects one for you from the subnet's IPv4 CIDR range. If you specify an IP address, you cannot indicate any IP addresses specified in `privateIpAddresses` as primary (only one IP address can be designated as primary).

Type: String

Required: No

PrivateIpAddresses.N

One or more private IPv4 addresses.

Type: array of PrivateIpAddressSpecification (p. 759) objects

Required: No

SecondaryPrivateIpAddressCount

The number of secondary private IPv4 addresses to assign to a network interface. When you specify a number of secondary IPv4 addresses, Amazon EC2 selects these IP addresses within the subnet's IPv4 CIDR range. You can't specify this option and specify more than one private IP address using `privateIpAddresses`.

The number of IP addresses you can assign to a network interface varies by instance type. For more information, see IP Addresses Per ENI Per Instance Type in the *Amazon Virtual Private Cloud User Guide*.

Type: Integer

Required: No

SecurityGroupId.N

The IDs of one or more security groups.

Type: array of Strings

Required: No

SubnetId

The ID of the subnet to associate with the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

networkInterface

Information about the network interface.

Type: NetworkInterface (p. 740) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a network interface in the specified subnet with a primary IPv4 address that is automatically selected by Amazon EC2.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&SubnetId=subnet-b2a249da
&AUTHPARAMS
```

Sample Response

```
<CreateNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
 <requestId>8dbe591e-5a22-48cb-b948-example</requestId>
    <networkInterface>
        <networkInterfaceId>eni-cfca76a6</networkInterfaceId>
        <subnetId>subnet-b2a249da</subnetId>
        <vpcId>vpc-c31dafaa</vpcId>
        <availabilityZone>ap-southeast-1b</availabilityZone>
        <description/>
        <ownerId>251839141158</ownerId>
        <requesterManaged>false</requesterManaged>
        <status>available</status>
        <macAddress>02:74:b0:72:79:61</macAddress>
```

```
        <privateIpAddress>10.0.2.157</privateIpAddress>
        <privateDnsName>ip-10-0-2-157.ap-southeast-1.compute.internal</
privateDnsName>
        <sourceDestCheck>true</sourceDestCheck>
        <groupSet>
            <item>
                <groupId>sg-1a2b3c4d</groupId>
                <groupName>default</groupName>
            </item>
        </groupSet>
        <tagSet/>
        <privateIpAddressesSet>
            <item>
                <privateIpAddress>10.0.2.157</privateIpAddress>
                <privateDnsName>ip-10-0-2-157.ap-
southeast-1.compute.internal</privateDnsName>
                <primary>true</primary>
            </item>
        </privateIpAddressesSet>
        <ipv6AddressesSet/>
    </networkInterface>
</CreateNetworkInterfaceResponse>
```

Example 2

This example creates a network interface in the specified subnet with a primary IPv4 address of `10.0.2.140` and four secondary private IPv4 addresses that are automatically selected by Amazon EC2.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.140
&SecondaryPrivateIpAddressCount=4
&SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Sample Response

```
<CreateNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
 <requestId>bd78c839-0895-4fac-a17f-example</requestId>
    <networkInterface>
        <networkInterfaceId>eni-1bcb7772</networkInterfaceId>
        <subnetId>subnet-a61dafcf</subnetId>
        <vpcId>vpc-c31dafaa</vpcId>
        <availabilityZone>ap-southeast-1b</availabilityZone>
        <description/>
        <ownerId>251839141158</ownerId>
        <requesterManaged>false</requesterManaged>
        <status>pending</status>
        <macAddress>02:74:b0:70:7f:1a</macAddress>
        <privateIpAddress>10.0.2.140</privateIpAddress>
        <sourceDestCheck>true</sourceDestCheck>
        <groupSet>
            <item>
```

```
                <groupId>sg-1a2b3c4d</groupId>
                <groupName>default</groupName>
            </item>
        </groupSet>
        <tagSet/>
        <privateIpAddressesSet>
            <item>
                <privateIpAddress>10.0.2.140</privateIpAddress>
                <primary>true</primary>
            </item>
            <item>
                <privateIpAddress>10.0.2.172</privateIpAddress>
                <primary>false</primary>
            </item>
            <item>
                <privateIpAddress>10.0.2.169</privateIpAddress>
                <primary>false</primary>
            </item>
            <item>
                <privateIpAddress>10.0.2.170</privateIpAddress>
                <primary>false</primary>
            </item>
            <item>
                <privateIpAddress>10.0.2.171</privateIpAddress>
                <primary>false</primary>
            </item>
        </privateIpAddressesSet>
        <ipv6AddressesSet/>
    </networkInterface>
</CreateNetworkInterfaceResponse>
```

Example 3

This example creates a network interface with a primary private IPv4 address of 10.0.2.130 and two secondary IPv4 addresses of 10.0.2.132 and 10.0.2.133.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.130
&PrivateIpAddresses.2.Primary=false
&PrivateIpAddresses.2.PrivateIpAddress=10.0.2.132
&PrivateIpAddresses.3.Primary=false
&PrivateIpAddresses.3.PrivateIpAddress=10.0.2.133
&SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Example 4

This example creates a network interface with a primary private IPv4 address of 10.0.2.130 and two IPv6 addresses that are selected by Amazon EC2.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.1.Primary=true
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.130
```

```
&Ipv6AddressCount=2
&SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Sample Response

```
<CreateNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>a9565f4c-f928-4113-859b-example</requestId>
    <networkInterface>
        <networkInterfaceId>eni-41c47828</networkInterfaceId>
        <subnetId>subnet-a61dafcf</subnetId>
        <vpcId>vpc-c31dafaa</vpcId>
        <availabilityZone>ap-southeast-1b</availabilityZone>
        <description/>
        <ownerId>251839141158</ownerId>
        <requesterManaged>false</requesterManaged>
        <status>pending</status>
        <macAddress>02:74:b0:78:bf:ab</macAddress>
        <privateIpAddress>10.0.2.130</privateIpAddress>
        <sourceDestCheck>true</sourceDestCheck>
        <groupSet>
            <item>
                <groupId>sg-188d9f74</groupId>
                <groupName>default</groupName>
            </item>
        </groupSet>
        <tagSet/>
        <privateIpAddressesSet>
            <item>
                <privateIpAddress>10.0.2.130</privateIpAddress>
                <primary>true</primary>
            </item>
        </privateIpAddressesSet>
        <ipv6AddressesSet>
         <item>
           <ipv6Address>2001:db8:1234:1a00::123</ipv6Address>
         </item>
         <item>
           <ipv6Address>2001:db8:1234:1a00::456</ipv6Address>
         </item>
       </ipv6AddressesSet>
    </networkInterface>
</CreateNetworkInterfaceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreatePlacementGroup

Creates a placement group that you launch cluster instances into. You must give the group a name that's unique within the scope of your account.

For more information about placement groups and cluster instances, see Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

GroupName

A name for the placement group.

Constraints: Up to 255 ASCII characters

Type: String

Required: Yes

Strategy

The placement strategy.

Type: String

Valid Values: `cluster`

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a placement group named `XYZ-cluster`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreatePlacementGroup
```

```
&GroupName=XYZ-cluster
&Strategy=cluster
&AUTHPARAMS
```

Sample Response

```
<CreatePlacementGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
   <return>true</return>
</CreatePlacementGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateReservedInstancesListing

Creates a listing for Amazon EC2 Standard Reserved Instances to be sold in the Reserved Instance Marketplace. You can submit one Standard Reserved Instance listing at a time. To get a list of your Standard Reserved Instances, you can use the DescribeReservedInstances (p. 325) operation.

Note
Only Standard Reserved Instances with a capacity reservation can be sold in the Reserved Instance Marketplace. Convertible Reserved Instances and Standard Reserved Instances with a regional benefit cannot be sold.

The Reserved Instance Marketplace matches sellers who want to resell Standard Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

To sell your Standard Reserved Instances, you must first register as a seller in the Reserved Instance Marketplace. After completing the registration process, you can create a Reserved Instance Marketplace listing of some or all of your Standard Reserved Instances, and specify the upfront price to receive for them. Your Standard Reserved Instance listings then become available for purchase. To view the details of your Standard Reserved Instance listing, you can use the DescribeReservedInstancesListings (p. 329) operation.

For more information, see Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken
Unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, see Ensuring Idempotency.

Type: String

Required: Yes

InstanceCount
The number of instances that are a part of a Reserved Instance account to be listed in the Reserved Instance Marketplace. This number should be less than or equal to the instance count associated with the Reserved Instance ID specified in this call.

Type: Integer

Required: Yes

PriceSchedules.N
A list specifying the price of the Standard Reserved Instance for each month remaining in the Reserved Instance term.

Type: array of PriceScheduleSpecification (p. 757) objects

Required: Yes

ReservedInstancesId
The ID of the active Standard Reserved Instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

reservedInstancesListingsSet

Information about the Standard Reserved Instance listing.

Type: array of ReservedInstancesListing (p. 780) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a Reserved Instance Marketplace listing from the specified Standard Reserved Instance, which has 11 months remaining in its term. In this example, we set the upfront price at $2.50, and the price drops over the course of the 11-month term if the instance is still not sold.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateReservedInstancesListing
&ClientToken=myIdempToken1
&InstanceCount=1
&PriceSchedules.1.Price=2.5
&PriceSchedules.1.Term=11
&PriceSchedules.2.Price=2.0
&PriceSchedules.2.Term=8
&PriceSchedules.3.Price=1.5
&PriceSchedules.3.Term=5
&PriceSchedules.4.Price=0.7
&PriceSchedules.4.Term=3
&PriceSchedules.5.Price=0.1
&PriceSchedules.5.Term=1
&ReservedInstancesId=e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE
&AUTHPARAMS
```

Sample Response

```
<CreateReservedInstancesListingResponse>
    <requestId>a42481af-335a-4e9e-b291-bd18dexample</requestId>
    <reservedInstancesListingsSet>
        <item>
            <reservedInstancesListingId>5ec28771-05ff-4b9b-
aa31-9e57dEXAMPLE</reservedInstancesListingId>
            <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
            <createDate>2012-07-17T17:11:09.449Z</createDate>
            <updateDate>2012-07-17T17:11:09.468Z</updateDate>
            <status>active</status>
            <statusMessage>ACTIVE</statusMessage>
            <instanceCounts>
                <item>
                    <state>Available</state>
                    <instanceCount>1</instanceCount>
                </item>
                <item>
                    <state>Sold</state>
```

```
            <instanceCount>0</instanceCount>
        </item>
        <item>
            <state>Cancelled</state>
            <instanceCount>0</instanceCount>
        </item>
        <item>
            <state>Pending</state>
            <instanceCount>0</instanceCount>
        </item>
    </instanceCounts>
    <priceSchedules>
        <item>
            <term>11</term>
            <price>2.5</price>
            <currencyCode>USD</currencyCode>
            <active>true</active>
        </item>
        <item>
            <term>10</term>
            <price>2.5</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>9</term>
            <price>2.5</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>8</term>
            <price>2.0</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>7</term>
            <price>2.0</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>6</term>
            <price>2.0</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>5</term>
            <price>1.5</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
        </item>
        <item>
            <term>4</term>
            <price>1.5</price>
            <currencyCode>USD</currencyCode>
            <active>false</active>
```

```
                </item>
                <item>
                    <term>3</term>
                    <price>0.7</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>2</term>
                    <price>0.7</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>1</term>
                    <price>0.1</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
            </priceSchedules>
            <tagSet/>
            <clientToken>myIdempToken1</clientToken>
        </item>
    </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRoute

Creates a route in a route table within a VPC.

You must specify one of the following targets: Internet gateway or virtual private gateway, NAT instance, NAT gateway, VPC peering connection, network interface, or egress-only Internet gateway.

When determining how to route traffic, we use the route with the most specific match. For example, traffic is destined for the IPv4 address `192.0.2.3`, and the route table includes the following two IPv4 routes:

- `192.0.2.0/24` (goes to some target A)
- `192.0.2.0/28` (goes to some target B)

Both routes apply to the traffic destined for `192.0.2.3`. However, the second route in the list covers a smaller number of IP addresses and is therefore more specific, so we use that route to determine where to target the traffic.

For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DestinationCidrBlock

The IPv4 CIDR address block used for the destination match. Routing decisions are based on the most specific match.

Type: String

Required: No

DestinationIpv6CidrBlock

The IPv6 CIDR block used for the destination match. Routing decisions are based on the most specific match.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EgressOnlyInternetGatewayId

[IPv6 traffic only] The ID of an egress-only Internet gateway.

Type: String

Required: No

GatewayId

The ID of an Internet gateway or virtual private gateway attached to your VPC.

Type: String

Required: No

InstanceId

The ID of a NAT instance in your VPC. The operation fails if you specify an instance ID unless exactly one network interface is attached.

Type: String

Required: No

NatGatewayId
[IPv4 traffic only] The ID of a NAT gateway.
Type: String
Required: No

NetworkInterfaceId
The ID of a network interface.
Type: String
Required: No

RouteTableId
The ID of the route table for the route.
Type: String
Required: Yes

VpcPeeringConnectionId
The ID of a VPC peering connection.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Returns `true` if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a route in the route table with the ID `rtb-e4ad488d`. The route matches all IPv4 traffic (`0.0.0.0/0`) and routes it to the Internet gateway with the ID `igw-eaad4883`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=0.0.0.0/0
&GatewayId=igw-eaad4883
&AUTHPARAMS
```

Example 2

This example creates a route in the route table with the ID `rtb-g8ff4ea2`. The route sends all IPv4 traffic (`0.0.0.0/0`) to the NAT instance with the ID `i-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&DestinationCidrBlock=0.0.0.0/0
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

Example 3

This example creates a route in route table `rtb-g8ff4ea2`. The route matches traffic for the IPv4 CIDR block `10.0.0.0/16` and routes it to VPC peering connection, `pcx-111aaa22`. This route enables IPv4 traffic to be directed to the other peered VPC in the VPC peering connection.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&DestinationCidrBlock=10.0.0.0/16
&vpcPeeringConnectionId=pcx-111aaa22
&AUTHPARAMS
```

Example 4

This example creates a route in route table `rtb-g8ff4ea2`. The route sends all IPv6 traffic `::/0` to an egress-only Internet gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&DestinationIpv6CidrBlock=::/0
&EgressOnlyInternetGatewayId=eigw-1234567890abc1234
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateRouteTable

Creates a route table for the specified VPC. After you create a route table, you can add routes and associate the table with a subnet.

For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

routeTable

Information about the route table.

Type: RouteTable (p. 790) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a route table for the VPC with the ID `vpc-11ad4878`. By default, every route table includes a local route that enables traffic to flow within the VPC. The following response shows that route.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRouteTable
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

Sample Response

```
<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <routeTable>
      <routeTableId>rtb-f9ad4890</routeTableId>
      <vpcId>vpc-11ad4878</vpcId>
      <routeSet>
         <item>
            <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
            <gatewayId>local</gatewayId>
            <state>active</state>
         </item>
      </routeSet>
      <associationSet/>
      <tagSet/>
   </routeTable>
</CreateRouteTableResponse>
```

Example 2

This example creates a route table for a VPC that has an associated IPv6 CIDR block. The route table includes a local route that enables IPv6 traffic to flow within the VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateRouteTable
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <routeTable>
        <routeTableId>rtb-8bda6cef</routeTableId>
        <vpcId>vpc-1a2b3c4d</vpcId>
        <routeSet>
            <item>
                <destinationCidrBlock>10.0.0.0/16</destinationCidrBlock>
                <gatewayId>local</gatewayId>
                <state>active</state>
                <origin>CreateRouteTable</origin>
            </item>
            <item>
                <destinationIpv6CidrBlock>2001:db8:1234:1a00::/56</
destinationIpv6CidrBlock>
                <gatewayId>local</gatewayId>
                <state>active</state>
                <origin>CreateRouteTable</origin>
            </item>
        </routeSet>
        <associationSet/>
        <propagatingVgwSet/>
        <tagSet/>
    </routeTable></CreateRouteTableResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSecurityGroup

Creates a security group.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the *Amazon Elastic Compute Cloud User Guide* and Security Groups for Your VPC in the *Amazon Virtual Private Cloud User Guide*.

> **Important**
> EC2-Classic: You can have up to 500 security groups.
> EC2-VPC: You can create up to 500 security groups per VPC.

When you create a security group, you specify a friendly name of your choice. You can have a security group for use in EC2-Classic with the same name as a security group for use in a VPC. However, you can't have two security groups for use in EC2-Classic with the same name or two security groups for use in a VPC with the same name.

You have a default security group for use in EC2-Classic and a default security group for use in your VPC. If you don't specify a security group when you launch an instance, the instance is launched into the appropriate default security group. A default security group includes a default rule that grants instances unrestricted network access to each other.

You can add or remove rules from your security groups using AuthorizeSecurityGroupIngress (p. 58), AuthorizeSecurityGroupEgress (p. 55), RevokeSecurityGroupIngress (p. 592), and RevokeSecurityGroupEgress (p. 589).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

GroupDescription

A description for the security group. This is informational only.

Constraints: Up to 255 characters in length

Constraints for EC2-Classic: ASCII characters

Constraints for EC2-VPC: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*

Type: String

Required: Yes

GroupName

The name of the security group.

Constraints: Up to 255 characters in length

Constraints for EC2-Classic: ASCII characters

Constraints for EC2-VPC: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*

Type: String

Required: Yes

VpcId

[EC2-VPC] The ID of the VPC. Required for EC2-VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

groupId
The ID of the security group.
Type: String

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example creates a security group named `websrv` for EC2-Classic.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=websrv
&GroupDescription=Web Servers
&AUTHPARAMS
```

Sample Response

```
<CreateSecurityGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
   <groupId>sg-1a2b3c4d</groupId>
</CreateSecurityGroupResponse>
```

Example for EC2-VPC

This example creates a security group named `WebServerSG` for the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=WebServerSG
&GroupDescription=Web Servers
&VpcId=vpc-3325caf2
&AUTHPARAMS
```

Sample Response

```
<CreateSecurityGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
   <groupId>sg-0a42d66a</groupId>
</CreateSecurityGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSnapshot

Creates a snapshot of an EBS volume and stores it in Amazon S3. You can use snapshots for backups, to make copies of EBS volumes, and to save data before shutting down an instance.

When a snapshot is created, any AWS Marketplace product codes that are associated with the source volume are propagated to the snapshot.

You can take a snapshot of an attached volume that is in use. However, snapshots only capture data that has been written to your EBS volume at the time the snapshot command is issued; this may exclude any data that has been cached by any applications or the operating system. If you can pause any file systems on the volume long enough to take a snapshot, your snapshot should be complete. However, if you cannot pause all file writes to the volume, you should unmount the volume from within the instance, issue the snapshot command, and then remount the volume to ensure a consistent and complete snapshot. You may remount and use your volume while the snapshot status is `pending`.

To create a snapshot for EBS volumes that serve as root devices, you should stop the instance before taking the snapshot.

Snapshots that are taken from encrypted volumes are automatically encrypted. Volumes that are created from encrypted snapshots are also automatically encrypted. Your encrypted volumes and any associated snapshots always remain protected.

For more information, see Amazon Elastic Block Store and Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description

A description for the snapshot.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VolumeId

The ID of the EBS volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

dataEncryptionKeyId

The data encryption key identifier for the snapshot. This value is a unique identifier that corresponds to the data encryption key that was used to encrypt the original volume or snapshot copy. Because data encryption keys are inherited by volumes created from snapshots, and vice versa, if snapshots share the same data encryption key identifier, then they belong to the same volume/snapshot lineage. This parameter is only returned by the DescribeSnapshots (p. 363) API operation.

Type: String

description
The description for the snapshot.
Type: String

encrypted
Indicates whether the snapshot is encrypted.
Type: Boolean

kmsKeyId
The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the parent volume.
Type: String

ownerAlias
Value from an Amazon-maintained list (`amazon` | `aws-marketplace` | `microsoft`) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.
Type: String

ownerId
The AWS account ID of the EBS snapshot owner.
Type: String

progress
The progress of the snapshot, as a percentage.
Type: String

requestId
The ID of the request.
Type: String

snapshotId
The ID of the snapshot. Each snapshot receives a unique identifier when it is created.
Type: String

startTime
The time stamp when the snapshot was initiated.
Type: Timestamp

status
The snapshot state.
Type: String
Valid Values: `pending | completed | error`

statusMessage
Encrypted Amazon EBS snapshots are copied asynchronously. If a snapshot copy operation fails (for example, if the proper AWS Key Management Service (AWS KMS) permissions are not obtained) this field displays error state details to help you diagnose why the error occurred. This parameter is only returned by the DescribeSnapshots (p. 363) API operation.
Type: String

tagSet
Any tags assigned to the snapshot.
Type: array of Tag (p. 847) objects

volumeId
The ID of the volume that was used to create the snapshot. Snapshots created by the CopySnapshot (p. 86) action have an arbitrary volume ID that should not be used for any purpose.
Type: String

volumeSize
The size of the volume, in GiB.
Type: Integer

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a snapshot of the volume with the ID `vol-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSnapshot
&VolumeId=vol-1234567890abcdef0
&Description=Daily+Backup
&AUTHPARAMS
```

Sample Response

```
<CreateSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1234567890abcdef0</snapshotId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <status>pending</status>
  <startTime>YYYY-MM-DDTHH:MM:SS.000Z</startTime>
  <progress>60%</progress>
  <ownerId>111122223333</ownerId>
  <volumeSize>30</volumeSize>
  <description>Daily Backup</description>
</CreateSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSpotDatafeedSubscription

Creates a data feed for Spot instances, enabling you to view Spot instance usage logs. You can create one data feed per AWS account. For more information, see Spot Instance Data Feed in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Bucket

The Amazon S3 bucket in which to store the Spot instance data feed.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Prefix

A prefix for the data feed file names.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

spotDatafeedSubscription

The Spot instance data feed subscription.

Type: SpotDatafeedSubscription (p. 823) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a Spot instance data feed for the account.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSpotDatafeedSubscription
&Bucket=my-s3-bucket
&AUTHPARAMS
```

Sample Response

```
<CreateSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotDatafeedSubscription>
    <ownerId>123456789012</ownerId>
    <bucket>my-s3-bucket</bucket>
    <prefix>spotdata_</prefix>
    <state>Active</state>
  </spotDatafeedSubscription>
</CreateSpotDatafeedSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateSubnet

Creates a subnet in an existing VPC.

When you create each subnet, you provide the VPC ID and the CIDR block you want for the subnet. After you create a subnet, you can't change its CIDR block. The subnet's IPv4 CIDR block can be the same as the VPC's IPv4 CIDR block (assuming you want only a single subnet in the VPC), or a subset of the VPC's IPv4 CIDR block. If you create more than one subnet in a VPC, the subnets' CIDR blocks must not overlap. The smallest IPv4 subnet (and VPC) you can create uses a /28 netmask (16 IPv4 addresses), and the largest uses a /16 netmask (65,536 IPv4 addresses).

If you've associated an IPv6 CIDR block with your VPC, you can create a subnet with an IPv6 CIDR block that uses a /64 prefix length.

> **Important**
> AWS reserves both the first four and the last IP address in each subnet's CIDR block. They're not available for use.

If you add more than one subnet to a VPC, they're set up in a star topology with a logical router in the middle.

If you launch an instance in a VPC using an Amazon EBS-backed AMI, the IP address doesn't change if you stop and restart the instance (unlike a similar instance launched outside a VPC, which gets a new IP address when restarted). It's therefore possible to have a subnet with no running instances (they're all stopped), but no remaining IP addresses available.

For more information about subnets, see Your VPC and Subnets in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone
The Availability Zone for the subnet.

Default: AWS selects one for you. If you create more than one subnet in your VPC, we may not necessarily select a different zone for each subnet.

Type: String

Required: No

CidrBlock
The IPv4 network range for the subnet, in CIDR notation. For example, `10.0.0.0/24`.

Type: String

Required: Yes

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Ipv6CidrBlock
The IPv6 network range for the subnet, in CIDR notation. The subnet size must use a /64 prefix length.

Type: String

Required: No

VpcId
The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

subnet
Information about the subnet.
Type: Subnet (p. 843) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a subnet with CIDR block `10.0.1.0/24` in the VPC with the ID `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-1a2b3c4d
&CidrBlock=10.0.1.0/24
&AUTHPARAMS
```

Sample Response

```
<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnet>
    <subnetId>subnet-9d4a7b6c</subnetId>
    <state>pending</state>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <cidrBlock>10.0.1.0/24</cidrBlock>
    <ipv6CidrBlockAssociationSet/>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-1a</availabilityZone>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
  </subnet>
</CreateSubnetResponse>
```

Example 2

This example creates a subnet with an IPv6 CIDR block in the VPC `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-1a2b3c4d
&CidrBlock=10.0.1.0/24
```

```
&Ipv6CidrBlock=2001:db8:1234:1a00::/64
&AUTHPARAMS
```

Sample Response

```
<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnet>
    <subnetId>subnet-9d4a7b6c</subnetId>
    <state>pending</state>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <cidrBlock>10.0.1.0/24</cidrBlock>
    <ipv6CidrBlockAssociationSet>
      <item>
        <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
        <associationId>subnet-cidr-assoc-abababab</associationId>
        <ipv6CidrBlockState>
           <state>ASSOCIATING</state>
        </ipv6CidrBlockState>
      </item>
    </ipv6CidrBlockAssociationSet>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-1a</availabilityZone>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
    <tagSet/>
  </subnet>
</CreateSubnetResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateTags

Adds or overwrites one or more tags for the specified Amazon EC2 resource or resources. Each resource can have a maximum of 50 tags. Each tag consists of a key and optional value. Tag keys must be unique per resource.

For more information about tags, see Tagging Your Resources in the *Amazon Elastic Compute Cloud User Guide*. For more information about creating IAM policies that control users' access to resources based on tags, see Supported Resource-Level Permissions for Amazon EC2 API Actions in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ResourceId.N

The IDs of one or more resources to tag. For example, ami-1a2b3c4d.

Type: array of Strings

Required: Yes

Tag.N

One or more tags. The `value` parameter is required, but if you don't want the tag to have a value, specify the parameter with no value, and we set the value to an empty string.

Type: array of Tag (p. 847) objects

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request adds (or overwrites) two tags for an AMI and an instance. One of the tags is just a key (`webserver`), with no value (we set the value to an empty string). The other tag consists of a key (`stack`) and value (`Production`).

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateTags
&ResourceId.1=ami-1a2b3c4d
&ResourceId.2=i-1234567890abcdef0
&Tag.1.Key=webserver
&Tag.1.Value=
&Tag.2.Key=stack
&Tag.2.Value=Production
&AUTHPARAMS
```

Sample Response

```
<CreateTagsResponse
xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</CreateTagsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVolume

Creates an EBS volume that can be attached to an instance in the same Availability Zone. The volume is created in the regional endpoint that you send the HTTP request to. For more information see Regions and Endpoints.

You can create a new empty volume or restore a volume from an EBS snapshot. Any AWS Marketplace product codes from the snapshot are propagated to the volume.

You can create encrypted volumes with the `Encrypted` parameter. Encrypted volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are also automatically encrypted. For more information, see Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.

For more information, see Creating or Restoring an Amazon EBS Volume in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone

The Availability Zone in which to create the volume. Use DescribeAvailabilityZones (p. 229) to list the Availability Zones that are currently available to you.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Encrypted

Specifies whether the volume should be encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. If your AMI uses encrypted volumes, you can only launch it on supported instance types. For more information, see Amazon EBS Encryption in the *Amazon Elastic Compute Cloud User Guide*.

Type: Boolean

Required: No

Iops

Only valid for Provisioned IOPS SSD volumes. The number of I/O operations per second (IOPS) to provision for the volume, with a maximum ratio of 50 IOPS/GiB.

Constraint: Range is 100 to 20000 for Provisioned IOPS SSD volumes

Type: Integer

Required: No

KmsKeyId

The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) to use when creating the encrypted volume. This parameter is only required if you want to use a non-default CMK; if this parameter is not specified, the default CMK for EBS is used. The ARN contains the `arn:aws:kms` namespace, followed by the region of the CMK, the AWS account ID of the CMK owner, the `key` namespace, and then the CMK ID. For example, arn:aws:kms:*us-east-1*:*012345678910*:key/*abcd1234-a123-456a-a12b-a123b4cd56ef*. If a `KmsKeyId` is specified, the `Encrypted` flag must also be set.

Type: String

Required: No

Size

The size of the volume, in GiBs.

Constraints: 1-16384 for `gp2`, 4-16384 for `io1`, 500-16384 for `st1`, 500-16384 for `sc1`, and 1-1024 for `standard`. If you specify a snapshot, the volume size must be equal to or larger than the snapshot size.

Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.

Type: Integer

Required: No

SnapshotId

The snapshot from which to create the volume.

Type: String

Required: No

VolumeType

The volume type. This can be `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, `st1` for Throughput Optimized HDD, `sc1` for Cold HDD, or `standard` for Magnetic volumes.

Default: `standard`

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

Response Elements

The following elements are returned by the service.

attachmentSet

Information about the volume attachments.

Type: array of VolumeAttachment (p. 861) objects

availabilityZone

The Availability Zone for the volume.

Type: String

createTime

The time stamp when volume creation was initiated.

Type: Timestamp

encrypted

Indicates whether the volume will be encrypted.

Type: Boolean

iops

The number of I/O operations per second (IOPS) that the volume supports. For Provisioned IOPS SSD volumes, this represents the number of IOPS that are provisioned for the volume. For General Purpose SSD volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information on General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the *Amazon Elastic Compute Cloud User Guide*.

Constraint: Range is 100-20000 IOPS for io1 volumes and 100-10000 IOPS for gp2 volumes.

Condition: This parameter is required for requests to create `io1` volumes; it is not used in requests to create `gp2`, `st1`, `sc1`, or `standard` volumes.

Type: Integer

kmsKeyId
The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the volume.
Type: String

requestId
The ID of the request.
Type: String

size
The size of the volume, in GiBs.
Type: Integer

snapshotId
The snapshot from which the volume was created, if applicable.
Type: String

status
The volume state.
Type: String
Valid Values: `creating | available | in-use | deleting | deleted | error`

tagSet
Any tags assigned to the volume.
Type: array of Tag (p. 847) objects

volumeId
The ID of the volume.
Type: String

volumeType
The volume type. This can be `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, `st1` for Throughput Optimized HDD, `sc1` for Cold HDD, or `standard` for Magnetic volumes.
Type: String
Valid Values: `standard | io1 | gp2 | sc1 | st1`

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request creates an 80 GiB encrypted volume in the Availability Zone `us-east-1a`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVolume
&Size=80
&AvailabilityZone=us-east-1a
&Encrypted=1
&AUTHPARAMS
```

Sample Response

```
<CreateVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <volumeId>vol-1234567890abcdef0</volumeId>
  <size>80</size>
  <snapshotId/>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
  <volumeType>standard</volumeType>
  <encrypted>true</encrypted>
</CreateVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpc

Creates a VPC with the specified IPv4 CIDR block. The smallest VPC you can create uses a /28 netmask (16 IPv4 addresses), and the largest uses a /16 netmask (65,536 IPv4 addresses). To help you decide how big to make your VPC, see Your VPC and Subnets in the *Amazon Virtual Private Cloud User Guide*.

You can optionally request an Amazon-provided IPv6 CIDR block for the VPC. The IPv6 CIDR block uses a /56 prefix length, and is allocated from Amazon's pool of IPv6 addresses. You cannot choose the IPv6 range for your VPC.

By default, each instance you launch in the VPC has the default DHCP options, which includes only a default DNS server that we provide (AmazonProvidedDNS). For more information about DHCP options, see DHCP Options Sets in the *Amazon Virtual Private Cloud User Guide*.

You can specify the instance tenancy value for the VPC when you create it. You can't change this value for the VPC after you create it. For more information, see Dedicated Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AmazonProvidedIpv6CidrBlock

Requests an Amazon-provided IPv6 CIDR block with a /56 prefix length for the VPC. You cannot specify the range of IP addresses, or the size of the CIDR block.

Type: Boolean

Required: No

CidrBlock

The IPv4 network range for the VPC, in CIDR notation. For example, `10.0.0.0/16`.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceTenancy

The tenancy options for instances launched into the VPC. For `default`, instances are launched with shared tenancy by default. You can launch instances with any tenancy into a shared tenancy VPC. For `dedicated`, instances are launched as dedicated tenancy instances by default. You can only launch instances with a tenancy of `dedicated` or `host` into a dedicated tenancy VPC.

Important: The `host` value cannot be used with this parameter. Use the `default` or `dedicated` values only.

Default: `default`

Type: String

Valid Values: `default | dedicated | host`

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpc

Information about the VPC.

Type: Vpc (p. 870) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a VPC with the IPv4 CIDR block `10.0.0.0/16`.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AUTHPARAMS
```

Sample Response

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <vpc>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>pending</state>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <cidrBlockAssociationSet/>
      <ipv6CidrBlockAssociationSet/>
      <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
      <instanceTenancy>default</instanceTenancy>
      <isDefault>false</isDefault>
   </vpc>
</CreateVpcResponse>
```

Example 2

This example creates a VPC with the `dedicated` tenancy option.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.32.0.0/16
&InstanceTenancy=dedicated
&AUTHPARAMS
```

Sample Response

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>a9e49797-a74f-4f68-b302-example</requestId>
    <vpc>
        <vpcId>vpc-11a63c78</vpcId>
```

```
        <state>pending</state>
        <cidrBlock>10.32.0.0/16</cidrBlock>
        <cidrBlockAssociationSet/>
        <ipv6CidrBlockAssociationSet/>
        <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
        <instanceTenancy>dedicated</instanceTenancy>
        <isDefault>false</isDefault>
    </vpc>
</CreateVpcResponse>
```

Example 3

This example creates a VPC and requests an IPv6 CIDR block for the VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AmazonProvidedIpv6CidrBlock=true
&AUTHPARAMS
```

Sample Response

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>a9e49797-a74f-4f68-b302-example</requestId>
    <vpc>
        <vpcId>vpc-11a22bbc</vpcId>
        <state>available</state>
        <cidrBlock>10.0.0.0/16</cidrBlock>
        <ipv6CidrBlockAssociationSet>
         <item>
           <ipv6CidrBlock/>
           <associationId>vpc-cidr-assoc-abababab</associationId>
           <ipv6CidrBlockState>
              <state>associating</state>
           </ipv6CidrBlockState>
         </item>
     </ipv6CidrBlockAssociationSet>
        <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
        <instanceTenancy>default</instanceTenancy>
        <isDefault>false</isDefault>
    </vpc>
</CreateVpcResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpcEndpoint

Creates a VPC endpoint for a specified AWS service. An endpoint enables you to create a private connection between your VPC and another AWS service in your account. You can specify an endpoint policy to attach to the endpoint that will control access to the service from your VPC. You can also specify the VPC route tables that use the endpoint.

Use DescribeVpcEndpointServices (p. 422) to get a list of supported AWS services.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PolicyDocument

A policy to attach to the endpoint that controls access to the service. The policy must be in valid JSON format. If this parameter is not specified, we attach a default policy that allows full access to the service.

Type: String

Required: No

RouteTableId.N

One or more route table IDs.

Type: array of Strings

Required: No

ServiceName

The AWS service name, in the form `com.amazonaws.`*`region.service`* . To get a list of available services, use the DescribeVpcEndpointServices (p. 422) request.

Type: String

Required: Yes

VpcId

The ID of the VPC in which the endpoint will be used.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request.

Type: String

requestId

The ID of the request.

Type: String

vpcEndpoint

Information about the endpoint.

Type: VpcEndpoint (p. 875) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

The example creates an endpoint between `vpc-1a2b3c4d` and Amazon S3 in us-east-1, and associates route table `rtb-11aa22bb` with the endpoint.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpcEndpoint
&VpcId=vpc-1a2b3c4d
&ServiceName=com.amazonaws.us-east-1.s3
&RouteTableId.1=rtb-11aa22bb
&AUTHPARAMS
```

Sample Response

```
<CreateVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <vpcEndpoint>
        <vpcId>vpc-1a2b3c4d</vpcId>
        <state>available</state>
        <routeTableIdSet>
            <item>rtb-11aa22bb</item>
        </routeTableIdSet>
       <vpcEndpointId>vpce-abc12345</vpcEndpointId>
        <creationTimestamp>2015-02-20T16:46:40Z</creationTimestamp>
        <policyDocument>{"Version":"2008-10-17","Statement":
[{"Sid":"","Effect":"Allow","Principal":"*","Action":"*","Resource":"*"}]}</
policyDocument>
        <serviceName>com.amazonaws.us-west-1.s3</serviceName>
    </vpcEndpoint>
    <requestId>4b373100-473a-46a0-9006-example</requestId>
</CreateVpcEndpointResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpcPeeringConnection

Requests a VPC peering connection between two VPCs: a requester VPC that you own and a peer VPC with which to create the connection. The peer VPC can belong to another AWS account. The requester VPC and peer VPC cannot have overlapping CIDR blocks.

The owner of the peer VPC must accept the peering request to activate the peering connection. The VPC peering connection request expires after 7 days, after which it cannot be accepted or rejected.

A `CreateVpcPeeringConnection` request between VPCs with overlapping CIDR blocks results in the VPC peering connection having a status of `failed`.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PeerOwnerId

The AWS account ID of the owner of the peer VPC.

Default: Your AWS account ID

Type: String

Required: No

PeerVpcId

The ID of the VPC with which you are creating the VPC peering connection.

Type: String

Required: No

VpcId

The ID of the requester VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpcPeeringConnection

Information about the VPC peering connection.

Type: VpcPeeringConnection (p. 877) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example requests a peering connection between your VPC (vpc-1a2b3c4d), and a VPC (vpc-a1b2c3d4) that belongs to AWS account 123456789012.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-a1b2c3d4
&PeerOwnerId=123456789012
&AUTHPARAMS
```

Sample Response

```
<CreateVpcPeeringConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
 <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
 <vpcPeeringConnection>
  <vpcPeeringConnectionId>pcx-73a5401a</vpcPeeringConnectionId>
    <requesterVpcInfo>
     <ownerId>777788889999</ownerId>
     <vpcId>vpc-vpc-1a2b3c4d</vpcId>
     <cidrBlock>10.0.0.0/28</cidrBlock>
     <peeringOptions>
       <allowEgressFromLocalClassicLinkToRemoteVpc>false</
allowEgressFromLocalClassicLinkToRemoteVpc>
       <allowEgressFromLocalVpcToRemoteClassicLink>false</
allowEgressFromLocalVpcToRemoteClassicLink>
     </peeringOptions>
    </requesterVpcInfo>
    <accepterVpcInfo>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-a1b2c3d4</vpcId>
    </accepterVpcInfo>
    <status>
     <code>initiating-request</code>
     <message>Initiating Request to 123456789012</message>
    </status>
    <expirationTime>2014-02-18T14:37:25.000Z</expirationTime>
    <tagSet/>
 </vpcPeeringConnection>
</CreateVpcPeeringConnectionResponse>
```

Example 2

This example requests a peering connection between your VPCs vpc-1a2b3c4d and vpc-11122233.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-11122233
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpnConnection

Creates a VPN connection between an existing virtual private gateway and a VPN customer gateway. The only supported connection type is `ipsec.1`.

The response includes information that you need to give to your network administrator to configure your customer gateway.

Important
We strongly recommend that you use HTTPS when calling this operation because the response contains sensitive cryptographic information for configuring your customer gateway.

If you decide to shut down your VPN connection for any reason and later create a new VPN connection, you must reconfigure your customer gateway with the new information returned from this call.

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CustomerGatewayId
The ID of the customer gateway.
Type: String
Required: Yes

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

Options
Indicates whether the VPN connection requires static routes. If you are creating a VPN connection for a device that does not support BGP, you must specify `true`.
Default: `false`
Type: VpnConnectionOptionsSpecification (p. 884) object
Required: No

Type
The type of VPN connection (`ipsec.1`).
Type: String
Required: Yes

VpnGatewayId
The ID of the virtual private gateway.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

vpnConnection

Information about the VPN connection.

Type: VpnConnection (p. 881) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a VPN connection between the virtual private gateway with the ID `vgw-8db04f81` and the customer gateway with the ID `cgw-b4dc3961`. The response includes configuration information for the customer gateway. Because it's a long set of information, we haven't included the complete response here. To see an example of the configuration information, see the Amazon Virtual Private Cloud Network Administrator Guide.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&AUTHPARAMS
```

Sample Response

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnConnection>
    <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
    <state>pending</state>
    <customerGatewayConfiguration>
       ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <type>ipsec.1</type>
    <customerGatewayId>cgw-b4dc3961</customerGatewayId>
    <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
    <tagSet/>
  </vpnConnection>
</CreateVpnConnectionResponse>
```

Example 2

This example creates a VPN connection with the static routes option between the virtual private gateway with the ID `vgw-8db04f81`, and the customer gateway with the ID `cgw-b4dc3961`, for a device that does not support the Border Gateway Protocol (BGP). The response includes configuration information for the VPN connection's customer gateway. Because it's a long set of information, we haven't included the complete response here.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnection
```

```
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&Options.StaticRoutesOnly=true
&AUTHPARAMS
```

Sample Response

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>5cc7891f-1f3b-4fc4-a626-bdea8f63ff5a</requestId>
  <vpnConnection>
    <vpnConnectionId>vpn-83ad48ea</vpnConnectionId>
    <state>pending</state>
    <customerGatewayConfiguration>
       ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
    <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
    <options>
      <staticRoutesOnly>true</staticRoutesOnly>
    </options>
    <routes/>
  </vpnConnection>
</CreateVpnConnectionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpnConnectionRoute

Creates a static route associated with a VPN connection between an existing virtual private gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual private gateway to the VPN customer gateway.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DestinationCidrBlock

The CIDR block associated with the local subnet of the customer network.

Type: String

Required: Yes

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a static route to the VPN connection for the VPN connection with the ID `vpn-83ad48ea` to the destination CIDR block `11.12.0.0/16`. Note that when using the Query API the "/" is denoted as "%2F".

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS
```

Sample Response

```
<CreateVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</CreateVpnConnectionRouteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

CreateVpnGateway

Creates a virtual private gateway. A virtual private gateway is the endpoint on the VPC side of your VPN connection. You can create a virtual private gateway before creating the VPC itself.

For more information about virtual private gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone

The Availability Zone for the virtual private gateway.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Type

The type of VPN connection this virtual private gateway supports.

Type: String

Valid Values: `ipsec.1`

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnGateway

Information about the virtual private gateway.

Type: VpnGateway (p. 885) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a virtual private gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=CreateVpnGateway
&Type=ipsec.1
```

```
&AUTHPARAMS
```

Sample Response

```
<CreateVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGateway>
    <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
    <state>pending</state>
    <type>ipsec.1</type>
    <availabilityZone>us-east-1a</availabilityZone>
    <attachments/>
    <tagSet/>
  </vpnGateway>
</CreateVpnGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteCustomerGateway

Deletes the specified customer gateway. You must delete the VPN connection before you can delete the customer gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CustomerGatewayId

The ID of the customer gateway.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified customer gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteCustomerGateway
&CustomerGatewayId=cgw-b4dc3961
&AUTHPARAMS
```

Sample Response

```
<DeleteCustomerGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
```

```
   <return>true</return>
</DeleteCustomerGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteDhcpOptions

Deletes the specified set of DHCP options. You must disassociate the set of DHCP options before you can delete it. You can disassociate the set of DHCP options by associating either a new set of options or the default set of options with the VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DhcpOptionsId

The ID of the DHCP options set.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified set of DHCP options.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteDhcpOptions
&DhcpOptionsId=dopt-7a8b9c2d
&AUTHPARAMS
```

Sample Response

```
<DeleteDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
```

```
   <return>true</return>
</DeleteDhcpOptionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteEgressOnlyInternetGateway

Deletes an egress-only Internet gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EgressOnlyInternetGatewayId

The ID of the egress-only Internet gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

returnCode

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified egress-only Internet gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteEgressOnlyInternetGateway
&EgressOnlyInternetGatewayId=eigw-015e0e244e24dfe8a
&AUTHPARAMS
```

Sample Response

```
<DeleteEgressOnlyInternetGateway xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <returnCode>true</returnCode>
```

```
</DeleteEgressOnlyInternetGateway>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteFlowLogs

Deletes one or more flow logs.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

FlowLogId.N

One or more flow log IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

unsuccessful

Information about the flow logs that could not be deleted successfully.

Type: array of UnsuccessfulItem (p. 852) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This examples deletes flow log fl-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteFlowLogs
&FlowLogId.1=fl-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DeleteFlowLogsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>c5c4f51f-f4e9-42bc-8700-EXAMPLE</requestId>
    <unsuccessful/>
</DeleteFlowLogsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteInternetGateway

Deletes the specified Internet gateway. You must detach the Internet gateway from the VPC before you can delete it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

InternetGatewayId
The ID of the Internet gateway.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified Internet gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteInternetGateway
&InternetGatewayId=igw-eaad4883
&AUTHPARAMS
```

Sample Response

```
<DeleteInternetGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <return>true</return>
</DeleteInternetGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteKeyPair

Deletes the specified key pair, by removing the public key from Amazon EC2.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

KeyName

The name of the key pair.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request deletes the key pair named `my-key-pair`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteKeyPair
&KeyName=my-key-pair
&AUTHPARAMS
```

Sample Response

```
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteKeyPairResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteNatGateway

Deletes the specified NAT gateway. Deleting a NAT gateway disassociates its Elastic IP address, but does not release the address from your account. Deleting a NAT gateway does not delete any NAT gateway routes in your route tables.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

NatGatewayId

The ID of the NAT gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

natGatewayId

The ID of the NAT gateway.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes NAT gateway nat-04ae55e711cec5680.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNatGateway
&NatGatewayId=nat-04ae55e711cec5680
&AUTHPARAMS
```

Sample Response

```
<DeleteNatGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>741fc8ab-6ebe-452b-b92b-example</requestId>
    <natGatewayId>nat-04ae55e711cec5680</natGatewayId>
</DeleteNatGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteNetworkAcl

Deletes the specified network ACL. You can't delete the ACL if it's associated with any subnets. You can't delete the default network ACL.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

NetworkAclId
The ID of the network ACL.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified network ACL.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNetworkAcl
&NetworkAclId=acl-2cb85d45
&AUTHPARAMS
```

Sample Response

```
<DeleteNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
```

```
</DeleteNetworkAclResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteNetworkAclEntry

Deletes the specified ingress or egress entry (rule) from the specified network ACL.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

Egress
Indicates whether the rule is an egress rule.
Type: Boolean
Required: Yes

NetworkAclId
The ID of the network ACL.
Type: String
Required: Yes

RuleNumber
The rule number of the entry to delete.
Type: Integer
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes ingress rule number 100 from the specified network ACL.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNetworkAclEntry
&NetworkAclId=acl-2cb85d45
```

```
&RuleNumber=100
&AUTHPARAMS
```

Sample Response

```
<DeleteNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteNetworkAclEntryResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteNetworkInterface

Deletes the specified network interface. You must detach the network interface before you can delete it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

NetworkInterfaceId
The ID of the network interface.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteNetworkInterface
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS
```

Sample Response

```
<DeleteNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>e1c6d73b-edaa-4e62-9909-6611404e1739</requestId>
```

```
    <return>true</return>
</DeleteNetworkInterfaceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeletePlacementGroup

Deletes the specified placement group. You must terminate all instances in the placement group before you can delete the placement group. For more information about placement groups and cluster instances, see Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

GroupName
The name of the placement group.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the placement group named `XYZ-cluster`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeletePlacementGroup
&GroupName=XYZ-cluster
&AUTHPARAMS
```

Sample Response

```
<DeletePlacementGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
   <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
   <return>true</return>
</DeletePlacementGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRoute

Deletes the specified route from the specified route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DestinationCidrBlock

The IPv4 CIDR range for the route. The value you specify must match the CIDR for the route exactly.

Type: String

Required: No

DestinationIpv6CidrBlock

The IPv6 CIDR range for the route. The value you specify must match the CIDR for the route exactly.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example deletes the route with destination IPv4 CIDR `172.16.1.0/24` from the specified route table.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=172.16.1.0/24
&AUTHPARAMS
```

Sample Response

```
<DeleteRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteRouteResponse>
```

Example 2

This example deletes the route with destination IPv6 CIDR `::/0` from the specified route table.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteRoute
&RouteTableId=rtb-e4ad488d
&DestinationIpv6CidrBlock=::/0
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteRouteTable

Deletes the specified route table. You must disassociate the route table from any subnets before you can delete it. You can't delete the main route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified route table.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteRouteTable
&RouteTableId=rtb-e4ad488d
&AUTHPARAMS
```

Sample Response

```
<DeleteRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
```

```
</DeleteRouteTableResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSecurityGroup

Deletes a security group.

If you attempt to delete a security group that is associated with an instance, or is referenced by another security group, the operation fails with `InvalidGroup.InUse` in EC2-Classic or `DependencyViolation` in EC2-VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

GroupId

The ID of the security group. Required for a nondefault VPC.

Type: String

Required: No

GroupName

[EC2-Classic, default VPC] The name of the security group. You can specify either the security group name or the security group ID.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example deletes the specified security group for EC2-Classic.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteSecurityGroup
&GroupName=websrv
```

```
&AUTHPARAMS
```

Sample Response

```
<DeleteSecurityGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSecurityGroupResponse>
```

Example for EC2-VPC

his example deletes the specified security group for EC2-VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteSecurityGroup
&GroupId=sg-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DeleteSecurityGroupResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSecurityGroupResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSnapshot

Deletes the specified snapshot.

When you make periodic snapshots of a volume, the snapshots are incremental, and only the blocks on the device that have changed since your last snapshot are saved in the new snapshot. When you delete a snapshot, only the data not needed for any other snapshot is removed. So regardless of which prior snapshots have been deleted, all active snapshots will have access to all the information needed to restore the volume.

You cannot delete a snapshot of the root device of an EBS volume used by a registered AMI. You must first de-register the AMI before you can delete the snapshot.

For more information, see Deleting an Amazon EBS Snapshot in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SnapshotId

The ID of the EBS snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request deletes the snapshot with the ID `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteSnapshot
```

```
&SnapshotId.1=snap-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DeleteSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSnapshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSpotDatafeedSubscription

Deletes the data feed for Spot instances.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request deletes the data feed for the AWS account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteSpotDatafeedSubscription
&AUTHPARAMS
```

Sample Response

```
<DeleteSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSpotDatafeedSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteSubnet

Deletes the specified subnet. You must terminate all running instances in the subnet before you can delete the subnet.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

SubnetId
The ID of the subnet.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified subnet.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteSubnet
&SubnetId=subnet-9d4a7b6c
&AUTHPARAMS
```

Sample Response

```
<DeleteSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">

   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
```

```
   <return>true</return>
</DeleteSubnetResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteTags

Deletes the specified set of tags from the specified set of resources. This call is designed to follow a `DescribeTags` request.

For more information about tags, see Tagging Your Resources in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ResourceId.N

The ID of the resource. For example, ami-1a2b3c4d. You can specify more than one resource ID.

Type: array of Strings

Required: Yes

Tag.N

One or more tags to delete. If you omit the `value` parameter, we delete the tag regardless of its value. If you specify this parameter with an empty string as the value, we delete the key only if its value is an empty string.

Type: array of Tag (p. 847) objects

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example deletes the tags for the AMI with the ID `ami-1a2b3c4d`. First, get a list of the tags by using the `DescribeTags` request, then delete them.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteTags
```

```
&ResourceId.1=ami-1a2b3c4d
&Tag.1.Key=webserver
&Tag.2.Key=stack
&AUTHPARAMS
```

Sample Response

```
<DeleteTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DeleteTagsResponse>
```

Example

This example deletes the `stack` and `webserver` tags for two particular instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-1234567890abcdef0
&ResourceId.2=i-0598c7d356eba48d7
&Tag.1.Key=stack
&Tag.2.Key=webserver
&AUTHPARAMS
```

Example

You can specify a tag key without a corresponding tag value to delete the tag regardless of its value. This example request deletes all tags that have a key of `Purpose`, regardless of the tag value.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-0598c7d356eba48d7
&Tag.1.Key=Purpose
&AUTHPARAMS
```

Example

When you create a tag, you can set the tag value to the empty string. Correspondingly, you can delete only tags that have a specific key and whose value is the empty string. This example request deletes all tags for the specified instance where the key is `Purpose` and the tag value is the empty string.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-1234567890abcdef0
&Tag.1.Key=Purpose
&Tag.2.Value=
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVolume

Deletes the specified EBS volume. The volume must be in the `available` state (not attached to an instance).

Note
The volume may remain in the `deleting` state for several minutes.

For more information, see Deleting an Amazon EBS Volume in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

VolumeId
The ID of the volume.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request deletes the volume with the ID `vol-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVolume
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DeleteVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpc

Deletes the specified VPC. You must detach or delete all gateways and resources that are associated with the VPC before you can delete it. For example, you must terminate all instances running in the VPC, delete all security groups associated with the VPC (except the default one), delete all route tables associated with the VPC (except the default one), and so on.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId
The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpc
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DeleteVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DeleteVpcResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpcEndpoints

Deletes one or more specified VPC endpoints. Deleting the endpoint also deletes the endpoint routes in the route tables that were associated with the endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcEndpointId.N

One or more endpoint IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

unsuccessful

Information about the endpoints that were not successfully deleted.

Type: array of UnsuccessfulItem (p. 852) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes endpoint `vpce-aa22bb33`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpcEndpoints
&VpcEndpointId.1=vpce-aa22bb33
&AUTHPARAMS
```

Sample Response

```
<DeleteVpcEndpointsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <unsuccessful/>
    <requestId>b59c2643-789a-4bf7-aac4-example</requestId>
```

```
</DeleteVpcEndpointsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpcPeeringConnection

Deletes a VPC peering connection. Either the owner of the requester VPC or the owner of the peer VPC can delete the VPC peering connection if it's in the `active` state. The owner of the requester VPC can delete a VPC peering connection in the `pending-acceptance` state.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified VPC peering connection.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpcPeeringConnection
 &vpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DeleteVpcPeeringConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpcPeeringConnectionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpnConnection

Deletes the specified VPN connection.

If you're deleting the VPC and its associated components, we recommend that you detach the virtual private gateway from the VPC and delete the VPC before deleting the VPN connection. If you believe that the tunnel credentials for your VPN connection have been compromised, you can delete the VPN connection and create a new one that has new keys, without needing to delete the VPC or virtual private gateway. If you create a new VPN connection, you must reconfigure the customer gateway using the new configuration information returned with the new VPN connection ID.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified VPN connection.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpnConnection
&vpnConnectionId=vpn-44a8938f
&AUTHPARAMS
```

Sample Response

```
<DeleteVpnConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DeleteVpnConnectionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpnConnectionRoute

Deletes the specified static route associated with a VPN connection between an existing virtual private gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual private gateway to the VPN customer gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DestinationCidrBlock

The CIDR block associated with the local subnet of the customer network.

Type: String

Required: Yes

VpnConnectionId

The ID of the VPN connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes a static route to the destination CIDR block `11.12.0.0/16` associated with the VPN connection with the ID `vpn-83ad48ea`. Note that when using the Query API, the "/" is denoted as "%2F".

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS
```

Sample Response

```
<DeleteVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</DeleteVpnConnectionRouteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeleteVpnGateway

Deletes the specified virtual private gateway. We recommend that before you delete a virtual private gateway, you detach it from the VPC and delete the VPN connection. Note that you don't need to delete the virtual private gateway if you plan to delete and recreate the VPN connection between your VPC and your network.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example deletes the specified virtual private gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeleteVpnGateway
&vpnGatewayId=vgw-8db04f81
&AUTHPARAMS
```

Sample Response

```
<DeleteVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DeleteVpnGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DeregisterImage

Deregisters the specified AMI. After you deregister an AMI, it can't be used to launch new instances. This command does not delete the AMI.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ImageId
The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request deregisters the specified AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=DeregisterImage
&ImageId=ami-4fa54026
&AUTHPARAMS
```

Sample Response

```
<DeregisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
```

```
</DeregisterImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeAccountAttributes

Describes attributes of your AWS account. The following are the supported account attributes:

- `supported-platforms`: Indicates whether your account can launch instances into EC2-Classic and EC2-VPC, or only into EC2-VPC.
- `default-vpc`: The ID of the default VPC for your account, or `none`.
- `max-instances`: The maximum number of On-Demand instances that you can run.
- `vpc-max-security-groups-per-interface`: The maximum number of security groups that you can assign to a network interface.
- `max-elastic-ips`: The maximum number of Elastic IP addresses that you can allocate for use with EC2-Classic.
- `vpc-max-elastic-ips`: The maximum number of Elastic IP addresses that you can allocate for use with EC2-VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AttributeName.N

One or more account attribute names.

Type: array of Strings

Valid Values: `supported-platforms | default-vpc`

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

accountAttributeSet

Information about one or more account attributes.

Type: array of AccountAttribute (p. 623) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes your account attributes. The response is for an account that supports EC2-Classic and EC2-VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAccountAttributes
&AUTHPARAMS
```

Sample Response

```
<DescribeAccountAttributesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
        <item>
            <attributeName>vpc-max-security-groups-per-interface</
attributeName>
            <attributeValueSet>
                <item>
                    <attributeValue>5</attributeValue>
                </item>
            </attributeValueSet>
        </item>
        <item>
            <attributeName>max-instances</attributeName>
            <attributeValueSet>
                <item>
                    <attributeValue>20</attributeValue>
                </item>
            </attributeValueSet>
        </item>
        <item>
            <attributeName>supported-platforms</attributeName>
            <attributeValueSet>
                <item>
                    <attributeValue>EC2</attributeValue>
                </item>
                <item>
                    <attributeValue>VPC</attributeValue>
                </item>
            </attributeValueSet>
        </item>
        <item>
            <attributeName>default-vpc</attributeName>
            <attributeValueSet>
                <item>
                    <attributeValue>none</attributeValue>
                </item>
            </attributeValueSet>
        </item>
        <item>
            <attributeName>max-elastic-ips</attributeName>
            <attributeValueSet>
                <item>
                    <attributeValue>5</attributeValue>
                </item>
            </attributeValueSet>
        </item>
        <item>
            <attributeName>vpc-max-elastic-ips</attributeName>
```

```
            <attributeValueSet>
                <item>
                    <attributeValue>5</attributeValue>
                </item>
            </attributeValueSet>
        </item>
    </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

Example 2

This example describes the ID of your default VPC. The first response is for an account that supports only EC2-VPC. The second response if for an account that supports both EC2-Classic and EC2-VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAccountAttributes
&AttributeName.1=default-vpc
&AUTHPARAMS
```

Sample Response

```
<DescribeAccountAttributesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>default-vpc</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>none</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeAddresses

Describes one or more of your Elastic IP addresses.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AllocationId.N

[EC2-VPC] One or more allocation IDs.

Default: Describes all your Elastic IP addresses.

Type: array of Strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters. Filter names and values are case-sensitive.

- `allocation-id` - [EC2-VPC] The allocation ID for the address.
- `association-id` - [EC2-VPC] The association ID for the address.
- `domain` - Indicates whether the address is for use in EC2-Classic (`standard`) or in a VPC (`vpc`).
- `instance-id` - The ID of the instance the address is associated with, if any.
- `network-interface-id` - [EC2-VPC] The ID of the network interface that the address is associated with, if any.
- `network-interface-owner-id` - The AWS account ID of the owner.
- `private-ip-address` - [EC2-VPC] The private IP address associated with the Elastic IP address.
- `public-ip` - The Elastic IP address.

Type: array of Filter (p. 665) objects

Required: No

PublicIp.N

[EC2-Classic] One or more Elastic IP addresses.

Default: Describes all your Elastic IP addresses.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

addressesSet

Information about one or more Elastic IP addresses.

Type: array of Address (p. 626) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example request describes two specific Elastic IP addresses allocated to your account. Both addresses were created for instances in EC2-Classic, so you must specify them using their IP addresses. The address `192.0.2.1` is assigned to instance `i-1234567890abcdef0`, and `198.51.100.2` isn't assigned to an instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&PublicIp.1=192.0.2.1
&PublicIp.2=198.51.100.2
&AUTHPARAMS
```

Sample Response

```
<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <addressesSet>
      <item>
         <publicIp>192.0.2.1</publicIp>
         <domain>standard</domain>
         <instanceId>i-1234567890abcdef0</instanceId>
      </item>
      <item>
         <publicIp>198.51.100.2</publicIp>
         <domain>standard</domain>
         <instanceId/>
      </item>
   </addressesSet>
</DescribeAddressesResponse>
```

Example 1 for EC2-VPC

This example request describes a specific Elastic IP address allocated to your account. This address was created for instances in EC2-VPC, so you must use the allocation ID to specify the address.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&AllocationId.1= eipalloc-08229861
&AUTHPARAMS
```

Sample Response

```
<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
   <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
   <addressesSet>
     <item>
       <publicIp>203.0.113.41</publicIp>
       <allocationId>eipalloc-08229861</allocationId>
       <domain>vpc</domain>
       <instanceId>i-0598c7d356eba48d7</instanceId>
       <associationId>eipassoc-f0229899</associationId>
       <networkInterfaceId>eni-ef229886</networkInterfaceId>
       <networkInterfaceOwnerId>053230519467</networkInterfaceOwnerId>
       <privateIpAddress>10.0.0.228</privateIpAddress>
     </item>
   </addressesSet>
</DescribeAddressesResponse>
```

Example 2 for EC2-VPC

This example describes your Elastic IP addresses for EC2-VPC only.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&Filter.1.Name=domain
&Filter.1.Value.1=vpc
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeAvailabilityZones

Describes one or more of the Availability Zones that are available to you. The results include zones only for the region you're currently using. If there is an event impacting an Availability Zone, you can use this request to view the state and any provided message for that Availability Zone.

For more information, see Regions and Availability Zones in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `message` - Information about the Availability Zone.
- `region-name` - The name of the region for the Availability Zone (for example, `us-east-1`).
- `state` - The state of the Availability Zone (`available` | `information` | `impaired` | `unavailable`).
- `zone-name` - The name of the Availability Zone (for example, `us-east-1a`).

Type: array of Filter (p. 665) objects

Required: No

ZoneName.N

The names of one or more Availability Zones.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

availabilityZoneInfo

Information about one or more Availability Zones.

Type: array of AvailabilityZone (p. 630) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example request describes the Availability Zones that are available to you. The response includes Availability Zones only for the current region.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeAvailabilityZones
&AUTHPARAMS
```

Sample Response

```
<DescribeAvailabilityZonesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <availabilityZoneInfo>
   <item>
      <zoneName>us-east-1a</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
   </item>
   <item>
      <zoneName>us-east-1b</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
   </item>
   <item>
      <zoneName>us-east-1c</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
   </item>
   <item>
      <zoneName>us-east-1d</zoneName>
      <zoneState>available</zoneState>
      <regionName>us-east-1</regionName>
      <messageSet/>
   </item>
   </availabilityZoneInfo>
</DescribeAvailabilityZonesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeBundleTasks

Describes one or more of your bundling tasks.

Note
Completed bundle tasks are listed for only a limited time. If your bundle task is no longer in the list, you can still register an AMI from it. Just use `RegisterImage` with the Amazon S3 bucket name and image manifest name you provided to the bundle task.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

BundleId.N

One or more bundle task IDs.

Default: Describes all your bundle tasks.

Type: array of Strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `bundle-id` - The ID of the bundle task.
- `error-code` - If the task failed, the error code returned.
- `error-message` - If the task failed, the error message returned.
- `instance-id` - The ID of the instance.
- `progress` - The level of task completion, as a percentage (for example, 20%).
- `s3-bucket` - The Amazon S3 bucket to store the AMI.
- `s3-prefix` - The beginning of the AMI name.
- `start-time` - The time the task started (for example, 2013-09-15T17:15:20.000Z).
- `state` - The state of the task (`pending` | `waiting-for-shutdown` | `bundling` | `storing` | `cancelling` | `complete` | `failed`).
- `update-time` - The time of the most recent update for the task.

Type: array of Filter (p. 665) objects

Required: No

Response Elements

The following elements are returned by the service.

bundleInstanceTasksSet

Information about one or more bundle tasks.

Type: array of BundleTask (p. 635) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the status of the specified bundle task.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&bundleId.1=bun-c1a540a8
&AUTHPARAMS
```

Sample Response

```
<DescribeBundleTasksResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <bundleInstanceTasksSet>
      <item>
         <instanceId>i-1234567890abcdef0</instanceId>
         <bundleId>bun-c1a540a8</bundleId>
         <state>cancelling</state>
         <startTime>2008-10-07T11:41:50.000Z</startTime>
         <updateTime>2008-10-07T11:51:50.000Z</updateTime>
         <storage>
            <S3>
               <bucket>myawsbucket</bucket>
               <prefix>winami</prefix>
            </S3>
         </storage>
         <progress>20%</progress>
      </item>
   <bundleInstanceTasksSet>
</DescribeBundleTasksResponse>
```

Example 2

This example filters the response to include only bundle tasks whose state is either `complete` or `failed`, and in addition are targeted for the Amazon S3 bucket named `myawsbucket`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&Filter.1.Name=s3-bucket
&Filter.1.Value.1=myawsbucket
&Filter.2.Name=state
&Filter.2.Name.1=complete
&Filter.2.Name.2=failed
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeClassicLinkInstances

Describes one or more of your linked EC2-Classic instances. This request only returns information about EC2-Classic instances linked to a VPC through ClassicLink; you cannot use this request to return information about other instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `group-id` - The ID of a VPC security group that's associated with the instance.
- `instance-id` - The ID of the instance.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC that the instance is linked to.

Type: array of Filter (p. 665) objects

Required: No

InstanceId.N

One or more instance IDs. Must be instances linked to a VPC through ClassicLink.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. You cannot specify this parameter and the instance IDs parameter in the same request.

Constraint: If the value is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more linked EC2-Classic instances.

Type: array of ClassicLinkInstance (p. 643) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example lists all of your linked EC2-Classic instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeClassicLinkInstances
&AUTHPARAMS
```

Sample Response

```
<DescribeClassicLinkInstancesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <instancesSet>
        <item>
            <instanceId>i-1234567890abcdef0</instanceId>
            <vpcId>vpc-1a2b3c4d</vpcId>
            <groupSet>
                <item>
                    <groupId>sg-a1a1a1a1</groupId>
                </item>
            </groupSet>
            <tagSet/>
        </item>
    </instancesSet>
</DescribeClassicLinkInstancesResponse>
```

Example

This example lists all linked EC2-Classic instances, and filters the response to include only instances that are linked to VPC `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeClassicLinkInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-1a2b3c4d
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeConversionTasks

Describes one or more of your conversion tasks. For more information, see the VM Import/Export User Guide.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ConversionTaskId.N

One or more conversion task IDs.

Type: array of Strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

conversionTasks

Information about the conversion tasks.

Type: array of ConversionTask (p. 645) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your conversion tasks.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeConversionTasks
&AUTHPARAMS
```

Sample Response

```
<DescribeConversionTasksResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <conversionTasks>
```

```
     <item>
        <conversionTask>
           <conversionTaskId>import-i-fh95npoc</conversionTaskId>
           <expirationTime>2010-12-22T12:01Z</expirationTime>
           <importVolume>
              <bytesConverted>1000</bytesConverted>
              <availabilityZone>us-east-1a</availabilityZone>
              <description/>
              <image>
                 <format>VDMK</format>
                 <size>128696320</size>
                 <importManifestUrl>
                  https://s3.amazonaws.com/myawsbucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&
Signature=5snej01TlTtL0uR7KExtEXAMPLE%3D
                 </importManifestUrl>
              </image>
              <volume>
                 <size>8</size>
                 <id>vol-1234567890abcdef0</id>
              </volume>
           </importVolume>
           <state>active</state>
           <statusMessage/>
        </conversionTask>
     </item>
  </conversionTasks>
</DescribeConversionTasksResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeCustomerGateways

Describes one or more of your VPN customer gateways.

For more information about VPN customer gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CustomerGatewayId.N

One or more customer gateway IDs.

Default: Describes all your customer gateways.

Type: array of Strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `bgp-asn` - The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
- `customer-gateway-id` - The ID of the customer gateway.
- `ip-address` - The IP address of the customer gateway's Internet-routable external interface.
- `state` - The state of the customer gateway (`pending` | `available` | `deleting` | `deleted`).
- `type` - The type of customer gateway. Currently, the only supported type is `ipsec.1`.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: array of Filter (p. 665) objects

Required: No

Response Elements

The following elements are returned by the service.

customerGatewaySet

Information about one or more customer gateways.

Type: array of CustomerGateway (p. 648) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example request describes the specified customer gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&CustomerGatewayId.1=cgw-b4dc3961
&AUTHPARAMS
```

Sample Response

```
<DescribeCustomerGatewaysResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <customerGatewaySet>
    <item>
       <customerGatewayId>cgw-b4dc3961</customerGatewayId>
       <state>available</state>
       <type>ipsec.1</type>
       <ipAddress>12.1.2.3</ipAddress>
       <bgpAsn>65534</bgpasn>
       <tagSet/>
    </item>
  </customerGatewaySet>
</DescribeCustomerGatewaysResponse>
```

Example 2

This example request uses filters to describe any customer gateway you own whose IP address is `12.1.2.3`, and whose state is either `pending` or `available`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&Filter.1.Name=ip-address
&Filter.1.Value.1=12.1.2.3
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeDhcpOptions

Describes one or more of your DHCP options sets.

For more information about DHCP options sets, see DHCP Options Sets in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DhcpOptionsId.N

The IDs of one or more DHCP options sets.

Default: Describes all your DHCP options sets.

Type: array of Strings

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `dhcp-options-id` - The ID of a set of DHCP options.
- `key` - The key for one of the options (for example, `domain-name`).
- `value` - The value for one of the options.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: array of Filter (p. 665) objects

Required: No

Response Elements

The following elements are returned by the service.

dhcpOptionsSet

Information about one or more DHCP options sets.

Type: array of DhcpOptions (p. 650) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the specified DHCP options set.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&DhcpOptionsId.1=dopt-7a8b9c2d
&AUTHPARAMS
```

Sample Response

```
<DescribeDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptionsSet>
    <item>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <dhcpConfigurationSet>
        <item>
          <key>domain-name</key>
          <valueSet>
            <item>
              <value>example.com</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.1</value>
          </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.2</value>
              </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
      <tagSet/>
    </item>
  </dhcpOptionsSet>
</DescribeDhcpOptionsResponse>
```

Example 2

This example uses filters to describe any DHCP options set that includes a `domain-name` option whose value includes the string `example`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&Filter.1.Name=key
&Filter.1.Value.1=domain-name
&Filter.2.Name=value
&Filter.2.Value.1=*example*
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeEgressOnlyInternetGateways

Describes one or more of your egress-only Internet gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EgressOnlyInternetGatewayId.N

One or more egress-only Internet gateway IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

egressOnlyInternetGatewaySet

Information about the egress-only Internet gateways.

Type: array of EgressOnlyInternetGateway (p. 659) objects

nextToken

The token to use to retrieve the next page of results.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your egress-only Internet gateways.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeEgressOnlyInternetGateways
&AUTHPARAMS
```

Sample Response

```
<DescribeEgressOnlyInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>ec441b4c-357f-4483-b4a7-example</requestId>
    <egressOnlyInternetGatewaySet>
        <item>
            <attachmentSet>
                <item>
                    <state>attached</state>
                    <vpcId>vpc-0c62a468</vpcId>
                </item>
            </attachmentSet>
            <egressOnlyInternetGatewayId>eigw-015e0e244e24dfe8a</
egressOnlyInternetGatewayId>
        </item>
    </egressOnlyInternetGatewaySet>
</DescribeEgressOnlyInternetGatewaysResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeExportTasks

Describes one or more of your export tasks.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ExportTaskId.N

One or more export task IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

exportTaskSet

Information about the export tasks.

Type: array of ExportTask (p. 662) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes a single export task.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeExportTasks
&exportTaskId.1=export-i-1234wxyz
&AUTHPARAMS
```

Sample Response

```
<DescribeExportTasksResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<exportTaskSet>
  <item>
    <exportTaskId>export-i-1234wxyz</exportTaskId>
    <description>Example for docs</description>
    <state>active</state>
    <statusMessage>Running</statusMessage>
    <instanceExport>
      <instanceId>i-12345678</instanceId>
```

```
      <targetEnvironment>VMWare</targetEnvironment>
    </instanceExport>
    <exportToS3>
      <diskImageFormat>VMDK</diskImageFormat>
      <containerFormat>OVA</containerFormat>
      <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
      <s3Key>my-exports/ export-i-1234wxyz.ova</s3Key>
    </exportToS3>
  </item>
</exportTaskSet>
</DescribeExportTasksResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeFlowLogs

Describes one or more flow logs. To view the information in your flow logs (the log streams for the network interfaces), you must use the CloudWatch Logs console or the CloudWatch Logs API.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `deliver-log-status` - The status of the logs delivery (`SUCCESS` | `FAILED`).
- `flow-log-id` - The ID of the flow log.
- `log-group-name` - The name of the log group.
- `resource-id` - The ID of the VPC, subnet, or network interface.
- `traffic-type` - The type of traffic (`ACCEPT` | `REJECT` | `ALL`)

Type: array of Filter (p. 665) objects

Required: No

FlowLogId.N

One or more flow log IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. You cannot specify this parameter and the flow log IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

flowLogSet

Information about the flow logs.

Type: array of FlowLog (p. 666) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your flow logs.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeFlowLogs
&AUTHPARAMS
```

Sample Response

```
<DescribeFlowLogsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>3cb46f23-099e-4bf0-891c-EXAMPLE</requestId>
    <flowLogSet>
        <item>
            <deliverLogsErrorMessage>Access error</deliverLogsErrorMessage>
            <resourceId>vpc-1a2b3c4d</resourceId>
            <deliverLogsPermissionArn>arn:aws:iam::123456789101:role/
flowlogsrole</deliverLogsPermissionArn>
            <flowLogStatus>ACTIVE</flowLogStatus>
            <creationTime>2015-05-19T08:48:59Z</creationTime>
            <logGroupName>FlowLogsForSubnetA</logGroupName>
            <trafficType>ALL</trafficType>
            <flowLogId>fl-ab12cd34</flowLogId>
        </item>
        <item>
            <resourceId>vpc-1122bbcc</resourceId>
            <deliverLogsPermissionArn>arn:aws:iam::123456789101:role/
flowlogsrole</deliverLogsPermissionArn>
            <flowLogStatus>ACTIVE</flowLogStatus>
            <creationTime>2015-05-19T10:42:32Z</creationTime>
            <logGroupName>FlowLogsForSubnetB</logGroupName>
            <trafficType>ALL</trafficType>
            <flowLogId>fl-123abc45</flowLogId>
        </item>
    </flowLogSet>
</DescribeFlowLogsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeHostReservationOfferings

Describes the Dedicated Host Reservations that are available to purchase.

The results describe all the Dedicated Host Reservation offerings, including offerings that may not match the instance family and region of your Dedicated Hosts. When purchasing an offering, ensure that the the instance family and region of the offering matches that of the Dedicated Host/s it will be associated with. For an overview of supported instance types, see Dedicated Hosts Overview in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `instance-family` - The instance family of the offering (e.g., `m4`).
- `payment-option` - The payment option (`NoUpfront` | `PartialUpfront` | `AllUpfront`).

Type: array of Filter (p. 665) objects

Required: No

MaxDuration

This is the maximum duration of the reservation you'd like to purchase, specified in seconds. Reservations are available in one-year and three-year terms. The number of seconds specified must be the number of seconds in a year (365x24x60x60) times one of the supported durations (1 or 3). For example, specify 94608000 for three years.

Type: Integer

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `nextToken` value. This value can be between 5 and 500; if `maxResults` is given a larger value than 500, you will receive an error.

Type: Integer

Required: No

MinDuration

This is the minimum duration of the reservation you'd like to purchase, specified in seconds. Reservations are available in one-year and three-year terms. The number of seconds specified must be the number of seconds in a year (365x24x60x60) times one of the supported durations (1 or 3). For example, specify 31536000 for one year.

Type: Integer

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

OfferingId

The ID of the reservation offering.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken
The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.
Type: String

offeringSet
Information about the offerings.
Type: array of HostOffering (p. 673) objects

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the all the Dedicated Host Reservation offerings.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeHostReservationOfferings
&AUTHPARAMS
```

Sample Response

```
<DescribeHostReservationOfferingsResult xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>d4904fd9-84c3-4ea5-gtyk-a9cc3EXAMPLE</requestId>
<offeringSet>
    <item>
        <duration>94608000</duration>
        <upfrontPrice>28396.000</upfrontPrice>
        <paymentOption>AllUpfront</paymentOption>
        <instanceFamily>m4</instanceFamily>
        <offeringId>hro-0875903788203856fg</offeringId>
        <hourlyPrice>0.000</hourlyPrice>
    </item>
    <item>
        <duration>31536000</duration>
        <upfrontPrice>13603.000</upfrontPrice>
        <paymentOption>AllUpfront</paymentOption>
        <instanceFamily>r3</instanceFamily>
        <offeringId>hro-08ddfitlb8990hhkmp</offeringId>
        <hourlyPrice>0.000</hourlyPrice>
    </item>
    <item>
        <duration>94608000</duration>
        <upfrontPrice>57382.000</upfrontPrice>
        <paymentOption>PartialUpfront</paymentOption>
        <instanceFamily>x1</instanceFamily>
        <offeringId>hro-0875903788207657fg</offeringId>
        <hourlyPrice>2.183</hourlyPrice>
```

```
    </item>
</offeringSet>
</DescribeHostReservationOfferingsResult>
```

Example 2

This example describes the all the Dedicated Host Reservation offerings with a maximum duration of 3 years that are available to purchase.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeHostReservationOfferings
&MaxDuration=94608000
&AUTHPARAMS
```

Sample Response

```
<DescribeHostReservationOfferingsResult xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>d4905678-84c3-4ea5-gtyk-a9cc3EXAMPLE</requestId>
<offeringSet>
    <item>
        <duration>31536000</duration>
        <upfrontPrice>4879.000</upfrontPrice>
        <paymentOption>PartialUpfront</paymentOption>
        <instanceFamily>c3</instanceFamily>
        <offeringId>hro-7890903788203856fg</offeringId>
        <hourlyPrice>0.557</hourlyPrice>
    </item>
    <item>
        <duration>94608000</duration>
        <upfrontPrice>18892.000</upfrontPrice>
        <paymentOption>AllUpfront</paymentOption>
        <instanceFamily>c4</instanceFamily>
        <offeringId>hro-1092903788203856fg</offeringId>
        <hourlyPrice>0.000</hourlyPrice>
    </item>
</offeringSet>
</DescribeHostReservationOfferingsResult>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeHostReservations

Describes Dedicated Host Reservations which are associated with Dedicated Hosts in your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `instance-family` - The instance family (e.g., `m4`).
- `payment-option` - The payment option (`NoUpfront` | `PartialUpfront` | `AllUpfront`).
- `state` - The state of the reservation (`payment-pending` | `payment-failed` | `active` | `retired`).

Type: array of Filter (p. 665) objects

Required: No

HostReservationIdSet.N

One or more host reservation IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `nextToken` value. This value can be between 5 and 500; if `maxResults` is given a larger value than 500, you will receive an error.

Type: Integer

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

hostReservationSet

Details about the reservation's configuration.

Type: array of HostReservation (p. 675) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the all the Dedicated Host Reservations in your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeHostReservations
&AUTHPARAMS
```

Sample Response

```
<DescribeHostReservationsResult xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>d4904fd9-84c3-4ea5-gtyk-a9983EXAMPLE</requestId>
<hostReservationSet>
    <item>
        <upfrontPrice>0.000</upfrontPrice>
        <count>2</count>
        <start>2016-08-01T15:43:15Z</start>
        <instanceFamily>m4</instanceFamily>
        <offeringId>hro-08759037789038 56fg</offeringId>
        <duration>31536000</duration>
        <paymentOption>NoUpfront</paymentOption>
        <end>2017-08-01T15:43:15Z</end>
        <hostReservationId>hr-0875903778903856fg</hostReservationId>
        <state>active</state>
        <hourlyPrice>1.990</hourlyPrice>
        <hostIdSet>
            <item>h-0897086hfkttn</item>
            <item>h-0891346hytrtn</item>
        </hostIdSet>
    </item>
</hostReservationSet>
</DescribeHostReservationsResult>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeHosts

Describes one or more of your Dedicated Hosts.

The results describe only the Dedicated Hosts in the region you're currently using. All listed instances consume capacity on your Dedicated Host. Dedicated Hosts that have recently been released will be listed with the state `released`.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `instance-type` - The instance type size that the Dedicated Host is configured to support.
- `auto-placement` - Whether auto-placement is enabled or disabled (`on` | `off`).
- `host-reservation-id` - The ID of the reservation assigned to this host.
- `client-token` - The idempotency token you provided when you launched the instance
- `state`- The allocation state of the Dedicated Host (`available` | `under-assessment` | `permanent-failure` | `released` | `released-permanent-failure`).
- `availability-zone` - The Availability Zone of the host.

Type: array of Filter (p. 665) objects

Required: No

HostId.N

The IDs of the Dedicated Hosts. The IDs are used for targeted instance launches.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results can be seen by sending another request with the returned `nextToken` value. This value can be between 5 and 500; if `maxResults` is given a larger value than 500, you will receive an error. You cannot specify this parameter and the host IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

hostSet

Information about the Dedicated Hosts.

Type: array of Host (p. 670) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the Dedicated Hosts in your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeHosts
&AUTHPARAMS
```

Sample Response

```
<DescribeHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
<hostSet>
    <item></item>
        <availableCapacity>
            <availableVCpus>1</availableVCpus>
            <availableInstanceCapacity>
                <item>
                    <availableCapacity>32</availableCapacity>
                    <totalCapacity>32</totalCapacity>
                    <instanceType>m3.medium</instanceType>
                </item>
            </availableInstanceCapacity>
        </availableCapacity>
        <instances/>
        <autoPlacement>off</autoPlacement>
        <hostId>h-00548908djdsgfs</hostId>
        <state>available</state>
        <hostProperties>
            <total VCpus>1</totalVCpus>
            <cores>20</cores>
            <sockets>2</sockets>
            <instanceType>m3.medium</instanceType>
        </hostProperties>
        <availabilityZone>us-east-1b</availabilityZone>
    </item>
</hostSet>
</DescribeHostsResponse>
```

Example

This example describes a released Dedicated Host in your account using the `state` filter to show only hosts with a state of `released`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeHosts
```

```
&Filter.1.Name=state
&Filter.1.Value=released
&AUTHPARAMS
```

Sample Response

```
<DescribeHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>d4904fd9-82c2-4ea5-adfe-a9983EXAMPLE</requestId>
<hostSet>
    <item>
        <instances/>
        <autoPlacement>on</autoPlacement>
        <hostId>h-00548908djdsgfs</hostId>
        <state>released</state>
        <hostProperties>
            <totalVCpus>1</totalVCpus>
            <cores>20</cores>
            <sockets>2</sockets>
            <instanceType>m3.medium</instanceType>
        </hostProperties>
        <availabilityZone>us-east-1b</availabilityZone>
       </item>
    </hostSet>
</DescribeHostsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeIamInstanceProfileAssociations

Describes your IAM instance profile associations.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId.N

One or more IAM instance profile associations.

Type: array of Strings

Required: No

Filter.N

One or more filters.

- `instance-id` - The ID of the instance.
- `state` - The state of the association (`associating` | `associated` | `disassociating` | `disassociated`).

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 255.

Required: No

NextToken

The token to request the next page of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

Response Elements

The following elements are returned by the service.

iamInstanceProfileAssociationSet

Information about one or more IAM instance profile associations.

Type: array of IamInstanceProfileAssociation (p. 678) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your IAM instance profile associations.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeIamInstanceProfileAssociations
&AUTHPARAMS
```

Sample Response

```
<DescribeIamInstanceProfileAssociationsResponse xmlns="http://
ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>84c2d2a6-12dc-491f-a9ee-example</requestId>
    <iamInstanceProfileAssociations>
        <item>
            <associationId>iip-assoc-08049da59357d598c</associationId>
            <iamInstanceProfile>
                <arn>arn:aws:iam::123456789012:instance-profile/
AdminProfile</arn>
                <id>AIPAJEDNCAA64SSD265D6</id>
            </iamInstanceProfile>
            <instanceId>i-1234567890abcdef0</instanceId>
            <state>associated</state>
        </item>
    </iamInstanceProfileAssociations>
</DescribeIamInstanceProfileAssociationsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeIdentityIdFormat

Describes the ID format settings for resources for the specified IAM user, IAM role, or root user. For example, you can view the resource types that are enabled for longer IDs. This request only returns information about resource types whose ID formats can be modified; it does not return information about other resource types. For more information, see Resource IDs in the *Amazon Elastic Compute Cloud User Guide*.

The following resource types support longer IDs: `instance` | `reservation` | `snapshot` | `volume`.

These settings apply to the principal specified in the request. They do not apply to the principal that makes the request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

PrincipalArn

The ARN of the principal, which can be an IAM role, IAM user, or the root user.

Type: String

Required: Yes

Resource

The type of resource: `instance` | `reservation` | `snapshot` | `volume`

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

statusSet

Information about the ID format for the resources.

Type: array of IdFormat (p. 681) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the ID format for the IAM role 'EC2Role'.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeIdentityIdFormat
&PrincipalArn=arn:aws:iam::123456789012:role/EC2Role
&AUTHPARAMS
```

Sample Response

```
<DescribeIdentityIdFormatResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <statuses>
        <item>
            <resource>instance</resource>
            <useLongIds>true</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>reservation</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>volume</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>snapshot</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
</DescribeIdentityIdFormatResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeIdFormat

Describes the ID format settings for your resources on a per-region basis, for example, to view which resource types are enabled for longer IDs. This request only returns information about resource types whose ID formats can be modified; it does not return information about other resource types.

The following resource types support longer IDs: `instance` | `reservation` | `snapshot` | `volume`.

These settings apply to the IAM user who makes the request; they do not apply to the entire AWS account. By default, an IAM user defaults to the same settings as the root user, unless they explicitly override the settings by running the ModifyIdFormat (p. 499) command. Resources created with longer IDs are visible to all IAM users, regardless of these settings and provided that they have permission to use the relevant `Describe` command for the resource type.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Resource

The type of resource: `instance` | `reservation` | `snapshot` | `volume`

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

statusSet

Information about the ID format for the resource.

Type: array of IdFormat (p. 681) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the ID format for all resources that support longer IDs.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeIdFormat
&AUTHPARAMS
```

Sample Response

```
<DescribeIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <statuses>
```

```
        <item>
            <resource>instance</resource>
            <useLongIds>true</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>reservation</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>volume</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
        <item>
            <resource>snapshot</resource>
            <useLongIds>false</useLongIds>
            <deadline>2016-11-01T21:34:34.000Z</deadline>
        </item>
    </statuses>
</DescribeIdFormatResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeImageAttribute

Describes the specified attribute of the specified AMI. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The AMI attribute.

Note: Depending on your account privileges, the `blockDeviceMapping` attribute may return a `Client.AuthFailure` error. If this happens, use DescribeImages (p. 271) to get information about the block device mapping for the AMI.

Type: String

Valid Values: `description | kernel | ramdisk | launchPermission | productCodes | blockDeviceMapping | sriovNetSupport`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ImageId

The ID of the AMI.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

blockDeviceMapping

One or more block device mapping entries.

Type: array of BlockDeviceMapping (p. 634) objects

description

A description for the AMI.

Type: AttributeValue (p. 629) object

imageId

The ID of the AMI.

Type: String

kernel

The kernel ID.

Type: AttributeValue (p. 629) object

launchPermission

One or more launch permissions.

Type: array of LaunchPermission (p. 727) objects

productCodes

One or more product codes.

Type: array of ProductCode (p. 760) objects

ramdisk
The RAM disk ID.
Type: AttributeValue (p. 629) object

requestId
The ID of the request.
Type: String

sriovNetSupport
Indicates whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.
Type: AttributeValue (p. 629) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example lists the launch permissions for the specified AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
&AUTHPARAMS
```

Sample Response

```
<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-61a54008</imageId>
   <launchPermission>
      <item>
         <group>all</group>
      </item>
      <item>
         <userId>495219933132</userId>
      </item>
   </launchPermission>
</DescribeImageAttributeResponse>
```

Example 2

This example lists the product codes for the specified AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-2bb65342
&Attribute=productCodes
&AUTHPARAMS
```

Sample Response

```
<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/>
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-2bb65342</imageId>
   <productCodes>
      <item>
        <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
        <type>marketplace</type>
      </item>
   </productCodes>
</DescribeImageAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeImages

Describes one or more of the images (AMIs, AKIs, and ARIs) available to you. Images available to you include public images, private images that you own, and private images owned by other AWS accounts but for which you have explicit launch permissions.

Note
Deregistered images are included in the returned results for an unspecified interval after deregistration.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ExecutableBy.N

Scopes the images by users with explicit launch permissions. Specify an AWS account ID, `self` (the sender of the request), or `all` (public AMIs).

Type: array of Strings

Required: No

Filter.N

One or more filters.

- `architecture` - The image architecture (`i386` | `x86_64`).
- `block-device-mapping.delete-on-termination` - A Boolean value that indicates whether the Amazon EBS volume is deleted on instance termination.
- `block-device-mapping.device-name` - The device name for the EBS volume (for example, `/dev/sdh`).
- `block-device-mapping.snapshot-id` - The ID of the snapshot used for the EBS volume.
- `block-device-mapping.volume-size` - The volume size of the EBS volume, in GiB.
- `block-device-mapping.volume-type` - The volume type of the EBS volume (`gp2` | `io1` | `st1` | `sc1` | `standard`).
- `description` - The description of the image (provided during image creation).
- `ena-support` - A Boolean that indicates whether enhanced networking with ENA is enabled.
- `hypervisor` - The hypervisor type (`ovm` | `xen`).
- `image-id` - The ID of the image.
- `image-type` - The image type (`machine` | `kernel` | `ramdisk`).
- `is-public` - A Boolean that indicates whether the image is public.
- `kernel-id` - The kernel ID.
- `manifest-location` - The location of the image manifest.
- `name` - The name of the AMI (provided during image creation).
- `owner-alias` - String value from an Amazon-maintained list (`amazon` | `aws-marketplace` | `microsoft`) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.
- `owner-id` - The AWS account ID of the image owner.

- `platform` - The platform. To only list Windows-based AMIs, use `windows`.
- `product-code` - The product code.
- `product-code.type` - The type of the product code (`devpay` | `marketplace`).
- `ramdisk-id` - The RAM disk ID.
- `root-device-name` - The name of the root device volume (for example, `/dev/sda1`).
- `root-device-type` - The type of the root device volume (`ebs` | `instance-store`).
- `state` - The state of the image (`available` | `pending` | `failed`).
- `state-reason-code` - The reason code for the state change.
- `state-reason-message` - The message for the state change.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `virtualization-type` - The virtualization type (`paravirtual` | `hvm`).

Type: array of Filter (p. 665) objects

Required: No

ImageId.N

One or more image IDs.

Default: Describes all images available to you.

Type: array of Strings

Required: No

Owner.N

Filters the images by the owner. Specify an AWS account ID, `self` (owner is the sender of the request), or an AWS owner alias (valid values are `amazon` | `aws-marketplace` | `microsoft`). Omitting this option returns all images for which you have launch permissions, regardless of ownership.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

imagesSet

Information about one or more images.

Type: array of Image (p. 682) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the specified AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeImages
&ImageId.1=ami-be3adfd7
&AUTHPARAMS
```

Sample Response

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>amazon/getting-started</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>123456789012</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <ramdiskId>ari-1a2b3c4d</ramdiskId>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <name>getting-started</name>
      <description>Image Description</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
            <snapshotId>snap-1234567890abcdef0</snapshotId>
            <volumeSize>15</volumeSize>
            <deleteOnTermination>false</deleteOnTermination>
            <volumeType>standard</volumeType>
          </ebs>
        </item>
      </blockDeviceMapping>
      <virtualizationType>paravirtual</virtualizationType>
      <tagSet/>
      <hypervisor>xen</hypervisor>
    </item>
  </imagesSet>
</DescribeImagesResponse>
```

Example 2

This example filters the response to include only public Windows images with an `x86_64` architecture.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeImages
```

```
&Filter.1.Name=is-public
&Filter.1.Value.1=true
&Filter.2.Name=architecture
&Filter.2.Value.1=x86_64
&Filter.3.Name=platform
&Filter.3.Value.1=windows
&AUTHPARAMS
```

Sample Response

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imagesSet>
      <item>
         <imageId>ami-1a2b3c4d</imageId>
         <imageLocation>ec2-public-windows-images/Server2003r2-x86_64-Win-
v1.07.manifest.xml</imageLocation>
         <imageState>available</imageState>
         <imageOwnerId>123456789012</imageOwnerId>
         <isPublic>true</isPublic>
         <architecture>x86_64</architecture>
         <imageType>machine</imageType>
         <platform>windows</platform>
         <imageOwnerAlias>amazon</imageOwnerAlias>
         <rootDeviceType>instance-store</rootDeviceType>
         <blockDeviceMapping/>
         <virtualizationType>hvm</virtualizationType>
         <tagSet/>
         <hypervisor>xen</hypervisor>
      </item>
      ...
   </imagesSet>
</DescribeImagesResponse>
```

Example 3

This example returns the results to display images where the owner is `aws-marketplace`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeImages
&Owner.1=aws-marketplace
&AUTHPARAMS
```

Sample Response

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
         <requestId>4a4a27a2-2e7c-475d-b35b-ca822EXAMPLE</requestId>
    <imagesSet>
        <item>
            <imageId>ami-1a2b3c4d</imageId>
            <imageLocation>aws-marketplace/example-marketplace-amzn-ami.1</
imageLocation>
            <imageState>available</imageState>
            <imageOwnerId>123456789012</imageOwnerId>
            <isPublic>true</isPublic>
```

```
            <productCodes>
                <item>
                    <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
                    <type>marketplace</type>
                </item>
            </productCodes>
            <architecture>i386</architecture>
            <imageType>machine</imageType>
            <kernelId>aki-1a2b3c4d</kernelId>
            <imageOwnerAlias>aws-marketplace</imageOwnerAlias>
            <name>example-marketplace-amzn-ami.1</name>
            <description>Amazon Linux AMI i386 EBS</description>
            <rootDeviceType>ebs</rootDeviceType>
            <rootDeviceName>/dev/sda1</rootDeviceName>
            <blockDeviceMapping>
                <item>
                    <deviceName>/dev/sda1</deviceName>
                    <ebs>
                        <snapshotId>snap-1234567890abcdef0</snapshotId>
                        <volumeSize>8</volumeSize>
                        <deleteOnTermination>true</deleteOnTermination>
                    </ebs>
                </item>
            </blockDeviceMapping>
            <virtualizationType>paravirtual</virtualizationType>
            <hypervisor>xen</hypervisor>
        </item>
        ...
    </imagesSet>
</DescribeImagesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeImportImageTasks

Displays details about an import virtual machine or import snapshot tasks that are already created.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filters.N

Filter tasks using the `task-state` filter and one of the following values: active, completed, deleting, deleted.

Type: array of Filter (p. 665) objects

Required: No

ImportTaskId.N

A list of import image task IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

A token that indicates the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

importImageTaskSet

A list of zero or more import image tasks that are currently active or were completed or canceled in the previous 7 days.

Type: array of ImportImageTask (p. 686) objects

nextToken

The token to use to get the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeImportSnapshotTasks

Describes your import snapshot tasks.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filters.N

One or more filters.

Type: array of Filter (p. 665) objects

Required: No

ImportTaskId.N

A list of import snapshot task IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

A token that indicates the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

importSnapshotTaskSet

A list of zero or more import snapshot tasks that are currently active or were completed or canceled in the previous 7 days.

Type: array of ImportSnapshotTask (p. 692) objects

nextToken

The token to use to get the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeInstanceAttribute

Describes the specified attribute of the specified instance. You can specify only one attribute at a time. Valid attribute values are: `instanceType` | `kernel` | `ramdisk` | `userData` | `disableApiTermination` | `instanceInitiatedShutdownBehavior` | `rootDeviceName` | `blockDeviceMapping` | `productCodes` | `sourceDestCheck` | `groupSet` | `ebsOptimized` | `sriovNetSupport`

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The instance attribute.

Note: The `enaSupport` attribute is not supported at this time.

Type: String

Valid Values: `instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport | enaSupport`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

blockDeviceMapping

The block device mapping of the instance.

Type: array of InstanceBlockDeviceMapping (p. 699) objects

disableApiTermination

If the value is `true`, you can't terminate the instance through the Amazon EC2 console, CLI, or API; otherwise, you can.

Type: AttributeBooleanValue (p. 628) object

ebsOptimized

Indicates whether the instance is optimized for EBS I/O.

Type: AttributeBooleanValue (p. 628) object

enaSupport

Indicates whether enhanced networking with ENA is enabled.

Type: AttributeBooleanValue (p. 628) object

groupSet

The security groups associated with the instance.

Type: array of GroupIdentifier (p. 668) objects

instanceId
The ID of the instance.
Type: String

instanceInitiatedShutdownBehavior
Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).
Type: AttributeValue (p. 629) object

instanceType
The instance type.
Type: AttributeValue (p. 629) object

kernel
The kernel ID.
Type: AttributeValue (p. 629) object

productCodes
A list of product codes.
Type: array of ProductCode (p. 760) objects

ramdisk
The RAM disk ID.
Type: AttributeValue (p. 629) object

requestId
The ID of the request.
Type: String

rootDeviceName
The name of the root device (for example, `/dev/sda1` or `/dev/xvda`).
Type: AttributeValue (p. 629) object

sourceDestCheck
Indicates whether source/destination checking is enabled. A value of `true` means checking is enabled, and `false` means checking is disabled. This value must be `false` for a NAT instance to perform NAT.
Type: AttributeBooleanValue (p. 628) object

sriovNetSupport
Indicates whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.
Type: AttributeValue (p. 629) object

userData
The user data.
Type: AttributeValue (p. 629) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example lists the instance type of the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-1234567890abcdef0
```

```
&Attribute=instanceType
&AUTHPARAMS
```

Sample Response

```
<DescribeInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <instanceType>
    <value>t1.micro</value>
  </instanceType>
</DescribeInstanceAttributeResponse>
```

Example 2

This example lists the current value of the `InstanceInitiatedShutdownBehavior` attribute for the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=instanceInitiatedShutdownBehavior
&AUTHPARAMS
```

Sample Response

```
<DescribeInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <instanceInitiatedShutdownBehavior>
    <value>stop</value>
  </instanceInitiatedShutdownBehavior>
</DescribeInstanceAttributeResponse>
```

Example 3

This example lists the current value of the `DisableApiTermination` attribute for the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=disableApiTermination
&AUTHPARAMS
```

Sample Response

```
<DescribeInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <instanceId>i-1234567890abcdef0</instanceId>
  <disableApiTermination>
    <value>false</value>
  </disableApiTermination>
</DescribeInstanceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeInstances

Describes one or more of your instances.

If you specify one or more instance IDs, Amazon EC2 returns information for those instances. If you do not specify instance IDs, Amazon EC2 returns information for all relevant instances. If you specify an instance ID that is not valid, an error is returned. If you specify an instance that you do not own, it is not included in the returned results.

Recently terminated instances might appear in the returned results. This interval is usually less than one hour.

If you describe instances in the rare case where an Availability Zone is experiencing a service disruption and you specify instance IDs that are in the affected zone, or do not specify any instance IDs at all, the call fails. If you describe instances and specify only instance IDs that are in an unaffected zone, the call works normally.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `affinity` - The affinity setting for an instance running on a Dedicated Host (`default` | `host`).
- `architecture` - The instance architecture (`i386` | `x86_64`).
- `association.public-ip` - The address of the Elastic IP address (IPv4) bound to the network interface.
- `association.ip-owner-id` - The owner of the Elastic IP address (IPv4) associated with the network interface.
- `association.allocation-id` - The allocation ID returned when you allocated the Elastic IP address (IPv4) for your network interface.
- `association.association-id` - The association ID returned when the network interface was associated with an IPv4 address.
- `availability-zone` - The Availability Zone of the instance.
- `block-device-mapping.attach-time` - The attach time for an EBS volume mapped to the instance, for example, `2010-09-15T17:15:20.000Z`.
- `block-device-mapping.delete-on-termination` - A Boolean that indicates whether the EBS volume is deleted on instance termination.
- `block-device-mapping.device-name` - The device name for the EBS volume (for example, `/dev/sdh` or `xvdh`).
- `block-device-mapping.status` - The status for the EBS volume (`attaching` | `attached` | `detaching` | `detached`).
- `block-device-mapping.volume-id` - The volume ID of the EBS volume.
- `client-token` - The idempotency token you provided when you launched the instance.
- `dns-name` - The public DNS name of the instance.
- `group-id` - The ID of the security group for the instance. EC2-Classic only.
- `group-name` - The name of the security group for the instance. EC2-Classic only.
- `host-id` - The ID of the Dedicated Host on which the instance is running, if applicable.

- `hypervisor` - The hypervisor type of the instance (`ovm` | `xen`).
- `iam-instance-profile.arn` - The instance profile associated with the instance. Specified as an ARN.
- `image-id` - The ID of the image used to launch the instance.
- `instance-id` - The ID of the instance.
- `instance-lifecycle` - Indicates whether this is a Spot Instance or a Scheduled Instance (`spot` | `scheduled`).
- `instance-state-code` - The state of the instance, as a 16-bit unsigned integer. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented. The valid values are: 0 (pending), 16 (running), 32 (shutting-down), 48 (terminated), 64 (stopping), and 80 (stopped).
- `instance-state-name` - The state of the instance (`pending` | `running` | `shutting-down` | `terminated` | `stopping` | `stopped`).
- `instance-type` - The type of instance (for example, `t2.micro`).
- `instance.group-id` - The ID of the security group for the instance.
- `instance.group-name` - The name of the security group for the instance.
- `ip-address` - The public IPv4 address of the instance.
- `kernel-id` - The kernel ID.
- `key-name` - The name of the key pair used when the instance was launched.
- `launch-index` - When launching multiple instances, this is the index for the instance in the launch group (for example, 0, 1, 2, and so on).
- `launch-time` - The time when the instance was launched.
- `monitoring-state` - Indicates whether detailed monitoring is enabled (`disabled` | `enabled`).
- `network-interface.addresses.private-ip-address` - The private IPv4 address associated with the network interface.
- `network-interface.addresses.primary` - Specifies whether the IPv4 address of the network interface is the primary private IPv4 address.
- `network-interface.addresses.association.public-ip` - The ID of the association of an Elastic IP address (IPv4) with a network interface.
- `network-interface.addresses.association.ip-owner-id` - The owner ID of the private IPv4 address associated with the network interface.
- `network-interface.attachment.attachment-id` - The ID of the interface attachment.
- `network-interface.attachment.instance-id` - The ID of the instance to which the network interface is attached.
- `network-interface.attachment.instance-owner-id` - The owner ID of the instance to which the network interface is attached.
- `network-interface.attachment.device-index` - The device index to which the network interface is attached.
- `network-interface.attachment.status` - The status of the attachment (`attaching` | `attached` | `detaching` | `detached`).
- `network-interface.attachment.attach-time` - The time that the network interface was attached to an instance.
- `network-interface.attachment.delete-on-termination` - Specifies whether the attachment is deleted when an instance is terminated.
- `network-interface.availability-zone` - The Availability Zone for the network interface.
- `network-interface.description` - The description of the network interface.
- `network-interface.group-id` - The ID of a security group associated with the network interface.
- `network-interface.group-name` - The name of a security group associated with the network interface.

- `network-interface.ipv6-addresses.ipv6-address` - The IPv6 address associated with the network interface.
- `network-interface.mac-address` - The MAC address of the network interface.
- `network-interface.network-interface-id` - The ID of the network interface.
- `network-interface.owner-id` - The ID of the owner of the network interface.
- `network-interface.private-dns-name` - The private DNS name of the network interface.
- `network-interface.requester-id` - The requester ID for the network interface.
- `network-interface.requester-managed` - Indicates whether the network interface is being managed by AWS.
- `network-interface.status` - The status of the network interface (`available`) | `in-use`).
- `network-interface.source-dest-check` - Whether the network interface performs source/destination checking. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the network interface to perform network address translation (NAT) in your VPC.
- `network-interface.subnet-id` - The ID of the subnet for the network interface.
- `network-interface.vpc-id` - The ID of the VPC for the network interface.
- `owner-id` - The AWS account ID of the instance owner.
- `placement-group-name` - The name of the placement group for the instance.
- `platform` - The platform. Use `windows` if you have Windows instances; otherwise, leave blank.
- `private-dns-name` - The private IPv4 DNS name of the instance.
- `private-ip-address` - The private IPv4 address of the instance.
- `product-code` - The product code associated with the AMI used to launch the instance.
- `product-code.type` - The type of product code (`devpay` | `marketplace`).
- `ramdisk-id` - The RAM disk ID.
- `reason` - The reason for the current state of the instance (for example, shows "User Initiated [date]" when you stop or terminate the instance). Similar to the state-reason-code filter.
- `requester-id` - The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on).
- `reservation-id` - The ID of the instance's reservation. A reservation ID is created any time you launch an instance. A reservation ID has a one-to-one relationship with an instance launch request, but can be associated with more than one instance if you launch multiple instances using the same launch request. For example, if you launch one instance, you'll get one reservation ID. If you launch ten instances using the same launch request, you'll also get one reservation ID.
- `root-device-name` - The name of the root device for the instance (for example, `/dev/sda1` or `/dev/xvda`).
- `root-device-type` - The type of root device that the instance uses (`ebs` | `instance-store`).
- `source-dest-check` - Indicates whether the instance performs source/destination checking. A value of `true` means that checking is enabled, and `false` means checking is disabled. The value must be `false` for the instance to perform network address translation (NAT) in your VPC.
- `spot-instance-request-id` - The ID of the Spot instance request.
- `state-reason-code` - The reason code for the state change.
- `state-reason-message` - A message that describes the state change.
- `subnet-id` - The ID of the subnet for the instance.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-

value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag:`*key*=*value* filter.

- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `tenancy` - The tenancy of an instance (`dedicated` | `default` | `host`).
- `virtualization-type` - The virtualization type of the instance (`paravirtual` | `hvm`).
- `vpc-id` - The ID of the VPC that the instance is running in.

Type: array of Filter (p. 665) objects

Required: No

InstanceId.N

One or more instance IDs.

Default: Describes all your instances.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value. This value can be between 5 and 1000. You cannot specify this parameter and the instance IDs parameter or tag filters in the same call.

Type: Integer

Required: No

NextToken

The token to request the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

reservationSet

Zero or more reservations.

Type: array of Reservation (p. 770) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes all instances owned by your AWS account. The example response shows information for one instance in a VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&AUTHPARAMS
```

Sample Response

```
<DescribeInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>8f7724cf-496f-496e-8fe3-example</requestId>
    <reservationSet>
        <item>
            <reservationId>r-1234567890abcdef0</reservationId>
            <ownerId>123456789012</ownerId>
            <groupSet/>
            <instancesSet>
                <item>
                    <instanceId>i-1234567890abcdef0</instanceId>
                    <imageId>ami-bff32ccc</imageId>
                    <instanceState>
                        <code>16</code>
                        <name>running</name>
                    </instanceState>
                    <privateDnsName>ip-192-168-1-88.eu-
west-1.compute.internal</privateDnsName>
                    <dnsName>ec2-54-194-252-215.eu-
west-1.compute.amazonaws.com</dnsName>
                    <reason/>
                    <keyName>my_keypair</keyName>
                    <amiLaunchIndex>0</amiLaunchIndex>
                    <productCodes/>
                    <instanceType>t2.micro</instanceType>
                    <launchTime>2015-12-22T10:44:05.000Z</launchTime>
                    <placement>
                        <availabilityZone>eu-west-1c</availabilityZone>
                        <groupName/>
                        <tenancy>default</tenancy>
                    </placement>
                    <monitoring>
                        <state>disabled</state>
                    </monitoring>
                    <subnetId>subnet-56f5f633</subnetId>
                    <vpcId>vpc-11112222</vpcId>
                    <privateIpAddress>192.168.1.88</privateIpAddress>
                    <ipAddress>54.194.252.215</ipAddress>
                    <sourceDestCheck>true</sourceDestCheck>
                    <groupSet>
                        <item>
                            <groupId>sg-e4076980</groupId>
                            <groupName>SecurityGroup1</groupName>
                        </item>
                    </groupSet>
                    <architecture>x86_64</architecture>
                    <rootDeviceType>ebs</rootDeviceType>
                    <rootDeviceName>/dev/xvda</rootDeviceName>
                    <blockDeviceMapping>
                        <item>
```

```
                            <deviceName>/dev/xvda</deviceName>
                            <ebs>
                                <volumeId>vol-1234567890abcdef0</volumeId>
                                <status>attached</status>
                                <attachTime>2015-12-22T10:44:09.000Z</
attachTime>
                                <deleteOnTermination>true</
deleteOnTermination>
                            </ebs>
                        </item>
                    </blockDeviceMapping>
                    <virtualizationType>hvm</virtualizationType>
                    <clientToken>xMcwG14507example</clientToken>
                    <tagSet>
                        <item>
                            <key>Name</key>
                            <value>Server_1</value>
                        </item>
                    </tagSet>
                    <hypervisor>xen</hypervisor>
                    <networkInterfaceSet>
                        <item>
                            <networkInterfaceId>eni-551ba033</
networkInterfaceId>
                            <subnetId>subnet-56f5f633</subnetId>
                            <vpcId>vpc-11112222</vpcId>
                            <description>Primary network interface</
description>
                            <ownerId>123456789012</ownerId>
                            <status>in-use</status>
                            <macAddress>02:dd:2c:5e:01:69</macAddress>
                            <privateIpAddress>192.168.1.88</privateIpAddress>
                            <privateDnsName>ip-192-168-1-88.eu-
west-1.compute.internal</privateDnsName>
                            <sourceDestCheck>true</sourceDestCheck>
                            <groupSet>
                                <item>
                                    <groupId>sg-e4076980</groupId>
                                    <groupName>SecurityGroup1</groupName>
                                </item>
                            </groupSet>
                            <attachment>
                                <attachmentId>eni-attach-39697adc</
attachmentId>
                                <deviceIndex>0</deviceIndex>
                                <status>attached</status>
                                <attachTime>2015-12-22T10:44:05.000Z</
attachTime>
                                <deleteOnTermination>true</
deleteOnTermination>
                            </attachment>
                            <association>
                                <publicIp>54.194.252.215</publicIp>
                                <publicDnsName>ec2-54-194-252-215.eu-
west-1.compute.amazonaws.com</publicDnsName>
                                <ipOwnerId>amazon</ipOwnerId>
                            </association>
                            <privateIpAddressesSet>
                                <item>
```

```
                                    <privateIpAddress>192.168.1.88</
privateIpAddress>
                                    <privateDnsName>ip-192-168-1-88.eu-
west-1.compute.internal</privateDnsName>
                                    <primary>true</primary>
                                    <association>
                                    <publicIp>54.194.252.215</publicIp>
                                    <publicDnsName>ec2-54-194-252-215.eu-
west-1.compute.amazonaws.com</publicDnsName>
                                    <ipOwnerId>amazon</ipOwnerId>
                                    </association>
                                 </item>
                              </privateIpAddressesSet>
                              <ipv6AddressesSet>
                                 <item>
                                     <ipv6Address>2001:db8:1234:1a2b::123</
ipv6Address>
                                 </item>
                              </ipv6AddressesSet>
                           </item>
                        </networkInterfaceSet>
                        <ebsOptimized>false</ebsOptimized>
                     </item>
                  </instancesSet>
               </item>
            </reservationSet>
</DescribeInstancesResponse>
```

Example 2

This example describes only the instances that have the `m1.small` or `m1.large` instance type and an attached Amazon EBS volume that will be deleted on termination.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-type
&Filter.1.Value.1=m1.small
&Filter.1.Value.2=m1.large
&Filter.2.Name=block-device-mapping.status
&Filter.2.Value.1=attached
&Filter.3.Name=block-device-mapping.delete-on-termination
&Filter.3.Value.1=true
&AUTHPARAMS
```

Example 3

This example describes all instances that are running in a VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=*
&AUTHPARAMS
```

Example 4

This example describes any instances that have a tag with the key `Owner`, regardless of the value of the tag.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag-key
&Filter.1.Value.1=Owner
&AUTHPARAMS
```

Example

This example lists only the instances that have a tag with the key `Owner` and the value `DbAdmin`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag:Owner
&Filter.1.Value.1=DbAdmin
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeInstanceStatus

Describes the status of one or more instances. By default, only running instances are described, unless specified otherwise.

Instance status includes the following components:

- **Status checks** - Amazon EC2 performs status checks on running EC2 instances to identify hardware and software issues. For more information, see Status Checks for Your Instances and Troubleshooting Instances with Failed Status Checks in the *Amazon Elastic Compute Cloud User Guide*.
- **Scheduled events** - Amazon EC2 can schedule events (such as reboot, stop, or terminate) for your instances related to hardware issues, software updates, or system maintenance. For more information, see Scheduled Events for Your Instances in the *Amazon Elastic Compute Cloud User Guide*.
- **Instance state** - You can manage your instances from the moment you launch them through their termination. For more information, see Instance Lifecycle in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone of the instance.
- `event.code` - The code for the scheduled event (`instance-reboot` | `system-reboot` | `system-maintenance` | `instance-retirement` | `instance-stop`).
- `event.description` - A description of the event.
- `event.not-after` - The latest end time for the scheduled event (for example, `2014-09-15T17:15:20.000Z`).
- `event.not-before` - The earliest start time for the scheduled event (for example, `2014-09-15T17:15:20.000Z`).
- `instance-state-code` - The code for the instance state, as a 16-bit unsigned integer. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented. The valid values are 0 (pending), 16 (running), 32 (shutting-down), 48 (terminated), 64 (stopping), and 80 (stopped).
- `instance-state-name` - The state of the instance (`pending` | `running` | `shutting-down` | `terminated` | `stopping` | `stopped`).
- `instance-status.reachability` - Filters on instance status where the name is `reachability` (`passed` | `failed` | `initializing` | `insufficient-data`).
- `instance-status.status` - The status of the instance (`ok` | `impaired` | `initializing` | `insufficient-data` | `not-applicable`).
- `system-status.reachability` - Filters on system status where the name is `reachability` (`passed` | `failed` | `initializing` | `insufficient-data`).

- `system-status.status` - The system status of the instance (`ok` | `impaired` | `initializing` | `insufficient-data` | `not-applicable`).

Type: array of Filter (p. 665) objects

Required: No

IncludeAllInstances

When `true`, includes the health status for all instances. When `false`, includes the health status for running instances only.

Default: `false`

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Default: Describes all your instances.

Constraints: Maximum 100 explicitly specified instance IDs.

Type: array of Strings

Required: No

MaxResults

The maximum number of results to return in a single call. To retrieve the remaining results, make another call with the returned `NextToken` value. This value can be between 5 and 1000. You cannot specify this parameter and the instance IDs parameter in the same call.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

instanceStatusSet

One or more instance status descriptions.

Type: array of InstanceStatus (p. 715) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example returns instance status descriptions for all running instances.

Sample Request

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&AUTHPARAMS
```

Example 2

This example returns instance status descriptions for the specified instances.

Sample Request

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

Example 3

This example returns instance status descriptions for all instances specified by supported DescribeInstanceStatus filters.

Sample Request

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&Filter.1.Name=system-status.reachability
&Filter.1.Value.failed
&AUTHPARAMS
```

Sample Response

```
<DescribeInstanceStatusResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>3be1508e-c444-4fef-89cc-0b1223c4f02fEXAMPLE</requestId>
    <instanceStatusSet>
        <item>
            <instanceId>i-1234567890abcdef0</instanceId>
            <availabilityZone>us-east-1d</availabilityZone>
            <instanceState>
                <code>16</code>
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>impaired</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>failed</status>
                        <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</
impairedSince>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>impaired</status>
```

```
                <details>
                    <item>
                        <name>reachability</name>
                        <status>failed</status>
                        <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</
impairedSince>
                    </item>
                </details>
            </instanceStatus>
            <eventsSet>
              <item>
                <code>instance-retirement</code>
                <description>The instance is running on degraded hardware</
description>
                <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
                <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
              </item>
            </eventsSet>
        </item>
        <item>
            <instanceId>i-0598c7d356eba48d7</instanceId>
            <availabilityZone>us-east-1d</availabilityZone>
            <instanceState>
                <code>16</code>
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </instanceStatus>
            <eventsSet>
              <item>
                <code>instance-reboot</code>
                <description>The instance is scheduled for a reboot</
description>
                <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
                <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
              </item>
            </eventsSet>
        </item>
        <item>
            <instanceId>i-0987654321abcdef0</instanceId>
            <availabilityZone>us-east-1d</availabilityZone>
            <instanceState>
                <code>16</code>
```

```
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </instanceStatus>
        </item>
        <item>
            <instanceId>i-0598c7d356eba48d8</instanceId>
            <availabilityZone>us-east-1d</availabilityZone>
            <instanceState>
                <code>16</code>
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>insufficient-data</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>insufficient-data</status>
                    </item>
                </details>
            </instanceStatus>
         </item>
    </instanceStatusSet>
</DescribeInstanceStatusResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeInternetGateways

Describes one or more of your Internet gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `attachment.state` - The current state of the attachment between the gateway and the VPC (`available`). Present only if a VPC is attached.
- `attachment.vpc-id` - The ID of an attached VPC.
- `internet-gateway-id` - The ID of the Internet gateway.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: array of Filter (p. 665) objects

Required: No

InternetGatewayId.N

One or more Internet gateway IDs.

Default: Describes all your Internet gateways.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

internetGatewaySet

Information about one or more Internet gateways.

Type: array of InternetGateway (p. 719) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your Internet gateways.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInternetGateways
&AUTHPARAMS
```

Sample Response

```
<DescribeInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <internetGatewaySet>
      <item>
         <internetGatewayId>igw-eaad4883EXAMPLE</internetGatewayId>
         <attachmentSet>
            <item>
               <vpcId>vpc-11ad4878</vpcId>
               <state>available</state>
            </item>
         </attachmentSet>
         <tagSet/>
      </item>
   </internetGatewaySet>
</DescribeInternetGatewaysResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeKeyPairs

Describes one or more of your key pairs.

For more information about key pairs, see Key Pairs in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `fingerprint` - The fingerprint of the key pair.
- `key-name` - The name of the key pair.

Type: array of Filter (p. 665) objects

Required: No

KeyName.N

One or more key pair names.

Default: Describes all your key pairs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

keySet

Information about one or more key pairs.

Type: array of KeyPairInfo (p. 726) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the keypair with name my-key-pair.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeKeyPairs
```

```
&KeyName.1=my-key-pair
&AUTHPARAMS
```

Sample Response

```
<DescribeKeyPairsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <keySet>
      <item>
         <keyName>my-key-pair</keyName>

 <keyFingerprint>1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f</
keyFingerprint>
      </item>
   </keySet>
</DescribeKeyPairsResponse>
```

Example

This example filters the response to include only key pairs whose names include the string `Dave`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&Filter.1.Name=key-name
&Filter.1.Value.1=*Dave*
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeMovingAddresses

Describes your Elastic IP addresses that are being moved to the EC2-VPC platform, or that are being restored to the EC2-Classic platform. This request does not return information about any other Elastic IP addresses in your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `moving-status` - The status of the Elastic IP address (`MovingToVpc` | `RestoringToClassic`).

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value outside of this range, an error is returned.

Default: If no value is provided, the default is 1000.

Type: Integer

Required: No

NextToken

The token to use to retrieve the next page of results.

Type: String

Required: No

PublicIp.N

One or more Elastic IP addresses.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

movingAddressStatusSet

The status for each Elastic IP address.

Type: array of MovingAddressStatus (p. 732) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your moving Elastic IP addresses.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeMovingAddresses
&AUTHPARAMS
```

Sample Response

```
<DescribeMovingAddressesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>127c36e6-6781-469f-89c1-EXAMPLE</requestId>
    <movingAddressStatusSet>
        <item>
            <publicIp>198.18.125.129</publicIp>
            <moveStatus>MovingToVpc</moveStatus>
        </item>
    </movingAddressStatusSet>
</DescribeMovingAddressesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeNatGateways

Describes one or more of the your NAT gateways.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `nat-gateway-id` - The ID of the NAT gateway.
- `state` - The state of the NAT gateway (`pending` | `failed` | `available` | `deleting` | `deleted`).
- `subnet-id` - The ID of the subnet in which the NAT gateway resides.
- `vpc-id` - The ID of the VPC in which the NAT gateway resides.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value specified is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NatGatewayId.N

One or more NAT gateway IDs.

Type: array of Strings

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

natGatewaySet

Information about the NAT gateways.

Type: array of NatGateway (p. 733) objects

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your NAT gateways.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeNatGateways
&AUTHPARAMS
```

Sample Response

```
<DescribeNatGatewaysResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>bfed02c6-dae9-47c0-86a2-example</requestId>
    <natGatewaySet>
         <item>
            <subnetId>subnet-1a2a3a4a</subnetId>
            <natGatewayAddressSet>
                <item>
                    <networkInterfaceId>eni-00e37850</networkInterfaceId>
                    <publicIp>198.18.125.129</publicIp>
                    <allocationId>eipalloc-37fc1a52</allocationId>
                    <privateIp>10.0.2.147</privateIp>
                </item>
            </natGatewayAddressSet>
            <createTime>2015-11-25T14:00:55.416Z</createTime>
            <vpcId>vpc-4e20d42b</vpcId>
            <natGatewayId>nat-04e77a5e9c34432f9</natGatewayId>
            <state>available</state>
        </item>
    </natGatewaySet>
</DescribeNatGatewaysResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeNetworkAcls

Describes one or more of your network ACLs.

For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `association.association-id` - The ID of an association ID for the ACL.
- `association.network-acl-id` - The ID of the network ACL involved in the association.
- `association.subnet-id` - The ID of the subnet involved in the association.
- `default` - Indicates whether the ACL is the default network ACL for the VPC.
- `entry.cidr` - The IPv4 CIDR range specified in the entry.
- `entry.egress` - Indicates whether the entry applies to egress traffic.
- `entry.icmp.code` - The ICMP code specified in the entry, if any.
- `entry.icmp.type` - The ICMP type specified in the entry, if any.
- `entry.ipv6-cidr` - The IPv6 CIDR range specified in the entry.
- `entry.port-range.from` - The start of the port range specified in the entry.
- `entry.port-range.to` - The end of the port range specified in the entry.
- `entry.protocol` - The protocol specified in the entry (`tcp` | `udp` | `icmp` or a protocol number).
- `entry.rule-action` - Allows or denies the matching traffic (`allow` | `deny`).
- `entry.rule-number` - The number of an entry (in other words, rule) in the ACL's set of entries.
- `network-acl-id` - The ID of the network ACL.
- `tag:`*key*`=`*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag:`*key*`=`*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC for the network ACL.

Type: array of Filter (p. 665) objects

Required: No

NetworkAclId.N

One or more network ACL IDs.

Default: Describes all your network ACLs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

networkAclSet
Information about one or more network ACLs.
Type: array of NetworkAcl (p. 736) objects

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your network ACLs.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeNetworkAcls
&AUTHPARAMS
```

Sample Response

```
<DescribeNetworkAclsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <networkAclSet>
   <item>
     <networkAclId>acl-5566953c</networkAclId>
     <vpcId>vpc-5266953b</vpcId>
     <default>true</default>
     <entrySet>
       <item>
         <ruleNumber>100</ruleNumber>
         <protocol>all</protocol>
         <ruleAction>allow</ruleAction>
         <egress>true</egress>
         <cidrBlock>0.0.0.0/0</cidrBlock>
       </item>
       <item>
         <ruleNumber>32767</ruleNumber>
         <protocol>all</protocol>
         <ruleAction>deny</ruleAction>
         <egress>true</egress>
         <cidrBlock>0.0.0.0/0</cidrBlock>
       </item>
       <item>
         <ruleNumber>100</ruleNumber>
```

```
        <protocol>all</protocol>
        <ruleAction>allow</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
      <item>
        <ruleNumber>32767</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
    </entrySet>
    <associationSet/>
    <tagSet/>
  </item>
  <item>
    <networkAclId>acl-5d659634</networkAclId>
    <vpcId>vpc-5266953b</vpcId>
    <default>false</default>
    <entrySet>
      <item>
        <ruleNumber>110</ruleNumber>
        <protocol>6</protocol>
        <ruleAction>allow</ruleAction>
        <egress>true</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
        <portRange>
          <from>49152</from>
          <to>65535</to>
        </portRange>
      </item>
      <item>
        <ruleNumber>120</ruleNumber>
        <protocol>6</protocol>
        <ruleAction>allow</ruleAction>
        <egress>true</egress>
        <ipv6CidrBlock>::/0</ipv6CidrBlock>
        <portRange>
          <from>49152</from>
          <to>65535</to>
        </portRange>
      </item>
      <item>
        <ruleNumber>32767</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>true</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
      <item>
        <ruleNumber>32768</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>true</egress>
        <ipv6CidrBlock>::/0</ipv6CidrBlock>
      </item>
      <item>
        <ruleNumber>110</ruleNumber>
```

```
        <protocol>6</protocol>
        <ruleAction>allow</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
        <portRange>
          <from>80</from>
          <to>80</to>
        </portRange>
      </item>
      <item>
        <ruleNumber>115</ruleNumber>
        <protocol>6</protocol>
        <ruleAction>allow</ruleAction>
        <egress>false</egress>
        <ipv6CidrBlock>::/0</ipv6CidrBlock>
        <portRange>
          <from>80</from>
          <to>80</to>
        </portRange>
      </item>
      <item>
        <ruleNumber>120</ruleNumber>
        <protocol>6</protocol>
        <ruleAction>allow</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
        <portRange>
          <from>443</from>
          <to>443</to>
        </portRange>
      </item>
      <item>
        <ruleNumber>32767</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
      <item>
        <ruleNumber>32768</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>false</egress>
        <ipv6CidrBlock>::/0</ipv6CidrBlock>
      </item>
    </entrySet>
    <associationSet>
      <item>
        <networkAclAssociationId>aclassoc-5c659635</networkAclAssociationId>
        <networkAclId>acl-5d659634</networkAclId>
        <subnetId>subnet-ff669596</subnetId>
      </item>
      <item>
        <networkAclAssociationId>aclassoc-c26596ab</networkAclAssociationId>
        <networkAclId>acl-5d659634</networkAclId>
        <subnetId>subnet-f0669599</subnetId>
      </item>
    </associationSet>
    <tagSet/>
```

```
   </item>
 </networkAclSet>
</DescribeNetworkAclsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeNetworkInterfaceAttribute

Describes a network interface attribute. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The attribute of the network interface.

Type: String

Valid Values: `description | groupSet | sourceDestCheck | attachment`

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachment

The attachment (if any) of the network interface.

Type: NetworkInterfaceAttachment (p. 744) object

description

The description of the network interface.

Type: AttributeValue (p. 629) object

groupSet

The security groups associated with the network interface.

Type: array of GroupIdentifier (p. 668) objects

networkInterfaceId

The ID of the network interface.

Type: String

requestId

The ID of the request.

Type: String

sourceDestCheck

Indicates whether source/destination checking is enabled.

Type: AttributeBooleanValue (p. 628) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the `sourceDestCheck` attribute of the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute
&NetworkInterfaceId=eni-686ea200
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Sample Response

```
<DescribeNetworkInterfaceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a20c6b2-d71c-45fb-bba7-37306850544b</requestId>
  <networkInterfaceId>eni-686ea200</networkInterfaceId>
  <sourceDestCheck>
    <value>true</value>
  </sourceDestCheck>
</DescribeNetworkInterfaceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeNetworkInterfaces

Describes one or more of your network interfaces.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `addresses.private-ip-address` - The private IPv4 addresses associated with the network interface.
- `addresses.primary` - Whether the private IPv4 address is the primary IP address associated with the network interface.
- `addresses.association.public-ip` - The association ID returned when the network interface was associated with the Elastic IP address (IPv4).
- `addresses.association.owner-id` - The owner ID of the addresses associated with the network interface.
- `association.association-id` - The association ID returned when the network interface was associated with an IPv4 address.
- `association.allocation-id` - The allocation ID returned when you allocated the Elastic IP address (IPv4) for your network interface.
- `association.ip-owner-id` - The owner of the Elastic IP address (IPv4) associated with the network interface.
- `association.public-ip` - The address of the Elastic IP address (IPv4) bound to the network interface.
- `association.public-dns-name` - The public DNS name for the network interface (IPv4).
- `attachment.attachment-id` - The ID of the interface attachment.
- `attachment.attach.time` - The time that the network interface was attached to an instance.
- `attachment.delete-on-termination` - Indicates whether the attachment is deleted when an instance is terminated.
- `attachment.device-index` - The device index to which the network interface is attached.
- `attachment.instance-id` - The ID of the instance to which the network interface is attached.
- `attachment.instance-owner-id` - The owner ID of the instance to which the network interface is attached.
- `attachment.nat-gateway-id` - The ID of the NAT gateway to which the network interface is attached.
- `attachment.status` - The status of the attachment (`attaching` | `attached` | `detaching` | `detached`).
- `availability-zone` - The Availability Zone of the network interface.
- `description` - The description of the network interface.
- `group-id` - The ID of a security group associated with the network interface.
- `group-name` - The name of a security group associated with the network interface.

- `ipv6-addresses.ipv6-address` - An IPv6 address associated with the network interface.
- `mac-address` - The MAC address of the network interface.
- `network-interface-id` - The ID of the network interface.
- `owner-id` - The AWS account ID of the network interface owner.
- `private-ip-address` - The private IPv4 address or addresses of the network interface.
- `private-dns-name` - The private DNS name of the network interface (IPv4).
- `requester-id` - The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on).
- `requester-managed` - Indicates whether the network interface is being managed by an AWS service (for example, AWS Management Console, Auto Scaling, and so on).
- `source-desk-check` - Indicates whether the network interface performs source/destination checking. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the network interface to perform network address translation (NAT) in your VPC.
- `status` - The status of the network interface. If the network interface is not attached to an instance, the status is `available`; if a network interface is attached to an instance the status is `in-use`.
- `subnet-id` - The ID of the subnet for the network interface.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC for the network interface.

Type: array of Filter (p. 665) objects

Required: No

NetworkInterfaceId.N

One or more network interface IDs.

Default: Describes all your network interfaces.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

networkInterfaceSet

Information about one or more network interfaces.

Type: array of NetworkInterface (p. 740) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your network interfaces.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaces
&AUTHPARAMS
```

Sample Response

```
<DescribeNetworkInterfacesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>fc45294c-006b-457b-bab9-012f5b3b0e40</requestId>
     <networkInterfaceSet>
       <item>
         <networkInterfaceId>eni-0f62d866</networkInterfaceId>
         <subnetId>subnet-c53c87ac</subnetId>
         <vpcId>vpc-cc3c87a5</vpcId>
         <availabilityZone>api-southeast-1b</availabilityZone>
         <description/>
         <ownerId>053230519467</ownerId>
         <requesterManaged>false</requesterManaged>
         <status>in-use</status>
         <macAddress>02:81:60:cb:27:37</macAddress>
         <privateIpAddress>10.0.0.146</privateIpAddress>
         <sourceDestCheck>true</sourceDestCheck>
         <groupSet>
           <item>
             <groupId>sg-3f4b5653</groupId>
             <groupName>default</groupName>
           </item>
         </groupSet>
         <attachment>
           <attachmentId>eni-attach-6537fc0c</attachmentId>
           <instanceId>i-1234567890abcdef0</instanceId>
           <instanceOwnerId>053230519467</instanceOwnerId>
           <deviceIndex>0</deviceIndex>
           <status>attached</status>
           <attachTime>2012-07-01T21:45:27.000Z</attachTime>
           <deleteOnTermination>true</deleteOnTermination>
         </attachment>
         <tagSet/>
         <privateIpAddressesSet>
           <item>
             <privateIpAddress>10.0.0.146</privateIpAddress>
             <primary>true</primary>
           </item>
           <item>
             <privateIpAddress>10.0.0.148</privateIpAddress>
             <primary>false</primary>
           </item>
           <item>
             <privateIpAddress>10.0.0.150</privateIpAddress>
             <primary>false</primary>
```

```
            </item>
          </privateIpAddressesSet>
          <ipv6AddressesSet/>
        </item>
        <item>
          <networkInterfaceId>eni-a66ed5cf</networkInterfaceId>
          <subnetId>subnet-cd8a35a4</subnetId>
          <vpcId>vpc-f28a359b</vpcId>
          <availabilityZone>ap-southeast-1b</availabilityZone>
          <description>Primary network interface</description>
          <ownerId>053230519467</ownerId>
          <requesterManaged>false</requesterManaged>
          <status>in-use</status>
          <macAddress>02:78:d7:00:8a:1e</macAddress>
          <privateIpAddress>10.0.1.233</privateIpAddress>
          <sourceDestCheck>true</sourceDestCheck>
          <groupSet>
            <item>
              <groupId>sg-a2a0b2ce</groupId>
              <groupName>quick-start-1</groupName>
            </item>
          </groupSet>
          <attachment>
            <attachmentId>eni-attach-a99c57c0</attachmentId>
            <instanceId>i-0598c7d356eba48d7</instanceId>
            <instanceOwnerId>053230519467</instanceOwnerId>
            <deviceIndex>0</deviceIndex>
            <status>attached</status>
            <attachTime>2012-06-27T20:08:44.000Z</attachTime>
            <deleteOnTermination>true</deleteOnTermination>
          </attachment>
          <tagSet/>
          <privateIpAddressesSet>
            <item>
              <privateIpAddress>10.0.1.233</privateIpAddress>
              <primary>true</primary>
            </item>
            <item>
              <privateIpAddress>10.0.1.20</privateIpAddress>
              <primary>false</primary>
            </item>
          </privateIpAddressesSet>
          <ipv6AddressesSet>
           <item>
             <ipv6Address>2001:db8:1234:1a00::123</ipv6Address>
           </item>
           <item>
             <ipv6Address>2001:db8:1234:1a00::456</ipv6Address>
           </item>
         </ipv6AddressesSet>
        </item>
      </networkInterfaceSet>
</DescribeNetworkInterfacesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribePlacementGroups

Describes one or more of your placement groups. For more information about placement groups and cluster instances, see Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `group-name` - The name of the placement group.
- `state` - The state of the placement group (`pending` | `available` | `deleting` | `deleted`).
- `strategy` - The strategy of the placement group (`cluster`).

Type: array of Filter (p. 665) objects

Required: No

GroupName.N

One or more placement group names.

Default: Describes all your placement groups, or only those otherwise specified.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

placementGroupSet

One or more placement groups.

Type: array of PlacementGroup (p. 752) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the placement group named XYZ-cluster.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribePlacementGroups
```

```
&GroupName.1=XYZ-cluster
&AUTHPARAMS
```

Sample Response

```
<DescribePlacementGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
   <placementGroupSet>
      <item>
         <groupName>XYZ-cluster</groupName>
         <strategy>cluster</strategy>
         <state>available</state>
      </item>
   </placementGroupSet>
</DescribePlacementGroupsResponse>
```

Example

This example filters the response to include only placement groups that include the string `Project` in the name.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&Filter.1.Name=group-name
&Filter.1.Value=*Project*
&AUTHPARAMS
```

Sample Response

```
<DescribePlacementGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
   <placementGroupSet>
      <item>
         <groupName>Project-cluster</groupName>
         <strategy>cluster</strategy>
         <state>available</state>
      </item>
   </placementGroupSet>
</DescribePlacementGroupsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribePrefixLists

Describes available AWS services in a prefix list format, which includes the prefix list name and prefix list ID of the service and the IP address range for the service. A prefix list ID is required for creating an outbound security group rule that allows traffic from a VPC to access an AWS service through a VPC endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `prefix-list-id`: The ID of a prefix list.
- `prefix-list-name`: The name of a prefix list.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value specified is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Required: No

PrefixListId.N

One or more prefix list IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

prefixListSet

All available prefix lists.

Type: array of PrefixList (p. 754) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example lists all available AWS prefix lists.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribePrefixLists
&AUTHPARAMS
```

Sample Response

```
<DescribePrefixListsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <prefixListSet>
        <item>
            <prefixListName>com.amazonaws.us-west-2.s3</prefixListName>
            <prefixListId>pl-12345678</prefixListId>
            <cidrSet>
              <item>54.123.456.7/19</item>
            </cidrSet>
        </item>
    </prefixListSet>
    <requestId>614db4d4-ac7b-4cb6-853e-example</requestId>
</DescribePrefixListsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeRegions

Describes one or more regions that are currently available to you.

For a list of the regions supported by Amazon EC2, see Regions and Endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `endpoint` - The endpoint of the region (for example, `ec2.us-east-1.amazonaws.com`).
- `region-name` - The name of the region (for example, `us-east-1`).

Type: array of Filter (p. 665) objects

Required: No

RegionName.N

The names of one or more regions.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

regionInfo

Information about one or more regions.

Type: array of Region (p. 767) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example displays information about all regions.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeRegions
&AUTHPARAMS
```

Example 2

This example displays information about the specified regions only.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeRegions
&RegionName.1=us-east-1
&RegionName.2=eu-west-1
&AUTHPARAMS
```

Sample Response

```
<DescribeRegionsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <regionInfo>
      <item>
         <regionName>us-east-1</regionName>
         <regionEndpoint>ec2.us-east-1.amazonaws.com</regionEndpoint>
      </item>
      <item>
         <regionName>eu-west-1</regionName>
         <regionEndpoint>ec2.eu-west-1.amazonaws.com</regionEndpoint>
      </item>
   </regionInfo>
</DescribeRegionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedInstances

Describes one or more of the Reserved Instances that you purchased.

For more information about Reserved Instances, see Reserved Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone where the Reserved Instance can be used.
- `duration` - The duration of the Reserved Instance (one year or three years), in seconds (`31536000` | `94608000`).
- `end` - The time when the Reserved Instance expires (for example, 2015-08-07T11:54:42.000Z).
- `fixed-price` - The purchase price of the Reserved Instance (for example, 9800.0).
- `instance-type` - The instance type that is covered by the reservation.
- `scope` - The scope of the Reserved Instance (`Region` or `Availability Zone`).
- `product-description` - The Reserved Instance product platform description. Instances that include `(Amazon VPC)` in the product platform description will only be displayed to EC2-Classic account holders and are for use with Amazon VPC (`Linux/UNIX` | `Linux/UNIX (Amazon VPC)` | `SUSE Linux` | `SUSE Linux (Amazon VPC)` | `Red Hat Enterprise Linux` | `Red Hat Enterprise Linux (Amazon VPC)` | `Windows` | `Windows (Amazon VPC)` | `Windows with SQL Server Standard` | `Windows with SQL Server Standard (Amazon VPC)` | `Windows with SQL Server Web` | `Windows with SQL Server Web (Amazon VPC)` | `Windows with SQL Server Enterprise` | `Windows with SQL Server Enterprise (Amazon VPC)`).
- `reserved-instances-id` - The ID of the Reserved Instance.
- `start` - The time at which the Reserved Instance purchase request was placed (for example, 2014-08-07T11:54:42.000Z).
- `state` - The state of the Reserved Instance (`payment-pending` | `active` | `payment-failed` | `retired`).
- `tag:`*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag:`*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `usage-price` - The usage price of the Reserved Instance, per hour (for example, 0.84).

Type: array of Filter (p. 665) objects

Required: No

OfferingClass
Describes whether the Reserved Instance is Standard or Convertible.
Type: String
Valid Values: `standard | convertible`
Required: No

OfferingType
The Reserved Instance offering type. If you are using tools that predate the 2011-11-01 API version, you only have access to the `Medium Utilization` Reserved Instance offering type.
Type: String
Valid Values: `Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront`
Required: No

ReservedInstancesId.N
One or more Reserved Instance IDs.
Default: Describes all your Reserved Instances, or only those otherwise specified.
Type: array of Strings
Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

reservedInstancesSet
A list of Reserved Instances.
Type: array of ReservedInstances (p. 774) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes Reserved Instances owned by your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&AUTHPARAMS
```

Sample Response

```
<DescribeReservedInstancesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <reservedInstancesSet>
   ...
      <item>
```

```
         <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
         <instanceType>m1.xlarge</instanceType>
         <availabilityZone>us-east-1b</availabilityZone>
         <start>2015-07-14T11:00:00:00.000Z</start>
         <end>2016-07-13T1212:00:00:000Z</end>
         <duration>31536000</duration>
         <fixedPrice>0.0</fixedPrice>
         <usagePrice>0.034</usagePrice>
         <instanceCount>2</instanceCount>
         <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
         <state>active</state>
         <instanceTenancy>default</instanceTenancy>
         <currencyCode>USD</currencyCode>
         <offeringType>Partial Upfront</offeringType>
         <recurringCharges>
                  <item>
                        <frequency>Hourly</frequency>
                        <amount>0.05</amount>
                  </item>
         </recurringCharges>
         <offeringClass>standard</offeringClass>
         <scope>AvailabilityZone</scope>
      </item>
      ...
   </reservedInstancesSet>
</DescribeReservedInstancesResponse>
```

Example

This example filters the response to include only one-year, `m1.small` Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to `Linux/UNIX (Amazon VPC)`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedInstancesListings

Describes your account's Reserved Instance listings in the Reserved Instance Marketplace.

The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

As a seller, you choose to list some or all of your Reserved Instances, and you specify the upfront price to receive for them. Your Reserved Instances are then listed in the Reserved Instance Marketplace and are available for purchase.

As a buyer, you specify the configuration of the Reserved Instance to purchase, and the Marketplace matches what you're searching for with what's available. The Marketplace first sells the lowest priced Reserved Instances to you, and continues to sell available Reserved Instance listings to you until your demand is met. You are charged based on the total price of all of the listings that you purchase.

For more information, see Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `reserved-instances-id` - The ID of the Reserved Instances.
- `reserved-instances-listing-id` - The ID of the Reserved Instances listing.
- `status` - The status of the Reserved Instance listing (`pending` | `active` | `cancelled` | `closed`).
- `status-message` - The reason for the status.

Type: array of Filter (p. 665) objects

Required: No

ReservedInstancesId

One or more Reserved Instance IDs.

Type: String

Required: No

ReservedInstancesListingId

One or more Reserved Instance listing IDs.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesListingsSet

Information about the Reserved Instance listing.

Type: array of ReservedInstancesListing (p. 780) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example shows all the listings associated with your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesListings
&AUTHPARAMS
```

Sample Response

```
<DescribeReservedInstancesListingsResponse>
    <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
    <reservedInstancesListingsSet>
        <item>
            <reservedInstancesListingId>253dfbf9-c335-4808-b956-
d942cEXAMPLE</reservedInstancesListingId>
            <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
            <createDate>2012-07-06T19:35:29.000Z</createDate>
            <updateDate>2012-07-06T19:35:30.000Z</updateDate>
            <status>active</status>
            <statusMessage>ACTIVE</statusMessage>
            <instanceCounts>
                <item>
                    <state>Available</state>
                    <instanceCount>20</instanceCount>
                </item>
                <item>
                    <state>Sold</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Cancelled</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Pending</state>
                    <instanceCount>0</instanceCount>
                </item>
            </instanceCounts>
            <priceSchedules>
                <item>
                    <term>8</term>
                    <price>480.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>7</term>
                    <price>420.0</price>
```

```
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>6</term>
                    <price>360.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>active</active>
                </item>
                <item>
                    <term>5</term>
                    <price>300.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>4</term>
                    <price>240.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>3</term>
                    <price>180.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>2</term>
                    <price>120.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>1</term>
                    <price>60.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
            </priceSchedules>
            <tagSet/>
            <clientToken>myclienttoken1</clientToken>
        </item>
    </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedInstancesModifications

Describes the modifications made to your Reserved Instances. If no parameter is specified, information about all your Reserved Instances modification requests is returned. If a modification ID is specified, only information about the specific modification is returned.

For more information, see Modifying Reserved Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Filter.N

One or more filters.

- `client-token` - The idempotency token for the modification request.
- `create-date` - The time when the modification request was created.
- `effective-date` - The time when the modification becomes effective.
- `modification-result.reserved-instances-id` - The ID for the Reserved Instances created as part of the modification request. This ID is only available when the status of the modification is `fulfilled`.
- `modification-result.target-configuration.availability-zone` - The Availability Zone for the new Reserved Instances.
- `modification-result.target-configuration.instance-count` - The number of new Reserved Instances.
- `modification-result.target-configuration.instance-type` - The instance type of the new Reserved Instances.
- `modification-result.target-configuration.platform` - The network platform of the new Reserved Instances (`EC2-Classic` | `EC2-VPC`).
- `reserved-instances-id` - The ID of the Reserved Instances modified.
- `reserved-instances-modification-id` - The ID of the modification request.
- `status` - The status of the Reserved Instances modification request (`processing` | `fulfilled` | `failed`).
- `status-message` - The reason for the status.
- `update-date` - The time when the modification request was last updated.

Type: array of Filter (p. 665) objects

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

ReservedInstancesModificationId.N

IDs for the submitted modification request.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken
The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId
The ID of the request.

Type: String

reservedInstancesModificationsSet
The Reserved Instance modification information.

Type: array of ReservedInstancesModification (p. 782) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications
&AUTHPARAMS
```

Example 2

This example filters the response to include only Reserved Instances modification requests with status `processing`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications
&Filter.1.Name=status
&Filter.1.Value.1=processing
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeReservedInstancesOfferings

Describes Reserved Instance offerings that are available for purchase. With Reserved Instances, you purchase the right to launch instances for a period of time. During that time period, you do not receive insufficient capacity errors, and you pay a lower usage rate than the rate charged for On-Demand instances for the actual time used.

If you have listed your own Reserved Instances for sale in the Reserved Instance Marketplace, they will be excluded from these results. This is to ensure that you do not purchase your own Reserved Instances.

For more information, see Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone where the Reserved Instance can be used.
- `duration` - The duration of the Reserved Instance (for example, one year or three years), in seconds (`31536000` | `94608000`).
- `fixed-price` - The purchase price of the Reserved Instance (for example, 9800.0).
- `instance-type` - The instance type that is covered by the reservation.
- `marketplace` - Set to `true` to show only Reserved Instance Marketplace offerings. When this filter is not used, which is the default behavior, all offerings from both AWS and the Reserved Instance Marketplace are listed.
- `product-description` - The Reserved Instance product platform description. Instances that include `(Amazon VPC)` in the product platform description will only be displayed to EC2-Classic account holders and are for use with Amazon VPC. (`Linux/UNIX` | `Linux/UNIX (Amazon VPC)` | `SUSE Linux` | `SUSE Linux (Amazon VPC)` | `Red Hat Enterprise Linux` | `Red Hat Enterprise Linux (Amazon VPC)` | `Windows` | `Windows (Amazon VPC)` | `Windows with SQL Server Standard` | `Windows with SQL Server Standard (Amazon VPC)` | `Windows with SQL Server Web` | `Windows with SQL Server Web (Amazon VPC)` | `Windows with SQL Server Enterprise` | `Windows with SQL Server Enterprise (Amazon VPC)`)
- `reserved-instances-offering-id` - The Reserved Instances offering ID.
- `scope` - The scope of the Reserved Instance (`Availability Zone` or `Region`).
- `usage-price` - The usage price of the Reserved Instance, per hour (for example, 0.84).

Type: array of Filter (p. 665) objects

Required: No

IncludeMarketplace

Include Reserved Instance Marketplace offerings in the response.

Type: Boolean

Required: No

InstanceTenancy

The tenancy of the instances covered by the reservation. A Reserved Instance with a tenancy of `dedicated` is applied to instances that run in a VPC on single-tenant hardware (i.e., Dedicated Instances).

Default: `default`

Type: String

Valid Values: `default | dedicated | host`

Required: No

InstanceType

The instance type that the reservation will cover (for example, `m1.small`). For more information, see Instance Types in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

MaxDuration

The maximum duration (in seconds) to filter when searching for offerings.

Default: 94608000 (3 years)

Type: Long

Required: No

MaxInstanceCount

The maximum number of instances to filter when searching for offerings.

Default: 20

Type: Integer

Required: No

MaxResults

The maximum number of results to return for the request in a single page. The remaining results of the initial request can be seen by sending another request with the returned `NextToken` value. The maximum is 100.

Default: 100

Type: Integer

Required: No

MinDuration

The minimum duration (in seconds) to filter when searching for offerings.

Default: 2592000 (1 month)

Type: Long

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

OfferingClass

The offering class of the Reserved Instance. Can be `standard` or `convertible`.

Type: String

Valid Values: `standard | convertible`

Required: No

OfferingType

The Reserved Instance offering type. If you are using tools that predate the 2011-11-01 API version, you only have access to the `Medium Utilization` Reserved Instance offering type.

Type: String

Valid Values: `Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront`

Required: No

ProductDescription

The Reserved Instance product platform description. Instances that include `(Amazon VPC)` in the description are for use with Amazon VPC.

Type: String

Valid Values: `Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)`

Required: No

ReservedInstancesOfferingId.N

One or more Reserved Instances offering IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

reservedInstancesOfferingsSet

A list of Reserved Instances offerings.

Type: array of ReservedInstancesOffering (p. 785) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example Describing Reserved Instance Marketplace Offerings Only

This example requests a list of Linux/UNIX, No Upfront Reserved Instances that are available through the Reserved Instance Marketplace only. When using the Query API, all strings must be URL-encoded.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=marketplace
&Filter.1.Value.1=true
&IncludeMarketplace=true
&OfferingType=No+Upfront
&ProductDescription=Linux%2FUNIX
&Version=2016-11-15
&AUTHPARAMS
```

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&AUTHPARAMS
```

Sample Response

```
<DescribeReservedInstancesOfferingsResponse>
    <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
    <reservedInstancesOfferingsSet>
        <item>
            <reservedInstancesOfferingId>253dfbf9-c335-4808-b956-
d942cEXAMPLE</reservedInstancesOfferingId>
            <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
            <createDate>2012-07-06T19:35:29.000Z</createDate>
            <updateDate>2012-07-06T19:35:30.000Z</updateDate>
            <status>active</status>
            <statusMessage>ACTIVE</statusMessage>
            <instanceCounts>
                <item>
                    <state>Available</state>
                    <instanceCount>20</instanceCount>
                </item>
                <item>
                    <state>Sold</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Cancelled</state>
                    <instanceCount>0</instanceCount>
                </item>
                <item>
                    <state>Pending</state>
                    <instanceCount>0</instanceCount>
```

```
                </item>
            </instanceCounts>
            <priceSchedules>
                <item>
                    <term>8</term>
                    <price>480.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>7</term>
                    <price>420.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>6</term>
                    <price>360.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>active</active>
                </item>
                <item>
                    <term>5</term>
                    <price>300.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>4</term>
                    <price>240.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>3</term>
                    <price>180.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>2</term>
                    <price>120.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
                <item>
                    <term>1</term>
                    <price>60.0</price>
                    <currencyCode>USD</currencyCode>
                    <active>false</active>
                </item>
            </priceSchedules>
            <tagSet/>
            <clientToken>myclienttoken1</clientToken>
        </item>
    </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

```
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-0841cEXAMPLE</
reservedInstancesOfferingId>
      <instanceType>m3.xlarge</instanceType>
      <availabilityZone>us-east-1e</availabilityZone>
      <duration>2332800</duration>
      <fixedPrice>0.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>No Upfront</offeringType>
      <recurringCharges>
           <item>
                <frequency>Hourly</frequency>
                <amount>0.19</amount>
            </item>
      </recurringCharges>
      <marketplace>true</marketplace>
      <pricingDetailsSet>
        <item>
          <price>0.0</price>
          <count>3</count>
        </item>
      </pricingDetailsSet>
       <offeringClass>standard</offeringClass>
      <scope>Availability Zone</scope>
    </item>
    <item>
      <reservedInstancesOfferingId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</
reservedInstancesOfferingId>
      <instanceType>m3.2xlarge</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>15552000</duration>
      <fixedPrice>1.01</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>No Upfront</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.38</amount>
        </item>
      </recurringCharges>
      <marketplace>true</marketplace>
      <pricingDetailsSet>
        <item>
          <price>1.01</price>
          <count>1</count>
        </item>
      </pricingDetailsSet>
      <offeringClass>standard</offeringClass>
```

```
      <scope>Availability Zone</scope>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

Example Describing AWS Offerings Only

This example lists AWS offerings only.

Sample Request

```
http://ec2.amazonaws.com/doc/2016-11-15/?
Action=DescribeReservedInstancesOfferings
&IncludeMarketplace=false
&AUTHPARAMS
```

Sample Response

```
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>2bc7dafa-dafd-4257-b6tf-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a6y5-0841cEXAMPLE</
reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1e</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>631.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Partial Upfront</offeringType>
      <recurringCharges>
           <item>
                <frequency>Hourly</frequency>
                <amount>0.28</amount>
            </item>
      </recurringCharges>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
      <offeringClass>standard</offeringClass>
      <scope>Availability Zone</scope>
    </item>
    <item>
      <reservedInstancesOfferingId>2bc7dafa-rafd-6t7y-bdf9-c0814EXAMPLE</
reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>631.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Partial Upfront</offeringType>
```

```
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.88</amount>
        </item>
      </recurringCharges>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
      <offeringClass>convertible</offeringClass>
      <scope>Availability Zone</scope>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

Example Using Tokens to Manage Results

You can use pagination support to query the results sequentially and in parts.

Specify the maximum number of results that are returned in the response. Then, each paginated response contains a token that can be provided as input to a subsequent DescribeReservedInstancesOfferings call to fetch the next page. (Make sure that you use URL encoding for the token value.)

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&AUTHPARAMS
```

Sample Response

```
<DescribeReservedInstancesOfferingsResponse>
  <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
  ...
    <item>
      <reservedInstancesOfferingId>649fd0c8-7846-46b8-8f84-a6400EXAMPLE</
reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>631.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Partial Upfront</offeringType>
      <recurringCharges>
        <item>
          <frequency>>Hourly</frequency>
          <amount>0.028</amount>
        </item>
      <recurringCharges>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
      <offeringClass>standard</offeringClass>
      <scope>Availability Zone</scope>
```

```
    </item>
  ...
  </reservedInstancesOfferingsSet>
  <nextToken>h/C8YKPQBHEjW8xKz1827/Zzyb0VqsqkjRo3TqhFYeE=</nextToken>
</DescribeReservedInstancesOfferingsResponse>
&MaxResults=5
&NextToken=h%2FC8YKPQBHEjW8xKz1827%2FZzyb0VqsqkjRo3TqhFYeE%3D
&AUTHPARAMS
```

Example Using Filters

This example filters the response to include only one-year, `m1.small` or `m1.large` Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to `Linux/UNIX (Amazon VPC)`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.2.Value.2=m1.large
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeRouteTables

Describes one or more of your route tables.

Each subnet in your VPC must be associated with a route table. If a subnet is not explicitly associated with any route table, it is implicitly associated with the main route table. This command does not return the subnet ID for implicit associations.

For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `association.route-table-association-id` - The ID of an association ID for the route table.
- `association.route-table-id` - The ID of the route table involved in the association.
- `association.subnet-id` - The ID of the subnet involved in the association.
- `association.main` - Indicates whether the route table is the main route table for the VPC (`true` | `false`).
- `route-table-id` - The ID of the route table.
- `route.destination-cidr-block` - The IPv4 CIDR range specified in a route in the table.
- `route.destination-ipv6-cidr-block` - The IPv6 CIDR range specified in a route in the route table.
- `route.destination-prefix-list-id` - The ID (prefix) of the AWS service specified in a route in the table.
- `route.egress-only-internet-gateway-id` - The ID of an egress-only Internet gateway specified in a route in the route table.
- `route.gateway-id` - The ID of a gateway specified in a route in the table.
- `route.instance-id` - The ID of an instance specified in a route in the table.
- `route.nat-gateway-id` - The ID of a NAT gateway.
- `route.origin` - Describes how the route was created. `CreateRouteTable` indicates that the route was automatically created when the route table was created; `CreateRoute` indicates that the route was manually added to the route table; `EnableVgwRoutePropagation` indicates that the route was propagated by route propagation.
- `route.state` - The state of a route in the route table (`active` | `blackhole`). The blackhole state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, the specified NAT instance has been terminated, and so on).
- `route.vpc-peering-connection-id` - The ID of a VPC peering connection specified in a route in the table.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.

- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag:`*key*`=`*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC for the route table.

Type: array of Filter (p. 665) objects

Required: No

RouteTableId.N

One or more route table IDs.

Default: Describes all your route tables.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

routeTableSet

Information about one or more route tables.

Type: array of RouteTable (p. 790) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all your route tables. The first route table in the returned list is the VPC's main route table. Its association ID represents the association between the table and the VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeRouteTables
&AUTHPARAMS
```

Sample Response

```
<DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>6f570b0b-9c18-4b07-bdec-73740dcf861a</requestId>
   <routeTableSet>
      <item>
         <routeTableId>rtb-13ad487a</routeTableId>
         <vpcId>vpc-11ad4878</vpcId>
         <routeSet>
```

```
            <item>
               <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
               <gatewayId>local</gatewayId>
               <state>active</state>
               <origin>CreateRouteTable</origin>
            </item>
            <item>
               <destinationIpv6CidrBlock>2001:db8:1234:1a00::/56</
destinationIpv6CidrBlock>
               <gatewayId>local</gatewayId>
               <state>active</state>
               <origin>CreateRouteTable</origin>
            </item>
         </routeSet>
         <associationSet>
             <item>
                <routeTableAssociationId>rtbassoc-12ad487b</
routeTableAssociationId>
                <routeTableId>rtb-13ad487a</routeTableId>
                <main>true</main>
             </item>
         </associationSet>
         <propagatingVgwSet/>
         <tagSet/>
      </item>
      <item>
         <routeTableId>rtb-f9ad4890</routeTableId>
         <vpcId>vpc-11ad4878</vpcId>
         <routeSet>
            <item>
               <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
               <gatewayId>local</gatewayId>
               <state>active</state>
               <origin>CreateRouteTable</origin>
            </item>
            <item>
               <destinationIpv6CidrBlock>2001:db8:1234:1a00::/56</
destinationIpv6CidrBlock>
               <gatewayId>local</gatewayId>
               <state>active</state>
               <origin>CreateRouteTable</origin>
            </item>
            <item>
               <destinationCidrBlock>0.0.0.0/0</destinationCidrBlock>
               <gatewayId>igw-eaad4883</gatewayId>
               <state>active</state>
               <origin>CreateRoute</origin>
            </item>
            <item>
               <destinationIpv6CidrBlock>::/0</destinationIpv6CidrBlock>
               <gatewayId>igw-eaad4883</gatewayId>
               <state>active</state>
               <origin>CreateRoute</origin>
            </item>
         </routeSet>
         <associationSet>
            <item>
                <routeTableAssociationId>rtbassoc-faad4893</
routeTableAssociationId>
```

```
                <routeTableId>rtb-13ad487a</routeTableId>
                <subnetId>subnet-5504d223</subnetId>
                <main>false</main>
            </item>
         </associationSet>
         <propagatingVgwSet/>
         <tagSet/>
      </item>
   </routeTableSet>
</DescribeRouteTablesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeScheduledInstanceAvailability

Finds available schedules that meet the specified criteria.

You can search for an available schedule no more than 3 months in advance. You must meet the minimum required duration of 1,200 hours per year. For example, the minimum daily schedule is 4 hours, the minimum weekly schedule is 24 hours, and the minimum monthly schedule is 100 hours.

After you find a schedule that meets your needs, call PurchaseScheduledInstances (p. 544) to purchase Scheduled Instances with that schedule.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone (for example, `us-west-2a`).
- `instance-type` - The instance type (for example, `c4.large`).
- `network-platform` - The network platform (`EC2-Classic` or `EC2-VPC`).
- `platform` - The platform (`Linux/UNIX` or `Windows`).

Type: array of Filter (p. 665) objects

Required: No

FirstSlotStartTimeRange

The time period for the first schedule to start.

Type: SlotDateTimeRangeRequest (p. 814) object

Required: Yes

MaxResults

The maximum number of results to return in a single call. This value can be between 5 and 300. The default value is 300. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

MaxSlotDurationInHours

The maximum available duration, in hours. This value must be greater than `MinSlotDurationInHours` and less than 1,720.

Type: Integer

Required: No

MinSlotDurationInHours

The minimum available duration, in hours. The minimum required duration is 1,200 hours per year. For example, the minimum daily schedule is 4 hours, the minimum weekly schedule is 24 hours, and the minimum monthly schedule is 100 hours.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

Recurrence

The schedule recurrence.

Type: ScheduledInstanceRecurrenceRequest (p. 799) object

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

scheduledInstanceAvailabilitySet

Information about the available Scheduled Instances.

Type: array of ScheduledInstanceAvailability (p. 796) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeScheduledInstances

Describes one or more of your Scheduled Instances.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone (for example, `us-west-2a`).
- `instance-type` - The instance type (for example, `c4.large`).
- `network-platform` - The network platform (`EC2-Classic` or `EC2-VPC`).
- `platform` - The platform (`Linux/UNIX` or `Windows`).

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of results to return in a single call. This value can be between 5 and 300. The default value is 100. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

ScheduledInstanceId.N

One or more Scheduled Instance IDs.

Type: array of Strings

Required: No

SlotStartTimeRange

The time period for the first schedule to start.

Type: SlotStartTimeRangeRequest (p. 815) object

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

scheduledInstanceSet

Information about the Scheduled Instances.

Type: array of ScheduledInstance (p. 794) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSecurityGroupReferences

[EC2-VPC only] Describes the VPCs on the other side of a VPC peering connection that are referencing the security groups you've specified in this request.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

GroupId.N

One or more security group IDs in your account.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

securityGroupReferenceSet

Information about the VPCs with the referencing security groups.

Type: array of SecurityGroupReference (p. 813) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the security group references for sg-11aa22bb. The response indicates that this security group is referenced by a security group in VPC vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroupReferences
&GroupId.1=sg-11aa22bb
&AUTHPARAMS
```

Sample Response

```
<DescribeSecurityGroupReferencesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
    <requestId>19744c88-baa2-45df-905f-example</requestId>
    <securityGroupReferenceSet>
        <item>
            <referencingVpcId>vpc-1a2b3c4d</referencingVpcId>
            <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
            <groupId>sg-11aa22bb</groupId>
        </item>
    </securityGroupReferenceSet>
</DescribeSecurityGroupReferencesResponse>
```

Example 2

This example describes the security group references for sg-11aa22bb and sg-1111aaaa.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroupReferences
&GroupId.1=sg-11aa22bb
&GroupId.2=sg-1111aaaa
&AUTHPARAMS
```

Sample Response

```
<DescribeSecurityGroupReferencesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>d1835dca-61c1-459d-99cb-example</requestId>
    <securityGroupReferenceSet>
        <item>
            <referencingVpcId>vpc-81326ae4</referencingVpcId>
            <vpcPeeringConnectionId>pcx-b04deed9</vpcPeeringConnectionId>
            <groupId>sg-11aa22bb</groupId>
        </item>
        <item>
            <referencingVpcId>vpc-1a2b3c4d</referencingVpcId>
            <vpcPeeringConnectionId>pcx-aabbccdd</vpcPeeringConnectionId>
            <groupId>sg-1111aaaa</groupId>
        </item>
    </securityGroupReferenceSet>
</DescribeSecurityGroupReferencesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSecurityGroups

Describes one or more of your security groups.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the *Amazon Elastic Compute Cloud User Guide* and Security Groups for Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters. If using multiple filters for rules, the results include security groups for which any combination of rules - not necessarily a single rule - match all filters.

- `description` - The description of the security group.
- `egress.ip-permission.prefix-list-id` - The ID (prefix) of the AWS service to which the security group allows access.
- `group-id` - The ID of the security group.
- `group-name` - The name of the security group.
- `ip-permission.cidr` - An IPv4 CIDR range that has been granted permission in a security group rule.
- `ip-permission.from-port` - The start of port range for the TCP and UDP protocols, or an ICMP type number.
- `ip-permission.group-id` - The ID of a security group that has been granted permission.
- `ip-permission.group-name` - The name of a security group that has been granted permission.
- `ip-permission.ipv6-cidr` - An IPv6 CIDR range that has been granted permission in a security group rule.
- `ip-permission.protocol` - The IP protocol for the permission (`tcp` | `udp` | `icmp` or a protocol number).
- `ip-permission.to-port` - The end of port range for the TCP and UDP protocols, or an ICMP code.
- `ip-permission.user-id` - The ID of an AWS account that has been granted permission.
- `owner-id` - The AWS account ID of the owner of the security group.
- `tag-key` - The key of a tag assigned to the security group.
- `tag-value` - The value of a tag assigned to the security group.
- `vpc-id` - The ID of the VPC specified when the security group was created.

Type: array of Filter (p. 665) objects

Required: No

GroupId.N

One or more security group IDs. Required for security groups in a nondefault VPC.

Default: Describes all your security groups.

Type: array of Strings

Required: No

GroupName.N

[EC2-Classic and default VPC only] One or more security group names. You can specify either the security group name or the security group ID. For security groups in a nondefault VPC, use the `group-name` filter to describe security groups by name.

Default: Describes all your security groups.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

securityGroupInfo

Information about one or more security groups.

Type: array of SecurityGroup (p. 812) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example returns information about a security group named `WebServers`. Note that the `GroupName` parameter returns information about security groups in EC2-Classic or a default VPC only. If no security groups are found in either platform, an exception is returned, regardless of whether you have a security group with the specified name in a nondefault VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&GroupName.1=WebServers
&AUTHPARAMS
```

Sample Response

```
<DescribeSecurityGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <securityGroupInfo>
      <item>
         <ownerId>123456789012</ownerId>
         <groupId>sg-1a2b3c4d</groupId>
         <groupName>WebServers</groupName>
         <groupDescription>Web Servers</groupDescription>
         <vpcId>vpc-614cc409</vpcId>
         <ipPermissions>
```

```
                <item>
                    <ipProtocol>-1</ipProtocol>
                    <groups>
                        <item>
                            <userId>123456789012</userId>
                            <groupId>sg-af8661c0</groupId>
                        </item>
                    </groups>
                    <ipRanges/>
                    <prefixListIds/>
                </item>
                <item>
                    <ipProtocol>tcp</ipProtocol>
                    <fromPort>22</fromPort>
                    <toPort>22</toPort>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>204.246.162.38/32</cidrIp>
                        </item>
                    </ipRanges>
                    <prefixListIds/>
                </item>
            </ipPermissions>
            <ipPermissionsEgress>
                <item>
                    <ipProtocol>-1</ipProtocol>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>0.0.0.0/0</cidrIp>
                        </item>
                    </ipRanges>
                    <prefixListIds/>
                </item>
            </ipPermissionsEgress>
      </item>
   </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```

Example 2

[EC2-VPC] This example describes security group sg-1a2b3c4d. The response indicates that this security group references another security group. The referenced group can be in a different VPC if used through a VPC peering connection. If the referenced security group or the VPC peering connection is deleted, the rule becomes stale but is not automatically removed from the security group.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&GroupId.1=sg-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DescribeSecurityGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
    <requestId>edb7c570-be05-4192-bd1b-example</requestId>
    <securityGroupInfo>
        <item>
            <ownerId>123456789012</ownerId>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>MySecurityGroup</groupName>
            <groupDescription>MySecurityGroup</groupDescription>
            <vpcId>vpc-81326ae4</vpcId>
            <ipPermissions>
                <item>
                    <ipProtocol>tcp</ipProtocol>
                    <fromPort>22</fromPort>
                    <toPort>22</toPort>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>0.0.0.0/0</cidrIp>
                        </item>
                    </ipRanges>
                    <prefixListIds/>
                </item>
                <item>
                    <ipProtocol>icmp</ipProtocol>
                    <fromPort>-1</fromPort>
                    <toPort>-1</toPort>
                    <groups>
                        <item>
                            <userId>111222333444</userId>
                            <groupId>sg-11aa22bb</groupId>
                            <vpcId>vpc-dd326ab8</vpcId>
                            <vpcPeeringConnectionId>pcx-11223344</
vpcPeeringConnectionId>
                            <peeringStatus>active</peeringStatus>
                        </item>
                    </groups>
                    <ipRanges/>
                    <prefixListIds/>
                </item>
            </ipPermissions>
            <ipPermissionsEgress>
                <item>
                    <ipProtocol>-1</ipProtocol>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>0.0.0.0/0</cidrIp>
                        </item>
                    </ipRanges>
                    <prefixListIds/>
                </item>
            </ipPermissionsEgress>
        </item>
    </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```

Example 3

This example describes all security groups that grant access over port 22 and that grant access from instances associated with `app_server_group` or `database_group`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&Filter.1.Name=ip-permission.protocol
&Filter.1.Value.1=tcp
&Filter.2.Name=ip-permission.from-port
&Filter.2.Value.1=22
&Filter.3.Name=ip-permission.to-port
&Filter.3.Value.1=22
&Filter.4.Name=ip-permission.group-name
&Filter.4.Value.1=app_server_group
&Filter.4.Value.2=database_group
&AUTHPARAMS
```

Example 4

[EC2-VPC] This example describes the specified security group. The security group has a rule that allows all outbound IPv6 traffic (this rule is added by default for security groups in an IPv6-enabled VPC) and a rule that allows inbound access over SSH for IPv6 traffic.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&GroupId.1=sg-9bf6ceff
&AUTHPARAMS
```

Sample Response

```
<DescribeSecurityGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>1d62eae0-acdd-481d-88c9-example</requestId>
    <securityGroupInfo>
        <item>
            <ownerId>123456789012</ownerId>
            <groupId>sg-9bf6ceff</groupId>
            <groupName>SSHAccess</groupName>
            <groupDescription>Security group for SSH access</
groupDescription>
            <vpcId>vpc-31896b55</vpcId>
            <ipPermissions>
                <item>
                    <ipProtocol>tcp</ipProtocol>
                    <fromPort>22</fromPort>
                    <toPort>22</toPort>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>0.0.0.0/0</cidrIp>
                        </item>
                    </ipRanges>
                    <ipv6Ranges>
                        <item>
                            <cidrIpv6>::/0</cidrIpv6>
                        </item>
                    </ipv6Ranges>
                    <prefixListIds/>
```

```
                </item>
            </ipPermissions>
            <ipPermissionsEgress>
                <item>
                    <ipProtocol>-1</ipProtocol>
                    <groups/>
                    <ipRanges>
                        <item>
                            <cidrIp>0.0.0.0/0</cidrIp>
                        </item>
                    </ipRanges>
                    <ipv6Ranges>
                        <item>
                            <cidrIpv6>::/0</cidrIpv6>
                        </item>
                    </ipv6Ranges>
                    <prefixListIds/>
                </item>
            </ipPermissionsEgress>
        </item>
    </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSnapshotAttribute

Describes the specified attribute of the specified snapshot. You can specify only one attribute at a time.

For more information about EBS snapshots, see Amazon EBS Snapshots in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The snapshot attribute you would like to view.

Type: String

Valid Values: `productCodes | createVolumePermission`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SnapshotId

The ID of the EBS snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

createVolumePermission

A list of permissions for creating volumes from the snapshot.

Type: array of CreateVolumePermission (p. 646) objects

productCodes

A list of product codes.

Type: array of ProductCode (p. 760) objects

requestId

The ID of the request.

Type: String

snapshotId

The ID of the EBS snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes permissions for a snapshot with the ID of `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&Attribute=createVolumePermission
&AUTHPARAMS
```

Sample Response

```
<DescribeSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotId>snap-1234567890abcdef0</snapshotId>
   <createVolumePermission>
      <item>
         <group>all</group>
      </item>
   </createVolumePermission>
</DescribeSnapshotAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSnapshots

Describes one or more of the EBS snapshots available to you. Available snapshots include public snapshots available for any AWS account to launch, private snapshots that you own, and private snapshots owned by another AWS account but for which you've been given explicit create volume permissions.

The create volume permissions fall into the following categories:

- *public*: The owner of the snapshot granted create volume permissions for the snapshot to the `all` group. All AWS accounts have create volume permissions for these snapshots.
- *explicit*: The owner of the snapshot granted create volume permissions to a specific AWS account.
- *implicit*: An AWS account has implicit create volume permissions for all snapshots it owns.

The list of snapshots returned can be modified by specifying snapshot IDs, snapshot owners, or AWS accounts with create volume permissions. If no options are specified, Amazon EC2 returns all snapshots for which you have create volume permissions.

If you specify one or more snapshot IDs, only snapshots that have the specified IDs are returned. If you specify an invalid snapshot ID, an error is returned. If you specify a snapshot ID for which you do not have access, it is not included in the returned results.

If you specify one or more snapshot owners using the `OwnerIds` option, only snapshots from the specified owners and for which you have access are returned. The results can include the AWS account IDs of the specified owners, `amazon` for snapshots owned by Amazon, or `self` for snapshots that you own.

If you specify a list of restorable users, only snapshots with create snapshot permissions for those users are returned. You can specify AWS account IDs (if you own the snapshots), `self` for snapshots for which you own or have explicit permissions, or `all` for public snapshots.

If you are describing a long list of snapshots, you can paginate the output to make the list more manageable. The `MaxResults` parameter sets the maximum number of results returned in a single page. If the list of results exceeds your `MaxResults` value, then that number of results is returned along with a `NextToken` value that can be passed to a subsequent `DescribeSnapshots` request to retrieve the remaining results.

For more information about EBS snapshots, see Amazon EBS Snapshots in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `description` - A description of the snapshot.
- `owner-alias` - Value from an Amazon-maintained list (`amazon` | `aws-marketplace` | `microsoft`) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM consolew.
- `owner-id` - The ID of the AWS account that owns the snapshot.
- `progress` - The progress of the snapshot, as a percentage (for example, 80%).

- `snapshot-id` - The snapshot ID.
- `start-time` - The time stamp when the snapshot was initiated.
- `status` - The status of the snapshot (`pending` | `completed` | `error`).
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `volume-id` - The ID of the volume the snapshot is for.
- `volume-size` - The size of the volume, in GiB.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of snapshot results returned by `DescribeSnapshots` in paginated output. When this parameter is used, `DescribeSnapshots` only returns `MaxResults` results in a single page along with a `NextToken` response element. The remaining results of the initial request can be seen by sending another `DescribeSnapshots` request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. If this parameter is not used, then `DescribeSnapshots` returns all results. You cannot specify this parameter and the snapshot IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The `NextToken` value returned from a previous paginated `DescribeSnapshots` request where `MaxResults` was used and the results exceeded the value of that parameter. Pagination continues from the end of the previous results that returned the `NextToken` value. This value is `null` when there are no more results to return.

Type: String

Required: No

Owner.N

Returns the snapshots owned by the specified owner. Multiple owners can be specified.

Type: array of Strings

Required: No

RestorableBy.N

One or more AWS accounts IDs that can create volumes from the snapshot.

Type: array of Strings

Required: No

SnapshotId.N

One or more snapshot IDs.

Default: Describes snapshots for which you have launch permissions.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken
The `NextToken` value to include in a future `DescribeSnapshots` request. When the results of a `DescribeSnapshots` request exceed `MaxResults`, this value can be used to retrieve the next page of results. This value is `null` when there are no more results to return.
Type: String

requestId
The ID of the request.
Type: String

snapshotSet
Information about the snapshots.
Type: array of Snapshot (p. 816) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes a snapshot with an ID of `snap-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&SnapshotId=snap-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotSet>
      <item>
         <snapshotId>snap-1234567890abcdef0</snapshotId>
         <volumeId>vol-1234567890abcdef0</volumeId>
         <status>pending</status>
         <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
         <progress>80%</progress>
         <ownerId>111122223333</ownerId>
         <volumeSize>15</volumeSize>
         <description>Daily Backup</description>
         <encrypted>true</encrypted>
         <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/6876fb1b-example</
kmsKeyId>
         <tagSet/>
      </item>
   </snapshotSet>
</DescribeSnapshotsResponse>
```

Example

This example filters the response to include only snapshots with the `pending` status, and that are also tagged with a value that includes the string `db_`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&Filter.1.Name=status
&Filter.1.Value.1=pending
&Filter.2.Name=tag-value
&Filter.2.Value.1=*db_*
&AUTHPARAMS
```

Sample Response

```
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotSet>
      <item>
         <snapshotId>snap-1234567890abcdef0</snapshotId>
         <volumeId>vol-1234567890abcdef0</volumeId>
         <status>pending</status>
         <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
         <progress>30%</progress>
         <ownerId>111122223333</ownerId>
         <volumeSize>15</volumeSize>
         <description>Daily Backup</description>
         <tagSet>
            <item>
               <key>Purpose</key>
               <value>demo_db_14_backup</value>
            </item>
         </tagSet>
         <encrypted>true</encrypted>
         <kmsKeyId>arn:aws:kms:us-east-1:123456789012:key/6876fb1b-example</
kmsKeyId>
      </item>
   </snapshotSet>
</DescribeSnapshotsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotDatafeedSubscription

Describes the data feed for Spot instances. For more information, see Spot Instance Data Feed in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

spotDatafeedSubscription

The Spot instance data feed subscription.

Type: SpotDatafeedSubscription (p. 823) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the data feed for the account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotDatafeedSubscription
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <spotDatafeedSubscription>
      <ownerId>123456789012</ownerId>
      <bucket>my-s3-bucket</bucket>
      <prefix>spotdata_</prefix>
      <state>Active</state>
   </spotDatafeedSubscription>
```

```
</DescribeSpotDatafeedSubscriptionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotFleetInstances

Describes the running instances for the specified Spot fleet.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

SpotFleetRequestId

The ID of the Spot fleet request.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

activeInstanceSet

The running instances. Note that this list is refreshed periodically and might be out of date.

Type: array of ActiveInstance (p. 625) objects

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

spotFleetRequestId

The ID of the Spot fleet request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the running instances for Spot fleet request sfr-123f8fc2-cb31-425e-abcd-example2710.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotFleetInstances
&SpotFleetRequestId=sfr-123f8fc2-cb31-425e-abcd-example2710
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotFleetInstancesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>cfb09950-45e2-472d-a6a9-example</requestId>
    <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</
spotFleetRequestId>
    <activeInstanceSet>
        <item>
            <instanceId>i-1234567890abcdef0</instanceId>
            <spotInstanceRequestId>sir-1a1a1a1a</spotInstanceRequestId>
            <instanceType>m3.medium</instanceType>
        </item>
        <item>
            <instanceId>i-1234567890abcdef1</instanceId>
            <spotInstanceRequestId>sir-2b2b2b2b</spotInstanceRequestId>
            <instanceType>m3.medium</instanceType>
        </item>
        <item>
            <instanceId>i-1234567890abcdef2</instanceId>
            <spotInstanceRequestId>sir-3c3c3c3c</spotInstanceRequestId>
            <instanceType>m3.medium</instanceType>
        </item>
        <item>
            <instanceId>i-1234567890abcdef3</instanceId>
            <spotInstanceRequestId>sir-4d4d4d4d</spotInstanceRequestId>
            <instanceType>m3.medium</instanceType>
        </item>
        <item>
            <instanceId>i-1234567890abcdef4</instanceId>
            <spotInstanceRequestId>sir-5e5e5e5e</spotInstanceRequestId>
            <instanceType>m3.medium</instanceType>
        </item>
    </activeInstanceSet>
</DescribeSpotFleetInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotFleetRequestHistory

Describes the events for the specified Spot fleet request during the specified time.

Spot fleet events are delayed by up to 30 seconds before they can be described. This ensures that you can query by the last evaluated time and not miss a recorded event.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EventType

The type of events to describe. By default, all events are described.

Type: String

Valid Values: `instanceChange | fleetRequestChange | error`

Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

SpotFleetRequestId

The ID of the Spot fleet request.

Type: String

Required: Yes

StartTime

The starting date and time for the events, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Required: Yes

Response Elements

The following elements are returned by the service.

historyRecordSet

Information about the events in the history of the Spot fleet request.

Type: array of HistoryRecord (p. 669) objects

lastEvaluatedTime

The last date and time for the events, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). All records up to this time were retrieved.

If `nextToken` indicates that there are more results, this value is not present.

Type: Timestamp

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

spotFleetRequestId

The ID of the Spot fleet request.

Type: String

startTime

The starting date and time for the events, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the events for Spot fleet request sfr-123f8fc2-cb31-425e-abcd-example2710 from the specified start time.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotFleetRequestHistory
&SpotFleetRequestId=sfr-123f8fc2-cb31-425e-abcd-example2710
&StartTime=2015-07-01T12:00:00Z
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotFleetRequestHistoryResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>30be3aaf-afd2-408c-b62b-example</requestId>
    <lastEvaluatedTime>2015-07-01T13:29:40+0000</lastEvaluatedTime>
    <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</
spotFleetRequestId>
    <startTime>2015-07-01T12:00:00Z</startTime>
    <historyRecordSet>
        <item>
            <eventInformation>
                <eventSubType>submitted</eventSubType>
            </eventInformation>
            <eventType>fleetRequestChange</eventType>
            <timestamp>2015-07-01T13:10:10.219Z</timestamp>
        </item>
        <item>
            <eventInformation>
```

```
                <eventSubType>active</eventSubType>
            </eventInformation>
            <eventType>fleetRequestChange</eventType>
            <timestamp>2015-07-01T13:10:11.624Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <eventDescription>m3.medium, ami-1ecae776, Linux/UNIX (Amazon
 VPC); old price: 0.0153, new price: 0.0153</eventDescription>
                <eventSubType>price_update</eventSubType>
            </eventInformation>
            <eventType>fleetRequestChange</eventType>
            <timestamp>2015-07-01T13:10:13.365Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <instanceId>i-1234567890abcdef0</instanceId>
                <eventSubType>launched</eventSubType>
            </eventInformation>
            <eventType>instanceChange</eventType>
            <timestamp>2015-07-01T13:19:53.795Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <instanceId>i-1234567890abcdef1</instanceId>
                <eventSubType>launched</eventSubType>
            </eventInformation>
            <eventType>instanceChange</eventType>
            <timestamp>2015-07-01T13:20:39.777Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <instanceId>i-1234567890abcdef2</instanceId>
                <eventSubType>launched</eventSubType>
            </eventInformation>
            <eventType>instanceChange</eventType>
            <timestamp>2015-07-01T13:20:57.773Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <instanceId>i-1234567890abcdef3</instanceId>
                <eventSubType>launched</eventSubType>
            </eventInformation>
            <eventType>instanceChange</eventType>
            <timestamp>2015-07-01T13:22:05.696Z</timestamp>
        </item>
        <item>
            <eventInformation>
                <instanceId>i-1234567890abcdef4</instanceId>
                <eventSubType>launched</eventSubType>
            </eventInformation>
            <eventType>instanceChange</eventType>
            <timestamp>2015-07-01T13:23:58.927Z</timestamp>
        </item>
    </historyRecordSet>
</DescribeSpotFleetRequestHistoryResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotFleetRequests

Describes your Spot fleet requests.

Spot fleet requests are deleted 48 hours after they are canceled and their instances are terminated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

SpotFleetRequestId.N

The IDs of the Spot fleet requests.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

spotFleetRequestConfigSet

Information about the configuration of your Spot fleet.

Type: array of SpotFleetRequestConfig (p. 828) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your Spot fleet requests.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotFleetRequests
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotFleetRequestsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>4d68a6cc-8f2e-4be1-b425-example</requestId>
    <spotFleetRequestConfigSet>
        <item>
            <spotFleetRequestId>sfr-12345678-cb31-425e-8c23-example2710</
spotFleetRequestId>
            <spotFleetRequestState>cancelled</spotFleetRequestState>
            <spotFleetRequestConfig>
                <spotPrice>0.0153</spotPrice>
                <targetCapacity>20</targetCapacity>
                <iamFleetRole>arn:aws:iam::123456789011:role/spot-fleet-
role</iamFleetRole>
                <launchSpecifications>
                    <item>
                        <subnetId>subnet-1a2b3c4d</subnetId>
                        <ebsOptimized>false</ebsOptimized>
                        <imageId>ami-1ecae776</imageId>
                        <instanceType>m4.xlarge</instanceType>
                    </item>
                    <item>
                        <subnetId>subnet-1a2b3c4d</subnetId>
                        <ebsOptimized>false</ebsOptimized>
                        <imageId>ami-1ecae776</imageId>
                        <instanceType>m3.medium</instanceType>
                    </item>
                </launchSpecifications>
            </spotFleetRequestConfig>
        </item>
        <item>
            <spotFleetRequestId>sfr-abcdefgh-e71f-450d-880d-examplec127</
spotFleetRequestId>
            <spotFleetRequestState>active</spotFleetRequestState>
            <spotFleetRequestConfig>
                <spotPrice>0.0153</spotPrice>
                <targetCapacity>5</targetCapacity>
                <iamFleetRole>arn:aws:iam::123456789011:role/spot-fleet-
role</iamFleetRole>
                <launchSpecifications>
                    <item>
                        <subnetId>subnet-abc123ab</subnetId>
                        <ebsOptimized>false</ebsOptimized>
                        <imageId>ami-1ecae776</imageId>
                        <instanceType>m4.large</instanceType>
```

```
                    </item>
                    <item>
                        <subnetId>subnet-abc123ab</subnetId>
                        <ebsOptimized>false</ebsOptimized>
                        <imageId>ami-1ecae776</imageId>
                        <instanceType>m3.medium</instanceType>
                    </item>
                </launchSpecifications>
            </spotFleetRequestConfig>
        </item>
    </spotFleetRequestConfigSet>
</DescribeSpotFleetRequestsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotInstanceRequests

Describes the Spot instance requests that belong to your account. Spot instances are instances that Amazon EC2 launches when the bid price that you specify exceeds the current Spot price. Amazon EC2 periodically sets the Spot price based on available Spot instance capacity and current Spot instance requests. For more information, see Spot Instance Requests in the *Amazon Elastic Compute Cloud User Guide*.

You can use `DescribeSpotInstanceRequests` to find a running Spot instance by examining the response. If the status of the Spot instance is `fulfilled`, the instance ID appears in the response and contains the identifier of the instance. Alternatively, you can use DescribeInstances (p. 284) with a filter to look for instances where the instance lifecycle is `spot`.

Spot instance requests are deleted 4 hours after they are canceled and their instances are terminated.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availability-zone-group` - The Availability Zone group.
- `create-time` - The time stamp when the Spot instance request was created.
- `fault-code` - The fault code related to the request.
- `fault-message` - The fault message related to the request.
- `instance-id` - The ID of the instance that fulfilled the request.
- `launch-group` - The Spot instance launch group.
- `launch.block-device-mapping.delete-on-termination` - Indicates whether the Amazon EBS volume is deleted on instance termination.
- `launch.block-device-mapping.device-name` - The device name for the Amazon EBS volume (for example, `/dev/sdh`).
- `launch.block-device-mapping.snapshot-id` - The ID of the snapshot used for the Amazon EBS volume.
- `launch.block-device-mapping.volume-size` - The size of the Amazon EBS volume, in GiB.
- `launch.block-device-mapping.volume-type` - The type of the Amazon EBS volume: `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, `st1` for Throughput Optimized HDD, `sc1`for Cold HDD, or `standard` for Magnetic.
- `launch.group-id` - The security group for the instance.
- `launch.image-id` - The ID of the AMI.
- `launch.instance-type` - The type of instance (for example, `m3.medium`).
- `launch.kernel-id` - The kernel ID.
- `launch.key-name` - The name of the key pair the instance launched with.
- `launch.monitoring-enabled` - Whether monitoring is enabled for the Spot instance.
- `launch.ramdisk-id` - The RAM disk ID.

- `network-interface.network-interface-id` - The ID of the network interface.
- `network-interface.device-index` - The index of the device for the network interface attachment on the instance.
- `network-interface.subnet-id` - The ID of the subnet for the instance.
- `network-interface.description` - A description of the network interface.
- `network-interface.private-ip-address` - The primary private IP address of the network interface.
- `network-interface.delete-on-termination` - Indicates whether the network interface is deleted when the instance is terminated.
- `network-interface.group-id` - The ID of the security group associated with the network interface.
- `network-interface.group-name` - The name of the security group associated with the network interface.
- `network-interface.addresses.primary` - Indicates whether the IP address is the primary private IP address.
- `product-description` - The product description associated with the instance (`Linux/UNIX` | `Windows`).
- `spot-instance-request-id` - The Spot instance request ID.
- `spot-price` - The maximum hourly price for any Spot instance launched to fulfill the request.
- `state` - The state of the Spot instance request (`open` | `active` | `closed` | `cancelled` | `failed`). Spot bid status information can help you track your Amazon EC2 Spot instance requests. For more information, see Spot Bid Status in the Amazon Elastic Compute Cloud User Guide.
- `status-code` - The short code describing the most recent evaluation of your Spot instance request.
- `status-message` - The message explaining the status of the Spot instance request.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `type` - The type of Spot instance request (`one-time` | `persistent`).
- `launched-availability-zone` - The Availability Zone in which the bid is launched.
- `valid-from` - The start date of the request.
- `valid-until` - The end date of the request.

Type: array of Filter (p. 665) objects

Required: No

SpotInstanceRequestId.N

One or more Spot instance request IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

spotInstanceRequestSet
One or more Spot instance requests.
Type: array of SpotInstanceRequest (p. 831) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for DescribeSpotInstanceRequests

This example returns information about current Spot instance requests. In the response, if the status of the Spot instance is `fulfilled`, the instance ID appears in the response and contains the identifier of the instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <spotPrice>0.09</spotPrice>
      <type>one-time</type>
      <state>active</state>
      <status>
        <code>fulfilled</code>
        <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
        <message>Your Spot request is fulfilled.</message>
      </status>
      <launchSpecification>
        <imageId>ami-1a2b3c4d</imageId>
        <keyName>my-key-pair</keyName>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>websrv</groupName>
          </item>
        </groupSet>
        <instanceType>m3.medium</instanceType>
        <monitoring>
          <enabled>false</enabled>
        </monitoring>
        <ebsOptimized>false</ebsOptimized>
      </launchSpecification>
```

```
      <instanceId>i-1234567890abcdef0</instanceId>
      <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
      <launchedAvailabilityZone>us-west-2a</launchedAvailabilityZone>
    </item>
  <spotInstanceRequestSet/>
<DescribeSpotInstanceRequestsResponse>
```

Example for DescribeSpotInstanceRequests

This example describes all persistent Spot instance requests that have resulted in the launch of at least one instance, that has been fulfilled in the us-west-2a Availability Zone, and that also has monitoring enabled.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&Filter.1.Name=type
&Filter.1.Value.1=persistent
&Filter.2.Name=instance-type
&Filter.2.Value.1=m3.medium
&Filter.3.Name=monitoring-enabled
&Filter.3.Value.1=true
&Filter.4.Name=launched-availability-zone
&Filter.4.Value.1=us-west-2a
&AUTHPARAMS
```

Example for DescribeInstances

Alternatively, you can use DescribeInstances (p. 284) and use a filter to look for instances where instance lifecycle contains `spot`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-lifecycle
&Filter.1.Value.1=spot
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSpotPriceHistory

Describes the Spot price history. For more information, see Spot Instance Pricing History in the *Amazon Elastic Compute Cloud User Guide*.

When you specify a start and end time, this operation returns the prices of the instance types within the time range that you specified and the time when the price changed. The price is valid within the time period that you specified; the response merely indicates the last time that the price changed.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone

Filters the results by the specified Availability Zone.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EndTime

The date and time, up to the current date, from which to stop retrieving the price history data, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Required: No

Filter.N

One or more filters.

- `availability-zone` - The Availability Zone for which prices should be returned.
- `instance-type` - The type of instance (for example, `m3.medium`).
- `product-description` - The product description for the Spot price (`Linux/UNIX` | `SUSE Linux` | `Windows` | `Linux/UNIX (Amazon VPC)` | `SUSE Linux (Amazon VPC)` | `Windows (Amazon VPC)`).
- `spot-price` - The Spot price. The value must match exactly (or use wildcards; greater than or less than comparison is not supported).
- `timestamp` - The timestamp of the Spot price history, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). You can use wildcards (* and ?). Greater than or less than comparison is not supported.

Type: array of Filter (p. 665) objects

Required: No

InstanceType.N

Filters the results by the specified instance types. Note that T2 and HS1 instance types are not supported.

Type: array of Strings

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge`

`| i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

MaxResults

The maximum number of results to return in a single call. Specify a value between 1 and 1000. The default value is 1000. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token for the next set of results.

Type: String

Required: No

ProductDescription.N

Filters the results by the specified basic product descriptions.

Type: array of Strings

Required: No

StartTime

The date and time, up to the past 90 days, from which to start retrieving the price history data, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token required to retrieve the next set of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

spotPriceHistorySet

The historical Spot prices.

Type: array of SpotPrice (p. 837) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example gets Spot price history for the first day in November 2016 for the specified Availability Zone.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&StartTime=2016-11-01T00:00:00.000Z
&EndTime=2016-11-01T23:59:59.000Z
&AvailabilityZone=us-west-2a
&AUTHPARAMS
```

Sample Response

```
<DescribeSpotPriceHistoryResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotPriceHistorySet>
    <item>
      <instanceType>m3.medium</instanceType>
      <productDescription>Linux/UNIX</productDescription>
      <spotPrice>0.287</spotPrice>
      <timestamp>2016-11-01T20:56:05.000Z</timestamp>
      <availabilityZone>us-west-2a</availabilityZone>
    </item>
    <item>
      <instanceType>m3.medium</instanceType>
      <productDescription>Windows</productDescription>
      <spotPrice>0.033</spotPrice>
      <timestamp>2016-11-01T22:33:47.000Z</timestamp>
      <availabilityZone>us-west-2a</availabilityZone>
    </item>
  </spotPriceHistorySet>
  <nextToken/>
</DescribeSpotPriceHistoryResponse>
```

Example with Filters

This example uses filters to get the same results as the previous example.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&Filter.1.Name=timestamp
&Filter.1.Value.1=2016-11-01*
&Filter.2.Name=availability-zone
&Filter.2.Value.1=us-west-2a
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeStaleSecurityGroups

[EC2-VPC only] Describes the stale security group rules for security groups in a specified VPC. Rules are stale when they reference a deleted security group in a peer VPC, or a security group in a peer VPC for which the VPC peering connection has been deleted.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, and provides an error response. If you have the required permissions, the error response is DryRunOperation. Otherwise, it is UnauthorizedOperation.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 255.

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String

staleSecurityGroupSet

Information about the stale security groups.

Type: array of StaleSecurityGroup (p. 840) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes stale security group rules for vpc-11223344. The response shows that sg-5fa68d3a in your account has a stale ingress SSH rule that references sg-279ab042 in the peer VPC, and sg-fe6fba9a in your account has a stale egress SSH rule that references sg-ef6fba8b in the peer VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeStaleSecurityGroups
&VpcId=vpc-11223344
&AUTHPARAMS
```

Sample Response

```
<DescribeStaleSecurityGroupsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>ece1f9a0-b201-4eec-b74b-example</requestId>
        <staleSecurityGroupSet>
        <item>
            <staleIpPermissionsEgress>
                <item>
                    <fromPort>22</fromPort>
                    <toPort>22</toPort>
                    <groups>
                        <item>
                            <vpcId>vpc-7a20e51f</vpcId>
                            <groupId>sg-ef6fba8b</groupId>
                            <vpcPeeringConnectionId>pcx-b04deed9</
vpcPeeringConnectionId>
                            <peeringStatus>active</peeringStatus>
                        </item>
                    </groups>
                    <ipProtocol>tcp</ipProtocol>
                </item>
            </staleIpPermissionsEgress>
            <groupName>Sg-1</groupName>
            <vpcId>vpc-11223344</vpcId>
            <groupId>sg-fe6fba9a</groupId>
            <description>Sg-1 for peering</description>
            <staleIpPermissions/>
        </item>
        <item>
            <staleIpPermissionsEgress/>
            <groupName>Sg-2</groupName>
            <vpcId>vpc-11223344</vpcId>
            <groupId>sg-5fa68d3a</groupId>
            <description>Sg-2 for peering</description>
            <staleIpPermissions>
                <item>
                    <fromPort>22</fromPort>
                    <toPort>22</toPort>
                    <groups>
                        <item>
                            <vpcId>vpc-7a20e51f</vpcId>
```

```
                            <groupId>sg-279ab042</groupId>
                            <vpcPeeringConnectionId>pcx-b04deed9</
vpcPeeringConnectionId>
                            <peeringStatus>active</peeringStatus>
                        </item>
                    </groups>
                    <ipProtocol>tcp</ipProtocol>
                </item>
            </staleIpPermissions>
        </item>
    </staleSecurityGroupSet>
</DescribeStaleSecurityGroupsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeSubnets

Describes one or more of your subnets.

For more information about subnets, see Your VPC and Subnets in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `availabilityZone` - The Availability Zone for the subnet. You can also use `availability-zone` as the filter name.
- `available-ip-address-count` - The number of IPv4 addresses in the subnet that are available.
- `cidrBlock` - The IPv4 CIDR block of the subnet. The CIDR block you specify must exactly match the subnet's CIDR block for information to be returned for the subnet. You can also use `cidr` or `cidr-block` as the filter names.
- `defaultForAz` - Indicates whether this is the default subnet for the Availability Zone. You can also use `default-for-az` as the filter name.
- `ipv6-cidr-block-association.ipv6-cidr-block` - An IPv6 CIDR block associated with the subnet.
- `ipv6-cidr-block-association.association-id` - An association ID for an IPv6 CIDR block associated with the subnet.
- `ipv6-cidr-block-association.state` - The state of an IPv6 CIDR block associated with the subnet.
- `state` - The state of the subnet (`pending` | `available`).
- `subnet-id` - The ID of the subnet.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC for the subnet.

Type: array of Filter (p. 665) objects

Required: No

SubnetId.N

One or more subnet IDs.

Default: Describes all your subnets.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

subnetSet

Information about one or more subnets.

Type: array of Subnet (p. 843) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the subnets with the IDs `subnet-9d4a7b6c` and `subnet-6e7f829e`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSubnets
&SubnetId.1=subnet-9d4a7b6c
&SubnetId.2=subnet-6e7f829e
&AUTHPARAMS
```

Sample Response

```
<DescribeSubnetsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <subnetSet>
    <item>
      <subnetId>subnet-9d4a7b6c</subnetId>
      <state>available</state>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.1.0/24</cidrBlock>
      <ipv6CidrBlockAssociationSet>
        <item>
          <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
          <associationId>subnet-cidr-assoc-abababab</associationId>
          <ipv6CidrBlockState>
             <state>ASSOCIATED</state>
          </ipv6CidrBlockState>
         </item>
     </ipv6CidrBlockAssociationSet>
      <availableIpAddressCount>251</availableIpAddressCount>
      <availabilityZone>us-east-1a</availabilityZone>
      <defaultForAz>false</defaultForAz>
      <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
```

```
      <tagSet/>
      <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
    </item>
    <item>
      <subnetId>subnet-6e7f829e</subnetId>
      <state>available</state>
      <vpcId>vpc-1a2b3c4d></vpcId>
      <cidrBlock>10.0.0.0/24</cidrBlock>
      <ipv6CidrBlockAssociationSet/>
      <availableIpAddressCount>251</availableIpAddressCount>
      <availabilityZone>us-east-1a</availabilityZone>
      <defaultForAz>false</defaultForAz>
      <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
      <assignIpv6AddressOnCreation>false</assignIpv6AddressOnCreation>
    </item>
  </subnetSet>
</DescribeSubnetsResponse>
```

Example 2

This example uses filters to describe any subnet you own that is in the VPC with the ID `vpc-1a2b3c4d` or `vpc-6e7f8a92`, and whose state is `available`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeSubnets
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-1a2b3c4d
&Filter.1.Value.2=vpc-6e7f8a92
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeTags

Describes one or more of the tags for your EC2 resources.

For more information about tags, see Tagging Your Resources in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `key` - The tag key.
- `resource-id` - The resource ID.
- `resource-type` - The resource type (`customer-gateway` | `dhcp-options` | `image` | `instance` | `internet-gateway` | `network-acl` | `network-interface` | `reserved-instances` | `route-table` | `security-group` | `snapshot` | `spot-instances-request` | `subnet` | `volume` | `vpc` | `vpn-connection` | `vpn-gateway`).
- `value` - The tag value.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of results to return in a single call. This value can be between 5 and 1000. To retrieve the remaining results, make another call with the returned `NextToken` value.

Type: Integer

Required: No

NextToken

The token to retrieve the next page of results.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return..

Type: String

requestId

The ID of the request.

Type: String

tagSet

A list of tags.

Type: array of TagDescription (p. 848) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes all the tags in your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <tagSet>
      <item>
         <resourceId>ami-1a2b3c4d</resourceId>
         <resourceType>image</resourceType>
         <key>webserver</key>
         <value/>
      </item>
       <item>
         <resourceId>ami-1a2b3c4d</resourceId>
         <resourceType>image</resourceType>
         <key>stack</key>
         <value>Production</value>
      </item>
      <item>
         <resourceId>i-1234567890abcdef0</resourceId>
         <resourceType>instance</resourceType>
         <key>webserver</key>
         <value/>
      </item>
       <item>
         <resourceId>i-1234567890abcdef0</resourceId>
         <resourceType>instance</resourceType>
         <key>stack</key>
         <value>Production</value>
      </item>
      <item>
         <resourceId>i-0598c7d356eba48d7</resourceId>
         <resourceType>instance</resourceType>
         <key>database_server</key>
         <value/>
      </item>
       <item>
         <resourceId>i-0598c7d356eba48d7</resourceId>
         <resourceType>instance</resourceType>
         <key>stack</key>
         <value>Test</value>
      </item>
    </tagSet>
```

```
</DescribeTagsResponse>
```

Example

This example describes only the tags for the AMI with ID ami-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-id
&Filter.1.Value.1=ami-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <tagSet>
      <item>
         <resourceId>ami-1a2b3c4d</resourceId>
         <resourceType>image</resourceType>
         <key>webserver</key>
         <value/>
      </item>
      <item>
         <resourceId>ami-1a2b3c4d</resourceId>
         <resourceType>image</resourceType>
         <key>stack</key>
         <value>Production</value>
      </item>
    </tagSet>
</DescribeTagsResponse>
```

Example

This example describes the tags for all your instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <tagSet>
       <item>
         <resourceId>i-0598c7d356eba48d7</resourceId>
         <resourceType>instance</resourceType>
         <key>webserver</key>
         <value/>
      </item>
```

```
       <item>
         <resourceId>i-0598c7d356eba48d7</resourceId>
         <resourceType>instance</resourceType>
         <key>stack</key>
         <value>Production</value>
       </item>
       <item>
          <resourceId>i-1234567890abcdef0</resourceId>
          <resourceType>instance</resourceType>
          <key>database_server</key>
          <value/>
       </item>
        <item>
          <resourceId>i-1234567890abcdef0</resourceId>
          <resourceType>instance</resourceType>
          <key>stack</key>
          <value>Test</value>
       </item>
     </tagSet>
</DescribeTagsResponse>
```

Example

This example describes the tags for all your instances tagged with the key *webserver*. Note that you can use wildcards with filters, so you could specify the value as `?ebserver` to find tags with the key *webserver* or *Webserver*.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=key
&Filter.1.Value.1=webserver
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <tagSet>
       <item>
         <resourceId>i-1234567890abcdef0</resourceId>
         <resourceType>instance</resourceType>
         <key>webserver</key>
         <value/>
       </item>
     </tagSet>
</DescribeTagsResponse>
```

Example

This example describes the tags for all your instances tagged with either stack=Test or stack=Production.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
```

```
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=stack
&Filter.3.Name=value
&Filter.3.Value.1=Test
&Filter.3.Value.2=Production
&AUTHPARAMS
```

Sample Response

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/"/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <tagSet>
       <item>
         <resourceId>i-1234567890abcdef0</resourceId>
         <resourceType>instance</resourceType>
         <key>stack</key>
         <value>Production</value>
      </item>
       <item>
         <resourceId>i-0598c7d356eba48d7</resourceId>
         <resourceType>instance</resourceType>
         <key>stack</key>
         <value>Test</value>
      </item>
    </tagSet>
</DescribeTagsResponse>
```

Example

This example describes the tags for all your instances tagged with Purpose=[empty string].

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=Purpose
&Filter.3.Name=value
&Filter.3.Value.1=
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript

- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVolumeAttribute

Describes the specified attribute of the specified volume. You can specify only one attribute at a time.

For more information about EBS volumes, see Amazon EBS Volumes in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The instance attribute.

Type: String

Valid Values: `autoEnableIO | productCodes`

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

autoEnableIO

The state of `autoEnableIO` attribute.

Type: AttributeBooleanValue (p. 628) object

productCodes

A list of product codes.

Type: array of ProductCode (p. 760) objects

requestId

The ID of the request.

Type: String

volumeId

The ID of the volume.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the `autoEnableIO` attribute of the volume vol-1234567890abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=autoEnableIO
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DescribeVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <autoEnableIO>
    <value>false</value>
  </autoEnableIO>
</DescribeVolumeAttributeResponse>
```

Example

This example describes the `productCodes` attribute of the volume vol-1234567890abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=productCodes
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DescribeVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-1234567890abcdef0</volumeId>
  <productCodes>
      <item>
          <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
          <type>marketplace</type>
        </item>
  </productCodes>
</DescribeVolumeAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVolumes

Describes the specified EBS volumes.

If you are describing a long list of volumes, you can paginate the output to make the list more manageable. The `MaxResults` parameter sets the maximum number of results returned in a single page. If the list of results exceeds your `MaxResults` value, then that number of results is returned along with a `NextToken` value that can be passed to a subsequent `DescribeVolumes` request to retrieve the remaining results.

For more information about EBS volumes, see Amazon EBS Volumes in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `attachment.attach-time` - The time stamp when the attachment initiated.
- `attachment.delete-on-termination` - Whether the volume is deleted on instance termination.
- `attachment.device` - The device name that is exposed to the instance (for example, `/dev/sda1`).
- `attachment.instance-id` - The ID of the instance the volume is attached to.
- `attachment.status` - The attachment state (`attaching` | `attached` | `detaching` | `detached`).
- `availability-zone` - The Availability Zone in which the volume was created.
- `create-time` - The time stamp when the volume was created.
- `encrypted` - The encryption status of the volume.
- `size` - The size of the volume, in GiB.
- `snapshot-id` - The snapshot from which the volume was created.
- `status` - The status of the volume (`creating` | `available` | `in-use` | `deleting` | `deleted` | `error`).
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `volume-id` - The volume ID.
- `volume-type` - The Amazon EBS volume type. This can be `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, `st1` for Throughput Optimized HDD, `sc1` for Cold HDD, or `standard` for Magnetic volumes.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of volume results returned by `DescribeVolumes` in paginated output. When this parameter is used, `DescribeVolumes` only returns `MaxResults` results in a single page along with a `NextToken` response element. The remaining results of the initial request can be seen by sending another `DescribeVolumes` request with the returned `NextToken` value. This value can be between 5 and 500; if `MaxResults` is given a value larger than 500, only 500 results are returned. If this parameter is not used, then `DescribeVolumes` returns all results. You cannot specify this parameter and the volume IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The `NextToken` value returned from a previous paginated `DescribeVolumes` request where `MaxResults` was used and the results exceeded the value of that parameter. Pagination continues from the end of the previous results that returned the `NextToken` value. This value is `null` when there are no more results to return.

Type: String

Required: No

VolumeId.N

One or more volume IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The `NextToken` value to include in a future `DescribeVolumes` request. When the results of a `DescribeVolumes` request exceed `MaxResults`, this value can be used to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

volumeSet

Information about the volumes.

Type: array of Volume (p. 859) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all volumes associated with your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumes
```

```
&AUTHPARAMS
```

Sample Response

```
<DescribeVolumesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <volumeSet>
      <item>
         <volumeId>vol-1234567890abcdef0</volumeId>
         <size>80</size>
         <snapshotId/>
         <availabilityZone>us-east-1a</availabilityZone>
         <status>in-use</status>
         <createTime>YYYY-MM-DDTHH:MM:SS.SSSZ</createTime>
         <attachmentSet>
            <item>
               <volumeId>vol-1234567890abcdef0</volumeId>
               <instanceId>i-1234567890abcdef0</instanceId>
               <device>/dev/sdh</device>
               <status>attached</status>
               <attachTime>YYYY-MM-DDTHH:MM:SS.SSSZ</attachTime>
               <deleteOnTermination>false</deleteOnTermination>
            </item>
         </attachmentSet>
         <volumeType>standard</volumeType>
         <encrypted>true</encrypted>
      </item>
   </volumeSet>
</DescribeVolumesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVolumesModifications

Reports the current modification status of EBS volumes.

Current-generation EBS volumes support modification of attributes including type, size, and (for `io1` volumes) IOPS provisioning while either attached to or detached from an instance. Following an action from the API or the console to modify a volume, the status of the modification may be `modifying`, `optimizing`, `completed`, or `failed`. If a volume has never been modified, then certain elements of the returned `VolumeModification` objects are null.

You can also use CloudWatch Events to check the status of a modification to an EBS volume. For information about CloudWatch Events, see the Amazon CloudWatch Events User Guide. For more information, see Monitoring Volume Modifications".

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters. Supported filters: `volume-id`, `modification-state`, `target-size`, `target-iops`, `target-volume-type`, `original-size`, `original-iops`, `original-volume-type`, `start-time`.

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of results (up to a limit of 500) to be returned in a paginated request.

Type: Integer

Required: No

NextToken

The `nextToken` value returned by a previous paginated request.

Type: String

Required: No

VolumeId.N

One or more volume IDs for which in-progress modifications will be described.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

Token for pagination, null if there are no more results

Type: String

requestId

The ID of the request.

Type: String

volumeModificationSet
A list of returned VolumeModification (p. 863) objects.
Type: array of VolumeModification (p. 863) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Display volume status after modifications to size, type, and IOPS provisioning

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumesModifications
&VolumeId.1=vol-0123456789EXAMPLE
&Version=2016-11-15
```

Sample Response

```
<DescribeVolumesModificationsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeModificationSet>
    <item>
      <targetIops>10000</targetIops>
      <originalIops>300</originalIops>
      <modificationState>optimizing</modificationState>
      <targetSize>200</targetSize>
      <targetVolumeType>io1</targetVolumeType>
      <volumeId>vol-0123456789EXAMPLE</volumeId>
      <progress>40</progress>
      <startTime>2017-01-19T23:58:04.922Z</startTime>
      <originalSize>100</originalSize>
      <originalVolumeType>gp2</originalVolumeType>
    </item>
  </volumeModificationSet>
</DescribeVolumesModificationsResponse>
```

Display information about all volumes in a region with a modification state of optimizing or completed.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumesModifications
&Filter.1.Value.2=completed
&Filter.1.Value.1=optimizing
&Version=2016-11-15
&Filter.1.Name=modification-state
```

Sample Response

```
<DescribeVolumesModificationsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
 <requestId>35fdf8d3-6ffa-46dc-8f8e-62fe70bc31a2</requestId>
 <volumeModificationSet>
  <item>
   <targetIops>10000</targetIops>
   <originalIops>100</originalIops>
   <modificationState>optimizing</modificationState>
   <targetSize>2000</targetSize>
   <targetVolumeType>io1</targetVolumeType>
   <volumeId>vol-06397e7a0eEXAMPLE</volumeId>
   <progress>3</progress>
   <startTime>2017-02-10T23:40:57.612Z</startTime>
   <originalSize>10</originalSize>
   <originalVolumeType>gp2</originalVolumeType>
  </item>
  <item>
   <targetIops>10000</targetIops>
   <originalIops>100</originalIops>
   <modificationState>completed</modificationState>
   <targetSize>200</targetSize>
   <targetVolumeType>io1</targetVolumeType>
   <volumeId>vol-bEXAMPLE</volumeId>
   <progress>100</progress>
   <startTime>2017-02-10T22:50:52.207Z</startTime>
   <endTime>2017-02-10T22:56:04.823Z</endTime>
   <originalSize>8</originalSize>
   <originalVolumeType>gp2</originalVolumeType>
  </item>
 </volumeModificationSet>
</DescribeVolumesModificationsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVolumeStatus

Describes the status of the specified volumes. Volume status provides the result of the checks performed on your volumes to determine events that can impair the performance of your volumes. The performance of a volume can be affected if an issue occurs on the volume's underlying host. If the volume's underlying host experiences a power outage or system issue, after the system is restored, there could be data inconsistencies on the volume. Volume events notify you if this occurs. Volume actions notify you if any action needs to be taken in response to the event.

The `DescribeVolumeStatus` operation provides the following information about the specified volumes:

Status: Reflects the current status of the volume. The possible values are `ok`, `impaired` , `warning`, or `insufficient-data`. If all checks pass, the overall status of the volume is `ok`. If the check fails, the overall status is `impaired`. If the status is `insufficient-data`, then the checks may still be taking place on your volume at the time. We recommend that you retry the request. For more information on volume status, see Monitoring the Status of Your Volumes.

Events: Reflect the cause of a volume status and may require you to take action. For example, if your volume returns an `impaired` status, then the volume event might be `potential-data-inconsistency`. This means that your volume has been affected by an issue with the underlying host, has all I/O operations disabled, and may have inconsistent data.

Actions: Reflect the actions you may have to take in response to an event. For example, if the status of the volume is `impaired` and the volume event shows `potential-data-inconsistency`, then the action shows `enable-volume-io`. This means that you may want to enable the I/O operations for the volume by calling the EnableVolumeIO (p. 465) action and then check the volume for data consistency.

> **Note**
> Volume status is based on the volume status checks, and does not reflect the volume state. Therefore, volume status does not indicate volumes in the `error` state (for example, when a volume is incapable of accepting I/O.)

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `action.code` - The action code for the event (for example, `enable-volume-io`).
- `action.description` - A description of the action.
- `action.event-id` - The event ID associated with the action.
- `availability-zone` - The Availability Zone of the instance.
- `event.description` - A description of the event.
- `event.event-id` - The event ID.
- `event.event-type` - The event type (for `io-enabled`: `passed` | `failed`; for `io-performance`: `io-performance:degraded` | `io-performance:severely-degraded` | `io-performance:stalled`).
- `event.not-after` - The latest end time for the event.

- `event.not-before` - The earliest start time for the event.
- `volume-status.details-name` - The cause for `volume-status.status` (`io-enabled` | `io-performance`).
- `volume-status.details-status` - The status of `volume-status.details-name` (for `io-enabled`: `passed` | `failed`; for `io-performance`: `normal` | `degraded` | `severely-degraded` | `stalled`).
- `volume-status.status` - The status of the volume (`ok` | `impaired` | `warning` | `insufficient-data`).

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of volume results returned by `DescribeVolumeStatus` in paginated output. When this parameter is used, the request only returns `MaxResults` results in a single page along with a `NextToken` response element. The remaining results of the initial request can be seen by sending another request with the returned `NextToken` value. This value can be between 5 and 1000; if `MaxResults` is given a value larger than 1000, only 1000 results are returned. If this parameter is not used, then `DescribeVolumeStatus` returns all results. You cannot specify this parameter and the volume IDs parameter in the same request.

Type: Integer

Required: No

NextToken

The `NextToken` value to include in a future `DescribeVolumeStatus` request. When the results of the request exceed `MaxResults`, this value can be used to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

Required: No

VolumeId.N

One or more volume IDs.

Default: Describes all your volumes.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use to retrieve the next page of results. This value is `null` when there are no more results to return.

Type: String

requestId

The ID of the request.

Type: String

volumeStatusSet

A list of volumes.

Type: array of VolumeStatusItem (p. 869) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the status of all the volumes associated with your account.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&AUTHPARAMS
```

Sample Response

```
<DescribeVolumeStatus xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeStatusSet>
    <item>
      <VolumeId>vol-1234567890abcdef0</volumeId>
      <availabilityZone>us-east-1d</availabilityZone>
      <volumeStatus>
        <status>ok</status>
        <details>
          <item>
            <title>io-enabled</title>
            <status>passed</status>
          </item>
        </details>
      </volumeStatus>
      </item>
    <item>
      <volumeId>vol-1234567890abcdef1</volumeId>
      <availabilityZone>us-east-1d</availabilityZone>
      <volumeStatus>
        <status>impaired</status>
        <details>
          <item>
            <title>io-enabled</title>
            <status>failed</status>
          </item>
        </details>
      </volumeStatus>
      <eventsSet>
             <item>
               <eventId>evol-61a54008</eventId>
               <eventType>potential-data-inconsistency</eventType>
               <description>THIS IS AN EXAMPLE</description>
               <notBefore>2011-12-01T14:00:00.000Z</notBefore>
               <notAfter>2011-12-01T15:00:00.000Z</notAfter>
             </item>
           </eventsSet>
      <actionsSet>
        <item>
          <code>enable-volume-io</code>
          <eventId> evol-61a54008</eventId>
          <eventType>potential-data-inconsistency</eventType>
          <description>THIS IS AN EXAMPLE</description>
        </item>
```

```
      </actionsSet>
    </item>
    </volumeStatusSet>
</DescribeVolumesStatusResponse>
```

Example

This example describes all the volumes in the `us-east-1d` Availability Zone with `failed` `io-enabled` status.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-1d
&Filter.2.Name=volume-status.details-name
&Filter.2.Value.1=io-enabled
&Filter.3.Name=volume-status.details-status
&Filter.3.Value.1=failed
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcAttribute

Describes the specified attribute of the specified VPC. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The VPC attribute.

Type: String

Valid Values: `enableDnsSupport | enableDnsHostnames`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

enableDnsHostnames

Indicates whether the instances launched in the VPC get DNS hostnames. If this attribute is `true`, instances in the VPC get DNS hostnames; otherwise, they do not.

Type: AttributeBooleanValue (p. 628) object

enableDnsSupport

Indicates whether DNS resolution is enabled for the VPC. If this attribute is `true`, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.

Type: AttributeBooleanValue (p. 628) object

requestId

The ID of the request.

Type: String

vpcId

The ID of the VPC.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the `enableDnsSupport` attribute of the specified VPC. The sample response indicates that DNS resolution is supported.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsSupport
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsSupport>
    <value>true</value>
  </enableDnsSupport>
</DescribeVpcAttributeResponse>
```

Example 2

This request describes the `enableDnsHostnames` attribute of the specified VPC. The sample response indicates that DNS hostnames are supported.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsHostnames
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
   <enableDnsHostnames>
    <value>true</value>
   </enableDnsHostnames>
</DescribeVpcAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcClassicLink

Describes the ClassicLink status of one or more VPCs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `is-classic-link-enabled` - Whether the VPC is enabled for ClassicLink (`true` | `false`).
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: array of Filter (p. 665) objects

Required: No

VpcId.N

One or more VPCs for which you want to describe the ClassicLink status.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpcSet

The ClassicLink status of one or more VPCs.

Type: array of VpcClassicLink (p. 874) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example lists the ClassicLink status of `vpc-88888888`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcClassicLink
&VpcId.1=vpc-88888888
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcClassicLinkResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <vpcSet>
        <item>
            <vpcId>vpc-0441b461</vpcId>
            <classicLinkEnabled>true</classicLinkEnabled>
            <tagSet/>
        </item>
    </vpcSet>
</DescribeVpcClassicLinkResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcClassicLinkDnsSupport

Describes the ClassicLink DNS support status of one or more VPCs. If enabled, the DNS hostname of a linked EC2-Classic instance resolves to its private IP address when addressed from an instance in the VPC to which it's linked. Similarly, the DNS hostname of an instance in a VPC resolves to its private IP address when addressed from a linked EC2-Classic instance. For more information about ClassicLink, see ClassicLink in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Type: Integer

Valid Range: Minimum value of 5. Maximum value of 255.

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

Required: No

VpcIds.N

One or more VPC IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 1024.

requestId

The ID of the request.

Type: String

vpcs

Information about the ClassicLink DNS support status of the VPCs.

Type: array of ClassicLinkDnsSupport (p. 642) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example describes the ClassicLink DNS support status of all of your VPCs.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcClassicLinkDnsSupport
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcClassicLinkDnsSupportResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>14eea823-b88b-472a-9225-5f6a54ab1a5c</requestId>
    <vpcs>
        <item>
            <classicLinkDnsSupported>true</classicLinkDnsSupported>
            <vpcId>vpc-wxy987wz</vpcId>
        </item>
        <item>
            <classicLinkDnsSupported>false</classicLinkDnsSupported>
            <vpcId>vpc-123abc12</vpcId>
        </item>
    </vpcs>
</DescribeVpcClassicLinkDnsSupportResponse>
```

Example

This example describes the ClassicLink DNS support status of vpc-1a2b3c4d.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcClassicLinkDnsSupport
&VpcId.1=vpc-1a2b3c4d
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcEndpoints

Describes one or more of your VPC endpoints.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `service-name`: The name of the AWS service.
- `vpc-id`: The ID of the VPC in which the endpoint resides.
- `vpc-endpoint-id`: The ID of the endpoint.
- `vpc-endpoint-state`: The state of the endpoint. (`pending` | `available` | `deleting` | `deleted`)

Type: array of Filter (p. 665) objects

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Required: No

VpcEndpointId.N

One or more endpoint IDs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String

vpcEndpointSet

Information about the endpoints.

Type: array of VpcEndpoint (p. 875) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all of your endpoints.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcEndpoints
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcEndpointsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <vpcEndpointSet>
        <item>
            <vpcId>vpc-1a2b3c4d</vpcId>
            <state>available</state>
            <routeTableIdSet>
                <item>rtb-123abc12</item>
                <item>rtb-abc123ab</item>
            </routeTableIdSet>
            <vpcEndpointId>vpce-abc12345</vpcEndpointId>
            <creationTimestamp>2015-02-20T15:30:56Z</creationTimestamp>
            <policyDocument>{"Version":"2012-10-17","Statement":
[{"Sid":"","Effect":"Deny","Principal":"*","Action":"*","Resource":"*"}]}</
policyDocument>
            <serviceName>com.amazonaws.us-west-1.s3</serviceName>
        </item>
    </vpcEndpointSet>
    <requestId>176371a7-3307-4516-95eb-example</requestId>
</DescribeVpcEndpointsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcEndpointServices

Describes all supported AWS services that can be specified when creating a VPC endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

MaxResults

The maximum number of items to return for this request. The request returns a token that you can specify in a subsequent call to get the next set of results.

Constraint: If the value is greater than 1000, we return only 1000 items.

Type: Integer

Required: No

NextToken

The token for the next set of items to return. (You received this token from a prior call.)

Type: String

Required: No

Response Elements

The following elements are returned by the service.

nextToken

The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.

Type: String

requestId

The ID of the request.

Type: String

serviceNameSet

A list of supported AWS services.

Type: array of Strings

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes all available endpoint services.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcEndpointServices
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcEndpointServicesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <serviceNameSet>
        <item>com.amazonaws.us-west-2.s3</item>
    </serviceNameSet>
    <requestId>8f7c135a-ceab-4106-b6d5-example</requestId>
</DescribeVpcEndpointServicesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcPeeringConnections

Describes one or more of your VPC peering connections.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `accepter-vpc-info.cidr-block` - The IPv4 CIDR block of the peer VPC.
- `accepter-vpc-info.owner-id` - The AWS account ID of the owner of the peer VPC.
- `accepter-vpc-info.vpc-id` - The ID of the peer VPC.
- `expiration-time` - The expiration date and time for the VPC peering connection.
- `requester-vpc-info.cidr-block` - The IPv4 CIDR block of the requester's VPC.
- `requester-vpc-info.owner-id` - The AWS account ID of the owner of the requester VPC.
- `requester-vpc-info.vpc-id` - The ID of the requester VPC.
- `status-code` - The status of the VPC peering connection (`pending-acceptance` | `failed` | `expired` | `provisioning` | `active` | `deleted` | `rejected`).
- `status-message` - A message that provides more information about the status of the VPC peering connection, if applicable.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-peering-connection-id` - The ID of the VPC peering connection.

Type: array of Filter (p. 665) objects

Required: No

VpcPeeringConnectionId.N

One or more VPC peering connection IDs.

Default: Describes all your VPC peering connections.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

vpcPeeringConnectionSet
Information about the VPC peering connections.
Type: array of VpcPeeringConnection (p. 877) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes all of your VPC peering connections.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcPeeringConnectionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
 <vpcPeeringConnectionSet>
 <item>
  <vpcPeeringConnectionId>pcx-111aaa22</vpcPeeringConnectionId>
    <requesterVpcInfo>
     <ownerId>777788889999</ownerId>
     <vpcId>vpc-1a2b3c4d</vpcId>
     <cidrBlock>172.31.0.0/16</cidrBlock>
    </requesterVpcInfo>
    <accepterVpcInfo>
     <ownerId>123456789012</ownerId>
     <vpcId>vpc-aa22cc33</vpcId>
     <cidrBlock>10.0.0.0/16</cidrBlock>
     <peeringOptions>
        <allowEgressFromLocalClassicLinkToRemoteVpc>false</
allowEgressFromLocalClassicLinkToRemoteVpc>
        <allowEgressFromLocalVpcToRemoteClassicLink>true</
allowEgressFromLocalVpcToRemoteClassicLink>
        <allowDnsResolutionFromRemoteVpc>false</
allowDnsResolutionFromRemoteVpc>
     </peeringOptions>
    </accepterVpcInfo>
     <status>
      <code>active</code>
      <message>Active</message>
     </status>
     <tagSet/>
     </item>
   </vpcPeeringConnectionSet>
```

```
</DescribeVpcPeeringConnectionsResponse>
```

Example 2

This example describes all of your VPC peering connections that are in the `pending-acceptance` state.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=status-code
&Filter.1.Value=pending-acceptance
&AUTHPARAMS
```

Example 3

This example describes all of your VPC peering connections that have the tag `Name=Finance` or `Name=Accounts`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=tag:Name
&Filter.1.Value.1=Finance
&Filter.1.Value.2=Accounts
&AUTHPARAMS
```

Example 4

This example describes all of the VPC peering connections for your specified VPC, `vpc-1a2b3c4d`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=requester-vpc-info.vpc-id
&Filter.1.Value=vpc-1a2b3c4d
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpcs

Describes one or more of your VPCs.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `cidr` - The IPv4 CIDR block of the VPC. The CIDR block you specify must exactly match the VPC's CIDR block for information to be returned for the VPC. Must contain the slash followed by one or two digits (for example, `/28`).
- `dhcp-options-id` - The ID of a set of DHCP options.
- `ipv6-cidr-block-association.ipv6-cidr-block` - An IPv6 CIDR block associated with the VPC.
- `ipv6-cidr-block-association.association-id` - The association ID for an IPv6 CIDR block associated with the VPC.
- `ipv6-cidr-block-association.state` - The state of an IPv6 CIDR block associated with the VPC.
- `isDefault` - Indicates whether the VPC is the default VPC.
- `state` - The state of the VPC (`pending` | `available`).
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `vpc-id` - The ID of the VPC.

Type: array of Filter (p. 665) objects

Required: No

VpcId.N

One or more VPC IDs.

Default: Describes all your VPCs.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpcSet

Information about one or more VPCs.

Type: array of Vpc (p. 870) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcs
&VpcId.1=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DescribeVpcsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcSet>
    <item>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>available</state>
      <cidrBlock>10.0.0.0/23</cidrBlock>
      <ipv6CidrBlockAssociationSet>
        <item>
          <ipv6CidrBlock>2001:db8:1234:1a00::/56</ipv6CidrBlock>
          <associationId>vpc-cidr-assoc-abababab</associationId>
          <ipv6CidrBlockState>
             <state>ASSOCIATED</state>
          </ipv6CidrBlockState>
        </item>
     </ipv6CidrBlockAssociationSet>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <instanceTenancy>default</instanceTenancy>
      <isDefault>false</isDefault>
      <tagSet/>
    </item>
  </vpcSet>
</DescribeVpcsResponse>
```

Example 2

This example uses filters to describe any VPC you own that uses the set of DHCP options with the ID `dopt-7a8b9c2d` or `dopt-2b2a3d3c` and whose state is `available`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpcs
&Filter.1.Name=dhcp-options-id
&Filter.1.Value.1=dopt-7a8b9c2d
&Filter.1.Value.2=dopt-2b2a3d3c
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpnConnections

Describes one or more of your VPN connections.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `customer-gateway-configuration` - The configuration information for the customer gateway.
- `customer-gateway-id` - The ID of a customer gateway associated with the VPN connection.
- `state` - The state of the VPN connection (`pending` | `available` | `deleting` | `deleted`).
- `option.static-routes-only` - Indicates whether the connection has static routes only. Used for devices that do not support Border Gateway Protocol (BGP).
- `route.destination-cidr-block` - The destination CIDR block. This corresponds to the subnet used in a customer data center.
- `bgp-asn` - The BGP Autonomous System Number (ASN) associated with a BGP device.
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `type` - The type of VPN connection. Currently the only supported type is `ipsec.1`.
- `vpn-connection-id` - The ID of the VPN connection.
- `vpn-gateway-id` - The ID of a virtual private gateway associated with the VPN connection.

Type: array of Filter (p. 665) objects

Required: No

VpnConnectionId.N

One or more VPN connection IDs.

Default: Describes your VPN connections.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

vpnConnectionSet
Information about one or more VPN connections.
Type: array of VpnConnection (p. 881) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the specified VPN connection. The response includes the customer gateway configuration information. Because it's a long set of information, we haven't displayed it here. To see an example of the configuration information, see the Amazon Virtual Private Cloud Network Administrator Guide.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&VpnConnectionId.1=vpn-44a8938f
&AUTHPARAMS
```

Sample Response

```
<DescribeVpnConnectionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnConnectionSet>
    <item>
      <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
      <state>available</state>
      <customerGatewayConfiguration>
          ...Customer gateway configuration data in escaped XML format...
      </customerGatewayConfiguration>
      <type>ipsec.1</type>
      <customerGatewayId>cgw-b4dc3961</customerGatewayId>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <tagSet/>
    </item>
  </vpnConnectionSet>
</DescribeVpnConnectionsResponse>
```

Example 2

This example describes any VPN connection you own that is associated with the customer gateway with ID cgw-b4dc3961, and whose state is either `pending` or `available`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpnConnections
```

```
&Filter.1.Name=customer-gateway-id
&Filter.1.Value.1=cgw-b4dc3961
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DescribeVpnGateways

Describes one or more of your virtual private gateways.

For more information about virtual private gateways, see Adding an IPsec Hardware VPN to Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Filter.N

One or more filters.

- `attachment.state` - The current state of the attachment between the gateway and the VPC (`attaching` | `attached` | `detaching` | `detached`).
- `attachment.vpc-id` - The ID of an attached VPC.
- `availability-zone` - The Availability Zone for the virtual private gateway (if applicable).
- `state` - The state of the virtual private gateway (`pending` | `available` | `deleting` | `deleted`).
- `tag`:*key*=*value* - The key/value combination of a tag assigned to the resource. Specify the key of the tag in the filter name and the value of the tag in the filter value. For example, for the tag Purpose=X, specify `tag:Purpose` for the filter name and `X` for the filter value.
- `tag-key` - The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag`:*key*=*value* filter.
- `tag-value` - The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.
- `type` - The type of virtual private gateway. Currently the only supported type is `ipsec.1`.
- `vpn-gateway-id` - The ID of the virtual private gateway.

Type: array of Filter (p. 665) objects

Required: No

VpnGatewayId.N

One or more virtual private gateway IDs.

Default: Describes all your virtual private gateways.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

vpnGatewaySet

Information about one or more virtual private gateways.

Type: array of VpnGateway (p. 885) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example describes the specified virtual private gateway.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&VpnGatewayId.1=vgw-8db04f81
&AUTHPARAMS
```

Sample Response

```
<DescribeVpnGatewaysResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGatewaySet>
    <item>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <state>available</state>
      <type>ipsec.1</type>
      <availabilityZone>us-east-1a</availabilityZone>
      <attachments>
        <item>
          <vpcId>vpc-1a2b3c4d</vpcId>
          <state>attached</state>
        </item>
      </attachments>
      <tagSet/>
    </item>
  </vpnGatewaySet>
</DescribeVpnGatewaysResponse>
```

Example 2

This example uses filters to describe any virtual private gateway you own whose state is either `pending` or `available`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&Filter.1.Name=state
&Filter.1.Value.1=pending
&Filter.1.Value.2=available
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DetachClassicLinkVpc

Unlinks (detaches) a linked EC2-Classic instance from a VPC. After the instance has been unlinked, the VPC security groups are no longer associated with it. An instance is automatically unlinked from a VPC when it's stopped.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId
The ID of the instance to unlink from the VPC.

Type: String

Required: Yes

VpcId
The ID of the VPC to which the instance is linked.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.

Type: String

return
Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example unlinks instance `i-0598c7d356eba48d7` from VPC `vpc-88888888`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DetachClassicLinkVpc
&VpcId=vpc-88888888
&InstanceId=i-0598c7d356eba48d7
&AUTHPARAMS
```

Sample Response

```
<DetachClassicLinkVpcResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DetachClassicLinkVpcResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DetachInternetGateway

Detaches an Internet gateway from a VPC, disabling connectivity between the Internet and the VPC. The VPC must not contain any running instances with Elastic IP addresses.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InternetGatewayId

The ID of the Internet gateway.

Type: String

Required: Yes

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

The example detaches the specified Internet gateway from the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DetachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-11ad4878
&AUTHPARAMS
```

Sample Response

```
<DetachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DetachInternetGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DetachNetworkInterface

Detaches a network interface from an instance.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AttachmentId

The ID of the attachment.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Force

Specifies whether to force a detachment.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example detaches the specified elastic network interface (ENI).

Sample Request

```
https://ec2.amazonaws.com/?Action=DetachNetworkInterface
&AttachmentId=eni-attach-d94b09b0
&AUTHPARAMS
```

Sample Response

```
<DetachNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>ce540707-0635-46bc-97da-33a8a362a0e8</requestId>
    <return>true</return>
</DetachNetworkInterfaceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DetachVolume

Detaches an EBS volume from an instance. Make sure to unmount any file systems on the device within your operating system before detaching the volume. Failure to do so can result in the volume becoming stuck in the `busy` state while detaching. If this happens, detachment can be delayed indefinitely until you unmount the volume, force detachment, reboot the instance, or all three. If an EBS volume is the root device of an instance, it can't be detached while the instance is running. To detach the root volume, stop the instance first.

When a volume with an AWS Marketplace product code is detached from an instance, the product code is no longer associated with the instance.

For more information, see Detaching an Amazon EBS Volume in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Device

The device name.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Force

Forces detachment if the previous detachment attempt did not occur cleanly (for example, logging into an instance, unmounting the volume, and detaching normally). This option can lead to data loss or a corrupted file system. Use this option only as a last resort to detach a volume from a failed instance. The instance won't have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

attachTime

The time stamp when the attachment initiated.

Type: Timestamp

deleteOnTermination
Indicates whether the EBS volume is deleted on instance termination.
Type: Boolean

device
The device name.
Type: String

instanceId
The ID of the instance.
Type: String

requestId
The ID of the request.
Type: String

status
The attachment state of the volume.
Type: String
Valid Values: `attaching | attached | detaching | detached`

volumeId
The ID of the volume.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example detaches volume `vol-1234567890abcdef0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DetachVolume
&VolumeId=vol-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<DetachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <volumeId>vol-1234567890abcdef0</volumeId>
   <instanceId>i-1234567890abcdef0</instanceId>
   <device>/dev/sdh</device>
   <status>detaching</status>
   <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</DetachVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DetachVpnGateway

Detaches a virtual private gateway from a VPC. You do this if you're planning to turn off the VPC and not use it anymore. You can confirm a virtual private gateway has been completely detached from a VPC by describing the virtual private gateway (any attachments to the virtual private gateway are also described).

You must wait for the attachment's state to switch to `detached` before you can delete the VPC or attach a different VPC to the virtual private gateway.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example detaches the specified virtual private gateway from the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DetachVpnGateway
```

```
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<DetachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DetachVpnGatewayResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisableVgwRoutePropagation

Disables a virtual private gateway (VGW) from propagating routes to a specified route table of a VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

GatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disables the virtual private gateway `vgw-d8e09e8a` from automatically propagating routes to the route table with ID `rtb-c98a35a0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisableVgwRoutePropagationResponse
&RouteTableID=rtb-c98a35a0
&GatewayId= vgw-d8e09e8a
&AUTHPARAMS
```

Sample Response

```
<DisableVgwRoutePropagationResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
```

```
</DisableVgwRoutePropagationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisableVpcClassicLink

Disables ClassicLink for a VPC. You cannot disable ClassicLink for a VPC that has EC2-Classic instances linked to it.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

VpcId
The ID of the VPC.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Returns `true` if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disables ClassicLink for `vpc-8888888`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisableVpcClassicLink
&VpcId=vpc-8888888
&AUTHPARAMS
```

Sample Response

```
<DisableVpcClassicLinkResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
   <return>true</return>
</DisableVpcClassicLinkResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisableVpcClassicLinkDnsSupport

Disables ClassicLink DNS support for a VPC. If disabled, DNS hostnames resolve to public IP addresses when addressed between a linked EC2-Classic instance and instances in the VPC to which it's linked. For more information about ClassicLink, see ClassicLink in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

VpcId

The ID of the VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disables ClassicLink DNS support for `vpc-8888888`.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisableVpcClassicLinkDnsSupport
&VpcId=vpc-8888888
&AUTHPARAMS
```

Sample Response

```
<DisableVpcClassicLinkDnsSupportResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisableVpcClassicLinkDnsSupportResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateAddress

Disassociates an Elastic IP address from the instance or network interface it's associated with.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the *Amazon Elastic Compute Cloud User Guide*.

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

[EC2-VPC] The association ID. Required for EC2-VPC.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PublicIp

[EC2-Classic] The Elastic IP address. Required for EC2-Classic.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example disassociates the specified Elastic IP address from the instance in EC2-Classic to which it is associated.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateAddress
```

```
&PublicIp=192.0.2.1
&AUTHPARAMS
```

Example for EC2-VPC

This example disassociates the specified Elastic IP address from the instance in a VPC to which it is associated.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateAddress
&AssociationId=eipassoc-aa7486c3
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateIamInstanceProfile

Disassociates an IAM instance profile from a running or stopped instance.

Use DescribeIamInstanceProfileAssociations (p. 262) to get the association ID.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The ID of the IAM instance profile association.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

iamInstanceProfileAssociation

Information about the IAM instance profile association.

Type: IamInstanceProfileAssociation (p. 678) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disassociates the specified IAM instance profile association.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateIamInstanceProfile
&AssociationId=iip-assoc-08049da59357d598c
&AUTHPARAMS
```

Sample Response

```
<DisassociateIamInstanceProfileResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>4840f938-fc84-4791-8ae5-example</requestId>
    <iamInstanceProfileAssociation>
        <associationId>iip-assoc-08049da59357d598c</associationId>
        <iamInstanceProfile>
            <arn>arn:aws:iam::123456789012:instance-profile/AdminProfile</
arn>
            <id>AIPAI5IVIHMFFYY2DKV5Y</id>
        </iamInstanceProfile>
```

```
        <instanceId>i-1234567890abcdef0</instanceId>
        <state>disassociating</state>
    </iamInstanceProfileAssociation>
</DisassociateIamInstanceProfileResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateRouteTable

Disassociates a subnet from a route table.

After you perform this action, the subnet no longer uses the routes in the route table. Instead, it uses the routes in the VPC's main route table. For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId
The association ID representing the current association between the route table and subnet.
Type: String
Required: Yes

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disassociates the specified route table from the subnet it's associated to.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateRouteTable
&AssociationId=rtbassoc-fdad4894
&AUTHPARAMS
```

Sample Response

```
<DisassociateRouteTableResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DisassociateRouteTableResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateSubnetCidrBlock

Disassociates a CIDR block from a subnet. Currently, you can disassociate an IPv6 CIDR block only. You must detach or delete all gateways and resources that are associated with the CIDR block before you can disassociate it.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The association ID for the CIDR block.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: SubnetIpv6CidrBlockAssociation (p. 846) object

requestId

The ID of the request.

Type: String

subnetId

The ID of the subnet.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disassociates the IPv6 CIDR block from the subnet.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateSubnetCidrBlock
&AssociationId=subnet-cidr-assoc-3aa54053
&AUTHPARAMS
```

Sample Response

```
<DisassociateSubnetCidrBlockResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <subnetId>subnet-5f46ec3b</subnetId>
    <ipv6CidrBlockAssociation>
        <ipv6CidrBlock>2001:db8:1234:1a00::/64</ipv6CidrBlock>
```

```
        <ipv6CidrBlockState>
            <state>disassociating</state>
        </ipv6CidrBlockState>
        <associationId>subnet-cidr-assoc-3aa54053</associationId>
    </ipv6CidrBlockAssociation>
</DisassociateSubnetCidrBlockResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

DisassociateVpcCidrBlock

Disassociates a CIDR block from a VPC. Currently, you can disassociate an IPv6 CIDR block only. You must detach or delete all gateways and resources that are associated with the CIDR block before you can disassociate it.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The association ID for the CIDR block.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

ipv6CidrBlockAssociation

Information about the IPv6 CIDR block association.

Type: VpcIpv6CidrBlockAssociation (p. 876) object

requestId

The ID of the request.

Type: String

vpcId

The ID of the VPC.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disassociates the IPv6 CIDR block from the VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=DisassociateVpcCidrBlock
&AssociationId=vpc-cidr-assoc-e2a5408b
&AUTHPARAMS
```

Sample Response

```
<DisassociateVpcCidrBlockResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <ipv6CidrBlockAssociation>
        <ipv6CidrBlock>2001:db8:1234:1a00::/56</ipv6CidrBlock>
        <ipv6CidrBlockState>
```

```
            <state>disassociating</state>
        </ipv6CidrBlockState>
        <associationId>vpc-cidr-assoc-e2a5408b</associationId>
    </ipv6CidrBlockAssociation>
    <vpcId>vpc-a034d6c4</vpcId>
</DisassociateVpcCidrBlockResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableVgwRoutePropagation

Enables a virtual private gateway (VGW) to propagate routes to the specified route table of a VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

GatewayId

The ID of the virtual private gateway.

Type: String

Required: Yes

RouteTableId

The ID of the route table.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables the specified virtual private gateway to propagate routes automatically to the route table with the ID `rtb-c98a35a0`.

Sample Request

```
https://ec2.amazonaws.com/?Action=EnableVgwRoutePropagation
&RouteTableID=rtb-c98a35a0
&GatewayId= vgw-d8e09e8a
&AUTHPARAMS
```

Sample Response

```
<EnableVgwRoutePropagation xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</EnableVgwRoutePropagation>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableVolumeIO

Enables I/O operations for a volume that had I/O operations disabled because the data on the volume was potentially inconsistent.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables the I/O operations of the volume vol-8888888.

Sample Request

```
https://ec2.amazonaws.com/?Action=EnableVolumeIO
&VolumeId= vol-8888888
&AUTHPARAMS
```

Sample Response

```
<EnableVolumeIOResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
```

```
</EnableVolumeIOResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableVpcClassicLink

Enables a VPC for ClassicLink. You can then link EC2-Classic instances to your ClassicLink-enabled VPC to allow communication over private IP addresses. You cannot enable your VPC for ClassicLink if any of your VPC's route tables have existing routes for address ranges within the `10.0.0.0/8` IP address range, excluding local routes for VPCs in the `10.0.0.0/16` and `10.1.0.0/16` IP address ranges. For more information, see ClassicLink in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables `vpc-8888888` for ClassicLink.

Sample Request

```
https://ec2.amazonaws.com/?Action=EnableVpcClassicLink
&VpcId=vpc-8888888
&AUTHPARAMS
```

Sample Response

```
<EnableVpcClassicLinkResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</EnableVpcClassicLinkResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

EnableVpcClassicLinkDnsSupport

Enables a VPC to support DNS hostname resolution for ClassicLink. If enabled, the DNS hostname of a linked EC2-Classic instance resolves to its private IP address when addressed from an instance in the VPC to which it's linked. Similarly, the DNS hostname of an instance in a VPC resolves to its private IP address when addressed from a linked EC2-Classic instance. For more information about ClassicLink, see ClassicLink in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

VpcId

The ID of the VPC.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables `vpc-8888888` for ClassicLink DNS support.

Sample Request

```
https://ec2.amazonaws.com/?Action=EnableVpcClassicLinkDnsSupport
&VpcId=vpc-8888888
&AUTHPARAMS
```

Sample Response

```
<EnableVpcClassicLinkDnsSupportResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</EnableVpcClassicLinkDnsSupportResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetConsoleOutput

Gets the console output for the specified instance.

Instances do not have a physical monitor through which you can view their console output. They also lack physical controls that allow you to power up, reboot, or shut them down. To allow these actions, we provide them through the Amazon EC2 API and command line interface.

Instance console output is buffered and posted shortly after instance boot, reboot, and termination. Amazon EC2 preserves the most recent 64 KB output which is available for at least one hour after the most recent post.

For Linux instances, the instance console output displays the exact console output that would normally be displayed on a physical monitor attached to a computer. This output is buffered because the instance produces it and then posts it to a store where the instance's owner can retrieve it.

For Windows instances, the instance console output includes output from the EC2Config service.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

instanceId

The ID of the instance.

Type: String

output

The console output, Base64-encoded. If using a command line tool, the tool decodes the output for you.

Type: String

requestId

The ID of the request.

Type: String

timestamp

The time the output was last updated.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example retrieves the console output for the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=GetConsoleOutput
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<GetConsoleOutputResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>

 <output>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKGdj
YyB2ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IChSZWQgSGF0IDQuMC4xLTUpKSAjMSBTTVAgVGh1IE9j
dCAyNiAwODo0MToyNiBTQVNUIDIwMDYKQklPUy1wcm92aWRlZCBwaHlzaWNhbCBSQU0gbWFwOgpY
ZW46IDAwMDAwMDAwMDAwMDAwMDAgLSAwMDAwMDAwMDZhNDAwMDAwICh1c2FibGUpCjk4ME1CIEhJ
R0hNRU0gYXZhaWxhYmxlLgo3MjdNQiBMT1dNRU0gYXZhaWxhYmxlLgpOWCAoRXhlY3V0ZSBEaXNh
YmxlKSBwcm90ZWN0aW9uOiBhY3RpdmUKSVJRIGxvY2t1cCBkZXRlY3Rpb24gZGlzYWJsZWQKQnVp
bHQgMSB6b25lbGlzdHMKS2VybmVsIGNvbW1hbmQgbGluZTogcm9vdD0vZGV2L3NkYTEgcm8gNApF
bmFibGluZyBmYXN0IEZQVSBzYXZlIGFuZCByZXN0b3JlLi4uIGRvbmUuCg==</output>
</GetConsoleOutputResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetConsoleScreenshot

Retrieve a JPG-format screenshot of a running instance to help with troubleshooting.

The returned content is Base64-encoded.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId
The ID of the instance.

Type: String

Required: Yes

WakeUp
When set to `true`, acts as keystroke input and wakes up an instance that's in standby or "sleep" mode.

Type: Boolean

Required: No

Response Elements

The following elements are returned by the service.

imageData
The data that comprises the image.

Type: String

instanceId
The ID of the instance.

Type: String

requestId
The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example returns the image data of a successful request.

Sample Request

```
https://ec2.amazonaws.com/?Action=GetConsoleScreenshot
```

```
&InstanceId=i-0598c7d356eba48d7
&AUTHPARAMS
```

Sample Response

```
<GetConsoleScreenshot xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagedata>997987/8kgj49ikjhewkwwe0008084EXAMPLE</imagedata>
  <instanceId>i-765950</instanceId>
</GetConsoleScreenshotResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetHostReservationPurchasePreview

Preview a reservation purchase with configurations that match those of your Dedicated Host. You must have active Dedicated Hosts in your account before you purchase a reservation.

This is a preview of the PurchaseHostReservation (p. 538) action and does not result in the offering being purchased.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

HostIdSet.N

The ID/s of the Dedicated Host/s that the reservation will be associated with.

Type: array of Strings

Required: Yes

OfferingId

The offering ID of the reservation.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

currencyCode

The currency in which the `totalUpfrontPrice` and `totalHourlyPrice` amounts are specified. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

purchase

The purchase information of the Dedicated Host Reservation and the Dedicated Hosts associated with it.

Type: array of Purchase (p. 763) objects

requestId

The ID of the request.

Type: String

totalHourlyPrice

The potential total hourly price of the reservation per hour.

Type: String

totalUpfrontPrice

The potential total upfront price. This is billed immediately.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example is a preview of the reservation that will be purchased.

Sample Request

```
https://ec2.amazonaws.com/?Action=GetHostReservationPurchasePreview
&OfferingId=hro-0eb3541dght849c2d
&HostIdSet=h-0fgr9ddb0ecd0a1cd
&AUTHPARAMS
```

Sample Response

```
<GetHostReservationPurchasePreviewResult xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>d4904fd9-84c3-4967-gtyk-a9983EXAMPLE</requestId>
        <purchase>
            <item>
                <duration>31536000</duration>
                <upfrontPrice>7453.000</upfrontPrice>
                <paymentOption>PartialUpfront</paymentOption>
                <instanceFamily>m4</instanceFamily>
                <hourlyPrice>0.850</hourlyPrice>
                <hostIdSet>
                    <item>h-0fgr9ddb0ecd0a1cd</item>
                </hostIdSet>
            </item>
       </purchase>
       <totalHourlyPrice>0.850<totalHourlyPrice>
       <totalUpfrontPrice>7453.000<totalUpfrontPrice>
</GetHostReservationPurchasePreviewResult>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetPasswordData

Retrieves the encrypted administrator password for an instance running Windows.

The Windows password is generated at boot if the `EC2Config` service plugin, `Ec2SetPassword`, is enabled. This usually only happens the first time an AMI is launched, and then `Ec2SetPassword` is automatically disabled. The password is not generated for rebundled AMIs unless `Ec2SetPassword` is enabled before bundling.

The password is encrypted using the key pair that you specified when you launched the instance. You must provide the corresponding key pair file.

Password generation and encryption takes a few moments. We recommend that you wait up to 15 minutes after launching an instance before trying to retrieve the generated password.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the Windows instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

instanceId

The ID of the Windows instance.

Type: String

passwordData

The password of the instance.

Type: String

requestId

The ID of the request.

Type: String

timestamp

The time the data was last updated.

Type: Timestamp

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example returns the encrypted version of the administrator password for the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=GetPasswordData
&InstanceId=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<GetPasswordDataResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-1234567890abcdef0</instanceId>
  <timestamp>2009-10-24 15:00:00</timestamp>

 <passwordData>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKGdj
passwordData>
</GetPasswordDataResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

GetReservedInstancesExchangeQuote

Returns details about the values and term of your specified Convertible Reserved Instances. When a target configuration is specified, it returns information about whether the exchange is valid and can be performed.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

ReservedInstanceId.N
The IDs of the Convertible Reserved Instances to exchange.

Type: array of Strings

Required: Yes

TargetConfiguration.N
The configuration requirements of the Convertible Reserved Instances to exchange for your current Convertible Reserved Instances.

Type: array of TargetConfigurationRequest (p. 850) objects

Required: No

Response Elements

The following elements are returned by the service.

currencyCode
The currency of the transaction.

Type: String

isValidExchange
If `true`, the exchange is valid. If `false`, the exchange cannot be completed.

Type: Boolean

outputReservedInstancesWillExpireAt
The new end date of the reservation term.

Type: Timestamp

paymentDue
The total true upfront charge for the exchange.

Type: String

requestId
The ID of the request.

Type: String

reservedInstanceValueRollup
The cost associated with the Reserved Instance.

Type: ReservationValue (p. 771) object

reservedInstanceValueSet
The configuration of your Convertible Reserved Instances.

Type: array of ReservedInstanceReservationValue (p. 773) objects

targetConfigurationValueRollup
The cost associated with the Reserved Instance.
Type: ReservationValue (p. 771) object

targetConfigurationValueSet
The values of the target Convertible Reserved Instances.
Type: array of TargetReservationValue (p. 851) objects

validationFailureReason
Describes the reason why the exchange cannot be completed.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example describes the output of requesting whether a potential exchange is valid.

Sample Request

```
https://ec2.amazonaws.com/?Action=GetReservedInstancesExchangeQuote
&ReservedInstanceId=649fd0c8-7768-46b8-8f84-a6400EXAMPLE
&TargetConfiguration.N.1.OfferingId=24167194-6541-4041-9e31-bc7c5984aa53
&AUTHPARAMS
```

Sample Response

```
<GetReservedInstancesExchangeQuoteResponse>
  <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
  <outputReservedInstancesWillExpireAt>2019-05-17T12:32:53Z</
outputReservedInstancesWillExpireAt>
  <reservedInstanceValueSet>
    <item>
        <reservedInstancesId>649fd0c8-7768-46b8-8f84-a6400EXAMPLE</
reservedInstanceId>
        <reservationValue>
            <remainingTotalValue>98.048402</remainingTotalValue>
            <hourlyPrice>0.018000</hourlyPrice>
            <remainingUpfrontValue>631.0</remainingUpfrontValue>
        </reservationValue>
    </item>
  </reservedInstanceValueSet>
  <targetConfigurationValueSet>
  <isValidExchange>false</isValidExchange>
  <paymentDue>-448.416438</paymentDue>
  <targetConfigurationValueRollup>
          <remainingTotalValue>0</remainingTotalValue>
          <hourlyPrice>0</hourlyPrice>
          <remainingUpfrontValue>0</remainingUpfrontValue>
  <targetConfigurationValueRollup>
  <reservedInstanceValueRollup>
          <remainingTotalValue>873.504438</remainingTotalValue>
```

```
          <hourlyPrice>0.018000</hourlyPrice>
          <remainingUpfrontValue>448.416438</remainingUpfrontValue>
  </reservedInstanceValueRollup>
  <currencyCode>USD</currencyCode>
  <validationFailureReason>The target configuration value is less than the
 input</validationFailureReason>
</GetReservedInstancesExchangeQuoteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ImportImage

Import single or multi-volume disk images or EBS snapshots into an Amazon Machine Image (AMI). For more information, see Importing a VM as an Image Using VM Import/Export in the *VM Import/Export User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Architecture

The architecture of the virtual machine.

Valid values: `i386` | `x86_64`

Type: String

Required: No

ClientData

The client-specific data.

Type: ClientData (p. 644) object

Required: No

ClientToken

The token to enable idempotency for VM import requests.

Type: String

Required: No

Description

A description string for the import image task.

Type: String

Required: No

DiskContainer.N

Information about the disk containers.

Type: array of ImageDiskContainer (p. 685) objects

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Hypervisor

The target hypervisor platform.

Valid values: `xen`

Type: String

Required: No

LicenseType

The license type to be used for the Amazon Machine Image (AMI) after importing.

Note: You may only use BYOL if you have existing licenses with rights to use these licenses in a third party cloud like AWS. For more information, see Prerequisites in the VM Import/Export User Guide.

Valid values: `AWS` | `BYOL`

Type: String

Required: No

Platform
The operating system of the virtual machine.
Valid values: `Windows` | `Linux`
Type: String
Required: No

RoleName
The name of the role to use when not using the default role, 'vmimport'.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

architecture
The architecture of the virtual machine.
Type: String

description
A description of the import task.
Type: String

hypervisor
The target hypervisor of the import task.
Type: String

imageId
The ID of the Amazon Machine Image (AMI) created by the import task.
Type: String

importTaskId
The task ID of the import image task.
Type: String

licenseType
The license type of the virtual machine.
Type: String

platform
The operating system of the virtual machine.
Type: String

progress
The progress of the task.
Type: String

requestId
The ID of the request.
Type: String

snapshotDetailSet
Information about the snapshots.
Type: array of SnapshotDetail (p. 818) objects

status
A brief status of the task.
Type: String

statusMessage
A detailed status message of the import task.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ImportInstance

Creates an import instance task using metadata from the specified disk image. `ImportInstance` only supports single-volume VMs. To import multi-volume VMs, use ImportImage (p. 482). For more information, see Importing a Virtual Machine Using the Amazon EC2 CLI.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description

A description for the instance being imported.

Type: String

Required: No

DiskImage.N

The disk image.

Type: array of DiskImage (p. 651) objects

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

LaunchSpecification

The launch specification.

Type: ImportInstanceLaunchSpecification (p. 688) object

Required: No

Platform

The instance operating system.

Type: String

Valid Values: `Windows`

Required: Yes

Response Elements

The following elements are returned by the service.

conversionTask

Information about the conversion task.

Type: ConversionTask (p. 645) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates an import instance task that migrates a Windows Server 2008 SP2 (32-bit) VM into the AWS `us-east-1` region.

Sample Request

```
https://ec2.amazonaws.com/?Action=ImportInstance
&LaunchSpecification.Architecture=x86_64
&LaunchSpecification.InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
&DiskImage.1.Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&
Signature=5snej01TlTtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

Sample Response

```
<ImportInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <conversionTask>
    <conversionTaskId>import-i-ffvko9js</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
    <importInstance>
       <volumes>
          <item>
             <bytesConverted>0</bytesConverted>
             <availabilityZone>us-east-1a</availabilityZone>
             <image>
                <format>VMDK</format>
                <size>1179593728</size>
                <importManifestUrl>
                 https://s3.amazonaws.com/myawsbucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&
Signature=5snej01TlTtL0uR7KExtEXAMPLE%3D
                </importManifestUrl>
             </image>
             <description/>
             <volume>
                <size>12</size>
                <id>vol-1234567890abcdef0</id>
             </volume>
             <status>active</status>
             <statusMessage/>
          </item>
       </volumes>
       <instanceId>i-1234567890abcdef0</instanceId>
       <description/>
    </importInstance>
  </conversionTask>
</ImportInstanceResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ImportKeyPair

Imports the public key from an RSA key pair that you created with a third-party tool. Compare this with CreateKeyPair (p. 107), in which AWS creates the key pair and gives the keys to you (AWS keeps a copy of the public key). With ImportKeyPair, you create the key pair and give AWS just the public key. The private key is never transferred between you and AWS.

For more information about key pairs, see Key Pairs in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

KeyName

A unique name for the key pair.

Type: String

Required: Yes

PublicKeyMaterial

The public key. For API calls, the text must be base64-encoded. For command line tools, base64 encoding is performed for you.

Type: Base64-encoded binary data object

Required: Yes

Response Elements

The following elements are returned by the service.

keyFingerprint

The MD5 public key fingerprint as specified in section 4 of RFC 4716.

Type: String

keyName

The key pair name you provided.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example imports the public key named my-key-pair.

Sample Request

```
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=my-key-pair
&PublicKeyMaterial=MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD
VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z
b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
rDHudUZg3qX4waLG5M43q7Wgc/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE
Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb
FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE
&AUTHPARAMS
```

Sample Response

```
<ImportKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
 <keyName>my-key-pair</keyName>
 <keyFingerprint>1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f</
keyFingerprint>
</ImportKeyPairResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ImportSnapshot

Imports a disk into an EBS snapshot.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientData
The client-specific data.
Type: ClientData (p. 644) object
Required: No

ClientToken
Token to enable idempotency for VM import requests.
Type: String
Required: No

Description
The description string for the import snapshot task.
Type: String
Required: No

DiskContainer
Information about the disk container.
Type: SnapshotDiskContainer (p. 820) object
Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

RoleName
The name of the role to use when not using the default role, 'vmimport'.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

description
A description of the import snapshot task.
Type: String

importTaskId
The ID of the import snapshot task.
Type: String

requestId
The ID of the request.
Type: String

snapshotTaskDetail
Information about the import snapshot task.

Type: SnapshotTaskDetail (p. 821) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ImportVolume

Creates an import volume task using metadata from the specified disk image.For more information, see Importing Disks to Amazon EBS.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZone

The Availability Zone for the resulting EBS volume.

Type: String

Required: Yes

Description

A description of the volume.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Image

The disk image.

Type: DiskImageDetail (p. 653) object

Required: Yes

Volume

The volume size.

Type: VolumeDetail (p. 862) object

Required: Yes

Response Elements

The following elements are returned by the service.

conversionTask

Information about the conversion task.

Type: ConversionTask (p. 645) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates an import volume task that migrates a Windows Server 2008 SP2 (32-bit) volume into the AWS `us-east-1` region.

Sample Request

```
https://ec2.amazonaws.com/?Action=ImportVolume
&AvailabilityZone=us-east-1c
&Image.Format=VMDK
&Image.Bytes=128696320
&Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&
Signature=5snej01TlTtL0uR7KExtEXAMPLE%3D
&VolumeSize=8
&AUTHPARAMS>
```

Sample Response

```
<ImportVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <conversionTask>
     <conversionTaskId>import-i-fh95npoc</conversionTaskId>
     <expirationTime>2010-12-22T12:01Z</expirationTime>
     <importVolume>
        <bytesConverted>0</bytesConverted>
        <availabilityZone>us-east-1c</availabilityZone>
        <description/>
        <image>
            <format>VDMK</format>
            <size>128696320</size>
            <importManifestUrl>
               https://s3.amazonaws.com/myawsbucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&
Signature=5snej01TlTtL0uR7KExtEXAMPLE%3D
            </importManifestUrl>
            <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
        </image>
        <volume>
           <size>8</size>
           <id>vol-1234567890abcdef0</id>
        </volume>
     </importVolume>
     <state>active</state>
     <statusMessage/>
  </conversionTask>
</ImportVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyHosts

Modify the auto-placement setting of a Dedicated Host. When auto-placement is enabled, AWS will place instances that you launch with a tenancy of `host`, but without targeting a specific host ID, onto any available Dedicated Host in your account which has auto-placement enabled. When auto-placement is disabled, you need to provide a host ID if you want the instance to launch onto a specific host. If no host ID is provided, the instance will be launched onto a suitable host which has auto-placement enabled.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AutoPlacement

Specify whether to enable or disable auto-placement.

Type: String

Valid Values: `on | off`

Required: Yes

HostId.N

The host IDs of the Dedicated Hosts you want to modify.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successful

The IDs of the Dedicated Hosts that were successfully modified.

Type: array of Strings

unsuccessful

The IDs of the Dedicated Hosts that could not be modified. Check whether the setting you requested can be used.

Type: array of UnsuccessfulItem (p. 852) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables the auto-placement setting on a Dedicated Host.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyHosts
&AutoPlacement=on
```

```
&HostId=h-00548908djdsgfs
&AUTHPARAMS
```

Sample Response

```
<ModifyHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
                  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
                     <unsuccessful/>
                     <successful>
                         <item>h-00548908djdsgfs</item>
                     </successful>
</ModifyHostsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyIdentityIdFormat

Modifies the ID format of a resource for a specified IAM user, IAM role, or the root user for an account; or all IAM users, IAM roles, and the root user for an account. You can specify that resources should receive longer IDs (17-character IDs) when they are created.

The following resource types support longer IDs: `instance` | `reservation` | `snapshot` | `volume`. For more information, see Resource IDs in the *Amazon Elastic Compute Cloud User Guide*.

This setting applies to the principal specified in the request; it does not apply to the principal that makes the request.

Resources created with longer IDs are visible to all IAM roles and users, regardless of these settings and provided that they have permission to use the relevant `Describe` command for the resource type.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

PrincipalArn

The ARN of the principal, which can be an IAM user, IAM role, or the root user. Specify `all` to modify the ID format for all IAM users, IAM roles, and the root user of the account.

Type: String

Required: Yes

Resource

The type of resource: `instance` | `reservation` | `snapshot` | `volume`

Type: String

Required: Yes

UseLongIds

Indicates whether the resource should use longer IDs (17-character IDs)

Type: Boolean

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example sets the UseLongIds parameter to true for instances launched by the IAM role 'EC2Role'. Instances launched by the IAM role receive longer IDs.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyIdentityFormat
&Resource=instance
&UseLongIds=true
&PrincipalArn=arn:aws:iam::123456789012:role/EC2Role
&AUTHPARAMS
```

Sample Response

```
<ModifyIdentityIdFormatResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>92c1af09-cb4c-410e-8a96-example</requestId>
  <return>true</return>
</ModifyIdentityIdFormatResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyIdFormat

Modifies the ID format for the specified resource on a per-region basis. You can specify that resources should receive longer IDs (17-character IDs) when they are created. The following resource types support longer IDs: `instance` | `reservation` | `snapshot` | `volume`.

This setting applies to the IAM user who makes the request; it does not apply to the entire AWS account. By default, an IAM user defaults to the same settings as the root user. If you're using this action as the root user, then these settings apply to the entire account, unless an IAM user explicitly overrides these settings for themselves. For more information, see Resource IDs in the *Amazon Elastic Compute Cloud User Guide*.

Resources created with longer IDs are visible to all IAM roles and users, regardless of these settings and provided that they have permission to use the relevant `Describe` command for the resource type.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Resource

The type of resource: `instance` | `reservation` | `snapshot` | `volume`

Type: String

Required: Yes

UseLongIds

Indicate whether the resource should use longer IDs (17-character IDs).

Type: Boolean

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example sets the UseLongIds parameter to true for instances, so that instances you launch receive longer IDs.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyIdFormat
&Resource=instance
&UseLongIds=true
```

```
&AUTHPARAMS
```

Sample Response

```
<ModifyIdFormatResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>92c1af09-cb4c-410e-8a96-example</requestId>
    <return>true</return>
</ModifyIdFormatResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyImageAttribute

Modifies the specified attribute of the specified AMI. You can specify only one attribute at a time.

Note
AWS Marketplace product codes cannot be modified. Images with an AWS Marketplace product code cannot be made public.

Note
The SriovNetSupport enhanced networking attribute cannot be changed using this command. Instead, enable SriovNetSupport on an instance and create an AMI from the instance. This will result in an image with SriovNetSupport enabled.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute
The name of the attribute to modify.
Type: String
Required: No

Description
A description for the AMI.
Type: AttributeValue (p. 629) object
Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

ImageId
The ID of the AMI.
Type: String
Required: Yes

LaunchPermission
A launch permission modification.
Type: LaunchPermissionModifications (p. 728) object
Required: No

OperationType
The operation type.
Type: String
Valid Values: `add | remove`
Required: No

ProductCode.N
One or more product codes. After you add a product code to an AMI, it can't be removed. This is only valid when modifying the `productCodes` attribute.
Type: array of Strings
Required: No

UserGroup.N
One or more user groups. This is only valid when modifying the `launchPermission` attribute.

Type: array of Strings

Required: No

UserId.N

One or more AWS account IDs. This is only valid when modifying the `launchPermission` attribute.

Type: array of Strings

Required: No

Value

The value of the attribute being modified. This is only valid when modifying the `description` attribute.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example makes the AMI public (for example, so any AWS account can use it).

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Add.1.Group=all
&AUTHPARAMS
```

Sample Response

```
<ModifyImageAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyImageAttributeResponse>
```

Example 2

This example makes the AMI private (for example, so that only you as the owner can use it).

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Remove.1.Group=all
&AUTHPARAMS
```

Example 3

This example grants launch permission to the AWS account with ID `111122223333`.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Add.1.UserId=111122223333
&AUTHPARAMS
```

Example 4

This example adds the `774F4FF8` product code to the `ami-61a54008` AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&ProductCode.1=774F4FF8
&AUTHPARAMS
```

Example 5

This example changes the description of the AMI to `New Description`.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&Description.Value=New Description
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python

- AWS SDK for Ruby V2

ModifyInstanceAttribute

Modifies the specified attribute of the specified instance. You can specify only one attribute at a time.

To modify some attributes, the instance must be stopped. For more information, see Modifying Attributes of a Stopped Instance in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The name of the attribute.

Type: String

Valid Values: `instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport | enaSupport`

Required: No

BlockDeviceMapping.N

Modifies the `DeleteOnTermination` attribute for volumes that are currently attached. The volume must be owned by the caller. If no value is specified for `DeleteOnTermination`, the default is `true` and the volume is deleted when the instance is terminated.

To add instance store volumes to an Amazon EBS-backed instance, you must add them when you launch the instance. For more information, see Updating the Block Device Mapping when Launching an Instance in the *Amazon Elastic Compute Cloud User Guide*.

Type: array of InstanceBlockDeviceMappingSpecification (p. 700) objects

Required: No

DisableApiTermination

If the value is `true`, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. You cannot use this paramater for Spot Instances.

Type: AttributeBooleanValue (p. 628) object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EbsOptimized

Specifies whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Type: AttributeBooleanValue (p. 628) object

Required: No

EnaSupport

Set to `true` to enable enhanced networking with ENA for the instance.

This option is supported only for HVM instances. Specifying this option with a PV instance can make it unreachable.

Type: AttributeBooleanValue (p. 628) object

Required: No

GroupId.N

[EC2-VPC] Changes the security groups of the instance. You must specify at least one security group, even if it's just the default security group for the VPC. You must specify the security group ID, not the security group name.

Type: array of Strings

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

InstanceInitiatedShutdownBehavior

Specifies whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: AttributeValue (p. 629) object

Required: No

InstanceType

Changes the instance type to the specified value. For more information, see Instance Types. If the instance type is not valid, the error returned is `InvalidInstanceAttributeValue`.

Type: AttributeValue (p. 629) object

Required: No

Kernel

Changes the instance's kernel to the specified value. We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB.

Type: AttributeValue (p. 629) object

Required: No

Ramdisk

Changes the instance's RAM disk to the specified value. We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB.

Type: AttributeValue (p. 629) object

Required: No

SourceDestCheck

Specifies whether source/destination checking is enabled. A value of `true` means that checking is enabled, and `false` means checking is disabled. This value must be `false` for a NAT instance to perform NAT.

Type: AttributeBooleanValue (p. 628) object

Required: No

SriovNetSupport

Set to `simple` to enable enhanced networking with the Intel 82599 Virtual Function interface for the instance.

There is no way to disable enhanced networking with the Intel 82599 Virtual Function interface at this time.

This option is supported only for HVM instances. Specifying this option with a PV instance can make it unreachable.

Type: AttributeValue (p. 629) object

Required: No

UserData

Changes the instance's user data to the specified value. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.

Type: BlobAttributeValue (p. 633) object

Required: No

Value
A new value for the attribute. Use only with the `kernel`, `ramdisk`, `userData`, `disableApiTermination`, or `instanceInitiatedShutdownBehavior` attribute.
Type: String
Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example changes the instance type of the specified instance. The instance must be in the `stopped` state.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&InstanceType.Value=m1.small
&AUTHPARAMS
```

Sample Response

```
<ModifyInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>
```

Example 2

This example changes the `InstanceInitiatedShutdownBehavior` attribute of the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&InstanceInitiatedShutdownBehavior.Value=terminate
```

```
&AUTHPARAMS
```

Sample Response

```
<ModifyInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>
```

Example 3

This example changes the `DisableApiTermination` attribute of the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-1234567890abcdef0
&DisableApiTermination.Value=true
&AUTHPARAMS
```

Sample Response

```
<ModifyInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyInstancePlacement

Set the instance affinity value for a specific stopped instance and modify the instance tenancy setting.

Instance affinity is disabled by default. When instance affinity is `host` and it is not associated with a specific Dedicated Host, the next time it is launched it will automatically be associated with the host it lands on. This relationship will persist if the instance is stopped/started, or rebooted.

You can modify the host ID associated with a stopped instance. If a stopped instance has a new host ID association, the instance will target that host when restarted.

You can modify the tenancy of a stopped instance with a tenancy of `host` or `dedicated`.

Affinity, hostID, and tenancy are not required parameters, but at least one of them must be specified in the request. Affinity and tenancy can be modified in the same request, but tenancy can only be modified on instances that are stopped.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Affinity

The new affinity setting for the instance.

Type: String

Valid Values: `default | host`

Required: No

HostId

The ID of the Dedicated Host that the instance will have affinity with.

Type: String

Required: No

InstanceId

The ID of the instance that you are modifying.

Type: String

Required: Yes

Tenancy

The tenancy of the instance that you are modifying.

Type: String

Valid Values: `dedicated | host`

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example modifies the affinity of instance `i-0b33i09` so that it always has affinity with host `h-00548908djdsgfs`.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyInstancePlacement
&Affinity=host
&HostId=h-00548908djdsgfs
&InstanceId=i-0b33i09
&AUTHPARAMS
```

Sample Response

```
<ModifyInstancePlacementResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <return>true</item>
</ModifyInstancePlacementResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyNetworkInterfaceAttribute

Modifies the specified network interface attribute. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attachment

Information about the interface attachment. If modifying the 'delete on termination' attribute, you must specify the ID of the interface attachment.

Type: NetworkInterfaceAttachmentChanges (p. 745) object

Required: No

Description

A description for the network interface.

Type: AttributeValue (p. 629) object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

SecurityGroupId.N

Changes the security groups for the network interface. The new set of groups you specify replaces the current set. You must specify at least one group, even if it's just the default security group in the VPC. You must specify the ID of the security group, not the name.

Type: array of Strings

Required: No

SourceDestCheck

Indicates whether source/destination checking is enabled. A value of `true` means checking is enabled, and `false` means checking is disabled. This value must be `false` for a NAT instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

Type: AttributeBooleanValue (p. 628) object

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example sets source/destination checking to `false` for the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&SourceDestCheck.Value=false
&AUTHPARAMS
```

Sample Response

```
<ModifyNetworkInterfaceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
    <return>true</return>
</ModifyNetworkInterfaceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyReservedInstances

Modifies the Availability Zone, instance count, instance type, or network platform (EC2-Classic or EC2-VPC) of your Standard Reserved Instances. The Reserved Instances to be modified must be identical, except for Availability Zone, network platform, and instance type.

For more information, see Modifying Reserved Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

A unique, case-sensitive token you provide to ensure idempotency of your modification request. For more information, see Ensuring Idempotency.

Type: String

Required: No

ReservedInstancesConfigurationSetItemType.N

The configuration settings for the Reserved Instances to modify.

Type: array of ReservedInstancesConfiguration (p. 777) objects

Required: Yes

ReservedInstancesId.N

The IDs of the Reserved Instances to modify.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesModificationId

The ID for the modification.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyReservedInstances
&ClientToken=myClientToken
&ReservedInstancesConfigurationSetItemType.1.AvailabilityZone=us-east-1a
&ReservedInstancesConfigurationSetItemType.1.InstanceCount=1
```

```
&ReservedInstancesConfigurationSetItemType.1.Platform=EC2-VPC
&ReservedInstancesConfigurationSetItemType.1.InstanceType=m1.small
&ReservedInstancesId.1=d16f7a91-4d0f-4f19-9d7f-a74d26b1ccfa
&AUTHPARAMS
```

Sample Response

```
<ModifyReservedInstancesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
<requestId>bef729b6-0731-4489-8881-2258746ae163</requestId>
<reservedInstancesModificationId>rimod-3aae219d-3d63-47a9-a7e9-e764example</
reservedInstancesModificationId>
</ModifyReservedInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifySnapshotAttribute

Adds or removes permission settings for the specified snapshot. You may add or remove specified AWS account IDs from a snapshot's list of create volume permissions, but you cannot do both in a single API call. If you need to both add and remove account IDs for a snapshot, you must use multiple API calls.

> **Note**
> Encrypted snapshots and snapshots with AWS Marketplace product codes cannot be made public. Snapshots encrypted with your default CMK cannot be shared with other accounts.

For more information on modifying snapshot permissions, see Sharing Snapshots in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The snapshot attribute to modify.

> **Note**
> Only volume creation permissions may be modified at the customer level.

Type: String

Valid Values: `productCodes | createVolumePermission`

Required: No

CreateVolumePermission

A JSON representation of the snapshot attribute modification.

Type: CreateVolumePermissionModifications (p. 647) object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

OperationType

The type of operation to perform to the attribute.

Type: String

Valid Values: `add | remove`

Required: No

SnapshotId

The ID of the snapshot.

Type: String

Required: Yes

UserGroup.N

The group to modify for the snapshot.

Type: array of Strings

Required: No

UserId.N

The account ID to modify for the snapshot.

Type: array of Strings

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example makes the `snap-1234567890abcdef0` snapshot public, and gives the account with ID `111122223333` permission to create volumes from the snapshot.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

Sample Response

```
<ModifySnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</ModifySnapshotAttributeResponse>
```

Example

This example makes the `snap-1234567890abcdef0` snapshot public, and removes the account with ID `111122223333` from the list of users with permission to create volumes from the snapshot.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
&CreateVolumePermission.Remove.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

Sample Response

```
<ModifySnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</ModifySnapshotAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifySpotFleetRequest

Modifies the specified Spot fleet request.

While the Spot fleet request is being modified, it is in the `modifying` state.

To scale up your Spot fleet, increase its target capacity. The Spot fleet launches the additional Spot instances according to the allocation strategy for the Spot fleet request. If the allocation strategy is `lowestPrice`, the Spot fleet launches instances using the Spot pool with the lowest price. If the allocation strategy is `diversified`, the Spot fleet distributes the instances across the Spot pools.

To scale down your Spot fleet, decrease its target capacity. First, the Spot fleet cancels any open bids that exceed the new target capacity. You can request that the Spot fleet terminate Spot instances until the size of the fleet no longer exceeds the new target capacity. If the allocation strategy is `lowestPrice`, the Spot fleet terminates the instances with the highest price per unit. If the allocation strategy is `diversified`, the Spot fleet terminates instances across the Spot pools. Alternatively, you can request that the Spot fleet keep the fleet at its current size, but not replace any Spot instances that are interrupted or that you terminate manually.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ExcessCapacityTerminationPolicy

Indicates whether running Spot instances should be terminated if the target capacity of the Spot fleet request is decreased below the current size of the Spot fleet.

Type: String

Valid Values: `noTermination | default`

Required: No

SpotFleetRequestId

The ID of the Spot fleet request.

Type: String

Required: Yes

TargetCapacity

The size of the fleet.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifySubnetAttribute

Modifies a subnet attribute. You can only modify one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssignIpv6AddressOnCreation

Specify `true` to indicate that network interfaces created in the specified subnet should be assigned an IPv6 address. This includes a network interface that's created when launching an instance into the subnet (the instance therefore receives an IPv6 address).

If you enable the IPv6 addressing feature for your subnet, your network interface or instance only receives an IPv6 address if it's created using version `2016-11-15` or later of the Amazon EC2 API.

Type: AttributeBooleanValue (p. 628) object

Required: No

MapPublicIpOnLaunch

Specify `true` to indicate that network interfaces created in the specified subnet should be assigned a public IPv4 address. This includes a network interface that's created when launching an instance into the subnet (the instance therefore receives a public IPv4 address).

Type: AttributeBooleanValue (p. 628) object

Required: No

SubnetId

The ID of the subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example modifies the attribute for `subnet-1a2b3c4d` to specify that all instances launched into this subnet are assigned a public IPv4 address.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifySubnetAttribute
```

```
&SubnetId=subnet-1a2b3c4d
&MapPublicIpOnLaunch.Value=true
&AUTHPARAMS
```

Example 2

This example modifies the attribute for `subnet-1a2b3c4d` to specify that all network interfaces created in this subnet (and therefore all instances launched into this subnet with a new network interface) are assigned an IPv6 address.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifySubnetAttribute
&SubnetId=subnet-1a2b3c4d
&AssignIpv6AddressOnCreation.Value=true
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyVolume

You can modify several parameters of an existing EBS volume, including volume size, volume type, and IOPS capacity. If your EBS volume is attached to a current-generation EC2 instance type, you may be able to apply these changes without stopping the instance or detaching the volume from it. For more information about modifying an EBS volume running Linux, see Modifying the Size, IOPS, or Type of an EBS Volume on Linux. For more information about modifying an EBS volume running Windows, see Expanding the Storage Space of an EBS Volume on Windows.

When you complete a resize operation on your volume, you need to extend the volume's file-system size to take advantage of the new storage capacity. For information about extending a Linux file system, see Extending a Linux File System. For information about extending a Windows file system, see Extending a Windows File System.

You can use CloudWatch Events to check the status of a modification to an EBS volume. For information about CloudWatch Events, see the Amazon CloudWatch Events User Guide. You can also track the status of a modification using the `DescribeVolumesModifications` API. For information about tracking status changes using either method, see Monitoring Volume Modifications".

Note
With previous-generation volumes and instance types, resizing an EBS volume may require detaching and reattaching the volume or stopping and restarting the instance. For more information about modifying an EBS volume running Linux, see Modifying the Size, IOPS, or Type of an EBS Volume on Linux. For more information about modifying an EBS volume running Windows, see Modifying the Size, IOPS, or Type of an EBS Volume on Windows.

Note
If you reach the maximum volume modification rate per volume limit, you will need to wait at least six hours before applying further modifications to the affected EBS volume.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Iops
Target IOPS rate of the volume to be modified.

Only valid for Provisioned IOPS SSD (`io1`) volumes. For more information about `io1` IOPS configuration, see http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumeTypes.html#EBSVolumeTypes_piops.

Type: Integer

Required: No

Size
Target size in GiB of the volume to be modified. Target volume size must be greater than or equal to than the existing size of the volume. For information about available EBS volume sizes, see http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumeTypes.html.

Default: If no size is specified, the existing size is retained.

Type: Integer

Required: No

VolumeId
Type: String

Required: Yes

VolumeType

Target EBS volume type of the volume to be modified

Valid values are `io1` | `gp2` | `sc1` | `st1`

The API does not support modifications for volume type `standard`. You also cannot change the type of a volume to `standard`.

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

volumeModification

A VolumeModification (p. 863) object.

Type: VolumeModification (p. 863) object

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Modify size, type, and IOPS provisioning of a volume

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVolume
&VolumeId=vol-1234567890EXAMPLE
&VolumeType=io1
&Iops=10000
&Size=200
&Version=2016-11-15
```

Sample Response

```
<ModifyVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
    <volumeModification>
        <targetIops>10000</targetIops>
        <originalIops>300</originalIops>
        <modificationState>modifying</modificationState>
        <targetSize>200</targetSize>
        <targetVolumeType>io1</targetVolumeType>
        <volumeId>vol-1234567890EXAMPLE</volumeId>
        <progress>0</progress>
        <startTime>2017-01-19T23:58:04.922Z</startTime>
        <originalSize>100</originalSize>
        <originalVolumeType>gp2</originalVolumeType>
```

```
    </volumeModification>
</ModifyVolumeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyVolumeAttribute

Modifies a volume attribute.

By default, all I/O operations for the volume are suspended when the data on the volume is determined to be potentially inconsistent, to prevent undetectable, latent data corruption. The I/O access to the volume can be resumed by first enabling I/O access and then checking the data consistency on your volume.

You can change the default behavior to resume I/O operations. We recommend that you change this only for boot volumes or for volumes that are stateless or disposable.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AutoEnableIO

Indicates whether the volume should be auto-enabled for I/O operations.

Type: AttributeBooleanValue (p. 628) object

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VolumeId

The ID of the volume.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example modifies the attribute of the volume vol-1234567890abcdef0.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVolumeAttribute
```

```
&VolumeId=vol-1234567890abcdef0
&AutoEnableIO.Value=true
&AUTHPARAMS
```

Sample Response

```
<ModifyVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
   <return>true</return>
</ModifyVolumeAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyVpcAttribute

Modifies the specified attribute of the specified VPC.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

EnableDnsHostnames

Indicates whether the instances launched in the VPC get DNS hostnames. If enabled, instances in the VPC get DNS hostnames; otherwise, they do not.

You cannot modify the DNS resolution and DNS hostnames attributes in the same request. Use separate requests for each attribute. You can only enable DNS hostnames if you've enabled DNS support.

Type: AttributeBooleanValue (p. 628) object

Required: No

EnableDnsSupport

Indicates whether the DNS resolution is supported for the VPC. If enabled, queries to the Amazon provided DNS server at the 169.254.169.253 IP address, or the reserved IP address at the base of the VPC network range "plus two" will succeed. If disabled, the Amazon provided DNS service in the VPC that resolves public DNS hostnames to IP addresses is not enabled.

You cannot modify the DNS resolution and DNS hostnames attributes in the same request. Use separate requests for each attribute.

Type: AttributeBooleanValue (p. 628) object

Required: No

VpcId

The ID of the VPC.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disables support for DNS hostnames in the specified VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcAttribute
&VpcId=vpc-1a2b3c4d
&EnableDnsHostnames.Value=false
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyVpcEndpoint

Modifies attributes of a specified VPC endpoint. You can modify the policy associated with the endpoint, and you can add and remove route tables associated with the endpoint.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AddRouteTableId.N
One or more route tables IDs to associate with the endpoint.
Type: array of Strings
Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

PolicyDocument
A policy document to attach to the endpoint. The policy must be in valid JSON format.
Type: String
Required: No

RemoveRouteTableId.N
One or more route table IDs to disassociate from the endpoint.
Type: array of Strings
Required: No

ResetPolicy
Specify `true` to reset the policy document to the default policy. The default policy allows access to the service.
Type: Boolean
Required: No

VpcEndpointId
The ID of the endpoint.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Returns `true` if the request succeeds; otherwise, it returns an error.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example modifies `vpce-1a2b3c4d` by associating route table `rtb-aaa222bb` with the endpoint, and resetting the policy document.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcEndpoint
&VpcEndpointId=vpce-1a2b3c4d
&ResetPolicy=true
&AddRouteTableId.1=rtb-aaa222bb
&AUTHPARAMS
```

Sample Response

```
<ModifyVpcEndpointResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <return>true</return>
    <requestId>125acea6-ba5c-4c6e-8e17-example</requestId>
</ModifyVpcEndpointResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ModifyVpcPeeringConnectionOptions

Modifies the VPC peering connection options on one side of a VPC peering connection. You can do the following:

- Enable/disable communication over the peering connection between an EC2-Classic instance that's linked to your VPC (using ClassicLink) and instances in the peer VPC.
- Enable/disable communication over the peering connection between instances in your VPC and an EC2-Classic instance that's linked to the peer VPC.
- Enable/disable a local VPC to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

If the peered VPCs are in different accounts, each owner must initiate a separate request to modify the peering connection options, depending on whether their VPC was the requester or accepter for the VPC peering connection. If the peered VPCs are in the same account, you can modify the requester and accepter options in the same request. To confirm which VPC is the accepter and requester for a VPC peering connection, use the DescribeVpcPeeringConnections (p. 424) command.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AccepterPeeringConnectionOptions

The VPC peering connection options for the accepter VPC.

Type: PeeringConnectionOptionsRequest (p. 750) object

Required: No

DryRun

Checks whether you have the required permissions for the operation, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

RequesterPeeringConnectionOptions

The VPC peering connection options for the requester VPC.

Type: PeeringConnectionOptionsRequest (p. 750) object

Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

accepterPeeringConnectionOptions

Information about the VPC peering connection options for the accepter VPC.

Type: PeeringConnectionOptions (p. 749) object

requesterPeeringConnectionOptions

Information about the VPC peering connection options for the requester VPC.

Type: PeeringConnectionOptions (p. 749) object

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

In this example, you have an EC2-Classic instance linked to your VPC. You want to enable communication over the VPC peering connection to allow the linked EC2-Classic instance to communicate with instances in the peer VPC. You were the requester of the VPC peering connection, therefore you modify the requester VPC peering connection options.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&RequesterPeeringConnectionOptions.AllowEgressFromLocalClassicLinkToRemoteVpc=true
&AUTHPARAMS
```

Sample Response

```
<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>8d977c82-8aba-4cd1-81ca-example</requestId>
  <requesterPeeringConnectionOptions>
    <allowEgressFromLocalClassicLinkToRemoteVpc>true</
allowEgressFromLocalClassicLinkToRemoteVpc>
  </requesterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>
```

Example

In this example, you want to enable communication from instances in your local VPC to any linked EC2-Classic instances in the peer VPC. You were the accepter of the VPC peering connection, therefore you modify the accepter VPC peering connection options.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AccepterPeeringConnectionOptions.AllowEgressFromLocalVpcToRemoteClassicLink=true
&AUTHPARAMS
```

Sample Response

```
<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>f5131846-7920-4359-b565-example</requestId>
  <accepterPeeringConnectionOptions>
```

```
    <allowEgressFromLocalVpcToRemoteClassicLink>true</
allowEgressFromLocalVpcToRemoteClassicLink>
  </accepterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>
```

Example

In this example, you want to enable your VPC to resolve public DNS hostname to private IP addresses when queried from instances in the peer VPC. You were the accepter of the VPC peering connection, therefore you modify the accepter VPC peering connection options.

Sample Request

```
https://ec2.amazonaws.com/?Action=ModifyVpcPeeringConnectionOptions
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AccepterPeeringConnectionOptions.AllowDnsResolutionFromRemoteVpc=true
&AUTHPARAMS
```

Sample Response

```
<ModifyVpcPeeringConnectionOptionsResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>f5131846-7920-4359-b565-example</requestId>
  <accepterPeeringConnectionOptions>
    <allowDnsResolutionFromRemoteVpc>true</allowDnsResolutionFromRemoteVpc>
  </accepterPeeringConnectionOptions>
</ModifyVpcPeeringConnectionOptionsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

MonitorInstances

Enables detailed monitoring for a running instance. Otherwise, basic monitoring is enabled. For more information, see Monitoring Your Instances and Volumes in the *Amazon Elastic Compute Cloud User Guide*.

To disable detailed monitoring, see UnmonitorInstances (p. 615).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.

Type: array of InstanceMonitoring (p. 705) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example enables detailed monitoring for the specified two instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=MonitorInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

Sample Response

```
<MonitorInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <instancesSet>
      <item>
        <instanceId>i-1234567890abcdef0</instanceId>
        <monitoring>
          <state>pending</state>
        </monitoring>
    </item>
    <item>
      <instanceId>i-0598c7d356eba48d7</instanceId>
        <monitoring>
          <state>pending</state>
        </monitoring>
      </item>
    </instancesSet>
</MonitorInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

MoveAddressToVpc

Moves an Elastic IP address from the EC2-Classic platform to the EC2-VPC platform. The Elastic IP address must be allocated to your account for more than 24 hours, and it must not be associated with an instance. After the Elastic IP address is moved, it is no longer available for use in the EC2-Classic platform, unless you move it back using the RestoreAddressToClassic (p. 587) request. You cannot move an Elastic IP address that was originally allocated for use in the EC2-VPC platform to the EC2-Classic platform.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PublicIp

The Elastic IP address.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

allocationId

The allocation ID for the Elastic IP address.

Type: String

requestId

The ID of the request.

Type: String

status

The status of the move of the IP address.

Type: String

Valid Values: `MoveInProgress | InVpc | InClassic`

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example moves Elastic IP address 54.123.4.56 to the EC2-VPC platform.

Sample Request

```
https://ec2.amazonaws.com/?Action=MoveAddressToVpc
```

```
&publicIp=54.123.4.56
&AUTHPARAMS
```

Sample Response

```
<MoveAddressToVpcResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
     <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
     <allocationId>eipalloc-1cfe1879</allocationId>
     <status>InVpc</status>
</MoveAddressToVpcResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PurchaseHostReservation

Purchase a reservation with configurations that match those of your Dedicated Host. You must have active Dedicated Hosts in your account before you purchase a reservation. This action results in the specified reservation being purchased and charged to your account.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

CurrencyCode

The currency in which the `totalUpfrontPrice`, `LimitPrice`, and `totalHourlyPrice` amounts are specified. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

Required: No

HostIdSet.N

The ID/s of the Dedicated Host/s that the reservation will be associated with.

Type: array of Strings

Required: Yes

LimitPrice

The specified limit is checked against the total upfront cost of the reservation (calculated as the offering's upfront cost multiplied by the host count). If the total upfront cost is greater than the specified price limit, the request will fail. This is used to ensure that the purchase does not exceed the expected upfront cost of the purchase. At this time, the only supported currency is `USD`. For example, to indicate a limit price of USD 100, specify 100.00.

Type: String

Required: No

OfferingId

The ID of the offering.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

clientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*

Type: String

currencyCode

The currency in which the `totalUpfrontPrice` and `totalHourlyPrice` amounts are specified. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

purchase
Describes the details of the purchase.
Type: array of Purchase (p. 763) objects

requestId
The ID of the request.
Type: String

totalHourlyPrice
The total hourly price of the reservation calculated per hour.
Type: String

totalUpfrontPrice
The total amount that will be charged to your account when you purchase the reservation.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example uses the same configuration information from GetHostReservationPurchasePreview (p. 475) to make the purchase and associate the offering with the specified Dedicated Host.

Sample Request

```
https://ec2.amazonaws.com/?Action=PurchaseHostReservation
&OfferingId=hro-0eb3541dght849c2d
&HostIdSet=h-0fgr9ddb0ecd0a1cd
&AUTHPARAMS
```

Sample Response

```
<PurchaseHostReservationResult xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>d4904fd9-84c3-b40d-gtyk-a9983EXAMPLE</requestId>
        <purchase>
            <item>
                <duration>31536000</duration>
                <upfrontPrice>7453.000</upfrontPrice>
                <paymentOption>PartialUpfront</paymentOption>
                <instanceFamily>m4</instanceFamily>
                <hourlyPrice>0.850</hourlyPrice>
                <hostIdSet>
                    <item>h-0fgr9ddb0ecd0a1cd</item>
                </hostIdSet>
            </item>
       </purchase>
       <totalHourlyPrice>0.850<totalHourlyPrice>
       <totalUpfrontPrice>7453.000<totalUpfrontPrice>
</PurchaseHostReservationResult>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PurchaseReservedInstancesOffering

Purchases a Reserved Instance for use with your account. With Reserved Instances, you pay a lower hourly rate compared to On-Demand instance pricing.

Use DescribeReservedInstancesOfferings (p. 335) to get a list of Reserved Instance offerings that match your specifications. After you've purchased a Reserved Instance, you can check for your new Reserved Instance with DescribeReservedInstances (p. 325).

For more information, see Reserved Instances and Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceCount

The number of Reserved Instances to purchase.

Type: Integer

Required: Yes

LimitPrice

Specified for Reserved Instance Marketplace offerings to limit the total order and ensure that the Reserved Instances are not purchased at unexpected prices.

Type: ReservedInstanceLimitPrice (p. 772) object

Required: No

ReservedInstancesOfferingId

The ID of the Reserved Instance offering to purchase.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

reservedInstancesId

The IDs of the purchased Reserved Instances.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example uses a limit price to limit the total purchase order of Standard Reserved Instances from the Reserved Instance Marketplace.

Sample Request

```
https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&LimitPrice.Amount=200
&InstanceCount=2
&AUTHPARAMS
```

Sample Response

```
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>
```

Example 2

This example illustrates a purchase of a Reserved Instances offering.

Sample Request

```
https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&InstanceCount=2
&AUTHPARAMS
```

Sample Response

```
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</
reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

PurchaseScheduledInstances

Purchases one or more Scheduled Instances with the specified schedule.

Scheduled Instances enable you to purchase Amazon EC2 compute capacity by the hour for a one-year term. Before you can purchase a Scheduled Instance, you must call DescribeScheduledInstanceAvailability (p. 348) to check for available schedules and obtain a purchase token. After you purchase a Scheduled Instance, you must call RunScheduledInstances (p. 603) during each scheduled time period.

After you purchase a Scheduled Instance, you can't cancel, modify, or resell your purchase.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier that ensures the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PurchaseRequest.N

One or more purchase requests.

Type: array of PurchaseRequest (p. 765) objects

Array Members: Minimum number of 1 item.

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

scheduledInstanceSet

Information about the Scheduled Instances.

Type: array of ScheduledInstance (p. 794) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface

- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RebootInstances

Requests a reboot of one or more instances. This operation is asynchronous; it only queues a request to reboot the specified instances. The operation succeeds if the instances are valid and belong to you. Requests to reboot terminated instances are ignored.

If an instance does not cleanly shut down within four minutes, Amazon EC2 performs a hard reboot.

For more information about troubleshooting, see Getting Console Output and Rebooting Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example reboots two instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=RebootInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

Sample Response

```
<RebootInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RebootInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RegisterImage

Registers an AMI. When you're creating an AMI, this is the final step you must complete before you can launch an instance from the AMI. For more information about creating AMIs, see Creating Your Own AMIs in the *Amazon Elastic Compute Cloud User Guide*.

Note
For Amazon EBS-backed instances, CreateImage (p. 100) creates and registers the AMI in a single request, so you don't have to register the AMI yourself.

You can also use `RegisterImage` to create an Amazon EBS-backed Linux AMI from a snapshot of a root device volume. For more information, see Launching an Instance from a Snapshot in the *Amazon Elastic Compute Cloud User Guide*.

Important
Some Linux distributions, such as Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES), use the EC2 `billingProduct` code associated with an AMI to verify subscription status for package updates. Creating an AMI from an EBS snapshot does not maintain this billing code, and subsequent instances launched from such an AMI will not be able to connect to package update infrastructure.
Similarly, although you can create a Windows AMI from a snapshot, you can't successfully launch an instance from the AMI.
To create Windows AMIs or to create AMIs for Linux operating systems that must retain AMI billing codes to work properly, see CreateImage (p. 100).

If needed, you can deregister an AMI at any time. Any modifications you make to an AMI backed by an instance store volume invalidates its registration. If you make changes to an image, deregister the previous image and register the new image.

Note
You can't register an image where a secondary (non-root) snapshot has AWS Marketplace product codes.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Architecture
The architecture of the AMI.

Default: For Amazon EBS-backed AMIs, `i386`. For instance store-backed AMIs, the architecture specified in the manifest file.

Type: String

Valid Values: `i386 | x86_64`

Required: No

BlockDeviceMapping.N
One or more block device mapping entries.

Type: array of BlockDeviceMapping (p. 634) objects

Required: No

Description
A description for your AMI.

Type: String

Required: No

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EnaSupport

Set to `true` to enable enhanced networking with ENA for the AMI and any instances that you launch from the AMI.

This option is supported only for HVM AMIs. Specifying this option with a PV AMI can make instances launched from the AMI unreachable.

Type: Boolean

Required: No

ImageLocation

The full path to your AMI manifest in Amazon S3 storage.

Type: String

Required: No

KernelId

The ID of the kernel.

Type: String

Required: No

Name

A name for your AMI.

Constraints: 3-128 alphanumeric characters, parentheses (()), square brackets ([]), spaces ( ), periods (.), slashes (/), dashes (-), single quotes ('), at-signs (@), or underscores(_)

Type: String

Required: Yes

RamdiskId

The ID of the RAM disk.

Type: String

Required: No

RootDeviceName

The name of the root device (for example, `/dev/sda1`, or `/dev/xvda`).

Type: String

Required: No

SriovNetSupport

Set to `simple` to enable enhanced networking with the Intel 82599 Virtual Function interface for the AMI and any instances that you launch from the AMI.

There is no way to disable `sriovNetSupport` at this time.

This option is supported only for HVM AMIs. Specifying this option with a PV AMI can make instances launched from the AMI unreachable.

Type: String

Required: No

VirtualizationType

The type of virtualization.

Default: `paravirtual`

Type: String

Required: No

Response Elements

The following elements are returned by the service.

imageId

The ID of the newly registered AMI.

Type: String

requestId
The ID of the request.
Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example registers the AMI specified in the `my-new-image.manifest.xml` manifest file, located in the bucket called `myawsbucket`.

Sample Request

```
https://ec2.amazonaws.com/?Action=RegisterImage
&ImageLocation=myawsbucket/my-new-image.manifest.xml
&AUTHPARAMS
```

Sample Response

```
<RegisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

Example 2

This example specifies a snapshot for the root device of an Amazon EBS-backed AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1234567890abcdef0
&Name=MyImage
&AUTHPARAMS
```

Sample Response

```
<RegisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

Example 3

This example registers an AMI with a block device mapping for three Amazon EBS volumes. The first volume is the root device volume based on an Amazon EBS snapshot. The second volume is based on another snapshot. The third volume is an empty 100 GiB Amazon EBS volume.

Sample Request

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1234567890abcdef0
&BlockDeviceMapping.2.DeviceName=/dev/sdb
&BlockDeviceMapping.2.Ebs.SnapshotId=snap-1234567890abcdef1
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&Name=MyImage
&AUTHPARAMS
```

Sample Response

```
<RegisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RejectVpcPeeringConnection

Rejects a VPC peering connection request. The VPC peering connection must be in the `pending-acceptance` state. Use the DescribeVpcPeeringConnections (p. 424) request to view your outstanding VPC peering connection requests. To delete an active VPC peering connection, or to delete a VPC peering connection request that you initiated, use DeleteVpcPeeringConnection (p. 213).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Returns `true` if the request succeeds; otherwise, it returns an error.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example rejects the specified VPC peering connection request.

Sample Request

```
https://ec2.amazonaws.com/?Action=RejectVpcPeeringConnection
&vpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<RejectVpcPeeringConnectionResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</RejectVpcPeeringConnectionResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReleaseAddress

Releases the specified Elastic IP address.

After releasing an Elastic IP address, it is released to the IP address pool and might be unavailable to you. Be sure to update your DNS records and any servers or devices that communicate with the address. If you attempt to release an Elastic IP address that you already released, you'll get an `AuthFailure` error if the address is already allocated to another AWS account.

[EC2-Classic, default VPC] Releasing an Elastic IP address automatically disassociates it from any instance that it's associated with. To disassociate an Elastic IP address without releasing it, use DisassociateAddress (p. 453).

[Nondefault VPC] You must use DisassociateAddress (p. 453) to disassociate the Elastic IP address before you try to release it. Otherwise, Amazon EC2 returns an error (`InvalidIPAddress.InUse`).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AllocationId

[EC2-VPC] The allocation ID. Required for EC2-VPC.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PublicIp

[EC2-Classic] The Elastic IP address. Required for EC2-Classic.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example for EC2-Classic

This example releases the specified Elastic IP address for EC2-Classic.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&PublicIp=192.0.2.1
&AUTHPARAMS
```

Example for EC2-VPC

This example releases the specified Elastic IP address for EC2-VPC.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&AllocationId=eipalloc-5723d13e
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReleaseHosts

When you no longer want to use an On-Demand Dedicated Host it can be released. On-Demand billing is stopped and the host goes into `released` state. The host ID of Dedicated Hosts that have been released can no longer be specified in another request, e.g., ModifyHosts. You must stop or terminate all instances on a host before it can be released.

When Dedicated Hosts are released, it make take some time for them to stop counting toward your limit and you may receive capacity errors when trying to allocate new Dedicated hosts. Try waiting a few minutes, and then try again.

Released hosts will still appear in a DescribeHosts (p. 259) response.

Request Parameters

For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

HostId.N

The IDs of the Dedicated Hosts you want to release.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

successful

The IDs of the Dedicated Hosts that were successfully released.

Type: array of Strings

unsuccessful

The IDs of the Dedicated Hosts that could not be released, including an error message.

Type: array of UnsuccessfulItem (p. 852) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This releases a Dedicated Host successfully.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsgfs
&AUTHPARAMS
```

Sample Response

```
<ReleaseHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <unsuccessful/>
    <successful>
        <item>h-00548908djdsgfs</item>
    </successful>
</ReleaseHostsResponse>
```

Example

This request is unsuccessful.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReleaseHosts
&HostId=h-00548908djdsgfs
&AUTHPARAMS
```

Sample Response

```
<ReleaseHostsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <unsuccessful>
        <item>
       <error>
            <message>Dedicated host 'h-00548908djdsgfs' cannot be released as
 it is occupied</message>
            <code>Client.InvalidHost.Occupied</code<
       </error>
       <resourceId>h-00548908djdsgfs</resourceId>
        </item>
    </unsuccessful>
    <successful/>
</ReleaseHostsResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReplaceIamInstanceProfileAssociation

Replaces an IAM instance profile for the specified running instance. You can use this action to change the IAM instance profile that's associated with an instance without having to disassociate the existing IAM instance profile first.

Use DescribeIamInstanceProfileAssociations (p. 262) to get the association ID.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The ID of the existing IAM instance profile association.

Type: String

Required: Yes

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 679) object

Required: Yes

Response Elements

The following elements are returned by the service.

iamInstanceProfileAssociation

Information about the IAM instance profile association.

Type: IamInstanceProfileAssociation (p. 678) object

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example replaces the IAM instance profile represented by the association `iip-assoc-060bae234aac2e7fa` with the IAM instance profile named `AdminProfile`.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceIamInstanceProfileAssociation
&AssociationId=iip-assoc-060bae234aac2e7fa
&IamInstanceProfile.Name=AdminProfile
&AUTHPARAMS
```

Sample Response

```
<ReplaceIamInstanceProfileAssociationResponse xmlns="http://
ec2.amazonaws.com/doc/2016-11-15/">
```

```
    <requestId>ba40aa4c-d788-4f24-8a34-example</requestId>
    <iamInstanceProfileAssociation>
        <associationId>iip-assoc-08049da59357d598c</associationId>
        <iamInstanceProfile>
            <arn>arn:aws:iam::123456789012:instance-profile/AdminRole</arn>
            <id>AIPAI5IVIHMFFYY2DKV5Y</id>
        </iamInstanceProfile>
        <instanceId>i-1234567890abcdef0</instanceId>
        <state>associating</state>
    </iamInstanceProfileAssociation>
</ReplaceIamInstanceProfileAssociationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReplaceNetworkAclAssociation

Changes which network ACL a subnet is associated with. By default when you create a subnet, it's automatically associated with the default network ACL. For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The ID of the current association between the original network ACL and the subnet.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

NetworkAclId

The ID of the new network ACL to associate with the subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

newAssociationId

The ID of the new association.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example starts with a network ACL associated with a subnet, and a corresponding association ID `aclassoc-e5b95c8c`. You want to associate a different network ACL (`acl-5fb85d36`) with the subnet. The result is a new association ID representing the new association.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceNetworkAclAssociation
&AssociationId=aclassoc-e5b95c8c
```

```
&NetworkAclId=acl-5fb85d36
&AUTHPARAMS
```

Sample Response

```
<ReplaceNetworkAclAssociationResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReplaceNetworkAclEntry

Replaces an entry (rule) in a network ACL. For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrBlock

The IPv4 network range to allow or deny, in CIDR notation (for example `172.16.0.0/24`).

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Egress

Indicates whether to replace the egress rule.

Default: If no value is specified, we replace the ingress rule.

Type: Boolean

Required: Yes

Icmp

ICMP protocol: The ICMP or ICMPv6 type and code. Required if specifying the ICMP (1) protocol, or protocol 58 (ICMPv6) with an IPv6 CIDR block.

Type: IcmpTypeCode (p. 680) object

Required: No

Ipv6CidrBlock

The IPv6 network range to allow or deny, in CIDR notation (for example `2001:bd8:1234:1a00::/64`).

Type: String

Required: No

NetworkAclId

The ID of the ACL.

Type: String

Required: Yes

PortRange

TCP or UDP protocols: The range of ports the rule applies to. Required if specifying TCP (6) or UDP (17) for the protocol.

Type: PortRange (p. 753) object

Required: No

Protocol

The IP protocol. You can specify `all` or `-1` to mean all protocols. If you specify `all`, `-1`, or a protocol number other than `tcp`, `udp`, or `icmp`, traffic on all ports is allowed, regardless of any ports or ICMP types or codes you specify. If you specify protocol `58` (ICMPv6) and specify an IPv4 CIDR block, traffic for all ICMP types and codes allowed, regardless of any that you specify. If you specify protocol `58` (ICMPv6) and specify an IPv6 CIDR block, you must specify an ICMP type and code.

Type: String

Required: Yes

RuleAction

Indicates whether to allow or deny the traffic that matches the rule.

Type: String

Valid Values: `allow | deny`

Required: Yes

RuleNumber

The rule number of the entry to replace.

Type: Integer

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example replaces the egress entry numbered `110` in the network ACL with ID `acl-2cb85d45`. The new rule denies egress traffic destined for any IPv4 address (`0.0.0.0/0`) on TCP port 139.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=tcp
&RuleAction=deny
&Egress=true
&CidrBlock=0.0.0.0/0
&PortRange.From=139
&PortRange.To=139
&AUTHPARAMS
```

Sample Response

```
<ReplaceNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
```

```
</ReplaceNetworkAclEntryResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReplaceRoute

Replaces an existing route within a route table in a VPC. You must provide only one of the following: Internet gateway or virtual private gateway, NAT instance, NAT gateway, VPC peering connection, network interface, or egress-only Internet gateway.

For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DestinationCidrBlock

The IPv4 CIDR address block used for the destination match. The value you provide must match the CIDR of an existing route in the table.

Type: String

Required: No

DestinationIpv6CidrBlock

The IPv6 CIDR address block used for the destination match. The value you provide must match the CIDR of an existing route in the table.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EgressOnlyInternetGatewayId

[IPv6 traffic only] The ID of an egress-only Internet gateway.

Type: String

Required: No

GatewayId

The ID of an Internet gateway or virtual private gateway.

Type: String

Required: No

InstanceId

The ID of a NAT instance in your VPC.

Type: String

Required: No

NatGatewayId

[IPv4 traffic only] The ID of a NAT gateway.

Type: String

Required: No

NetworkInterfaceId

The ID of a network interface.

Type: String

Required: No

RouteTableId

The ID of the route table.

Type: String

Required: Yes

VpcPeeringConnectionId

The ID of a VPC peering connection.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example replaces a route in the specified route table. The new route matches the IPv4 CIDR `10.0.0.0/8` and sends the traffic to the virtual private gateway with the ID `vgw-1d00376e`.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=10.0.0.0/8
&GatewayId=vgw-1d00376e
&AUTHPARAMS
```

Sample Response

```
<ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</ReplaceRouteResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReplaceRouteTableAssociation

Changes the route table associated with a given subnet in a VPC. After the operation completes, the subnet uses the routes in the new route table it's associated with. For more information about route tables, see Route Tables in the *Amazon Virtual Private Cloud User Guide*.

You can also use ReplaceRouteTableAssociation to change which table is the main route table in the VPC. You just specify the main route table's association ID and the route table to be the new main route table.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AssociationId

The association ID.

Type: String

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

RouteTableId

The ID of the new route table to associate with the subnet.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

newAssociationId

The ID of the new association.

Type: String

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example starts with a route table associated with a subnet, and a corresponding association ID `rtbassoc-f8ad4891`. You want to associate a different route table (table `rtb-f9ad4890`) to the subnet. The result is a new association ID representing the new association.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReplaceRouteTableAssociation
&AssociationId=rtbassoc-f8ad4891
&RouteTableId=rtb-f9ad4890
&AUTHPARAMS
```

Sample Response

```
<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <newAssociationId>rtbassoc-faad4893</newAssociationId>
</ReplaceRouteTableAssociationResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ReportInstanceStatus

Submits feedback about the status of an instance. The instance must be in the `running` state. If your experience with the instance differs from the instance status returned by DescribeInstanceStatus (p. 292), use ReportInstanceStatus (p. 570) to report your experience with the instance. Amazon EC2 collects this information to improve the accuracy of status checks.

Use of this action does not change the value returned by DescribeInstanceStatus (p. 292).

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Description

Descriptive text about the health state of your instance.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EndTime

The time at which the reported instance health state ended.

Type: Timestamp

Required: No

InstanceId.N

One or more instances.

Type: array of Strings

Required: Yes

ReasonCode.N

One or more reason codes that describes the health state of your instance.

- `instance-stuck-in-state`: My instance is stuck in a state.
- `unresponsive`: My instance is unresponsive.
- `not-accepting-credentials`: My instance is not accepting my credentials.
- `password-not-available`: A password is not available for my instance.
- `performance-network`: My instance is experiencing performance problems which I believe are network related.
- `performance-instance-store`: My instance is experiencing performance problems which I believe are related to the instance stores.
- `performance-ebs-volume`: My instance is experiencing performance problems which I believe are related to an EBS volume.
- `performance-other`: My instance is experiencing performance problems.
- `other`: [explain using the description parameter]

Type: array of Strings

Valid Values: `instance-stuck-in-state | unresponsive | not-accepting-credentials | password-not-available | performance-network | performance-instance-store | performance-ebs-volume | performance-other | other`

Required: Yes

StartTime
The time at which the reported instance health state began.
Type: Timestamp
Required: No

Status
The status of all instances listed.
Type: String
Valid Values: `ok | impaired`
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example reports instance health state for two instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Status=impaired
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

Example 2

This example reports instance health state for two instances with reason codes.

Sample Request

```
https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Description=Description+of+my+issue.
&Status=impaired
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&ReasonCode.1=instance-performance-network
&ReasonCode.2=instance-performance-disk
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RequestSpotFleet

Creates a Spot fleet request.

You can submit a single request that includes multiple launch specifications that vary by instance type, AMI, Availability Zone, or subnet.

By default, the Spot fleet requests Spot instances in the Spot pool where the price per unit is the lowest. Each launch specification can include its own instance weighting that reflects the value of the instance type to your application workload.

Alternatively, you can specify that the Spot fleet distribute the target capacity across the Spot pools included in its launch specifications. By ensuring that the Spot instances in your Spot fleet are in different Spot pools, you can improve the availability of your fleet.

For more information, see Spot Fleet Requests in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SpotFleetRequestConfig

The configuration for the Spot fleet request.

Type: SpotFleetRequestConfigData (p. 829) object

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

spotFleetRequestId

The ID of the Spot fleet request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example creates a Spot fleet request with 2 launch specifications.

Sample Request

```
https://ec2.amazonaws.com/?Action=RequestSpotFleet
```

```
&SpotFleetRequestConfig.IamFleetRole=arn:aws:iam::123456789011:role/spot-
fleet-role
&SpotFleetRequestConfig.SpotPrice=0.0153
&SpotFleetRequestConfig.TargetCapacity=5
&SpotFleetRequestConfig.LaunchSpecifications.1.ImageId=ami-1ecae776
&SpotFleetRequestConfig.LaunchSpecifications.1.InstanceType=m4.large
&SpotFleetRequestConfig.LaunchSpecifications.1.SubnetId=subnet-1a2b3c4d
&SpotFleetRequestConfig.LaunchSpecifications.2.ImageId=ami-1ecae776
&SpotFleetRequestConfig.LaunchSpecifications.2.InstanceType=m3.medium
&SpotFleetRequestConfig.LaunchSpecifications.2.SubnetId=subnet-1a2b3c4d
&AUTHPARAMS
```

Sample Response

```
<RequestSpotFleetResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
    <requestId>60262cc5-2bd4-4c8d-98ed-example</requestId>
    <spotFleetRequestId>sfr-123f8fc2-cb31-425e-abcd-example2710</
spotFleetRequestId>
</RequestSpotFleetResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RequestSpotInstances

Creates a Spot instance request. Spot instances are instances that Amazon EC2 launches when the bid price that you specify exceeds the current Spot price. Amazon EC2 periodically sets the Spot price based on available Spot Instance capacity and current Spot instance requests. For more information, see Spot Instance Requests in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AvailabilityZoneGroup

The user-specified name for a logical grouping of bids.

When you specify an Availability Zone group in a Spot Instance request, all Spot instances in the request are launched in the same Availability Zone. Instance proximity is maintained with this parameter, but the choice of Availability Zone is not. The group applies only to bids for Spot Instances of the same instance type. Any additional Spot instance requests that are specified with the same Availability Zone group name are launched in that same Availability Zone, as long as at least one instance from the group is still active.

If there is no active instance running in the Availability Zone group that you specify for a new Spot instance request (all instances are terminated, the bid is expired, or the bid falls below current market), then Amazon EC2 launches the instance in any Availability Zone where the constraint can be met. Consequently, the subsequent set of Spot instances could be placed in a different zone from the original request, even if you specified the same Availability Zone group.

Default: Instances are launched in any available Availability Zone.

Type: String

Required: No

BlockDurationMinutes

The required duration for the Spot instances (also known as Spot blocks), in minutes. This value must be a multiple of 60 (60, 120, 180, 240, 300, or 360).

The duration period starts as soon as your Spot instance receives its instance ID. At the end of the duration period, Amazon EC2 marks the Spot instance for termination and provides a Spot instance termination notice, which gives the instance a two-minute warning before it terminates.

Note that you can't specify an Availability Zone group or a launch group if you specify a duration.

Type: Integer

Required: No

ClientToken

Unique, case-sensitive identifier that you provide to ensure the idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceCount

The maximum number of Spot instances to launch.

Default: 1

Type: Integer

Required: No

LaunchGroup

The instance launch group. Launch groups are Spot instances that launch together and terminate together.

Default: Instances are launched and terminated individually

Type: String

Required: No

LaunchSpecification

Describes the launch specification for an instance.

Type: RequestSpotLaunchSpecification (p. 768) object

Required: No

SpotPrice

The maximum hourly price (bid) for any Spot instance launched to fulfill the request.

Type: String

Required: Yes

Type

The Spot instance request type.

Default: `one-time`

Type: String

Valid Values: `one-time | persistent`

Required: No

ValidFrom

The start date of the request. If this is a one-time request, the request becomes active at this date and time and remains active until all instances launch, the request expires, or the request is canceled. If the request is persistent, the request becomes active at this date and time and remains active until it expires or is canceled.

Default: The request is effective indefinitely.

Type: Timestamp

Required: No

ValidUntil

The end date of the request. If this is a one-time request, the request remains active until all instances launch, the request is canceled, or this date is reached. If the request is persistent, it remains active until it is canceled or this date and time is reached.

Default: The request is effective indefinitely.

Type: Timestamp

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

spotInstanceRequestSet

One or more Spot instance requests.

Type: array of SpotInstanceRequest (p. 831) objects

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example creates a one-time Spot instance request for two instances. It does not include an Availability Zone or subnet, so Amazon EC2 selects an Availability Zone for you. If your account supports EC2-VPC only, Amazon EC2 launches the instances in the default subnet of the selected Availability Zone. If your account supports EC2-Classic, Amazon EC2 launch the instances in EC2-Classic in the selected Availability Zone.

Sample Request

```
https://ec2.amazonaws.com/?Action=RequestSpotInstances
&SpotPrice=0.03
&InstanceCount=2
&Type=one-time
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS
```

Example 2

The following example includes an Availability Zone. If your account supports EC2-VPC only, Amazon EC2 launches the instances in the default subnet of the specified Availability Zone. If your account support EC2-Classic, Amazon EC2 launches the instances in EC2-Classic in the specified Availability Zone.

Sample Request

```
https://ec2.amazonaws.com/?Action=RequestSpotInstances
&SpotPrice=0.03
&InstanceCount=2
&Type=one-time
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.Placement.AvailabilityZone=us-west-2a
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS
```

Example 3

The following example includes a subnet. Amazon EC2 launches the instances in the specified subnet. Note that you can specify security groups for EC2-Classic either by ID or by name. You must specify security groups for EC2-VPC by ID.

Sample Request

```
https://ec2.amazonaws.com/?Action=RequestSpotInstances
&SpotPrice=0.03
&InstanceCount=2
&Type=one-time
```

```
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=my-key-pair
&LaunchSpecification.SecurityGroupId.1=sg-1a2b3c4d
&LaunchSpecification.InstanceType=m3.medium
&LaunchSpecification.SubnetId=subnet-1a2b3c4d
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ResetImageAttribute

Resets an attribute of an AMI to its default value.

Note
The productCodes attribute can't be reset.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute
The attribute to reset (currently you can only reset the launch permission attribute).
Type: String
Valid Values: `launchPermission`
Required: Yes

DryRun
Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.
Type: Boolean
Required: No

ImageId
The ID of the AMI.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example resets the `launchPermission` attribute for the specified AMI.

Sample Request

```
https://ec2.amazonaws.com/?Action=ResetImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
```

```
&AUTHPARAMS
```

Sample Response

```
<ResetImageAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetImageAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ResetInstanceAttribute

Resets an attribute of an instance to its default value. To reset the `kernel` or `ramdisk`, the instance must be in a stopped state. To reset the `sourceDestCheck`, the instance can be either running or stopped.

The `sourceDestCheck` attribute controls whether source/destination checking is enabled. The default value is `true`, which means checking is enabled. This value must be `false` for a NAT instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The attribute to reset.

> **Important**
> You can only reset the following attributes: `kernel` | `ramdisk` | `sourceDestCheck`. To change an instance attribute, use ModifyInstanceAttribute (p. 505).

Type: String

Valid Values: `instanceType | kernel | ramdisk | userData | disableApiTermination | instanceInitiatedShutdownBehavior | rootDeviceName | blockDeviceMapping | productCodes | sourceDestCheck | groupSet | ebsOptimized | sriovNetSupport | enaSupport`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId

The ID of the instance.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example resets the `sourceDestCheck` attribute.

Sample Request

```
https://ec2.amazonaws.com/?Action=ResetInstanceAttribute
&InstanceId=i-1234567890abcdef0
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Sample Response

```
<ResetInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetInstanceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ResetNetworkInterfaceAttribute

Resets a network interface attribute. You can specify only one attribute at a time.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

SourceDestCheck

The source/destination checking attribute. Resets the value to `true`.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example resets the `sourceDestCheck` attribute for the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=ResetNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Sample Response

```
<ResetNetworkInterfaceAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
    <requestId>5187642e-3f16-44a3-b05f-24c3848b5162</requestId>
    <return>true</return>
</ResetNetworkInterfaceAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

ResetSnapshotAttribute

Resets permission settings for the specified snapshot.

For more information on modifying snapshot permissions, see Sharing Snapshots in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Attribute

The attribute to reset. Currently, only the attribute for permission to create volumes can be reset.

Type: String

Valid Values: `productCodes | createVolumePermission`

Required: Yes

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

SnapshotId

The ID of the snapshot.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example resets the permissions for `snap-1234567890abcdef0`, making it a private snapshot that can only be used by the account that created it.

Sample Request

```
https://ec2.amazonaws.com/?Action=ResetSnapshotAttribute
&SnapshotId=snap-1234567890abcdef0
```

```
&Attribute=createVolumePermission
&AUTHPARAMS
```

Sample Response

```
<ResetSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetSnapshotAttributeResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RestoreAddressToClassic

Restores an Elastic IP address that was previously moved to the EC2-VPC platform back to the EC2-Classic platform. You cannot move an Elastic IP address that was originally allocated for use in EC2-VPC. The Elastic IP address must not be associated with an instance or network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

PublicIp

The Elastic IP address.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

publicIp

The Elastic IP address.

Type: String

requestId

The ID of the request.

Type: String

status

The move status for the IP address.

Type: String

Valid Values: `MoveInProgress | InVpc | InClassic`

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example restores Elastic IP address 54.123.45.67 to the EC2-Classic platform.

Sample Request

```
https://ec2.amazonaws.com/?Action=RestoreAddressToClassic
&publicIp=54.123.45.67
&AUTHPARAMS
```

Sample Response

```
<RestoreAddressToClassicResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
     <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
     <publicIp>54.123.45.67</publicIp>
     <status>MoveInProgress</status>
</RestoreAddressToClassicResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RevokeSecurityGroupEgress

[EC2-VPC only] Removes one or more egress rules from a security group for EC2-VPC. This action doesn't apply to security groups for use in EC2-Classic. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be revoked.

Each rule consists of the protocol and the IPv4 or IPv6 CIDR range or source security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrIp

The CIDR IP address range. We recommend that you specify the CIDR range in a set of IP permissions instead.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. We recommend that you specify the port range in a set of IP permissions instead.

Type: Integer

Required: No

GroupId

The ID of the security group.

Type: String

Required: Yes

IpPermissions.N

A set of IP permissions. You can't specify a destination security group and a CIDR IP address range.

Type: array of IpPermission (p. 721) objects

Required: No

IpProtocol

The IP protocol name or number. We recommend that you specify the protocol in a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupName

The name of a destination security group. To revoke outbound access to a destination security group, we recommend that you use a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupOwnerId
The AWS account number for a destination security group. To revoke outbound access to a destination security group, we recommend that you use a set of IP permissions instead.
Type: String
Required: No

ToPort
The end of port range for the TCP and UDP protocols, or an ICMP type number. We recommend that you specify the port range in a set of IP permissions instead.
Type: Integer
Required: No

Response Elements

The following elements are returned by the service.

requestId
The ID of the request.
Type: String

return
Is `true` if the request succeeds, and an error otherwise.
Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example revokes the access that the specified security group has to the `205.192.0.0/16` and `205.159.0.0/16` IPv4 address ranges on TCP port 80.

Sample Request

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&IpPermissions.1.IpRanges.2.CidrIp=205.159.0.0/16
&AUTHPARAMS
```

Example 2

This example revokes the access that the specified security group has to the security group with the ID `sg-9a8d7f5c` on TCP port 1433.

Sample Request

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
```

```
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RevokeSecurityGroupIngress

Removes one or more ingress rules from a security group. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be removed.

Each rule consists of the protocol and the CIDR range or source security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

CidrIp

The CIDR IP address range. You can't specify this parameter when specifying a source security group.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, use `-1` to specify all ICMP types.

Type: Integer

Required: No

GroupId

The ID of the security group. Required for a security group in a nondefault VPC.

Type: String

Required: No

GroupName

[EC2-Classic, default VPC] The name of the security group.

Type: String

Required: No

IpPermissions.N

A set of IP permissions. You can't specify a source security group and a CIDR IP address range.

Type: array of IpPermission (p. 721) objects

Required: No

IpProtocol

The IP protocol name (`tcp`, `udp`, `icmp`) or number (see Protocol Numbers). Use `-1` to specify all.

Type: String

Required: No

SourceSecurityGroupName

[EC2-Classic, default VPC] The name of the source security group. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the start of the port range, the IP protocol, and the end of the port range. For EC2-VPC, the source security group must be in the same VPC. To revoke a specific rule for an IP protocol and port range, use a set of IP permissions instead.

Type: String

Required: No

SourceSecurityGroupOwnerId

[EC2-Classic] The AWS account ID of the source security group, if the source security group is in a different account. You can't specify this parameter in combination with the following parameters: the CIDR IP address range, the IP protocol, the start of the port range, and the end of the port range. To revoke a specific rule for an IP protocol and port range, use a set of IP permissions instead.

Type: String

Required: No

ToPort

The end of port range for the TCP and UDP protocols, or an ICMP code number. For the ICMP code number, use `-1` to specify all ICMP codes for the ICMP type.

Type: Integer

Required: No

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example 1

This example revokes TCP port 80 access from the `205.192.0.0/16` IPv4 address range for the security group named `websrv`. If the security group is for a VPC, specify the ID of the security group instead of the name.

Sample Request

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&AUTHPARAMS
```

Sample Response

```
<RevokeSecurityGroupIngressResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RevokeSecurityGroupIngressResponse>
```

Example 2

[EC2-VPC] This example revokes TCP port 22 (SSH) access from IPv6 range `2001:db8:1234:1a00::/64`.

Sample Request

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Ipv6Ranges.1.CidrIpv6=2001:db8:1234:1a00::/64
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RunInstances

Launches the specified number of instances using an AMI for which you have permissions.

You can specify a number of options, or leave the default options. The following rules apply:

- [EC2-VPC] If you don't specify a subnet ID, we choose a default subnet from your default VPC for you. If you don't have a default VPC, you must specify a subnet ID in the request.
- [EC2-Classic] If don't specify an Availability Zone, we choose one for you.
- Some instance types must be launched into a VPC. If you do not have a default VPC, or if you do not specify a subnet ID, the request fails. For more information, see Instance Types Available Only in a VPC.
- [EC2-VPC] All instances have a network interface with a primary private IPv4 address. If you don't specify this address, we choose one from the IPv4 range of your subnet.
- Not all instance types support IPv6 addresses. For more information, see Instance Types.
- If you don't specify a security group ID, we use the default security group. For more information, see Security Groups.
- If any of the AMIs have a product code attached for which the user has not subscribed, the request fails.

To ensure faster instance launches, break up large requests into smaller batches. For example, create 5 separate launch requests for 100 instances each instead of 1 launch request for 500 instances.

An instance is ready for you to use when it's in the `running` state. You can check the state of your instance using DescribeInstances (p. 284). After launch, you can apply tags to your running instance (requires a resource ID). For more information, see CreateTags (p. 147) and Tagging Your Amazon EC2 Resources.

Linux instances have access to the public key of the key pair at boot. You can use this key to provide secure access to the instance. Amazon EC2 public images use this feature to provide secure access without passwords. For more information, see Key Pairs in the *Amazon Elastic Compute Cloud User Guide*.

For troubleshooting, see What To Do If An Instance Immediately Terminates, and Troubleshooting Connecting to Your Instance in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AdditionalInfo

Reserved.

Type: String

Required: No

BlockDeviceMapping.N

The block device mapping.

Important
Supplying both a snapshot ID and an encryption value as arguments for block-device mapping results in an error. This is because only blank volumes can be encrypted on start, and these are not created from a snapshot. If a snapshot is the basis for the volume, it contains data by definition and its encryption status cannot be changed using this action.

Type: array of BlockDeviceMapping (p. 634) objects

Required: No

ClientToken

Unique, case-sensitive identifier you provide to ensure the idempotency of the request. For more information, see Ensuring Idempotency.

Constraints: Maximum 64 ASCII characters

Type: String

Required: No

DisableApiTermination

If you set this parameter to `true`, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. To change this attribute to `false` after launch, use ModifyInstanceAttribute (p. 505). Alternatively, if you set `InstanceInitiatedShutdownBehavior` to `terminate`, you can terminate the instance by running the shutdown command from the instance.

Default: `false`

Type: Boolean

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

EbsOptimized

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Default: `false`

Type: Boolean

Required: No

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 679) object

Required: No

ImageId

The ID of the AMI, which you can get by calling DescribeImages (p. 271).

Type: String

Required: Yes

InstanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Default: `stop`

Type: String

Valid Values: `stop | terminate`

Required: No

InstanceType

The instance type. For more information, see Instance Types in the *Amazon Elastic Compute Cloud User Guide*.

Default: `m1.small`

Type: String

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge`

```
| m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge
| m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge |
m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge
| r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge
| r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge
| i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge |
c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge |
c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge
| cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge |
p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge
| d2.8xlarge | f1.2xlarge | f1.16xlarge
```

Required: No

Ipv6Address.N

[EC2-VPC] Specify one or more IPv6 addresses from the range of the subnet to associate with the primary network interface. You cannot specify this option and the option to assign a number of IPv6 addresses in the same request. You cannot specify this option if you've specified a minimum number of instances to launch.

Type: array of InstanceIpv6Address (p. 704) objects

Required: No

Ipv6AddressCount

[EC2-VPC] A number of IPv6 addresses to associate with the primary network interface. Amazon EC2 chooses the IPv6 addresses from the range of your subnet. You cannot specify this option and the option to assign specific IPv6 addresses in the same request. You can specify this option if you've specified a minimum number of instances to launch.

Type: Integer

Required: No

KernelId

The ID of the kernel.

> **Important**
> We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

KeyName

The name of the key pair. You can create a key pair using CreateKeyPair (p. 107) or ImportKeyPair (p. 488).

> **Important**
> If you do not specify a key pair, you can't connect to the instance unless you choose an AMI that is configured to allow users another way to log in.

Type: String

Required: No

MaxCount

The maximum number of instances to launch. If you specify more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches the largest possible number of instances above `MinCount`.

Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see How many instances can I run in Amazon EC2 in the Amazon EC2 FAQ.

Type: Integer

Required: Yes

MinCount

The minimum number of instances to launch. If you specify a minimum that is more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches no instances.

Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see How many instances can I run in Amazon EC2 in the Amazon EC2 General FAQ.

Type: Integer

Required: Yes

Monitoring

The monitoring for the instance.

Type: RunInstancesMonitoringEnabled (p. 792) object

Required: No

NetworkInterface.N

One or more network interfaces.

Type: array of InstanceNetworkInterfaceSpecification (p. 710) objects

Required: No

Placement

The placement for the instance.

Type: Placement (p. 751) object

Required: No

PrivateIpAddress

[EC2-VPC] The primary IPv4 address. You must specify a value from the IPv4 address range of the subnet.

Only one private IP address can be designated as primary. You can't specify this option if you've specified the option to designate a private IP address as the primary IP address in a network interface specification. You cannot specify this option if you're launching more than one instance in the request.

Type: String

Required: No

RamdiskId

The ID of the RAM disk.

> **Important**
> We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

SecurityGroup.N

[EC2-Classic, default VPC] One or more security group names. For a nondefault VPC, you must use security group IDs instead.

Default: Amazon EC2 uses the default security group.

Type: array of Strings

Required: No

SecurityGroupId.N

One or more security group IDs. You can create a security group using CreateSecurityGroup (p. 136).

Default: Amazon EC2 uses the default security group.

Type: array of Strings

Required: No

SubnetId

[EC2-VPC] The ID of the subnet to launch the instance into.

Type: String

Required: No

UserData

The user data to make available to the instance. For more information, see Running Commands on Your Linux Instance at Launch (Linux) and Adding User Data (Windows). If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.

Type: String

Required: No

Response Elements

The following elements are returned by the service.

groupSet

[EC2-Classic only] One or more security groups.

Type: array of GroupIdentifier (p. 668) objects

instancesSet

One or more instances.

Type: array of Instance (p. 694) objects

ownerId

The ID of the AWS account that owns the reservation.

Type: String

requesterId

The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).

Type: String

requestId

The ID of the request.

Type: String

reservationId

The ID of the reservation.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Examples

Example

This example launches three instances using the AMI with the ID `ami-60a54009`.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-60a54009
&MaxCount=3
&MinCount=1
&KeyName=my-key-pair
&Placement.AvailabilityZone=us-east-1d
```

```
&AUTHPARAMS
```

Example

This example launches an `m1.small` instance into a subnet. Because no network interface is specified, a new network interface is created.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=m1.small
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SubnetId=subnet-b2a249da
&AUTHPARAMS
```

Example

This example launches an `m1.large` instance into a subnet. The network interface specifies a primary private IPv4 address of `10.0.2.106` and two secondary private IPv4 addresses (`10.0.2.107` and `10.0.2.108`).

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-beb0caec
&InstanceType=m1.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.PrivateIpAddresses.1.Primary=true
&NetworkInterface.1.PrivateIpAddresses.1.PrivateIpAddress=10.0.2.106
&NetworkInterface.1.PrivateIpAddresses.2.Primary=false
&NetworkInterface.1.PrivateIpAddresses.2.PrivateIpAddress=10.0.2.107
&NetworkInterface.1.PrivateIpAddresses.3.Primary=false
&NetworkInterface.1.PrivateIpAddresses.3.PrivateIpAddress=10.0.2.108
&NetworkInterface.1.SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Example

This example launches a Dedicated Instance into the specified subnet.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2a1fec43
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SubnetId=subnet-dea63cb7
&Placement.Tenancy=dedicated
&AUTHPARAMS
```

Example

This request launches an instance into a nondefault subnet, and requests a public IPv4 address for a new network interface with the device index of 0.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&MaxCount=1
&MinCount=1
&NetworkInterface.1.DeviceIndex=0
&NetworkInterface.1.AssociatePublicIpAddress=true
&NetworkInterface.1.SubnetId=subnet-1a2b3c4d
&AUTHPARAMS
```

Example

This request launches an `m1.large` instance with a block device mapping. There are two instance store volumes mapped to `/dev/sdc` and `/dev/sdd`, and a 100 GB EBS volume mapped to `/dev/sdf`.

Sample Request

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&InstanceType=m1.large
&BlockDeviceMapping.1.DeviceName=%2Fdev%2Fsdc
&BlockDeviceMapping.1.VirtualName=ephemeral0
&BlockDeviceMapping.2.DeviceName=%2Fdev%2Fsdd
&BlockDeviceMapping.2.VirtualName=ephemeral1
&BlockDeviceMapping.3.DeviceName=%2Fdev%2Fsdf
&BlockDeviceMapping.3.Ebs.DeleteOnTermination=false
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&EbsOptimized=false
&MinCount=1
&MaxCount=1
&DisableApiTermination=false
&Monitoring.Enabled=false
&AUTHPARAMS
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

RunScheduledInstances

Launches the specified Scheduled Instances.

Before you can launch a Scheduled Instance, you must purchase it and obtain an identifier using PurchaseScheduledInstances (p. 544).

You must launch a Scheduled Instance during its scheduled time period. You can't stop or reboot a Scheduled Instance, but you can terminate it as needed. If you terminate a Scheduled Instance before the current scheduled time period ends, you can launch it again after a few minutes. For more information, see Scheduled Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

ClientToken

Unique, case-sensitive identifier that ensures the idempotency of the request. For more information, see Ensuring Idempotency.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceCount

The number of instances.

Default: 1

Type: Integer

Required: No

LaunchSpecification

The launch specification. You must match the instance type, Availability Zone, network, and platform of the schedule that you purchased.

Type: ScheduledInstancesLaunchSpecification (p. 805) object

Required: Yes

ScheduledInstanceId

The Scheduled Instance ID.

Type: String

Required: Yes

Response Elements

The following elements are returned by the service.

instanceIdSet

The IDs of the newly launched instances.

Type: array of Strings

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

StartInstances

Starts an Amazon EBS-backed AMI that you've previously stopped.

Instances that use Amazon EBS volumes as their root devices can be quickly stopped and started. When an instance is stopped, the compute resources are released and you are not billed for hourly instance usage. However, your root partition Amazon EBS volume remains, continues to persist your data, and you are charged for Amazon EBS volume usage. You can restart your instance at any time. Each time you transition an instance from stopped to started, Amazon EC2 charges a full instance hour, even if transitions happen multiple times within a single hour.

Before stopping an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM.

Performing this operation on an instance that uses an instance store as its root device returns an error.

For more information, see Stopping Instances in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

AdditionalInfo

Reserved.

Type: String

Required: No

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more started instances.

Type: array of InstanceStateChange (p. 714) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example starts the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=StartInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<StartInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <currentState>
          <code>0</code>
          <name>pending</name>
      </currentState>
      <previousState>
          <code>80</code>
          <name>stopped</name>
      </previousState>
    </item>
  </instancesSet>
</StartInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

StopInstances

Stops an Amazon EBS-backed instance.

We don't charge hourly usage for a stopped instance, or data transfer fees; however, your root partition Amazon EBS volume remains, continues to persist your data, and you are charged for Amazon EBS volume usage. Each time you transition an instance from stopped to started, Amazon EC2 charges a full instance hour, even if transitions happen multiple times within a single hour.

You can't start or stop Spot instances, and you can't stop instance store-backed instances.

When you stop an instance, we shut it down. You can restart your instance at any time. Before stopping an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM.

Stopping an instance is different to rebooting or terminating it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between rebooting, stopping, and terminating instances, see Instance Lifecycle in the *Amazon Elastic Compute Cloud User Guide*.

When you stop an instance, we attempt to shut it down forcibly after a short while. If your instance appears stuck in the stopping state after a period of time, there may be an issue with the underlying host computer. For more information, see Troubleshooting Stopping Your Instance in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

Force

Forces the instances to stop. The instances do not have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures. This option is not recommended for Windows instances.

Default: `false`

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more stopped instances.

Type: array of InstanceStateChange (p. 714) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example stops the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=StopInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<StopInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <currentState>
          <code>64</code>
          <name>stopping</name>
      </currentState>
      <previousState>
          <code>16</code>
          <name>running</name>
      </previousState>
  </instancesSet>
</StopInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

TerminateInstances

Shuts down one or more instances. This operation is idempotent; if you terminate an instance more than once, each call succeeds.

If you specify multiple instances and the request fails (for example, because of a single incorrect instance ID), none of the instances are terminated.

Terminated instances remain visible after termination (for approximately one hour).

By default, Amazon EC2 deletes all EBS volumes that were attached when the instance launched. Volumes attached after instance launch continue running.

You can stop, start, and terminate EBS-backed instances. You can only terminate instance store-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, any attached EBS volumes with the `DeleteOnTermination` block device mapping parameter set to `true` are automatically deleted. For more information about the differences between stopping and terminating instances, see Instance Lifecycle in the *Amazon Elastic Compute Cloud User Guide*.

For more information about troubleshooting, see Troubleshooting Terminating Your Instance in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Constraints: Up to 1000 instance IDs. We recommend breaking up this request into smaller batches.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

Information about one or more terminated instances.

Type: array of InstanceStateChange (p. 714) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example terminates the specified instance.

Sample Request

```
https://ec2.amazonaws.com/?Action=TerminateInstances
&InstanceId.1=i-1234567890abcdef0
&AUTHPARAMS
```

Sample Response

```
<TerminateInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-1234567890abcdef0</instanceId>
      <currentState>
        <code>32</code>
        <name>shutting-down</name>
      </currentState>
      <previousState>
        <code>16</code>
        <name>running</name>
      </previousState>
    </item>
  </instancesSet>
</TerminateInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UnassignIpv6Addresses

Unassigns one or more IPv6 addresses from a network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

Ipv6Addresses.N
The IPv6 addresses to unassign from the network interface.
Type: array of Strings
Required: Yes

NetworkInterfaceId
The ID of the network interface.
Type: String
Required: Yes

Response Elements

The following elements are returned by the service.

networkInterfaceId
The ID of the network interface.
Type: String

requestId
The ID of the request.
Type: String

unassignedIpv6Addresses
The IPv6 addresses that have been unassigned from the network interface.
Type: array of Strings

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

The following example unassigns two IPv6 addresses from the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=UnassignIpv6Addresses
&NetworkInterfaceId=eni-197d9972
&Ipv6Addresses.1=2001:db8:1234:1a00::123
&Ipv6Addresses.2=2001:db8:1234:1a00::456
&AUTHPARAMS
```

Sample Response

```
<UnassignIpv6AddressesResponse xmlns="http://ec2.amazonaws.com/
doc/2016-11-15/">
```

```
    <requestId>94d446d7-fc8e-4918-94f9-example</requestId>
    <networkInterfaceId>eni-197d9972</networkInterfaceId>
    <unassignedIpv6Addresses>
        <item>2001:db8:1234:1a00::123</item>
        <item>2001:db8:1234:1a00::456</item>
    </unassignedIpv6Addresses>
</UnassignIpv6AddressesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UnassignPrivateIpAddresses

Unassigns one or more secondary private IP addresses from a network interface.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

NetworkInterfaceId

The ID of the network interface.

Type: String

Required: Yes

PrivateIpAddress.N

The secondary private IP addresses to unassign from the network interface. You can specify this option multiple times to unassign more than one IP address.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

requestId

The ID of the request.

Type: String

return

Is `true` if the request succeeds, and an error otherwise.

Type: Boolean

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

The following example unassigns two secondary private IP addresses from the specified network interface.

Sample Request

```
https://ec2.amazonaws.com/?Action=UnassignPrivateIpAddresses
&NetworkInterfaceId=eni-197d9972
&PrivateIpAddress.1=10.0.2.60
&PrivateIpAddress.2=10.0.2.65
&AUTHPARAMS
```

Sample Response

```
<UnassignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
   <return>true</return>
</UnassignPrivateIpAddresses>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

UnmonitorInstances

Disables detailed monitoring for a running instance. For more information, see Monitoring Your Instances and Volumes in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

The following parameters are for this specific action. For more information about required and optional parameters that are common to all actions, see Common Query Parameters (p. 908).

DryRun

Checks whether you have the required permissions for the action, without actually making the request, and provides an error response. If you have the required permissions, the error response is `DryRunOperation`. Otherwise, it is `UnauthorizedOperation`.

Type: Boolean

Required: No

InstanceId.N

One or more instance IDs.

Type: array of Strings

Required: Yes

Response Elements

The following elements are returned by the service.

instancesSet

The monitoring information.

Type: array of InstanceMonitoring (p. 705) objects

requestId

The ID of the request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Client Errors (p. 929).

Example

Example

This example disables detailed monitoring for the specified instances.

Sample Request

```
https://ec2.amazonaws.com/?Action=UnmonitorInstances
&InstanceId.1=i-1234567890abcdef0
&InstanceId.2=i-0598c7d356eba48d7
&AUTHPARAMS
```

Sample Response

```
<UnmonitorInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
   <instancesSet>
      <item>
         <instanceId>i-1234567890abcdef0</instanceId>
         <monitoring>
            <state>disabled</state>
         </monitoring>
      </item>
      <item>
         <instanceId>i-0598c7d356eba48d7</instanceId>
         <monitoring>
            <state>disabled</state>
         </monitoring>
      </item>
   </instancesSet>
</UnmonitorInstancesResponse>
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2

Data Types

The Amazon Elastic Compute Cloud API contains several data types that various actions use. This section describes each data type in detail.

Note
The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- VpnConnectionOptionsSpecification (p. 884)
- VpnGateway (p. 885)
- VpnStaticRoute (p. 886)

AccountAttribute

Describes an account attribute.

Contents

attributeName
The name of the account attribute.
Type: String
Required: No

attributeValueSet
One or more values for the account attribute.
Type: array of AccountAttributeValue (p. 624) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AccountAttributeValue

Describes a value of an account attribute.

Contents

attributeValue
The value of the attribute.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ActiveInstance

Describes a running instance in a Spot fleet.

Contents

instanceHealth
The health status of the instance. If the status of both the instance status check and the system status check is `impaired`, the health status of the instance is `unhealthy`. Otherwise, the health status is `healthy`.

Type: String

Valid Values: `healthy | unhealthy`

Required: No

instanceId
The ID of the instance.

Type: String

Required: No

instanceType
The instance type.

Type: String

Required: No

spotInstanceRequestId
The ID of the Spot instance request.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Address

Describes an Elastic IP address.

Contents

allocationId
The ID representing the allocation of the address for use with EC2-VPC.
Type: String
Required: No

associationId
The ID representing the association of the address with an instance in a VPC.
Type: String
Required: No

domain
Indicates whether this Elastic IP address is for use with instances in EC2-Classic (`standard`) or instances in a VPC (`vpc`).
Type: String
Valid Values: `vpc | standard`
Required: No

instanceId
The ID of the instance that the address is associated with (if any).
Type: String
Required: No

networkInterfaceId
The ID of the network interface.
Type: String
Required: No

networkInterfaceOwnerId
The ID of the AWS account that owns the network interface.
Type: String
Required: No

privateIpAddress
The private IP address associated with the Elastic IP address.
Type: String
Required: No

publicIp
The Elastic IP address.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AttributeBooleanValue

Describes a value for a resource attribute that is a Boolean value.

Contents

Value (request), **value** (response)
The attribute value. The valid values are `true` or `false`.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AttributeValue

Describes a value for a resource attribute that is a String.

Contents

Value (request), **value** (response)
The attribute value. Note that the value is case-sensitive.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AvailabilityZone

Describes an Availability Zone.

Contents

messageSet
Any messages about the Availability Zone.
Type: array of AvailabilityZoneMessage (p. 631) objects
Required: No

regionName
The name of the region.
Type: String
Required: No

zoneName
The name of the Availability Zone.
Type: String
Required: No

zoneState
The state of the Availability Zone.
Type: String
Valid Values: `available | information | impaired | unavailable`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AvailabilityZoneMessage

Describes a message about an Availability Zone.

Contents

message
The message about the Availability Zone.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

AvailableCapacity

The capacity information for instances launched onto the Dedicated Host.

Contents

availableInstanceCapacity
The total number of instances that the Dedicated Host supports.
Type: array of InstanceCapacity (p. 701) objects
Required: No

availableVCpus
The number of vCPUs available on the Dedicated Host.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

BlobAttributeValue

Describes Base64-encoded binary data.

Contents

Value

The value of the data.

Type: Base64-encoded binary data

Required: No

BlockDeviceMapping

Describes a block device mapping.

Contents

DeviceName (request), **deviceName** (response)
The device name exposed to the instance (for example, `/dev/sdh` or `xvdh`).
Type: String
Required: No

Ebs (request), **ebs** (response)
Parameters used to automatically set up EBS volumes when the instance is launched.
Type: EbsBlockDevice (p. 655) object
Required: No

NoDevice (request), **noDevice** (response)
Suppresses the specified device included in the block device mapping of the AMI.
Type: String
Required: No

VirtualName (request), **virtualName** (response)
The virtual device name (`ephemeral`N). Instance store volumes are numbered starting from 0. An instance type with 2 available instance store volumes can specify mappings for `ephemeral0` and `ephemeral1`.The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.
Constraints: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

BundleTask

Describes a bundle task.

Contents

bundleId
The ID of the bundle task.
Type: String
Required: No

error
If the task fails, a description of the error.
Type: BundleTaskError (p. 637) object
Required: No

instanceId
The ID of the instance associated with this bundle task.
Type: String
Required: No

progress
The level of task completion, as a percent (for example, 20%).
Type: String
Required: No

startTime
The time this task started.
Type: Timestamp
Required: No

state
The state of the task.
Type: String
Valid Values: `pending | waiting-for-shutdown | bundling | storing | cancelling | complete | failed`
Required: No

storage
The Amazon S3 storage locations.
Type: Storage (p. 842) object
Required: No

updateTime
The time of the most recent update for the task.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

BundleTaskError

Describes an error for BundleInstance (p. 63).

Contents

code
The error code.
Type: String
Required: No

message
The error message.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CancelledSpotInstanceRequest

Describes a request to cancel a Spot instance.

Contents

spotInstanceRequestId
The ID of the Spot instance request.
Type: String
Required: No

state
The state of the Spot instance request.
Type: String
Valid Values: `active | open | closed | cancelled | completed`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CancelSpotFleetRequestsError

Describes a Spot fleet error.

Contents

code
The error code.
Type: String
Valid Values: `fleetRequestIdDoesNotExist | fleetRequestIdMalformed | fleetRequestNotInCancellableState | unexpectedError`
Required: Yes

message
The description for the error code.
Type: String
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CancelSpotFleetRequestsErrorItem

Describes a Spot fleet request that was not successfully canceled.

Contents

error
The error.
Type: CancelSpotFleetRequestsError (p. 639) object
Required: Yes

spotFleetRequestId
The ID of the Spot fleet request.
Type: String
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CancelSpotFleetRequestsSuccessItem

Describes a Spot fleet request that was successfully canceled.

Contents

currentSpotFleetRequestState
The current state of the Spot fleet request.
Type: String
Valid Values: `submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying`
Required: Yes

previousSpotFleetRequestState
The previous state of the Spot fleet request.
Type: String
Valid Values: `submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying`
Required: Yes

spotFleetRequestId
The ID of the Spot fleet request.
Type: String
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ClassicLinkDnsSupport

Describes the ClassicLink DNS support status of a VPC.

Contents

classicLinkDnsSupported
Indicates whether ClassicLink DNS support is enabled for the VPC.
Type: Boolean
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ClassicLinkInstance

Describes a linked EC2-Classic instance.

Contents

groupSet
A list of security groups.
Type: array of GroupIdentifier (p. 668) objects
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

tagSet
Any tags assigned to the instance.
Type: array of Tag (p. 847) objects
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ClientData

Describes the client-specific data.

Contents

Comment
A user-defined comment about the disk upload.
Type: String
Required: No

UploadEnd
The time that the disk upload ends.
Type: Timestamp
Required: No

UploadSize
The size of the uploaded disk image, in GiB.
Type: Double
Required: No

UploadStart
The time that the disk upload starts.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ConversionTask

Describes a conversion task.

Contents

conversionTaskId
The ID of the conversion task.
Type: String
Required: Yes

expirationTime
The time when the task expires. If the upload isn't complete before the expiration time, we automatically cancel the task.
Type: String
Required: No

importInstance
If the task is for importing an instance, this contains information about the import instance task.
Type: ImportInstanceTaskDetails (p. 690) object
Required: No

importVolume
If the task is for importing a volume, this contains information about the import volume task.
Type: ImportVolumeTaskDetails (p. 693) object
Required: No

state
The state of the conversion task.
Type: String
Valid Values: `active | cancelling | cancelled | completed`
Required: Yes

statusMessage
The status message related to the conversion task.
Type: String
Required: No

tagSet
Any tags assigned to the task.
Type: array of Tag (p. 847) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CreateVolumePermission

Describes the user or group to be added or removed from the permissions for a volume.

Contents

Group (request), **group** (response)
The specific group that is to be added or removed from a volume's list of create volume permissions.
Type: String
Valid Values: `all`
Required: No

UserId (request), **userId** (response)
The specific AWS account ID that is to be added or removed from a volume's list of create volume permissions.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CreateVolumePermissionModifications

Describes modifications to the permissions for a volume.

Contents

Add

Adds a specific AWS account ID or group to a volume's list of create volume permissions.

Type: array of CreateVolumePermission (p. 646) objects

Required: No

Remove

Removes a specific AWS account ID or group from a volume's list of create volume permissions.

Type: array of CreateVolumePermission (p. 646) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

CustomerGateway

Describes a customer gateway.

Contents

bgpAsn
The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
Type: String
Required: No

customerGatewayId
The ID of the customer gateway.
Type: String
Required: No

ipAddress
The Internet-routable IP address of the customer gateway's outside interface.
Type: String
Required: No

state
The current state of the customer gateway (`pending | available | deleting | deleted`).
Type: String
Required: No

tagSet
Any tags assigned to the customer gateway.
Type: array of Tag (p. 847) objects
Required: No

type
The type of VPN connection the customer gateway supports (`ipsec.1`).
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DhcpConfiguration

Describes a DHCP configuration option.

Contents

key
The name of a DHCP option.
Type: String
Required: No

valueSet
One or more values for the DHCP option.
Type: array of AttributeValue (p. 629) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DhcpOptions

Describes a set of DHCP options.

Contents

dhcpConfigurationSet
One or more DHCP options in the set.
Type: array of DhcpConfiguration (p. 649) objects
Required: No

dhcpOptionsId
The ID of the set of DHCP options.
Type: String
Required: No

tagSet
Any tags assigned to the DHCP options set.
Type: array of Tag (p. 847) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DiskImage

Describes a disk image.

Contents

Description
A description of the disk image.
Type: String
Required: No

Image
Information about the disk image.
Type: DiskImageDetail (p. 653) object
Required: No

Volume
Information about the volume.
Type: VolumeDetail (p. 862) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DiskImageDescription

Describes a disk image.

Contents

checksum
The checksum computed for the disk image.
Type: String
Required: No

format
The disk image format.
Type: String
Valid Values: `VMDK` | `RAW` | `VHD`
Required: Yes

importManifestUrl
A presigned URL for the import manifest stored in Amazon S3. For information about creating a presigned URL for an Amazon S3 object, read the "Query String Request Authentication Alternative" section of the Authenticating REST Requests topic in the *Amazon Simple Storage Service Developer Guide*.
For information about the import manifest referenced by this API action, see VM Import Manifest.
Type: String
Required: Yes

size
The size of the disk image, in GiB.
Type: Long
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DiskImageDetail

Describes a disk image.

Contents

Bytes

The size of the disk image, in GiB.

Type: Long

Required: Yes

Format

The disk image format.

Type: String

Valid Values: `VMDK | RAW | VHD`

Required: Yes

ImportManifestUrl

A presigned URL for the import manifest stored in Amazon S3 and presented here as an Amazon S3 presigned URL. For information about creating a presigned URL for an Amazon S3 object, read the "Query String Request Authentication Alternative" section of the Authenticating REST Requests topic in the *Amazon Simple Storage Service Developer Guide*.

For information about the import manifest referenced by this API action, see VM Import Manifest.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

DiskImageVolumeDescription

Describes a disk image volume.

Contents

id

The volume identifier.

Type: String

Required: Yes

size

The size of the volume, in GiB.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

EbsBlockDevice

Describes a block device for an EBS volume.

Contents

DeleteOnTermination (request), **deleteOnTermination** (response)
Indicates whether the EBS volume is deleted on instance termination.

Type: Boolean

Required: No

Encrypted (request), **encrypted** (response)
Indicates whether the EBS volume is encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption.

Type: Boolean

Required: No

Iops (request), **iops** (response)
The number of I/O operations per second (IOPS) that the volume supports. For `io1`, this represents the number of IOPS that are provisioned for the volume. For `gp2`, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the *Amazon Elastic Compute Cloud User Guide*.

Constraint: Range is 100-20000 IOPS for `io1` volumes and 100-10000 IOPS for `gp2` volumes.

Condition: This parameter is required for requests to create `io1` volumes; it is not used in requests to create `gp2`, `st1`, `sc1`, or `standard` volumes.

Type: Integer

Required: No

SnapshotId (request), **snapshotId** (response)
The ID of the snapshot.

Type: String

Required: No

VolumeSize (request), **volumeSize** (response)
The size of the volume, in GiB.

Constraints: 1-16384 for General Purpose SSD (`gp2`), 4-16384 for Provisioned IOPS SSD (`io1`), 500-16384 for Throughput Optimized HDD (`st1`), 500-16384 for Cold HDD (`sc1`), and 1-1024 for Magnetic (`standard`) volumes. If you specify a snapshot, the volume size must be equal to or larger than the snapshot size.

Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.

Type: Integer

Required: No

VolumeType (request), **volumeType** (response)
The volume type: `gp2`, `io1`, `st1`, `sc1`, or `standard`.

Default: `standard`

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

EbsInstanceBlockDevice

Describes a parameter used to set up an EBS volume in a block device mapping.

Contents

attachTime
The time stamp when the attachment initiated.
Type: Timestamp
Required: No

deleteOnTermination
Indicates whether the volume is deleted on instance termination.
Type: Boolean
Required: No

status
The attachment state.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

volumeId
The ID of the EBS volume.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

EbsInstanceBlockDeviceSpecification

Describes information used to set up an EBS volume specified in a block device mapping.

Contents

DeleteOnTermination

Indicates whether the volume is deleted on instance termination.

Type: Boolean

Required: No

VolumeId

The ID of the EBS volume.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

EgressOnlyInternetGateway

Describes an egress-only Internet gateway.

Contents

attachmentSet
Information about the attachment of the egress-only Internet gateway.
Type: array of InternetGatewayAttachment (p. 720) objects
Required: No

egressOnlyInternetGatewayId
The ID of the egress-only Internet gateway.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

EventInformation

Describes a Spot fleet event.

Contents

eventDescription

The description of the event.

Type: String

Required: No

eventSubType

The event.

The following are the `error` events.

- `iamFleetRoleInvalid` - The Spot fleet did not have the required permissions either to launch or terminate an instance.
- `launchSpecTemporarilyBlacklisted` - The configuration is not valid and several attempts to launch instances have failed. For more information, see the description of the event.
- `spotFleetRequestConfigurationInvalid` - The configuration is not valid. For more information, see the description of the event.
- `spotInstanceCountLimitExceeded` - You've reached the limit on the number of Spot instances that you can launch.

The following are the `fleetRequestChange` events.

- `active` - The Spot fleet has been validated and Amazon EC2 is attempting to maintain the target number of running Spot instances.
- `cancelled` - The Spot fleet is canceled and has no running Spot instances. The Spot fleet will be deleted two days after its instances were terminated.
- `cancelled_running` - The Spot fleet is canceled and will not launch additional Spot instances, but its existing Spot instances continue to run until they are interrupted or terminated.
- `cancelled_terminating` - The Spot fleet is canceled and its Spot instances are terminating.
- `expired` - The Spot fleet request has expired. A subsequent event indicates that the instances were terminated, if the request was created with `TerminateInstancesWithExpiration` set.
- `modify_in_progress` - A request to modify the Spot fleet request was accepted and is in progress.
- `modify_successful` - The Spot fleet request was modified.
- `price_update` - The bid price for a launch configuration was adjusted because it was too high. This change is permanent.
- `submitted` - The Spot fleet request is being evaluated and Amazon EC2 is preparing to launch the target number of Spot instances.

The following are the `instanceChange` events.

- `launched` - A bid was fulfilled and a new instance was launched.
- `terminated` - An instance was terminated by the user.

Type: String

Required: No

instanceId

The ID of the instance. This information is available only for `instanceChange` events.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ExportTask

Describes an instance export task.

Contents

description
A description of the resource being exported.
Type: String
Required: No

exportTaskId
The ID of the export task.
Type: String
Required: No

exportToS3
Information about the export task.
Type: ExportToS3Task (p. 663) object
Required: No

instanceExport
Information about the instance to export.
Type: InstanceExportDetails (p. 703) object
Required: No

state
The state of the export task.
Type: String
Valid Values: `active | cancelling | cancelled | completed`
Required: No

statusMessage
The status message related to the export task.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ExportToS3Task

Describes the format and location for an instance export task.

Contents

containerFormat
The container format used to combine disk images with metadata (such as OVF). If absent, only the disk image is exported.
Type: String
Valid Values: `ova`
Required: No

diskImageFormat
The format for the exported image.
Type: String
Valid Values: `VMDK | RAW | VHD`
Required: No

s3Bucket
The S3 bucket for the destination image. The destination bucket must exist and grant WRITE and READ_ACP permissions to the AWS account `vm-import-export@amazon.com`.
Type: String
Required: No

s3Key
The encryption key for your S3 bucket.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ExportToS3TaskSpecification

Describes an instance export task.

Contents

ContainerFormat
The container format used to combine disk images with metadata (such as OVF). If absent, only the disk image is exported.
Type: String
Valid Values: `ova`
Required: No

DiskImageFormat
The format for the exported image.
Type: String
Valid Values: `VMDK | RAW | VHD`
Required: No

S3Bucket
The S3 bucket for the destination image. The destination bucket must exist and grant WRITE and READ_ACP permissions to the AWS account `vm-import-export@amazon.com`.
Type: String
Required: No

S3Prefix
The image is written to a single object in the S3 bucket at the S3 key s3prefix + exportTaskId + '.' + diskImageFormat.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Filter

A filter name and value pair that is used to return a more specific list of results. Filters can be used to match a set of resources by various criteria, such as tags, attributes, or IDs.

Contents

Name

The name of the filter. Filter names are case-sensitive.

Type: String

Required: No

Values

One or more filter values. Filter values are case-sensitive.

Type: array of Strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

FlowLog

Describes a flow log.

Contents

creationTime

The date and time the flow log was created.

Type: Timestamp

Required: No

deliverLogsErrorMessage

Information about the error that occurred. `Rate limited` indicates that CloudWatch logs throttling has been applied for one or more network interfaces, or that you've reached the limit on the number of CloudWatch Logs log groups that you can create. `Access error` indicates that the IAM role associated with the flow log does not have sufficient permissions to publish to CloudWatch Logs. `Unknown error` indicates an internal error.

Type: String

Required: No

deliverLogsPermissionArn

The ARN of the IAM role that posts logs to CloudWatch Logs.

Type: String

Required: No

deliverLogsStatus

The status of the logs delivery (`SUCCESS` | `FAILED`).

Type: String

Required: No

flowLogId

The flow log ID.

Type: String

Required: No

flowLogStatus

The status of the flow log (`ACTIVE`).

Type: String

Required: No

logGroupName

The name of the flow log group.

Type: String

Required: No

resourceId

The ID of the resource on which the flow log was created.

Type: String

Required: No

trafficType

The type of traffic captured for the flow log.

Type: String

Valid Values: `ACCEPT | REJECT | ALL`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

GroupIdentifier

Describes a security group.

Contents

GroupId (request), **groupId** (response)
The ID of the security group.
Type: String
Required: No

GroupName (request), **groupName** (response)
The name of the security group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HistoryRecord

Describes an event in the history of the Spot fleet request.

Contents

eventInformation
Information about the event.
Type: EventInformation (p. 660) object
Required: Yes

eventType
The event type.

- `error` - Indicates an error with the Spot fleet request.
- `fleetRequestChange` - Indicates a change in the status or configuration of the Spot fleet request.
- `instanceChange` - Indicates that an instance was launched or terminated.

Type: String
Valid Values: `instanceChange | fleetRequestChange | error`
Required: Yes

timestamp
The date and time of the event, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).
Type: Timestamp
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Host

Describes the properties of the Dedicated Host.

Contents

autoPlacement

Whether auto-placement is on or off.

Type: String

Valid Values: `on | off`

Required: No

availabilityZone

The Availability Zone of the Dedicated Host.

Type: String

Required: No

availableCapacity

The number of new instances that can be launched onto the Dedicated Host.

Type: AvailableCapacity (p. 632) object

Required: No

clientToken

Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

hostId

The ID of the Dedicated Host.

Type: String

Required: No

hostProperties

The hardware specifications of the Dedicated Host.

Type: HostProperties (p. 674) object

Required: No

hostReservationId

The reservation ID of the Dedicated Host. This returns a `null` response if the Dedicated Host doesn't have an associated reservation.

Type: String

Required: No

instances

The IDs and instance type that are currently running on the Dedicated Host.

Type: array of HostInstance (p. 672) objects

Required: No

state

The Dedicated Host's state.

Type: String

Valid Values: `available | under-assessment | permanent-failure | released | released-permanent-failure`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HostInstance

Describes an instance running on a Dedicated Host.

Contents

instanceId
the IDs of instances that are running on the Dedicated Host.
Type: String
Required: No

instanceType
The instance type size (for example, `m3.medium`) of the running instance.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HostOffering

Details about the Dedicated Host Reservation offering.

Contents

currencyCode
The currency of the offering.
Type: String
Valid Values: `USD`
Required: No

duration
The duration of the offering (in seconds).
Type: Integer
Required: No

hourlyPrice
The hourly price of the offering.
Type: String
Required: No

instanceFamily
The instance family of the offering.
Type: String
Required: No

offeringId
The ID of the offering.
Type: String
Required: No

paymentOption
The available payment option.
Type: String
Valid Values: `AllUpfront | PartialUpfront | NoUpfront`
Required: No

upfrontPrice
The upfront price of the offering. Does not apply to No Upfront offerings.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HostProperties

Describes properties of a Dedicated Host.

Contents

cores
The number of cores on the Dedicated Host.
Type: Integer
Required: No

instanceType
The instance type size that the Dedicated Host supports (for example, `m3.medium`).
Type: String
Required: No

sockets
The number of sockets on the Dedicated Host.
Type: Integer
Required: No

totalVCpus
The number of vCPUs on the Dedicated Host.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

HostReservation

Details about the Dedicated Host Reservation and associated Dedicated Hosts.

Contents

count
The number of Dedicated Hosts the reservation is associated with.
Type: Integer
Required: No

currencyCode
The currency in which the `upfrontPrice` and `hourlyPrice` amounts are specified. At this time, the only supported currency is `USD`.
Type: String
Valid Values: `USD`
Required: No

duration
The length of the reservation's term, specified in seconds. Can be `31536000 (1 year)|94608000 (3 years)`.
Type: Integer
Required: No

end
The date and time that the reservation ends.
Type: Timestamp
Required: No

hostIdSet
The IDs of the Dedicated Hosts associated with the reservation.
Type: array of Strings
Required: No

hostReservationId
The ID of the reservation that specifies the associated Dedicated Hosts.
Type: String
Required: No

hourlyPrice
The hourly price of the reservation.
Type: String
Required: No

instanceFamily
The instance family of the Dedicated Host Reservation. The instance family on the Dedicated Host must be the same in order for it to benefit from the reservation.
Type: String
Required: No

offeringId
The ID of the reservation. This remains the same regardless of which Dedicated Hosts are associated with it.
Type: String
Required: No

paymentOption
The payment option selected for this reservation.
Type: String

Valid Values: `AllUpfront | PartialUpfront | NoUpfront`

Required: No

start

The date and time that the reservation started.

Type: Timestamp

Required: No

state

The state of the reservation.

Type: String

Valid Values: `payment-pending | payment-failed | active | retired`

Required: No

upfrontPrice

The upfront price of the reservation.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IamInstanceProfile

Describes an IAM instance profile.

Contents

arn

The Amazon Resource Name (ARN) of the instance profile.

Type: String

Required: No

id

The ID of the instance profile.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IamInstanceProfileAssociation

Describes an association between an IAM instance profile and an instance.

Contents

associationId
The ID of the association.
Type: String
Required: No

iamInstanceProfile
The IAM instance profile.
Type: IamInstanceProfile (p. 677) object
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

state
The state of the association.
Type: String
Valid Values: `associating | associated | disassociating | disassociated`
Required: No

timestamp
The time the IAM instance profile was associated with the instance.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IamInstanceProfileSpecification

Describes an IAM instance profile.

Contents

Arn (request), **arn** (response)
The Amazon Resource Name (ARN) of the instance profile.
Type: String
Required: No

Name (request), **name** (response)
The name of the instance profile.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IcmpTypeCode

Describes the ICMP type and code.

Contents

Code (request), **code** (response)
The ICMP code. A value of -1 means all codes for the specified ICMP type.
Type: Integer
Required: No

Type (request), **type** (response)
The ICMP type. A value of -1 means all types.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IdFormat

Describes the ID format for a resource.

Contents

deadline
The date in UTC at which you are permanently switched over to using longer IDs. If a deadline is not yet available for this resource type, this field is not returned.
Type: Timestamp
Required: No

resource
The type of resource.
Type: String
Required: No

useLongIds
Indicates whether longer IDs (17-character IDs) are enabled for the resource.
Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Image

Describes an image.

Contents

architecture
The architecture of the image.
Type: String
Valid Values: `i386 | x86_64`
Required: No

blockDeviceMapping
Any block device mapping entries.
Type: array of BlockDeviceMapping (p. 634) objects
Required: No

creationDate
The date and time the image was created.
Type: String
Required: No

description
The description of the AMI that was provided during image creation.
Type: String
Required: No

enaSupport
Specifies whether enhanced networking with ENA is enabled.
Type: Boolean
Required: No

hypervisor
The hypervisor type of the image.
Type: String
Valid Values: `ovm | xen`
Required: No

imageId
The ID of the AMI.
Type: String
Required: No

imageLocation
The location of the AMI.
Type: String
Required: No

imageOwnerAlias
The AWS account alias (for example, `amazon`, `self`) or the AWS account ID of the AMI owner.
Type: String
Required: No

imageOwnerId
The AWS account ID of the image owner.
Type: String
Required: No

imageState
The current state of the AMI. If the state is `available`, the image is successfully registered and can be used to launch an instance.
Type: String
Valid Values: `pending | available | invalid | deregistered | transient | failed | error`
Required: No

imageType
The type of image.
Type: String
Valid Values: `machine | kernel | ramdisk`
Required: No

isPublic
Indicates whether the image has public launch permissions. The value is `true` if this image has public launch permissions or `false` if it has only implicit and explicit launch permissions.
Type: Boolean
Required: No

kernelId
The kernel associated with the image, if any. Only applicable for machine images.
Type: String
Required: No

name
The name of the AMI that was provided during image creation.
Type: String
Required: No

platform
The value is `Windows` for Windows AMIs; otherwise blank.
Type: String
Valid Values: `Windows`
Required: No

productCodes
Any product codes associated with the AMI.
Type: array of ProductCode (p. 760) objects
Required: No

ramdiskId
The RAM disk associated with the image, if any. Only applicable for machine images.
Type: String
Required: No

rootDeviceName
The device name of the root device (for example, `/dev/sda1` or `/dev/xvda`).
Type: String
Required: No

rootDeviceType
The type of root device used by the AMI. The AMI can use an EBS volume or an instance store volume.
Type: String
Valid Values: `ebs | instance-store`
Required: No

sriovNetSupport
Specifies whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: String

Required: No

stateReason

The reason for the state change.

Type: StateReason (p. 841) object

Required: No

tagSet

Any tags assigned to the image.

Type: array of Tag (p. 847) objects

Required: No

virtualizationType

The type of virtualization of the AMI.

Type: String

Valid Values: `hvm | paravirtual`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImageDiskContainer

Describes the disk container object for an import image task.

Contents

Description
The description of the disk image.
Type: String
Required: No

DeviceName
The block device mapping for the disk.
Type: String
Required: No

Format
The format of the disk image being imported.
Valid values: `RAW` | `VHD` | `VMDK` | `OVA`
Type: String
Required: No

SnapshotId
The ID of the EBS snapshot to be used for importing the snapshot.
Type: String
Required: No

Url
The URL to the Amazon S3-based disk image being imported. The URL can either be a https URL (https://..) or an Amazon S3 URL (s3://..)
Type: String
Required: No

UserBucket
The S3 bucket for the disk image.
Type: UserBucket (p. 854) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportImageTask

Describes an import image task.

Contents

architecture
The architecture of the virtual machine.
Valid values: `i386` | `x86_64`
Type: String
Required: No

description
A description of the import task.
Type: String
Required: No

hypervisor
The target hypervisor for the import task.
Valid values: `xen`
Type: String
Required: No

imageId
The ID of the Amazon Machine Image (AMI) of the imported virtual machine.
Type: String
Required: No

importTaskId
The ID of the import image task.
Type: String
Required: No

licenseType
The license type of the virtual machine.
Type: String
Required: No

platform
The description string for the import image task.
Type: String
Required: No

progress
The percentage of progress of the import image task.
Type: String
Required: No

snapshotDetailSet
Information about the snapshots.
Type: array of SnapshotDetail (p. 818) objects
Required: No

status
A brief status for the import image task.
Type: String
Required: No

statusMessage

A descriptive status message for the import image task.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportInstanceLaunchSpecification

Describes the launch specification for VM import.

Contents

AdditionalInfo

Reserved.

Type: String

Required: No

Architecture

The architecture of the instance.

Type: String

Valid Values: `i386 | x86_64`

Required: No

GroupIds

One or more security group IDs.

Type: array of Strings

Required: No

GroupNames

One or more security group names.

Type: array of Strings

Required: No

InstanceInitiatedShutdownBehavior

Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).

Type: String

Valid Values: `stop | terminate`

Required: No

InstanceType

The instance type. For more information about the instance types that you can import, see Instance Types in the VM Import/Export User Guide.

Type: String

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

Monitoring

Indicates whether monitoring is enabled.

Type: Boolean

Required: No

Placement
The placement information for the instance.
Type: Placement (p. 751) object
Required: No

PrivateIpAddress
[EC2-VPC] An available IP address from the IP address range of the subnet.
Type: String
Required: No

SubnetId
[EC2-VPC] The ID of the subnet in which to launch the instance.
Type: String
Required: No

UserData
The user data to make available to the instance. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.
Type: UserData (p. 856) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportInstanceTaskDetails

Describes an import instance task.

Contents

description
A description of the task.
Type: String
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

platform
The instance operating system.
Type: String
Valid Values: `Windows`
Required: No

volumes
One or more volumes.
Type: array of ImportInstanceVolumeDetailItem (p. 691) objects
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportInstanceVolumeDetailItem

Describes an import volume task.

Contents

availabilityZone
The Availability Zone where the resulting instance will reside.
Type: String
Required: Yes

bytesConverted
The number of bytes converted so far.
Type: Long
Required: Yes

description
A description of the task.
Type: String
Required: No

image
The image.
Type: DiskImageDescription (p. 652) object
Required: Yes

status
The status of the import of this particular disk image.
Type: String
Required: Yes

statusMessage
The status information or errors related to the disk image.
Type: String
Required: No

volume
The volume.
Type: DiskImageVolumeDescription (p. 654) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportSnapshotTask

Describes an import snapshot task.

Contents

description
A description of the import snapshot task.
Type: String
Required: No

importTaskId
The ID of the import snapshot task.
Type: String
Required: No

snapshotTaskDetail
Describes an import snapshot task.
Type: SnapshotTaskDetail (p. 821) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ImportVolumeTaskDetails

Describes an import volume task.

Contents

availabilityZone
The Availability Zone where the resulting volume will reside.
Type: String
Required: Yes

bytesConverted
The number of bytes converted so far.
Type: Long
Required: Yes

description
The description you provided when starting the import volume task.
Type: String
Required: No

image
The image.
Type: DiskImageDescription (p. 652) object
Required: Yes

volume
The volume.
Type: DiskImageVolumeDescription (p. 654) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Instance

Describes an instance.

Contents

amiLaunchIndex
The AMI launch index, which can be used to find this instance in the launch group.
Type: Integer
Required: No

architecture
The architecture of the image.
Type: String
Valid Values: `i386 | x86_64`
Required: No

blockDeviceMapping
Any block device mapping entries for the instance.
Type: array of InstanceBlockDeviceMapping (p. 699) objects
Required: No

clientToken
The idempotency token you provided when you launched the instance, if applicable.
Type: String
Required: No

dnsName
(IPv4 only) The public DNS name assigned to the instance. This name is not available until the instance enters the `running` state. For EC2-VPC, this name is only available if you've enabled DNS hostnames for your VPC.
Type: String
Required: No

ebsOptimized
Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
Type: Boolean
Required: No

enaSupport
Specifies whether enhanced networking with ENA is enabled.
Type: Boolean
Required: No

groupSet
One or more security groups for the instance.
Type: array of GroupIdentifier (p. 668) objects
Required: No

hypervisor
The hypervisor type of the instance.
Type: String
Valid Values: `ovm | xen`
Required: No

iamInstanceProfile
The IAM instance profile associated with the instance, if applicable.
Type: IamInstanceProfile (p. 677) object
Required: No

imageId
The ID of the AMI used to launch the instance.
Type: String
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

instanceLifecycle
Indicates whether this is a Spot instance or a Scheduled Instance.
Type: String
Valid Values: `spot | scheduled`
Required: No

instanceState
The current state of the instance.
Type: InstanceState (p. 713) object
Required: No

instanceType
The instance type.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`
Required: No

ipAddress
The public IPv4 address assigned to the instance, if applicable.
Type: String
Required: No

kernelId
The kernel associated with this instance, if applicable.
Type: String
Required: No

keyName
The name of the key pair, if this instance was launched with an associated key pair.
Type: String
Required: No

launchTime
The time the instance was launched.
Type: Timestamp
Required: No

monitoring
The monitoring for the instance.
Type: Monitoring (p. 731) object
Required: No

networkInterfaceSet
[EC2-VPC] One or more network interfaces for the instance.
Type: array of InstanceNetworkInterface (p. 706) objects
Required: No

placement
The location where the instance launched, if applicable.
Type: Placement (p. 751) object
Required: No

platform
The value is `Windows` for Windows instances; otherwise blank.
Type: String
Valid Values: `Windows`
Required: No

privateDnsName
(IPv4 only) The private DNS hostname name assigned to the instance. This DNS hostname can only be used inside the Amazon EC2 network. This name is not available until the instance enters the `running` state.
[EC2-VPC] The Amazon-provided DNS server will resolve Amazon-provided private DNS hostnames if you've enabled DNS resolution and DNS hostnames in your VPC. If you are not using the Amazon-provided DNS server in your VPC, your custom domain name servers must resolve the hostname as appropriate.
Type: String
Required: No

privateIpAddress
The private IPv4 address assigned to the instance.
Type: String
Required: No

productCodes
The product codes attached to this instance, if applicable.
Type: array of ProductCode (p. 760) objects
Required: No

ramdiskId
The RAM disk associated with this instance, if applicable.
Type: String
Required: No

reason
The reason for the most recent state transition. This might be an empty string.
Type: String
Required: No

rootDeviceName
The root device name (for example, `/dev/sda1` or `/dev/xvda`).

Type: String

Required: No

rootDeviceType

The root device type used by the AMI. The AMI can use an EBS volume or an instance store volume.

Type: String

Valid Values: `ebs | instance-store`

Required: No

sourceDestCheck

Specifies whether to enable an instance launched in a VPC to perform NAT. This controls whether source/destination checking is enabled on the instance. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

Type: Boolean

Required: No

spotInstanceRequestId

If the request is a Spot instance request, the ID of the request.

Type: String

Required: No

sriovNetSupport

Specifies whether enhanced networking with the Intel 82599 Virtual Function interface is enabled.

Type: String

Required: No

stateReason

The reason for the most recent state transition.

Type: StateReason (p. 841) object

Required: No

subnetId

[EC2-VPC] The ID of the subnet in which the instance is running.

Type: String

Required: No

tagSet

Any tags assigned to the instance.

Type: array of Tag (p. 847) objects

Required: No

virtualizationType

The virtualization type of the instance.

Type: String

Valid Values: `hvm | paravirtual`

Required: No

vpcId

[EC2-VPC] The ID of the VPC in which the instance is running.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceBlockDeviceMapping

Describes a block device mapping.

Contents

deviceName

The device name exposed to the instance (for example, `/dev/sdh` or `xvdh`).

Type: String

Required: No

ebs

Parameters used to automatically set up EBS volumes when the instance is launched.

Type: EbsInstanceBlockDevice (p. 657) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceBlockDeviceMappingSpecification

Describes a block device mapping entry.

Contents

DeviceName
The device name exposed to the instance (for example, `/dev/sdh` or `xvdh`).
Type: String
Required: No

Ebs
Parameters used to automatically set up EBS volumes when the instance is launched.
Type: EbsInstanceBlockDeviceSpecification (p. 658) object
Required: No

NoDevice
suppress the specified device included in the block device mapping.
Type: String
Required: No

VirtualName
The virtual device name.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceCapacity

Information about the instance type that the Dedicated Host supports.

Contents

availableCapacity
The number of instances that can still be launched onto the Dedicated Host.
Type: Integer
Required: No

instanceType
The instance type size supported by the Dedicated Host.
Type: String
Required: No

totalCapacity
The total number of instances that can be launched onto the Dedicated Host.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceCount

Describes a Reserved Instance listing state.

Contents

instanceCount

The number of listed Reserved Instances in the state specified by the `state`.

Type: Integer

Required: No

state

The states of the listed Reserved Instances.

Type: String

Valid Values: `available | sold | cancelled | pending`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceExportDetails

Describes an instance to export.

Contents

instanceId
The ID of the resource being exported.
Type: String
Required: No

targetEnvironment
The target virtualization environment.
Type: String
Valid Values: `citrix | vmware | microsoft`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceIpv6Address

Describes an IPv6 address.

Contents

Ipv6Address (request), **ipv6Address** (response)
The IPv6 address.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceMonitoring

Describes the monitoring of an instance.

Contents

instanceId
The ID of the instance.
Type: String
Required: No

monitoring
The monitoring for the instance.
Type: Monitoring (p. 731) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceNetworkInterface

Describes a network interface.

Contents

association
The association information for an Elastic IPv4 associated with the network interface.
Type: InstanceNetworkInterfaceAssociation (p. 708) object
Required: No

attachment
The network interface attachment.
Type: InstanceNetworkInterfaceAttachment (p. 709) object
Required: No

description
The description.
Type: String
Required: No

groupSet
One or more security groups.
Type: array of GroupIdentifier (p. 668) objects
Required: No

ipv6AddressesSet
One or more IPv6 addresses associated with the network interface.
Type: array of InstanceIpv6Address (p. 704) objects
Required: No

macAddress
The MAC address.
Type: String
Required: No

networkInterfaceId
The ID of the network interface.
Type: String
Required: No

ownerId
The ID of the AWS account that created the network interface.
Type: String
Required: No

privateDnsName
The private DNS name.
Type: String
Required: No

privateIpAddress
The IPv4 address of the network interface within the subnet.
Type: String
Required: No

privateIpAddressesSet
One or more private IPv4 addresses associated with the network interface.
Type: array of InstancePrivateIpAddress (p. 712) objects

Required: No

sourceDestCheck

Indicates whether to validate network traffic to or from this network interface.

Type: Boolean

Required: No

status

The status of the network interface.

Type: String

Valid Values: `available | attaching | in-use | detaching`

Required: No

subnetId

The ID of the subnet.

Type: String

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceNetworkInterfaceAssociation

Describes association information for an Elastic IP address (IPv4).

Contents

ipOwnerId
The ID of the owner of the Elastic IP address.
Type: String
Required: No

publicDnsName
The public DNS name.
Type: String
Required: No

publicIp
The public IP address or Elastic IP address bound to the network interface.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceNetworkInterfaceAttachment

Describes a network interface attachment.

Contents

attachmentId
The ID of the network interface attachment.
Type: String
Required: No

attachTime
The time stamp when the attachment initiated.
Type: Timestamp
Required: No

deleteOnTermination
Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
Required: No

deviceIndex
The index of the device on the instance for the network interface attachment.
Type: Integer
Required: No

status
The attachment state.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceNetworkInterfaceSpecification

Describes a network interface.

Contents

AssociatePublicIpAddress (request), **associatePublicIpAddress** (response)
Indicates whether to assign a public IPv4 address to an instance you launch in a VPC. The public IP address can only be assigned to a network interface for eth0, and can only be assigned to a new network interface, not an existing one. You cannot specify more than one network interface in the request. If launching into a default subnet, the default value is `true`.
Type: Boolean
Required: No

DeleteOnTermination (request), **deleteOnTermination** (response)
If set to `true`, the interface is deleted when the instance is terminated. You can specify `true` only if creating a new network interface when launching an instance.
Type: Boolean
Required: No

Description (request), **description** (response)
The description of the network interface. Applies only if creating a network interface when launching an instance.
Type: String
Required: No

DeviceIndex (request), **deviceIndex** (response)
The index of the device on the instance for the network interface attachment. If you are specifying a network interface in a RunInstances (p. 595) request, you must provide the device index.
Type: Integer
Required: No

Ipv6AddressCount (request), **ipv6AddressCount** (response)
A number of IPv6 addresses to assign to the network interface. Amazon EC2 chooses the IPv6 addresses from the range of the subnet. You cannot specify this option and the option to assign specific IPv6 addresses in the same request. You can specify this option if you've specified a minimum number of instances to launch.
Type: Integer
Required: No

Ipv6Addresses (request), **ipv6AddressesSet** (response)
One or more IPv6 addresses to assign to the network interface. You cannot specify this option and the option to assign a number of IPv6 addresses in the same request. You cannot specify this option if you've specified a minimum number of instances to launch.
Type: array of InstanceIpv6Address (p. 704) objects
Required: No

NetworkInterfaceId (request), **networkInterfaceId** (response)
The ID of the network interface.
Type: String
Required: No

PrivateIpAddress (request), **privateIpAddress** (response)
The private IPv4 address of the network interface. Applies only if creating a network interface when launching an instance. You cannot specify this option if you're launching more than one instance in a RunInstances (p. 595) request.
Type: String
Required: No

PrivateIpAddresses (request), **privateIpAddressesSet** (response)
One or more private IPv4 addresses to assign to the network interface. Only one private IPv4 address can be designated as primary. You cannot specify this option if you're launching more than one instance in a RunInstances (p. 595) request.

Type: array of PrivateIpAddressSpecification (p. 759) objects

Required: No

SecondaryPrivateIpAddressCount (request), **secondaryPrivateIpAddressCount** (response)
The number of secondary private IPv4 addresses. You can't specify this option and specify more than one private IP address using the private IP addresses option. You cannot specify this option if you're launching more than one instance in a RunInstances (p. 595) request.

Type: Integer

Required: No

Groups (request), **SecurityGroupId** (response)
The IDs of the security groups for the network interface. Applies only if creating a network interface when launching an instance.

Type: array of Strings

Required: No

SubnetId (request), **subnetId** (response)
The ID of the subnet associated with the network string. Applies only if creating a network interface when launching an instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstancePrivateIpAddress

Describes a private IPv4 address.

Contents

association
The association information for an Elastic IP address for the network interface.
Type: InstanceNetworkInterfaceAssociation (p. 708) object
Required: No

primary
Indicates whether this IPv4 address is the primary private IP address of the network interface.
Type: Boolean
Required: No

privateDnsName
The private IPv4 DNS name.
Type: String
Required: No

privateIpAddress
The private IPv4 address of the network interface.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceState

Describes the current state of an instance.

Contents

code

The low byte represents the state. The high byte is an opaque internal value and should be ignored.

- `0` : `pending`
- `16` : `running`
- `32` : `shutting-down`
- `48` : `terminated`
- `64` : `stopping`
- `80` : `stopped`

Type: Integer

Required: No

name

The current state of the instance.

Type: String

Valid Values: `pending | running | shutting-down | terminated | stopping | stopped`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceStateChange

Describes an instance state change.

Contents

currentState
The current state of the instance.
Type: InstanceState (p. 713) object
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

previousState
The previous state of the instance.
Type: InstanceState (p. 713) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceStatus

Describes the status of an instance.

Contents

availabilityZone
The Availability Zone of the instance.
Type: String
Required: No

eventsSet
Any scheduled events associated with the instance.
Type: array of InstanceStatusEvent (p. 717) objects
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

instanceState
The intended state of the instance. DescribeInstanceStatus (p. 292) requires that an instance be in the `running` state.
Type: InstanceState (p. 713) object
Required: No

instanceStatus
Reports impaired functionality that stems from issues internal to the instance, such as impaired reachability.
Type: InstanceStatusSummary (p. 718) object
Required: No

systemStatus
Reports impaired functionality that stems from issues related to the systems that support an instance, such as hardware failures and network connectivity problems.
Type: InstanceStatusSummary (p. 718) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceStatusDetails

Describes the instance status.

Contents

impairedSince
The time when a status check failed. For an instance that was launched and impaired, this is the time when the instance was launched.
Type: Timestamp
Required: No

name
The type of instance status.
Type: String
Valid Values: `reachability`
Required: No

status
The status.
Type: String
Valid Values: `passed | failed | insufficient-data | initializing`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceStatusEvent

Describes a scheduled event for an instance.

Contents

code
The event code.

Type: String

Valid Values: `instance-reboot | system-reboot | system-maintenance | instance-retirement | instance-stop`

Required: No

description
A description of the event.

After a scheduled event is completed, it can still be described for up to a week. If the event has been completed, this description starts with the following text: [Completed].

Type: String

Required: No

notAfter
The latest scheduled end time for the event.

Type: Timestamp

Required: No

notBefore
The earliest scheduled start time for the event.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InstanceStatusSummary

Describes the status of an instance.

Contents

details

The system instance health or application instance health.

Type: array of InstanceStatusDetails (p. 716) objects

Required: No

status

The status.

Type: String

Valid Values: `ok | impaired | insufficient-data | not-applicable | initializing`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InternetGateway

Describes an Internet gateway.

Contents

attachmentSet
Any VPCs attached to the Internet gateway.
Type: array of InternetGatewayAttachment (p. 720) objects
Required: No

internetGatewayId
The ID of the Internet gateway.
Type: String
Required: No

tagSet
Any tags assigned to the Internet gateway.
Type: array of Tag (p. 847) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

InternetGatewayAttachment

Describes the attachment of a VPC to an Internet gateway or an egress-only Internet gateway.

Contents

state
The current state of the attachment.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IpPermission

Describes a security group rule.

Contents

FromPort (request), **fromPort** (response)
The start of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 type number. A value of `-1` indicates all ICMP/ICMPv6 types.
Type: Integer
Required: No

UserIdGroupPairs (request), **groups** (response)
One or more security group and AWS account ID pairs.
Type: array of UserIdGroupPair (p. 857) objects
Required: No

IpProtocol (request), **ipProtocol** (response)
The IP protocol name (`tcp`, `udp`, `icmp`) or number (see Protocol Numbers).
[EC2-VPC only] Use `-1` to specify all protocols. When authorizing security group rules, specifying `-1` or a protocol number other than `tcp`, `udp`, `icmp`, or `58` (ICMPv6) allows traffic on all ports, regardless of any port range you specify. For `tcp`, `udp`, and `icmp`, you must specify a port range. For `58` (ICMPv6), you can optionally specify a port range; if you don't, traffic for all types and codes is allowed when authorizing rules.
Type: String
Required: No

IpRanges (request), **ipRanges** (response)
One or more IPv4 ranges.
Type: array of IpRange (p. 723) objects
Required: No

Ipv6Ranges (request), **ipv6Ranges** (response)
[EC2-VPC only] One or more IPv6 ranges.
Type: array of Ipv6Range (p. 725) objects
Required: No

PrefixListIds (request), **prefixListIds** (response)
(Valid for AuthorizeSecurityGroupEgress (p. 55), RevokeSecurityGroupEgress (p. 589) and DescribeSecurityGroups (p. 355) only) One or more prefix list IDs for an AWS service. In an AuthorizeSecurityGroupEgress (p. 55) request, this is the AWS service that you want to access through a VPC endpoint from instances associated with the security group.
Type: array of PrefixListId (p. 755) objects
Required: No

ToPort (request), **toPort** (response)
The end of port range for the TCP and UDP protocols, or an ICMP/ICMPv6 code. A value of `-1` indicates all ICMP/ICMPv6 codes for the specified ICMP type.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

IpRange

Describes an IPv4 range.

Contents

CidrIp (request), **cidrIp** (response)

The IPv4 CIDR range. You can either specify a CIDR range or a source security group, not both. To specify a single IPv4 address, use the /32 prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Ipv6CidrBlock

Describes an IPv6 CIDR block.

Contents

ipv6CidrBlock
The IPv6 CIDR block.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Ipv6Range

[EC2-VPC only] Describes an IPv6 range.

Contents

CidrIpv6 (request), **cidrIpv6** (response)
The IPv6 CIDR range. You can either specify a CIDR range or a source security group, not both. To specify a single IPv6 address, use the /128 prefix.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

KeyPairInfo

Describes a key pair.

Contents

keyFingerprint

If you used CreateKeyPair (p. 107) to create the key pair, this is the SHA-1 digest of the DER encoded private key. If you used ImportKeyPair (p. 488) to provide AWS the public key, this is the MD5 public key fingerprint as specified in section 4 of RFC4716.

Type: String

Required: No

keyName

The name of the key pair.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

LaunchPermission

Describes a launch permission.

Contents

Group (request), **group** (response)
The name of the group.
Type: String
Valid Values: `all`
Required: No

UserId (request), **userId** (response)
The AWS account ID.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

LaunchPermissionModifications

Describes a launch permission modification.

Contents

Add

The AWS account ID to add to the list of launch permissions for the AMI.

Type: array of LaunchPermission (p. 727) objects

Required: No

Remove

The AWS account ID to remove from the list of launch permissions for the AMI.

Type: array of LaunchPermission (p. 727) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

LaunchSpecification

Describes the launch specification for an instance.

Contents

addressingType
Deprecated.
Type: String
Required: No

blockDeviceMapping
One or more block device mapping entries.
Although you can specify encrypted EBS volumes in this block device mapping for your Spot Instances, these volumes are not encrypted.
Type: array of BlockDeviceMapping (p. 634) objects
Required: No

ebsOptimized
Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
Default: `false`
Type: Boolean
Required: No

groupSet
One or more security groups. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.
Type: array of GroupIdentifier (p. 668) objects
Required: No

iamInstanceProfile
The IAM instance profile.
Type: IamInstanceProfileSpecification (p. 679) object
Required: No

imageId
The ID of the AMI.
Type: String
Required: No

instanceType
The instance type.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge |`

`p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

kernelId

The ID of the kernel.

Type: String

Required: No

keyName

The name of the key pair.

Type: String

Required: No

monitoring

Describes the monitoring of an instance.

Type: RunInstancesMonitoringEnabled (p. 792) object

Required: No

networkInterfaceSet

One or more network interfaces. If you specify a network interface, you must specify subnet IDs and security group IDs using the network interface.

Type: array of InstanceNetworkInterfaceSpecification (p. 710) objects

Required: No

placement

The placement information for the instance.

Type: SpotPlacement (p. 836) object

Required: No

ramdiskId

The ID of the RAM disk.

Type: String

Required: No

subnetId

The ID of the subnet in which to launch the instance.

Type: String

Required: No

userData

The user data to make available to the instances. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Monitoring

Describes the monitoring of an instance.

Contents

state

Indicates whether detailed monitoring is enabled. Otherwise, basic monitoring is enabled.

Type: String

Valid Values: `disabled | disabling | enabled | pending`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

MovingAddressStatus

Describes the status of a moving Elastic IP address.

Contents

moveStatus

The status of the Elastic IP address that's being moved to the EC2-VPC platform, or restored to the EC2-Classic platform.

Type: String

Valid Values: `movingToVpc | restoringToClassic`

Required: No

publicIp

The Elastic IP address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NatGateway

Describes a NAT gateway.

Contents

createTime

The date and time the NAT gateway was created.

Type: Timestamp

Required: No

deleteTime

The date and time the NAT gateway was deleted, if applicable.

Type: Timestamp

Required: No

failureCode

If the NAT gateway could not be created, specifies the error code for the failure. (`InsufficientFreeAddressesInSubnet` | `Gateway.NotAttached` | `InvalidAllocationID.NotFound` | `Resource.AlreadyAssociated` | `InternalError` | `InvalidSubnetID.NotFound`)

Type: String

Required: No

failureMessage

If the NAT gateway could not be created, specifies the error message for the failure, that corresponds to the error code.

- For InsufficientFreeAddressesInSubnet: "Subnet has insufficient free addresses to create this NAT gateway"
- For Gateway.NotAttached: "Network vpc-xxxxxxxx has no Internet gateway attached"
- For InvalidAllocationID.NotFound: "Elastic IP address eipalloc-xxxxxxxx could not be associated with this NAT gateway"
- For Resource.AlreadyAssociated: "Elastic IP address eipalloc-xxxxxxxx is already associated"
- For InternalError: "Network interface eni-xxxxxxxx, created and used internally by this NAT gateway is in an invalid state. Please try again."
- For InvalidSubnetID.NotFound: "The specified subnet subnet-xxxxxxxx does not exist or could not be found."

Type: String

Required: No

natGatewayAddressSet

Information about the IP addresses and network interface associated with the NAT gateway.

Type: array of NatGatewayAddress (p. 735) objects

Required: No

natGatewayId

The ID of the NAT gateway.

Type: String

Required: No

provisionedBandwidth

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Type: ProvisionedBandwidth (p. 762) object

Required: No

state

The state of the NAT gateway.

- `pending`: The NAT gateway is being created and is not ready to process traffic.
- `failed`: The NAT gateway could not be created. Check the `failureCode` and `failureMessage` fields for the reason.
- `available`: The NAT gateway is able to process traffic. This status remains until you delete the NAT gateway, and does not indicate the health of the NAT gateway.
- `deleting`: The NAT gateway is in the process of being terminated and may still be processing traffic.
- `deleted`: The NAT gateway has been terminated and is no longer processing traffic.

Type: String

Valid Values: `pending | failed | available | deleting | deleted`

Required: No

subnetId

The ID of the subnet in which the NAT gateway is located.

Type: String

Required: No

vpcId

The ID of the VPC in which the NAT gateway is located.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NatGatewayAddress

Describes the IP addresses and network interface associated with a NAT gateway.

Contents

allocationId
The allocation ID of the Elastic IP address that's associated with the NAT gateway.
Type: String
Required: No

networkInterfaceId
The ID of the network interface associated with the NAT gateway.
Type: String
Required: No

privateIp
The private IP address associated with the Elastic IP address.
Type: String
Required: No

publicIp
The Elastic IP address associated with the NAT gateway.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkAcl

Describes a network ACL.

Contents

associationSet
Any associations between the network ACL and one or more subnets
Type: array of NetworkAclAssociation (p. 737) objects
Required: No

default
Indicates whether this is the default network ACL for the VPC.
Type: Boolean
Required: No

entrySet
One or more entries (rules) in the network ACL.
Type: array of NetworkAclEntry (p. 738) objects
Required: No

networkAclId
The ID of the network ACL.
Type: String
Required: No

tagSet
Any tags assigned to the network ACL.
Type: array of Tag (p. 847) objects
Required: No

vpcId
The ID of the VPC for the network ACL.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkAclAssociation

Describes an association between a network ACL and a subnet.

Contents

networkAclAssociationId
The ID of the association between a network ACL and a subnet.
Type: String
Required: No

networkAclId
The ID of the network ACL.
Type: String
Required: No

subnetId
The ID of the subnet.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkAclEntry

Describes an entry in a network ACL.

Contents

cidrBlock
The IPv4 network range to allow or deny, in CIDR notation.
Type: String
Required: No

egress
Indicates whether the rule is an egress rule (applied to traffic leaving the subnet).
Type: Boolean
Required: No

icmpTypeCode
ICMP protocol: The ICMP type and code.
Type: IcmpTypeCode (p. 680) object
Required: No

ipv6CidrBlock
The IPv6 network range to allow or deny, in CIDR notation.
Type: String
Required: No

portRange
TCP or UDP protocols: The range of ports the rule applies to.
Type: PortRange (p. 753) object
Required: No

protocol
The protocol. A value of `-1` means all protocols.
Type: String
Required: No

ruleAction
Indicates whether to allow or deny the traffic that matches the rule.
Type: String
Valid Values: `allow | deny`
Required: No

ruleNumber
The rule number for the entry. ACL entries are processed in ascending order by rule number.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterface

Describes a network interface.

Contents

association
The association information for an Elastic IP address (IPv4) associated with the network interface.
Type: NetworkInterfaceAssociation (p. 743) object
Required: No

attachment
The network interface attachment.
Type: NetworkInterfaceAttachment (p. 744) object
Required: No

availabilityZone
The Availability Zone.
Type: String
Required: No

description
A description.
Type: String
Required: No

groupSet
Any security groups for the network interface.
Type: array of GroupIdentifier (p. 668) objects
Required: No

interfaceType
The type of interface.
Type: String
Valid Values: `interface | natGateway`
Required: No

ipv6AddressesSet
The IPv6 addresses associated with the network interface.
Type: array of NetworkInterfaceIpv6Address (p. 746) objects
Required: No

macAddress
The MAC address.
Type: String
Required: No

networkInterfaceId
The ID of the network interface.
Type: String
Required: No

ownerId
The AWS account ID of the owner of the network interface.
Type: String
Required: No

privateDnsName
The private DNS name.

Type: String

Required: No

privateIpAddress

The IPv4 address of the network interface within the subnet.

Type: String

Required: No

privateIpAddressesSet

The private IPv4 addresses associated with the network interface.

Type: array of NetworkInterfacePrivateIpAddress (p. 747) objects

Required: No

requesterId

The ID of the entity that launched the instance on your behalf (for example, AWS Management Console or Auto Scaling).

Type: String

Required: No

requesterManaged

Indicates whether the network interface is being managed by AWS.

Type: Boolean

Required: No

sourceDestCheck

Indicates whether traffic to or from the instance is validated.

Type: Boolean

Required: No

status

The status of the network interface.

Type: String

Valid Values: `available | attaching | in-use | detaching`

Required: No

subnetId

The ID of the subnet.

Type: String

Required: No

tagSet

Any tags assigned to the network interface.

Type: array of Tag (p. 847) objects

Required: No

vpcId

The ID of the VPC.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterfaceAssociation

Describes association information for an Elastic IP address (IPv4 only).

Contents

allocationId
The allocation ID.
Type: String
Required: No

associationId
The association ID.
Type: String
Required: No

ipOwnerId
The ID of the Elastic IP address owner.
Type: String
Required: No

publicDnsName
The public DNS name.
Type: String
Required: No

publicIp
The address of the Elastic IP address bound to the network interface.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterfaceAttachment

Describes a network interface attachment.

Contents

attachmentId
The ID of the network interface attachment.
Type: String
Required: No

attachTime
The timestamp indicating when the attachment initiated.
Type: Timestamp
Required: No

deleteOnTermination
Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
Required: No

deviceIndex
The device index of the network interface attachment on the instance.
Type: Integer
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

instanceOwnerId
The AWS account ID of the owner of the instance.
Type: String
Required: No

status
The attachment state.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterfaceAttachmentChanges

Describes an attachment change.

Contents

AttachmentId
The ID of the network interface attachment.
Type: String
Required: No

DeleteOnTermination
Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterfaceIpv6Address

Describes an IPv6 address associated with a network interface.

Contents

ipv6Address
The IPv6 address.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NetworkInterfacePrivateIpAddress

Describes the private IPv4 address of a network interface.

Contents

association
The association information for an Elastic IP address (IPv4) associated with the network interface.
Type: NetworkInterfaceAssociation (p. 743) object
Required: No

primary
Indicates whether this IPv4 address is the primary private IPv4 address of the network interface.
Type: Boolean
Required: No

privateDnsName
The private DNS name.
Type: String
Required: No

privateIpAddress
The private IPv4 address.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

NewDhcpConfiguration

Describes a DHCP configuration option.

Contents

Key

The type of DHCP option.

Type: String

Required: No

Values

The provided values for the DHCP option.

Type: array of Strings

Required: No

PeeringConnectionOptions

Describes the VPC peering connection options.

Contents

allowDnsResolutionFromRemoteVpc
If true, enables a local VPC to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

Type: Boolean

Required: No

allowEgressFromLocalClassicLinkToRemoteVpc
If true, enables outbound communication from an EC2-Classic instance that's linked to a local VPC via ClassicLink to instances in a peer VPC.

Type: Boolean

Required: No

allowEgressFromLocalVpcToRemoteClassicLink
If true, enables outbound communication from instances in a local VPC to an EC2-Classic instance that's linked to a peer VPC via ClassicLink.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PeeringConnectionOptionsRequest

The VPC peering connection options.

Contents

AllowDnsResolutionFromRemoteVpc
If true, enables a local VPC to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

Type: Boolean

Required: No

AllowEgressFromLocalClassicLinkToRemoteVpc
If true, enables outbound communication from an EC2-Classic instance that's linked to a local VPC via ClassicLink to instances in a peer VPC.

Type: Boolean

Required: No

AllowEgressFromLocalVpcToRemoteClassicLink
If true, enables outbound communication from instances in a local VPC to an EC2-Classic instance that's linked to a peer VPC via ClassicLink.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Placement

Describes the placement of an instance.

Contents

Affinity (request), **affinity** (response)
The affinity setting for the instance on the Dedicated Host. This parameter is not supported for the ImportInstance (p. 485) command.
Type: String
Required: No

AvailabilityZone (request), **availabilityZone** (response)
The Availability Zone of the instance.
Type: String
Required: No

GroupName (request), **groupName** (response)
The name of the placement group the instance is in (for cluster compute instances).
Type: String
Required: No

HostId (request), **hostId** (response)
The ID of the Dedicated Host on which the instance resides. This parameter is not supported for the ImportInstance (p. 485) command.
Type: String
Required: No

Tenancy (request), **tenancy** (response)
The tenancy of the instance (if the instance is running in a VPC). An instance with a tenancy of `dedicated` runs on single-tenant hardware. The `host` tenancy is not supported for the ImportInstance (p. 485) command.
Type: String
Valid Values: `default | dedicated | host`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PlacementGroup

Describes a placement group.

Contents

groupName
The name of the placement group.
Type: String
Required: No

state
The state of the placement group.
Type: String
Valid Values: `pending | available | deleting | deleted`
Required: No

strategy
The placement strategy.
Type: String
Valid Values: `cluster`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PortRange

Describes a range of ports.

Contents

From (request), **from** (response)
The first port in the range.
Type: Integer
Required: No

To (request), **to** (response)
The last port in the range.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PrefixList

Describes prefixes for AWS services.

Contents

cidrSet
The IP address range of the AWS service.
Type: array of Strings
Required: No

prefixListId
The ID of the prefix.
Type: String
Required: No

prefixListName
The name of the prefix.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PrefixListId

The ID of the prefix.

Contents

PrefixListId (request), **prefixListId** (response)
The ID of the prefix.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PriceSchedule

Describes the price for a Reserved Instance.

Contents

active
The current price schedule, as determined by the term remaining for the Reserved Instance in the listing.

A specific price schedule is always in effect, but only one price schedule can be active at any time. Take, for example, a Reserved Instance listing that has five months remaining in its term. When you specify price schedules for five months and two months, this means that schedule 1, covering the first three months of the remaining term, will be active during months 5, 4, and 3. Then schedule 2, covering the last two months of the term, will be active for months 2 and 1.

Type: Boolean

Required: No

currencyCode
The currency for transacting the Reserved Instance resale. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

Required: No

price
The fixed price for the term.

Type: Double

Required: No

term
The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PriceScheduleSpecification

Describes the price for a Reserved Instance.

Contents

CurrencyCode

The currency for transacting the Reserved Instance resale. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

Required: No

Price

The fixed price for the term.

Type: Double

Required: No

Term

The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.

Type: Long

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PricingDetail

Describes a Reserved Instance offering.

Contents

count
The number of reservations available for the price.
Type: Integer
Required: No

price
The price per instance.
Type: Double
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PrivateIpAddressSpecification

Describes a secondary private IPv4 address for a network interface.

Contents

Primary (request), **primary** (response)
Indicates whether the private IPv4 address is the primary private IPv4 address. Only one IPv4 address can be designated as primary.

Type: Boolean

Required: No

PrivateIpAddress (request), **privateIpAddress** (response)
The private IPv4 addresses.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ProductCode

Describes a product code.

Contents

productCode
The product code.
Type: String
Required: No

type
The type of product code.
Type: String
Valid Values: `devpay | marketplace`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

PropagatingVgw

Describes a virtual private gateway propagating route.

Contents

gatewayId

The ID of the virtual private gateway (VGW).

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ProvisionedBandwidth

Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.

Contents

provisioned
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.
Type: String
Required: No

provisionTime
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.
Type: Timestamp
Required: No

requested
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.
Type: String
Required: No

requestTime
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.
Type: Timestamp
Required: No

status
Reserved. If you need to sustain traffic greater than the documented limits, contact us through the Support Center.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Purchase

Describes the result of the purchase.

Contents

currencyCode
The currency in which the `UpfrontPrice` and `HourlyPrice` amounts are specified. At this time, the only supported currency is `USD`.
Type: String
Valid Values: `USD`
Required: No

duration
The duration of the reservation's term in seconds.
Type: Integer
Required: No

hostIdSet
The IDs of the Dedicated Hosts associated with the reservation.
Type: array of Strings
Required: No

hostReservationId
The ID of the reservation.
Type: String
Required: No

hourlyPrice
The hourly price of the reservation per hour.
Type: String
Required: No

instanceFamily
The instance family on the Dedicated Host that the reservation can be associated with.
Type: String
Required: No

paymentOption
The payment option for the reservation.
Type: String
Valid Values: `AllUpfront | PartialUpfront | NoUpfront`
Required: No

upfrontPrice
The upfront price of the reservation.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

PurchaseRequest

Describes a request to purchase Scheduled Instances.

Contents

InstanceCount
The number of instances.
Type: Integer
Required: Yes

PurchaseToken
The purchase token.
Type: String
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RecurringCharge

Describes a recurring charge.

Contents

amount

The amount of the recurring charge.

Type: Double

Required: No

frequency

The frequency of the recurring charge.

Type: String

Valid Values: `Hourly`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Region

Describes a region.

Contents

regionEndpoint
The region service endpoint.
Type: String
Required: No

regionName
The name of the region.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RequestSpotLaunchSpecification

Describes the launch specification for an instance.

Contents

AddressingType

Deprecated.

Type: String

Required: No

BlockDeviceMappings

One or more block device mapping entries.

Although you can specify encrypted EBS volumes in this block device mapping for your Spot Instances, these volumes are not encrypted.

Type: array of BlockDeviceMapping (p. 634) objects

Required: No

EbsOptimized

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Default: `false`

Type: Boolean

Required: No

IamInstanceProfile

The IAM instance profile.

Type: IamInstanceProfileSpecification (p. 679) object

Required: No

ImageId

The ID of the AMI.

Type: String

Required: No

InstanceType

The instance type.

Type: String

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | x1.4xlarge | x1.8xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge`

Required: No

KernelId

The ID of the kernel.

Type: String

Required: No

KeyName
The name of the key pair.
Type: String
Required: No

Monitoring
Describes the monitoring for the instance.
Type: RunInstancesMonitoringEnabled (p. 792) object
Required: No

NetworkInterfaces
One or more network interfaces.
Type: array of InstanceNetworkInterfaceSpecification (p. 710) objects
Required: No

Placement
The placement information for the instance.
Type: SpotPlacement (p. 836) object
Required: No

RamdiskId
The ID of the RAM disk.
Type: String
Required: No

SecurityGroups
One or more security group names. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.
Type: array of Strings
Required: No

SecurityGroupIds
One or more security group IDs.
Type: array of Strings
Required: No

SubnetId
The ID of the subnet in which to launch the instance.
Type: String
Required: No

UserData
The user data to make available to the instances. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.
Type: String
Required: No

Reservation

Describes a reservation.

Contents

groupSet
[EC2-Classic only] One or more security groups.
Type: array of GroupIdentifier (p. 668) objects
Required: No

instancesSet
One or more instances.
Type: array of Instance (p. 694) objects
Required: No

ownerId
The ID of the AWS account that owns the reservation.
Type: String
Required: No

requesterId
The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).
Type: String
Required: No

reservationId
The ID of the reservation.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservationValue

The cost associated with the Reserved Instance.

Contents

hourlyPrice
The hourly rate of the reservation.
Type: String
Required: No

remainingTotalValue
The balance of the total value (the sum of remainingUpfrontValue + hourlyPrice * number of hours remaining).
Type: String
Required: No

remainingUpfrontValue
The remaining upfront cost of the reservation.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstanceLimitPrice

Describes the limit price of a Reserved Instance offering.

Contents

Amount

Used for Reserved Instance Marketplace offerings. Specifies the limit price on the total order (instanceCount * price).

Type: Double

Required: No

CurrencyCode

The currency in which the `limitPrice` amount is specified. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstanceReservationValue

The total value of the Convertible Reserved Instance.

Contents

reservationValue
The total value of the Convertible Reserved Instance that you are exchanging.
Type: ReservationValue (p. 771) object
Required: No

reservedInstanceId
The ID of the Convertible Reserved Instance that you are exchanging.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstances

Describes a Reserved Instance.

Contents

availabilityZone
The Availability Zone in which the Reserved Instance can be used.
Type: String
Required: No

currencyCode
The currency of the Reserved Instance. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is `USD`.
Type: String
Valid Values: `USD`
Required: No

duration
The duration of the Reserved Instance, in seconds.
Type: Long
Required: No

end
The time when the Reserved Instance expires.
Type: Timestamp
Required: No

fixedPrice
The purchase price of the Reserved Instance.
Type: Float
Required: No

instanceCount
The number of reservations purchased.
Type: Integer
Required: No

instanceTenancy
The tenancy of the instance.
Type: String
Valid Values: `default | dedicated | host`
Required: No

instanceType
The instance type on which the Reserved Instance can be used.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge |`

`p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

offeringClass

The offering class of the Reserved Instance.

Type: String

Valid Values: `standard | convertible`

Required: No

offeringType

The Reserved Instance offering type.

Type: String

Valid Values: `Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront`

Required: No

productDescription

The Reserved Instance product platform description.

Type: String

Valid Values: `Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)`

Required: No

recurringCharges

The recurring charge tag assigned to the resource.

Type: array of RecurringCharge (p. 766) objects

Required: No

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

scope

The scope of the Reserved Instance.

Type: String

Valid Values: `Availability Zone | Region`

Required: No

start

The date and time the Reserved Instance started.

Type: Timestamp

Required: No

state

The state of the Reserved Instance purchase.

Type: String

Valid Values: `payment-pending | active | payment-failed | retired`

Required: No

tagSet

Any tags assigned to the resource.

Type: array of Tag (p. 847) objects

Required: No

usagePrice

The usage price of the Reserved Instance, per hour.

Type: Float

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesConfiguration

Describes the configuration settings for the modified Reserved Instances.

Contents

AvailabilityZone (request), **availabilityZone** (response)
The Availability Zone for the modified Reserved Instances.
Type: String
Required: No

InstanceCount (request), **instanceCount** (response)
The number of modified Reserved Instances.
Type: Integer
Required: No

InstanceType (request), **instanceType** (response)
The instance type for the modified Reserved Instances.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`
Required: No

Platform (request), **platform** (response)
The network platform of the modified Reserved Instances, which is either EC2-Classic or EC2-VPC.
Type: String
Required: No

Scope (request), **scope** (response)
Whether the Reserved Instance is applied to instances in a region or instances in a specific Availability Zone.
Type: String
Valid Values: `Availability Zone | Region`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesId

Describes the ID of a Reserved Instance.

Contents

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesListing

Describes a Reserved Instance listing.

Contents

clientToken

A unique, case-sensitive key supplied by the client to ensure that the request is idempotent. For more information, see Ensuring Idempotency.

Type: String

Required: No

createDate

The time the listing was created.

Type: Timestamp

Required: No

instanceCounts

The number of instances in this state.

Type: array of InstanceCount (p. 702) objects

Required: No

priceSchedules

The price of the Reserved Instance listing.

Type: array of PriceSchedule (p. 756) objects

Required: No

reservedInstancesId

The ID of the Reserved Instance.

Type: String

Required: No

reservedInstancesListingId

The ID of the Reserved Instance listing.

Type: String

Required: No

status

The status of the Reserved Instance listing.

Type: String

Valid Values: `active | pending | cancelled | closed`

Required: No

statusMessage

The reason for the current status of the Reserved Instance listing. The response can be blank.

Type: String

Required: No

tagSet

Any tags assigned to the resource.

Type: array of Tag (p. 847) objects

Required: No

updateDate

The last modified timestamp of the listing.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesModification

Describes a Reserved Instance modification.

Contents

clientToken
A unique, case-sensitive key supplied by the client to ensure that the request is idempotent. For more information, see Ensuring Idempotency.
Type: String
Required: No

createDate
The time when the modification request was created.
Type: Timestamp
Required: No

effectiveDate
The time for the modification to become effective.
Type: Timestamp
Required: No

modificationResultSet
Contains target configurations along with their corresponding new Reserved Instance IDs.
Type: array of ReservedInstancesModificationResult (p. 784) objects
Required: No

reservedInstancesModificationId
A unique ID for the Reserved Instance modification.
Type: String
Required: No

reservedInstancesSet
The IDs of one or more Reserved Instances.
Type: array of ReservedInstancesId (p. 779) objects
Required: No

status
The status of the Reserved Instances modification request.
Type: String
Required: No

statusMessage
The reason for the status.
Type: String
Required: No

updateDate
The time when the modification request was last updated.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesModificationResult

Describes the modification request/s.

Contents

reservedInstancesId

The ID for the Reserved Instances that were created as part of the modification request. This field is only available when the modification is fulfilled.

Type: String

Required: No

targetConfiguration

The target Reserved Instances configurations supplied as part of the modification request.

Type: ReservedInstancesConfiguration (p. 777) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ReservedInstancesOffering

Describes a Reserved Instance offering.

Contents

availabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

Required: No

currencyCode

The currency of the Reserved Instance offering you are purchasing. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is `USD`.

Type: String

Valid Values: `USD`

Required: No

duration

The duration of the Reserved Instance, in seconds.

Type: Long

Required: No

fixedPrice

The purchase price of the Reserved Instance.

Type: Float

Required: No

instanceTenancy

The tenancy of the instance.

Type: String

Valid Values: `default | dedicated | host`

Required: No

instanceType

The instance type on which the Reserved Instance can be used.

Type: String

Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

marketplace

Indicates whether the offering is available through the Reserved Instance Marketplace (resale) or AWS. If it's a Reserved Instance Marketplace offering, this is `true`.

Type: Boolean

Required: No

offeringClass
If `convertible` it can be exchanged for Reserved Instances of the same or higher monetary value, with different configurations. If `standard`, it is not possible to perform an exchange.
Type: String
Valid Values: `standard | convertible`
Required: No

offeringType
The Reserved Instance offering type.
Type: String
Valid Values: `Heavy Utilization | Medium Utilization | Light Utilization | No Upfront | Partial Upfront | All Upfront`
Required: No

pricingDetailsSet
The pricing details of the Reserved Instance offering.
Type: array of PricingDetail (p. 758) objects
Required: No

productDescription
The Reserved Instance product platform description.
Type: String
Valid Values: `Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)`
Required: No

recurringCharges
The recurring charge tag assigned to the resource.
Type: array of RecurringCharge (p. 766) objects
Required: No

reservedInstancesOfferingId
The ID of the Reserved Instance offering. This is the offering ID used in GetReservedInstancesExchangeQuote (p. 479) to confirm that an exchange can be made.
Type: String
Required: No

scope
Whether the Reserved Instance is applied to instances in a region or an Availability Zone.
Type: String
Valid Values: `Availability Zone | Region`
Required: No

usagePrice
The usage price of the Reserved Instance, per hour.
Type: Float
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Route

Describes a route in a route table.

Contents

destinationCidrBlock
The IPv4 CIDR block used for the destination match.
Type: String
Required: No

destinationIpv6CidrBlock
The IPv6 CIDR block used for the destination match.
Type: String
Required: No

destinationPrefixListId
The prefix of the AWS service.
Type: String
Required: No

egressOnlyInternetGatewayId
The ID of the egress-only Internet gateway.
Type: String
Required: No

gatewayId
The ID of a gateway attached to your VPC.
Type: String
Required: No

instanceId
The ID of a NAT instance in your VPC.
Type: String
Required: No

instanceOwnerId
The AWS account ID of the owner of the instance.
Type: String
Required: No

natGatewayId
The ID of a NAT gateway.
Type: String
Required: No

networkInterfaceId
The ID of the network interface.
Type: String
Required: No

origin
Describes how the route was created.

- `CreateRouteTable` - The route was automatically created when the route table was created.
- `CreateRoute` - The route was manually added to the route table.
- `EnableVgwRoutePropagation` - The route was propagated by route propagation.

Type: String
Valid Values: `CreateRouteTable | CreateRoute | EnableVgwRoutePropagation`

Required: No

state

The state of the route. The `blackhole` state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, or the specified NAT instance has been terminated).

Type: String

Valid Values: `active | blackhole`

Required: No

vpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RouteTable

Describes a route table.

Contents

associationSet
The associations between the route table and one or more subnets.
Type: array of RouteTableAssociation (p. 791) objects
Required: No

propagatingVgwSet
Any virtual private gateway (VGW) propagating routes.
Type: array of PropagatingVgw (p. 761) objects
Required: No

routeSet
The routes in the route table.
Type: array of Route (p. 788) objects
Required: No

routeTableId
The ID of the route table.
Type: String
Required: No

tagSet
Any tags assigned to the route table.
Type: array of Tag (p. 847) objects
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RouteTableAssociation

Describes an association between a route table and a subnet.

Contents

main
Indicates whether this is the main route table.
Type: Boolean
Required: No

routeTableAssociationId
The ID of the association between a route table and a subnet.
Type: String
Required: No

routeTableId
The ID of the route table.
Type: String
Required: No

subnetId
The ID of the subnet. A subnet ID is not returned for an implicit association.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

RunInstancesMonitoringEnabled

Describes the monitoring of an instance.

Contents

Enabled (request), **enabled** (response)
Indicates whether detailed monitoring is enabled. Otherwise, basic monitoring is enabled.

Type: Boolean

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

S3Storage

Describes the storage parameters for S3 and S3 buckets for an instance store-backed AMI.

Contents

AWSAccessKeyId (request), **AWSAccessKeyId** (response)
The access key ID of the owner of the bucket. Before you specify a value for your access key ID, review and follow the guidance in Best Practices for Managing AWS Access Keys.
Type: String
Required: No

Bucket (request), **bucket** (response)
The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error.
Type: String
Required: No

Prefix (request), **prefix** (response)
The beginning of the file name of the AMI.
Type: String
Required: No

UploadPolicy (request), **uploadPolicy** (response)
An Amazon S3 upload policy that gives Amazon EC2 permission to upload items into Amazon S3 on your behalf.
Type: Base64-encoded binary data object
Required: No

UploadPolicySignature (request), **uploadPolicySignature** (response)
The signature of the JSON document.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstance

Describes a Scheduled Instance.

Contents

availabilityZone
The Availability Zone.
Type: String
Required: No

createDate
The date when the Scheduled Instance was purchased.
Type: Timestamp
Required: No

hourlyPrice
The hourly price for a single instance.
Type: String
Required: No

instanceCount
The number of instances.
Type: Integer
Required: No

instanceType
The instance type.
Type: String
Required: No

networkPlatform
The network platform (`EC2-Classic` or `EC2-VPC`).
Type: String
Required: No

nextSlotStartTime
The time for the next schedule to start.
Type: Timestamp
Required: No

platform
The platform (`Linux/UNIX` or `Windows`).
Type: String
Required: No

previousSlotEndTime
The time that the previous schedule ended or will end.
Type: Timestamp
Required: No

recurrence
The schedule recurrence.
Type: ScheduledInstanceRecurrence (p. 798) object
Required: No

scheduledInstanceId
The Scheduled Instance ID.
Type: String

Required: No

slotDurationInHours

The number of hours in the schedule.

Type: Integer

Required: No

termEndDate

The end date for the Scheduled Instance.

Type: Timestamp

Required: No

termStartDate

The start date for the Scheduled Instance.

Type: Timestamp

Required: No

totalScheduledInstanceHours

The total number of hours for a single instance for the entire term.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstanceAvailability

Describes a schedule that is available for your Scheduled Instances.

Contents

availabilityZone
The Availability Zone.
Type: String
Required: No

availableInstanceCount
The number of available instances.
Type: Integer
Required: No

firstSlotStartTime
The time period for the first schedule to start.
Type: Timestamp
Required: No

hourlyPrice
The hourly price for a single instance.
Type: String
Required: No

instanceType
The instance type. You can specify one of the C3, C4, M4, or R3 instance types.
Type: String
Required: No

maxTermDurationInDays
The maximum term. The only possible value is 365 days.
Type: Integer
Required: No

minTermDurationInDays
The minimum term. The only possible value is 365 days.
Type: Integer
Required: No

networkPlatform
The network platform (`EC2-Classic` or `EC2-VPC`).
Type: String
Required: No

platform
The platform (`Linux/UNIX` or `Windows`).
Type: String
Required: No

purchaseToken
The purchase token. This token expires in two hours.
Type: String
Required: No

recurrence
The schedule recurrence.
Type: ScheduledInstanceRecurrence (p. 798) object

Required: No

slotDurationInHours

The number of hours in the schedule.

Type: Integer

Required: No

totalScheduledInstanceHours

The total number of hours for a single instance for the entire term.

Type: Integer

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstanceRecurrence

Describes the recurring schedule for a Scheduled Instance.

Contents

frequency
The frequency (`Daily`, `Weekly`, or `Monthly`).
Type: String
Required: No

interval
The interval quantity. The interval unit depends on the value of `frequency`. For example, every 2 weeks or every 2 months.
Type: Integer
Required: No

occurrenceDaySet
The days. For a monthly schedule, this is one or more days of the month (1-31). For a weekly schedule, this is one or more days of the week (1-7, where 1 is Sunday).
Type: array of Integers
Required: No

occurrenceRelativeToEnd
Indicates whether the occurrence is relative to the end of the specified week or month.
Type: Boolean
Required: No

occurrenceUnit
The unit for `occurrenceDaySet` (`DayOfWeek` or `DayOfMonth`).
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstanceRecurrenceRequest

Describes the recurring schedule for a Scheduled Instance.

Contents

Frequency
The frequency (`Daily`, `Weekly`, or `Monthly`).
Type: String
Required: No

Interval
The interval quantity. The interval unit depends on the value of `Frequency`. For example, every 2 weeks or every 2 months.
Type: Integer
Required: No

OccurrenceDays
The days. For a monthly schedule, this is one or more days of the month (1-31). For a weekly schedule, this is one or more days of the week (1-7, where 1 is Sunday). You can't specify this value with a daily schedule. If the occurrence is relative to the end of the month, you can specify only a single day.
Type: array of Integers
Required: No

OccurrenceRelativeToEnd
Indicates whether the occurrence is relative to the end of the specified week or month. You can't specify this value with a daily schedule.
Type: Boolean
Required: No

OccurrenceUnit
The unit for `OccurrenceDays` (`DayOfWeek` or `DayOfMonth`). This value is required for a monthly schedule. You can't specify `DayOfWeek` with a weekly schedule. You can't specify this value with a daily schedule.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesBlockDeviceMapping

Describes a block device mapping for a Scheduled Instance.

Contents

DeviceName

The device name exposed to the instance (for example, `/dev/sdh` or `xvdh`).

Type: String

Required: No

Ebs

Parameters used to set up EBS volumes automatically when the instance is launched.

Type: ScheduledInstancesEbs (p. 801) object

Required: No

NoDevice

Suppresses the specified device included in the block device mapping of the AMI.

Type: String

Required: No

VirtualName

The virtual device name (`ephemeral`N). Instance store volumes are numbered starting from 0. An instance type with two available instance store volumes can specify mappings for `ephemeral0` and `ephemeral1`.The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.

Constraints: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesEbs

Describes an EBS volume for a Scheduled Instance.

Contents

DeleteOnTermination
Indicates whether the volume is deleted on instance termination.
Type: Boolean
Required: No

Encrypted
Indicates whether the volume is encrypted. You can attached encrypted volumes only to instances that support them.
Type: Boolean
Required: No

Iops
The number of I/O operations per second (IOPS) that the volume supports. For io1 volumes, this represents the number of IOPS that are provisioned for the volume. For `gp2` volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information about `gp2` baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the *Amazon Elastic Compute Cloud User Guide*.
Constraint: Range is 100-20000 IOPS for `io1` volumes and 100-10000 IOPS for `gp2` volumes.
Condition: This parameter is required for requests to create `io1`volumes; it is not used in requests to create `gp2`, `st1`, `sc1`, or `standard` volumes.
Type: Integer
Required: No

SnapshotId
The ID of the snapshot.
Type: String
Required: No

VolumeSize
The size of the volume, in GiB.
Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.
Type: Integer
Required: No

VolumeType
The volume type. `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, Throughput Optimized HDD for `st1`, Cold HDD for `sc1`, or `standard` for Magnetic.
Default: `standard`
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

ScheduledInstancesIamInstanceProfile

Describes an IAM instance profile for a Scheduled Instance.

Contents

Arn

The Amazon Resource Name (ARN).

Type: String

Required: No

Name

The name.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesIpv6Address

Describes an IPv6 address.

Contents

Ipv6Address
The IPv6 address.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesLaunchSpecification

Describes the launch specification for a Scheduled Instance.

If you are launching the Scheduled Instance in EC2-VPC, you must specify the ID of the subnet. You can specify the subnet using either `SubnetId` or `NetworkInterface`.

Contents

BlockDeviceMappings
One or more block device mapping entries.
Type: array of ScheduledInstancesBlockDeviceMapping (p. 800) objects
Required: No

EbsOptimized
Indicates whether the instances are optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.
Default: `false`
Type: Boolean
Required: No

IamInstanceProfile
The IAM instance profile.
Type: ScheduledInstancesIamInstanceProfile (p. 803) object
Required: No

ImageId
The ID of the Amazon Machine Image (AMI).
Type: String
Required: Yes

InstanceType
The instance type.
Type: String
Required: No

KernelId
The ID of the kernel.
Type: String
Required: No

KeyName
The name of the key pair.
Type: String
Required: No

Monitoring
Enable or disable monitoring for the instances.
Type: ScheduledInstancesMonitoring (p. 807) object
Required: No

NetworkInterfaces
One or more network interfaces.
Type: array of ScheduledInstancesNetworkInterface (p. 808) objects
Required: No

Placement
The placement information.

Type: ScheduledInstancesPlacement (p. 810) object

Required: No

RamdiskId

The ID of the RAM disk.

Type: String

Required: No

SecurityGroupIds

The IDs of one or more security groups.

Type: array of Strings

Required: No

SubnetId

The ID of the subnet in which to launch the instances.

Type: String

Required: No

UserData

The base64-encoded MIME user data.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesMonitoring

Describes whether monitoring is enabled for a Scheduled Instance.

Contents

Enabled

Indicates whether monitoring is enabled.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesNetworkInterface

Describes a network interface for a Scheduled Instance.

Contents

AssociatePublicIpAddress
Indicates whether to assign a public IPv4 address to instances launched in a VPC. The public IPv4 address can only be assigned to a network interface for eth0, and can only be assigned to a new network interface, not an existing one. You cannot specify more than one network interface in the request. If launching into a default subnet, the default value is `true`.
Type: Boolean
Required: No

DeleteOnTermination
Indicates whether to delete the interface when the instance is terminated.
Type: Boolean
Required: No

Description
The description.
Type: String
Required: No

DeviceIndex
The index of the device for the network interface attachment.
Type: Integer
Required: No

Groups
The IDs of one or more security groups.
Type: array of Strings
Required: No

Ipv6Addresses
One or more specific IPv6 addresses from the subnet range.
Type: array of ScheduledInstancesIpv6Address (p. 804) objects
Required: No

Ipv6AddressCount
The number of IPv6 addresses to assign to the network interface. The IPv6 addresses are automatically selected from the subnet range.
Type: Integer
Required: No

NetworkInterfaceId
The ID of the network interface.
Type: String
Required: No

PrivateIpAddress
The IPv4 address of the network interface within the subnet.
Type: String
Required: No

PrivateIpAddressConfigs
The private IPv4 addresses.
Type: array of ScheduledInstancesPrivateIpAddressConfig (p. 811) objects
Required: No

SecondaryPrivateIpAddressCount

The number of secondary private IPv4 addresses.

Type: Integer

Required: No

SubnetId

The ID of the subnet.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesPlacement

Describes the placement for a Scheduled Instance.

Contents

AvailabilityZone
The Availability Zone.
Type: String
Required: No

GroupName
The name of the placement group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

ScheduledInstancesPrivateIpAddressConfig

Describes a private IPv4 address for a Scheduled Instance.

Contents

Primary

Indicates whether this is a primary IPv4 address. Otherwise, this is a secondary IPv4 address.

Type: Boolean

Required: No

PrivateIpAddress

The IPv4 address.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SecurityGroup

Describes a security group

Contents

groupDescription
A description of the security group.
Type: String
Required: No

groupId
The ID of the security group.
Type: String
Required: No

groupName
The name of the security group.
Type: String
Required: No

ipPermissions
One or more inbound rules associated with the security group.
Type: array of IpPermission (p. 721) objects
Required: No

ipPermissionsEgress
[EC2-VPC] One or more outbound rules associated with the security group.
Type: array of IpPermission (p. 721) objects
Required: No

ownerId
The AWS account ID of the owner of the security group.
Type: String
Required: No

tagSet
Any tags assigned to the security group.
Type: array of Tag (p. 847) objects
Required: No

vpcId
[EC2-VPC] The ID of the VPC for the security group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SecurityGroupReference

Describes a VPC with a security group that references your security group.

Contents

groupId
The ID of your security group.
Type: String
Required: Yes

referencingVpcId
The ID of the VPC with the referencing security group.
Type: String
Required: Yes

vpcPeeringConnectionId
The ID of the VPC peering connection.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SlotDateTimeRangeRequest

Describes the time period for a Scheduled Instance to start its first schedule. The time period must span less than one day.

Contents

EarliestTime

The earliest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: Yes

LatestTime

The latest date and time, in UTC, for the Scheduled Instance to start. This value must be later than or equal to the earliest date and at most three months in the future.

Type: Timestamp

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SlotStartTimeRangeRequest

Describes the time period for a Scheduled Instance to start its first schedule.

Contents

EarliestTime

The earliest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: No

LatestTime

The latest date and time, in UTC, for the Scheduled Instance to start.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Snapshot

Describes a snapshot.

Contents

dataEncryptionKeyId
The data encryption key identifier for the snapshot. This value is a unique identifier that corresponds to the data encryption key that was used to encrypt the original volume or snapshot copy. Because data encryption keys are inherited by volumes created from snapshots, and vice versa, if snapshots share the same data encryption key identifier, then they belong to the same volume/snapshot lineage. This parameter is only returned by the DescribeSnapshots (p. 363) API operation.
Type: String
Required: No

description
The description for the snapshot.
Type: String
Required: No

encrypted
Indicates whether the snapshot is encrypted.
Type: Boolean
Required: No

kmsKeyId
The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the parent volume.
Type: String
Required: No

ownerAlias
Value from an Amazon-maintained list (`amazon` | `aws-marketplace` | `microsoft`) of snapshot owners. Not to be confused with the user-configured AWS account alias, which is set from the IAM console.
Type: String
Required: No

ownerId
The AWS account ID of the EBS snapshot owner.
Type: String
Required: No

progress
The progress of the snapshot, as a percentage.
Type: String
Required: No

snapshotId
The ID of the snapshot. Each snapshot receives a unique identifier when it is created.
Type: String
Required: No

startTime
The time stamp when the snapshot was initiated.
Type: Timestamp
Required: No

status
The snapshot state.
Type: String
Valid Values: `pending | completed | error`
Required: No

statusMessage
Encrypted Amazon EBS snapshots are copied asynchronously. If a snapshot copy operation fails (for example, if the proper AWS Key Management Service (AWS KMS) permissions are not obtained) this field displays error state details to help you diagnose why the error occurred. This parameter is only returned by the DescribeSnapshots (p. 363) API operation.
Type: String
Required: No

tagSet
Any tags assigned to the snapshot.
Type: array of Tag (p. 847) objects
Required: No

volumeId
The ID of the volume that was used to create the snapshot. Snapshots created by the CopySnapshot (p. 86) action have an arbitrary volume ID that should not be used for any purpose.
Type: String
Required: No

volumeSize
The size of the volume, in GiB.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SnapshotDetail

Describes the snapshot created from the imported disk.

Contents

description
A description for the snapshot.
Type: String
Required: No

deviceName
The block device mapping for the snapshot.
Type: String
Required: No

diskImageSize
The size of the disk in the snapshot, in GiB.
Type: Double
Required: No

format
The format of the disk image from which the snapshot is created.
Type: String
Required: No

progress
The percentage of progress for the task.
Type: String
Required: No

snapshotId
The snapshot ID of the disk being imported.
Type: String
Required: No

status
A brief status of the snapshot creation.
Type: String
Required: No

statusMessage
A detailed status message for the snapshot creation.
Type: String
Required: No

url
The URL used to access the disk image.
Type: String
Required: No

userBucket
The S3 bucket for the disk image.
Type: UserBucketDetails (p. 855) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SnapshotDiskContainer

The disk container object for the import snapshot request.

Contents

Description
The description of the disk image being imported.
Type: String
Required: No

Format
The format of the disk image being imported.
Valid values: `RAW` | `VHD` | `VMDK` | `OVA`
Type: String
Required: No

Url
The URL to the Amazon S3-based disk image being imported. It can either be a https URL (https://..) or an Amazon S3 URL (s3://..).
Type: String
Required: No

UserBucket
The S3 bucket for the disk image.
Type: UserBucket (p. 854) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SnapshotTaskDetail

Details about the import snapshot task.

Contents

description
The description of the snapshot.
Type: String
Required: No

diskImageSize
The size of the disk in the snapshot, in GiB.
Type: Double
Required: No

format
The format of the disk image from which the snapshot is created.
Type: String
Required: No

progress
The percentage of completion for the import snapshot task.
Type: String
Required: No

snapshotId
The snapshot ID of the disk being imported.
Type: String
Required: No

status
A brief status for the import snapshot task.
Type: String
Required: No

statusMessage
A detailed status message for the import snapshot task.
Type: String
Required: No

url
The URL of the disk image from which the snapshot is created.
Type: String
Required: No

userBucket
The S3 bucket for the disk image.
Type: UserBucketDetails (p. 855) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for Ruby V2

SpotDatafeedSubscription

Describes the data feed for a Spot instance.

Contents

bucket
The Amazon S3 bucket where the Spot instance data feed is located.
Type: String
Required: No

fault
The fault codes for the Spot instance request, if any.
Type: SpotInstanceStateFault (p. 834) object
Required: No

ownerId
The AWS account ID of the account.
Type: String
Required: No

prefix
The prefix that is prepended to data feed files.
Type: String
Required: No

state
The state of the Spot instance data feed subscription.
Type: String
Valid Values: `Active | Inactive`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotFleetLaunchSpecification

Describes the launch specification for one or more Spot instances.

Contents

AddressingType (request), **addressingType** (response)
Deprecated.
Type: String
Required: No

BlockDeviceMappings (request), **blockDeviceMapping** (response)
One or more block device mapping entries.
Type: array of BlockDeviceMapping (p. 634) objects
Required: No

EbsOptimized (request), **ebsOptimized** (response)
Indicates whether the instances are optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
Default: `false`
Type: Boolean
Required: No

SecurityGroups (request), **groupSet** (response)
One or more security groups. When requesting instances in a VPC, you must specify the IDs of the security groups. When requesting instances in EC2-Classic, you can specify the names or the IDs of the security groups.
Type: array of GroupIdentifier (p. 668) objects
Required: No

IamInstanceProfile (request), **iamInstanceProfile** (response)
The IAM instance profile.
Type: IamInstanceProfileSpecification (p. 679) object
Required: No

ImageId (request), **imageId** (response)
The ID of the AMI.
Type: String
Required: No

InstanceType (request), **instanceType** (response)
The instance type. Note that T2 and HS1 instance types are not supported.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`

Required: No

KernelId (request), **kernelId** (response)
The ID of the kernel.
Type: String
Required: No

KeyName (request), **keyName** (response)
The name of the key pair.
Type: String
Required: No

Monitoring (request), **monitoring** (response)
Enable or disable monitoring for the instances.
Type: SpotFleetMonitoring (p. 827) object
Required: No

NetworkInterfaces (request), **networkInterfaceSet** (response)
One or more network interfaces. If you specify a network interface, you must specify subnet IDs and security group IDs using the network interface.
Type: array of InstanceNetworkInterfaceSpecification (p. 710) objects
Required: No

Placement (request), **placement** (response)
The placement information.
Type: SpotPlacement (p. 836) object
Required: No

RamdiskId (request), **ramdiskId** (response)
The ID of the RAM disk.
Type: String
Required: No

SpotPrice (request), **spotPrice** (response)
The bid price per unit hour for the specified instance type. If this value is not specified, the default is the Spot bid price specified for the fleet. To determine the bid price per unit hour, divide the Spot bid price by the value of `WeightedCapacity`.
Type: String
Required: No

SubnetId (request), **subnetId** (response)
The ID of the subnet in which to launch the instances. To specify multiple subnets, separate them using commas; for example, "subnet-a61dafcf, subnet-65ea5f08".
Type: String
Required: No

UserData (request), **userData** (response)
The user data to make available to the instances. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.
Type: String
Required: No

WeightedCapacity (request), **weightedCapacity** (response)
The number of units provided by the specified instance type. These are the same units that you chose to set the target capacity in terms (instances or a performance characteristic such as vCPUs, memory, or I/O).

If the target capacity divided by this value is not a whole number, we round the number of instances to the next whole number. If this value is not specified, the default is 1.

Type: Double

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotFleetMonitoring

Describes whether monitoring is enabled.

Contents

Enabled (request), **enabled** (response)
Enables monitoring for the instance.

Default: `false`

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotFleetRequestConfig

Describes a Spot fleet request.

Contents

activityStatus
The progress of the Spot fleet request. If there is an error, the status is `error`. After all bids are placed, the status is `pending_fulfillment`. If the size of the fleet is equal to or greater than its target capacity, the status is `fulfilled`. If the size of the fleet is decreased, the status is `pending_termination` while Spot instances are terminating.
Type: String
Valid Values: `error | pending_fulfillment | pending_termination | fulfilled`
Required: No

createTime
The creation date and time of the request.
Type: Timestamp
Required: Yes

spotFleetRequestConfig
Information about the configuration of the Spot fleet request.
Type: SpotFleetRequestConfigData (p. 829) object
Required: Yes

spotFleetRequestId
The ID of the Spot fleet request.
Type: String
Required: Yes

spotFleetRequestState
The state of the Spot fleet request.
Type: String
Valid Values: `submitted | active | cancelled | failed | cancelled_running | cancelled_terminating | modifying`
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotFleetRequestConfigData

Describes the configuration of a Spot fleet request.

Contents

AllocationStrategy (request), **allocationStrategy** (response)
Indicates how to allocate the target capacity across the Spot pools specified by the Spot fleet request. The default is `lowestPrice`.
Type: String
Valid Values: `lowestPrice | diversified`
Required: No

ClientToken (request), **clientToken** (response)
A unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, see Ensuring Idempotency.
Type: String
Required: No

ExcessCapacityTerminationPolicy (request), **excessCapacityTerminationPolicy** (response)
Indicates whether running Spot instances should be terminated if the target capacity of the Spot fleet request is decreased below the current size of the Spot fleet.
Type: String
Valid Values: `noTermination | default`
Required: No

FulfilledCapacity (request), **fulfilledCapacity** (response)
The number of units fulfilled by this request compared to the set target capacity.
Type: Double
Required: No

IamFleetRole (request), **iamFleetRole** (response)
Grants the Spot fleet permission to terminate Spot instances on your behalf when you cancel its Spot fleet request using CancelSpotFleetRequests (p. 77) or when the Spot fleet request expires, if you set `terminateInstancesWithExpiration`.
Type: String
Required: Yes

LaunchSpecifications (request), **launchSpecifications** (response)
Information about the launch specifications for the Spot fleet request.
Type: array of SpotFleetLaunchSpecification (p. 824) objects
Array Members: Minimum number of 1 item.
Required: Yes

ReplaceUnhealthyInstances (request), **replaceUnhealthyInstances** (response)
Indicates whether Spot fleet should replace unhealthy instances.
Type: Boolean
Required: No

SpotPrice (request), **spotPrice** (response)
The bid price per unit hour.
Type: String
Required: Yes

TargetCapacity (request), **targetCapacity** (response)
The number of units to request. You can choose to set the target capacity in terms of instances or a performance characteristic that is important to your application workload, such as vCPUs, memory, or I/O.

Type: Integer

Required: Yes

TerminateInstancesWithExpiration (request), **terminateInstancesWithExpiration** (response)
Indicates whether running Spot instances should be terminated when the Spot fleet request expires.

Type: Boolean

Required: No

Type (request), **type** (response)
The type of request. Indicates whether the fleet will only `request` the target capacity or also attempt to `maintain` it. When you `request` a certain target capacity, the fleet will only place the required bids. It will not attempt to replenish Spot instances if capacity is diminished, nor will it submit bids in alternative Spot pools if capacity is not available. When you want to `maintain` a certain target capacity, fleet will place the required bids to meet this target capacity. It will also automatically replenish any interrupted instances. Default: `maintain`.

Type: String

Valid Values: `request | maintain`

Required: No

ValidFrom (request), **validFrom** (response)
The start date and time of the request, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). The default is to start fulfilling the request immediately.

Type: Timestamp

Required: No

ValidUntil (request), **validUntil** (response)
The end date and time of the request, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). At this point, no new Spot instance requests are placed or enabled to fulfill the request.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotInstanceRequest

Describes a Spot instance request.

Contents

actualBlockHourlyPrice

If you specified a duration and your Spot instance request was fulfilled, this is the fixed hourly price in effect for the Spot instance while it runs.

Type: String

Required: No

availabilityZoneGroup

The Availability Zone group. If you specify the same Availability Zone group for all Spot instance requests, all Spot instances are launched in the same Availability Zone.

Type: String

Required: No

blockDurationMinutes

The duration for the Spot instance, in minutes.

Type: Integer

Required: No

createTime

The date and time when the Spot instance request was created, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Required: No

fault

The fault codes for the Spot instance request, if any.

Type: SpotInstanceStateFault (p. 834) object

Required: No

instanceId

The instance ID, if an instance has been launched to fulfill the Spot instance request.

Type: String

Required: No

launchedAvailabilityZone

The Availability Zone in which the bid is launched.

Type: String

Required: No

launchGroup

The instance launch group. Launch groups are Spot instances that launch together and terminate together.

Type: String

Required: No

launchSpecification

Additional information for launching instances.

Type: LaunchSpecification (p. 729) object

Required: No

productDescription

The product description associated with the Spot instance.

Type: String

Valid Values: `Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)`

Required: No

spotInstanceRequestId

The ID of the Spot instance request.

Type: String

Required: No

spotPrice

The maximum hourly price (bid) for the Spot instance launched to fulfill the request.

Type: String

Required: No

state

The state of the Spot instance request. Spot bid status information can help you track your Spot instance requests. For more information, see Spot Bid Status in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Valid Values: `open | active | closed | cancelled | failed`

Required: No

status

The status code and status message describing the Spot instance request.

Type: SpotInstanceStatus (p. 835) object

Required: No

tagSet

Any tags assigned to the resource.

Type: array of Tag (p. 847) objects

Required: No

type

The Spot instance request type.

Type: String

Valid Values: `one-time | persistent`

Required: No

validFrom

The start date of the request, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). The request becomes active at this date and time.

Type: Timestamp

Required: No

validUntil

The end date of the request, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z). If this is a one-time request, it remains active until all instances launch, the request is canceled, or this date is reached. If the request is persistent, it remains active until it is canceled or this date is reached.

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go

- AWS SDK for Java
- AWS SDK for Ruby V2

SpotInstanceStateFault

Describes a Spot instance state change.

Contents

code
The reason code for the Spot instance state change.
Type: String
Required: No

message
The message for the Spot instance state change.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotInstanceStatus

Describes the status of a Spot instance request.

Contents

code
The status code. For a list of status codes, see Spot Bid Status Codes in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Required: No

message
The description for the status code.

Type: String

Required: No

updateTime
The date and time of the most recent status update, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).

Type: Timestamp

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotPlacement

Describes Spot instance placement.

Contents

AvailabilityZone (request), **availabilityZone** (response)
The Availability Zone.

[Spot fleet only] To specify multiple Availability Zones, separate them using commas; for example, "us-west-2a, us-west-2b".

Type: String

Required: No

GroupName (request), **groupName** (response)
The name of the placement group (for cluster instances).

Type: String

Required: No

Tenancy (request), **tenancy** (response)
The tenancy of the instance (if the instance is running in a VPC). An instance with a tenancy of `dedicated` runs on single-tenant hardware. The `host` tenancy is not supported for Spot instances.

Type: String

Valid Values: `default | dedicated | host`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SpotPrice

Describes the maximum hourly price (bid) for any Spot instance launched to fulfill the request.

Contents

availabilityZone
The Availability Zone.
Type: String
Required: No

instanceType
The instance type. Note that T2 and HS1 instance types are not supported.
Type: String
Valid Values: `t1.micro | t2.nano | t2.micro | t2.small | t2.medium | t2.large | t2.xlarge | t2.2xlarge | m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large | m3.xlarge | m3.2xlarge | m4.large | m4.xlarge | m4.2xlarge | m4.4xlarge | m4.10xlarge | m4.16xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | r3.large | r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | r4.large | r4.xlarge | r4.2xlarge | r4.4xlarge | r4.8xlarge | r4.16xlarge | x1.16xlarge | x1.32xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | hi1.4xlarge | hs1.8xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge | c3.4xlarge | c3.8xlarge | c4.large | c4.xlarge | c4.2xlarge | c4.4xlarge | c4.8xlarge | cc1.4xlarge | cc2.8xlarge | g2.2xlarge | g2.8xlarge | cg1.4xlarge | p2.xlarge | p2.8xlarge | p2.16xlarge | d2.xlarge | d2.2xlarge | d2.4xlarge | d2.8xlarge | f1.2xlarge | f1.16xlarge`
Required: No

productDescription
A general description of the AMI.
Type: String
Valid Values: `Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)`
Required: No

spotPrice
The maximum price (bid) that you are willing to pay for a Spot instance.
Type: String
Required: No

timestamp
The date and time the request was created, in UTC format (for example, *YYYY-MM-DD*T*HH*:*MM*:*SS*Z).
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

StaleIpPermission

Describes a stale rule in a security group.

Contents

fromPort
The start of the port range for the TCP and UDP protocols, or an ICMP type number. A value of `-1` indicates all ICMP types.
Type: Integer
Required: No

groups
One or more security group pairs. Returns the ID of the referenced security group and VPC, and the ID and status of the VPC peering connection.
Type: array of UserIdGroupPair (p. 857) objects
Required: No

ipProtocol
The IP protocol name (for `tcp`, `udp`, and `icmp`) or number (see Protocol Numbers).
Type: String
Required: No

ipRanges
One or more IP ranges. Not applicable for stale security group rules.
Type: array of Strings
Required: No

prefixListIds
One or more prefix list IDs for an AWS service. Not applicable for stale security group rules.
Type: array of Strings
Required: No

toPort
The end of the port range for the TCP and UDP protocols, or an ICMP type number. A value of `-1` indicates all ICMP types.
Type: Integer
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

StaleSecurityGroup

Describes a stale security group (a security group that contains stale rules).

Contents

description
The description of the security group.
Type: String
Required: No

groupId
The ID of the security group.
Type: String
Required: Yes

groupName
The name of the security group.
Type: String
Required: No

staleIpPermissions
Information about the stale inbound rules in the security group.
Type: array of StaleIpPermission (p. 839) objects
Required: No

staleIpPermissionsEgress
Information about the stale outbound rules in the security group.
Type: array of StaleIpPermission (p. 839) objects
Required: No

vpcId
The ID of the VPC for the security group.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

StateReason

Describes a state change.

Contents

code

The reason code for the state change.

Type: String

Required: No

message

The message for the state change.

- `Server.InsufficientInstanceCapacity`: There was insufficient instance capacity to satisfy the launch request.
- `Server.InternalError`: An internal error occurred during instance launch, resulting in termination.
- `Server.ScheduledStop`: The instance was stopped due to a scheduled retirement.
- `Server.SpotInstanceTermination`: A Spot instance was terminated due to an increase in the market price.
- `Client.InternalError`: A client error caused the instance to terminate on launch.
- `Client.InstanceInitiatedShutdown`: The instance was shut down using the `shutdown -h` command from the instance.
- `Client.UserInitiatedShutdown`: The instance was shut down using the Amazon EC2 API.
- `Client.VolumeLimitExceeded`: The limit on the number of EBS volumes or total storage was exceeded. Decrease usage or request an increase in your limits.
- `Client.InvalidSnapshot.NotFound`: The specified snapshot was not found.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Storage

Describes the storage location for an instance store-backed AMI.

Contents

S3 (request), **S3** (response)
An Amazon S3 storage location.
Type: S3Storage (p. 793) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Subnet

Describes a subnet.

Contents

assignIpv6AddressOnCreation
Indicates whether a network interface created in this subnet (including a network interface created by RunInstances (p. 595)) receives an IPv6 address.
Type: Boolean
Required: No

availabilityZone
The Availability Zone of the subnet.
Type: String
Required: No

availableIpAddressCount
The number of unused private IPv4 addresses in the subnet. Note that the IPv4 addresses for any stopped instances are considered unavailable.
Type: Integer
Required: No

cidrBlock
The IPv4 CIDR block assigned to the subnet.
Type: String
Required: No

defaultForAz
Indicates whether this is the default subnet for the Availability Zone.
Type: Boolean
Required: No

ipv6CidrBlockAssociationSet
Information about the IPv6 CIDR blocks associated with the subnet.
Type: array of SubnetIpv6CidrBlockAssociation (p. 846) objects
Required: No

mapPublicIpOnLaunch
Indicates whether instances launched in this subnet receive a public IPv4 address.
Type: Boolean
Required: No

state
The current state of the subnet.
Type: String
Valid Values: `pending | available`
Required: No

subnetId
The ID of the subnet.
Type: String
Required: No

tagSet
Any tags assigned to the subnet.
Type: array of Tag (p. 847) objects
Required: No

vpcId

The ID of the VPC the subnet is in.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SubnetCidrBlockState

Describes the state of a CIDR block.

Contents

state

The state of a CIDR block.

Type: String

Valid Values: `associating | associated | disassociating | disassociated | failing | failed`

Required: No

statusMessage

A message about the status of the CIDR block, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

SubnetIpv6CidrBlockAssociation

Describes an IPv6 CIDR block associated with a subnet.

Contents

associationId
The association ID for the CIDR block.
Type: String
Required: No

ipv6CidrBlock
The IPv6 CIDR block.
Type: String
Required: No

ipv6CidrBlockState
Information about the state of the CIDR block.
Type: SubnetCidrBlockState (p. 845) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Tag

Describes a tag.

Contents

Key (request), **key** (response)
The key of the tag.

Constraints: Tag keys are case-sensitive and accept a maximum of 127 Unicode characters. May not begin with `aws:`

Type: String

Required: No

Value (request), **value** (response)
The value of the tag.

Constraints: Tag values are case-sensitive and accept a maximum of 255 Unicode characters.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TagDescription

Describes a tag.

Contents

key
The tag key.
Type: String
Required: No

resourceId
The ID of the resource. For example, `ami-1a2b3c4d`.
Type: String
Required: No

resourceType
The resource type.
Type: String
Valid Values: `customer-gateway | dhcp-options | image | instance | internet-gateway | network-acl | network-interface | reserved-instances | route-table | snapshot | spot-instances-request | subnet | security-group | volume | vpc | vpn-connection | vpn-gateway`
Required: No

value
The tag value.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TargetConfiguration

Information about the Convertible Reserved Instance offering.

Contents

instanceCount

The number of instances the Convertible Reserved Instance offering can be applied to. This parameter is reserved and cannot be specified in a request

Type: Integer

Required: No

offeringId

The ID of the Convertible Reserved Instance offering.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TargetConfigurationRequest

Details about the target configuration.

Contents

InstanceCount

The number of instances the Covertible Reserved Instance offering can be applied to. This parameter is reserved and cannot be specified in a request

Type: Integer

Required: No

OfferingId

The Convertible Reserved Instance offering ID.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

TargetReservationValue

The total value of the new Convertible Reserved Instances.

Contents

reservationValue

The total value of the Convertible Reserved Instances that make up the exchange. This is the sum of the list value, remaining upfront price, and additional upfront cost of the exchange.

Type: ReservationValue (p. 771) object

Required: No

targetConfiguration

The configuration of the Convertible Reserved Instances that make up the exchange.

Type: TargetConfiguration (p. 849) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UnsuccessfulItem

Information about items that were not successfully processed in a batch call.

Contents

error
Information about the error.
Type: UnsuccessfulItemError (p. 853) object
Required: Yes

resourceId
The ID of the resource.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UnsuccessfulItemError

Information about the error that occurred. For more information about errors, see Error Codes.

Contents

code
The error code.
Type: String
Required: Yes

message
The error message accompanying the error code.
Type: String
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UserBucket

Describes the S3 bucket for the disk image.

Contents

S3Bucket
The name of the S3 bucket where the disk image is located.
Type: String
Required: No

S3Key
The file name of the disk image.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UserBucketDetails

Describes the S3 bucket for the disk image.

Contents

s3Bucket
The S3 bucket from which the disk image was created.
Type: String
Required: No

s3Key
The file name of the disk image.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UserData

Describes the user data for an instance.

Contents

Data

The user data. If you are using an AWS SDK or command line tool, Base64-encoding is performed for you, and you can load the text from a file. Otherwise, you must provide Base64-encoded text.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

UserIdGroupPair

Describes a security group and AWS account ID pair.

Contents

GroupId (request), **groupId** (response)
The ID of the security group.
Type: String
Required: No

GroupName (request), **groupName** (response)
The name of the security group. In a request, use this parameter for a security group in EC2-Classic or a default VPC only. For a security group in a nondefault VPC, use the security group ID.
Type: String
Required: No

PeeringStatus (request), **peeringStatus** (response)
The status of a VPC peering connection, if applicable.
Type: String
Required: No

UserId (request), **userId** (response)
The ID of an AWS account. For a referenced security group in another VPC, the account ID of the referenced security group is returned.
[EC2-Classic] Required when adding or removing rules that reference a security group in another AWS account.
Type: String
Required: No

VpcId (request), **vpcId** (response)
The ID of the VPC for the referenced security group, if applicable.
Type: String
Required: No

VpcPeeringConnectionId (request), **vpcPeeringConnectionId** (response)
The ID of the VPC peering connection, if applicable.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VgwTelemetry

Describes telemetry for a VPN tunnel.

Contents

acceptedRouteCount
The number of accepted routes.
Type: Integer
Required: No

lastStatusChange
The date and time of the last change in status.
Type: Timestamp
Required: No

outsideIpAddress
The Internet-routable IP address of the virtual private gateway's outside interface.
Type: String
Required: No

status
The status of the VPN tunnel.
Type: String
Valid Values: `UP | DOWN`
Required: No

statusMessage
If an error occurs, a description of the error.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Volume

Describes a volume.

Contents

attachmentSet
Information about the volume attachments.
Type: array of VolumeAttachment (p. 861) objects
Required: No

availabilityZone
The Availability Zone for the volume.
Type: String
Required: No

createTime
The time stamp when volume creation was initiated.
Type: Timestamp
Required: No

encrypted
Indicates whether the volume will be encrypted.
Type: Boolean
Required: No

iops
The number of I/O operations per second (IOPS) that the volume supports. For Provisioned IOPS SSD volumes, this represents the number of IOPS that are provisioned for the volume. For General Purpose SSD volumes, this represents the baseline performance of the volume and the rate at which the volume accumulates I/O credits for bursting. For more information on General Purpose SSD baseline performance, I/O credits, and bursting, see Amazon EBS Volume Types in the *Amazon Elastic Compute Cloud User Guide*.
Constraint: Range is 100-20000 IOPS for io1 volumes and 100-10000 IOPS for `gp2` volumes.
Condition: This parameter is required for requests to create `io1` volumes; it is not used in requests to create `gp2`, `st1`, `sc1`, or `standard` volumes.
Type: Integer
Required: No

kmsKeyId
The full ARN of the AWS Key Management Service (AWS KMS) customer master key (CMK) that was used to protect the volume encryption key for the volume.
Type: String
Required: No

size
The size of the volume, in GiBs.
Type: Integer
Required: No

snapshotId
The snapshot from which the volume was created, if applicable.
Type: String
Required: No

status
The volume state.
Type: String

Valid Values: `creating | available | in-use | deleting | deleted | error`

Required: No

tagSet

Any tags assigned to the volume.

Type: array of Tag (p. 847) objects

Required: No

volumeId

The ID of the volume.

Type: String

Required: No

volumeType

The volume type. This can be `gp2` for General Purpose SSD, `io1` for Provisioned IOPS SSD, `st1` for Throughput Optimized HDD, `sc1` for Cold HDD, or `standard` for Magnetic volumes.

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeAttachment

Describes volume attachment details.

Contents

attachTime
The time stamp when the attachment initiated.
Type: Timestamp
Required: No

deleteOnTermination
Indicates whether the EBS volume is deleted on instance termination.
Type: Boolean
Required: No

device
The device name.
Type: String
Required: No

instanceId
The ID of the instance.
Type: String
Required: No

status
The attachment state of the volume.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

volumeId
The ID of the volume.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeDetail

Describes an EBS volume.

Contents

Size

The size of the volume, in GiB.

Type: Long

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeModification

Describes the modification status of an EBS volume.

If the volume has never been modified, some element values will be null.

Contents

endTime

Modification completion or failure time.

Type: Timestamp

Required: No

modificationState

Current state of modification. Possible values are `modifying` | `optimizing` | `complete` | `failed`. Modification state is null for unmodified volumes.

Type: String

Valid Values: `modifying | optimizing | completed | failed`

Required: No

originalIops

Original IOPS rate of the volume being modified.

Type: Integer

Required: No

originalSize

Original size of the volume being modified.

Type: Integer

Required: No

originalVolumeType

Original EBS volume type of the volume being modified.

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

progress

Modification progress from 0 to 100%.

Type: Long

Required: No

startTime

Modification start time

Type: Timestamp

Required: No

statusMessage

Generic status message on modification progress or failure.

Type: String

Required: No

targetIops

Target IOPS rate of the volume being modified.

Type: Integer

Required: No

targetSize

Target size of the volume being modified.

Type: Integer

Required: No

targetVolumeType

Target EBS volume type of the volume being modified.

Type: String

Valid Values: `standard | io1 | gp2 | sc1 | st1`

Required: No

volumeId

ID of the volume being modified.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeStatusAction

Describes a volume status operation code.

Contents

code
The code identifying the operation, for example, `enable-volume-io`.
Type: String
Required: No

description
A description of the operation.
Type: String
Required: No

eventId
The ID of the event associated with this operation.
Type: String
Required: No

eventType
The event type associated with this operation.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeStatusDetails

Describes a volume status.

Contents

name
The name of the volume status.
Type: String
Valid Values: `io-enabled | io-performance`
Required: No

status
The intended status of the volume status.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeStatusEvent

Describes a volume status event.

Contents

description
A description of the event.
Type: String
Required: No

eventId
The ID of this event.
Type: String
Required: No

eventType
The type of this event.
Type: String
Required: No

notAfter
The latest end time of the event.
Type: Timestamp
Required: No

notBefore
The earliest start time of the event.
Type: Timestamp
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeStatusInfo

Describes the status of a volume.

Contents

details
The details of the volume status.
Type: array of VolumeStatusDetails (p. 866) objects
Required: No

status
The status of the volume.
Type: String
Valid Values: `ok | impaired | insufficient-data`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VolumeStatusItem

Describes the volume status.

Contents

actionsSet
The details of the operation.
Type: array of VolumeStatusAction (p. 865) objects
Required: No

availabilityZone
The Availability Zone of the volume.
Type: String
Required: No

eventsSet
A list of events associated with the volume.
Type: array of VolumeStatusEvent (p. 867) objects
Required: No

volumeId
The volume ID.
Type: String
Required: No

volumeStatus
The volume status.
Type: VolumeStatusInfo (p. 868) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Vpc

Describes a VPC.

Contents

cidrBlock
The IPv4 CIDR block for the VPC.
Type: String
Required: No

dhcpOptionsId
The ID of the set of DHCP options you've associated with the VPC (or `default` if the default options are associated with the VPC).
Type: String
Required: No

instanceTenancy
The allowed tenancy of instances launched into the VPC.
Type: String
Valid Values: `default | dedicated | host`
Required: No

ipv6CidrBlockAssociationSet
Information about the IPv6 CIDR blocks associated with the VPC.
Type: array of VpcIpv6CidrBlockAssociation (p. 876) objects
Required: No

isDefault
Indicates whether the VPC is the default VPC.
Type: Boolean
Required: No

state
The current state of the VPC.
Type: String
Valid Values: `pending | available`
Required: No

tagSet
Any tags assigned to the VPC.
Type: array of Tag (p. 847) objects
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java

- AWS SDK for Ruby V2

VpcAttachment

Describes an attachment between a virtual private gateway and a VPC.

Contents

state
The current state of the attachment.
Type: String
Valid Values: `attaching | attached | detaching | detached`
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcCidrBlockState

Describes the state of a CIDR block.

Contents

state
The state of the CIDR block.
Type: String
Valid Values: `associating | associated | disassociating | disassociated | failing | failed`
Required: No

statusMessage
A message about the status of the CIDR block, if applicable.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcClassicLink

Describes whether a VPC is enabled for ClassicLink.

Contents

classicLinkEnabled
Indicates whether the VPC is enabled for ClassicLink.
Type: Boolean
Required: No

tagSet
Any tags assigned to the VPC.
Type: array of Tag (p. 847) objects
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcEndpoint

Describes a VPC endpoint.

Contents

creationTimestamp
The date and time the VPC endpoint was created.
Type: Timestamp
Required: No

policyDocument
The policy document associated with the endpoint.
Type: String
Required: No

routeTableIdSet
One or more route tables associated with the endpoint.
Type: array of Strings
Required: No

serviceName
The name of the AWS service to which the endpoint is associated.
Type: String
Required: No

state
The state of the VPC endpoint.
Type: String
Valid Values: `Pending | Available | Deleting | Deleted`
Required: No

vpcEndpointId
The ID of the VPC endpoint.
Type: String
Required: No

vpcId
The ID of the VPC to which the endpoint is associated.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcIpv6CidrBlockAssociation

Describes an IPv6 CIDR block associated with a VPC.

Contents

associationId
The association ID for the IPv6 CIDR block.
Type: String
Required: No

ipv6CidrBlock
The IPv6 CIDR block.
Type: String
Required: No

ipv6CidrBlockState
Information about the state of the CIDR block.
Type: VpcCidrBlockState (p. 873) object
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcPeeringConnection

Describes a VPC peering connection.

Contents

accepterVpcInfo
Information about the accepter VPC. CIDR block information is not returned when creating a VPC peering connection, or when describing a VPC peering connection that's in the `initiating-request` or `pending-acceptance` state.
Type: VpcPeeringConnectionVpcInfo (p. 880) object
Required: No

expirationTime
The time that an unaccepted VPC peering connection will expire.
Type: Timestamp
Required: No

requesterVpcInfo
Information about the requester VPC.
Type: VpcPeeringConnectionVpcInfo (p. 880) object
Required: No

status
The status of the VPC peering connection.
Type: VpcPeeringConnectionStateReason (p. 879) object
Required: No

tagSet
Any tags assigned to the resource.
Type: array of Tag (p. 847) objects
Required: No

vpcPeeringConnectionId
The ID of the VPC peering connection.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcPeeringConnectionOptionsDescription

Describes the VPC peering connection options.

Contents

allowDnsResolutionFromRemoteVpc
Indicates whether a local VPC can resolve public DNS hostnames to private IP addresses when queried from instances in a peer VPC.
Type: Boolean
Required: No

allowEgressFromLocalClassicLinkToRemoteVpc
Indicates whether a local ClassicLink connection can communicate with the peer VPC over the VPC peering connection.
Type: Boolean
Required: No

allowEgressFromLocalVpcToRemoteClassicLink
Indicates whether a local VPC can communicate with a ClassicLink connection in the peer VPC over the VPC peering connection.
Type: Boolean
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcPeeringConnectionStateReason

Describes the status of a VPC peering connection.

Contents

code

The status of the VPC peering connection.

Type: String

Valid Values: `initiating-request | pending-acceptance | active | deleted | rejected | failed | expired | provisioning | deleting`

Required: No

message

A message that provides more information about the status, if applicable.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpcPeeringConnectionVpcInfo

Describes a VPC in a VPC peering connection.

Contents

cidrBlock
The IPv4 CIDR block for the VPC.
Type: String
Required: No

ipv6CidrBlockSet
The IPv6 CIDR block for the VPC.
Type: array of Ipv6CidrBlock (p. 724) objects
Required: No

ownerId
The AWS account ID of the VPC owner.
Type: String
Required: No

peeringOptions
Information about the VPC peering connection options for the accepter or requester VPC.
Type: VpcPeeringConnectionOptionsDescription (p. 878) object
Required: No

vpcId
The ID of the VPC.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpnConnection

Describes a VPN connection.

Contents

customerGatewayConfiguration
The configuration information for the VPN connection's customer gateway (in the native XML format). This element is always present in the CreateVpnConnection (p. 163) response; however, it's present in the DescribeVpnConnections (p. 430) response only if the VPN connection is in the `pending` or `available` state.
Type: String
Required: No

customerGatewayId
The ID of the customer gateway at your end of the VPN connection.
Type: String
Required: No

options
The VPN connection options.
Type: VpnConnectionOptions (p. 883) object
Required: No

routes
The static routes associated with the VPN connection.
Type: array of VpnStaticRoute (p. 886) objects
Required: No

state
The current state of the VPN connection.
Type: String
Valid Values: `pending | available | deleting | deleted`
Required: No

tagSet
Any tags assigned to the VPN connection.
Type: array of Tag (p. 847) objects
Required: No

type
The type of VPN connection.
Type: String
Valid Values: `ipsec.1`
Required: No

vgwTelemetry
Information about the VPN tunnel.
Type: array of VgwTelemetry (p. 858) objects
Required: No

vpnConnectionId
The ID of the VPN connection.
Type: String
Required: No

vpnGatewayId
The ID of the virtual private gateway at the AWS side of the VPN connection.
Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpnConnectionOptions

Describes VPN connection options.

Contents

staticRoutesOnly

Indicates whether the VPN connection uses static routes only. Static routes must be used for devices that don't support BGP.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpnConnectionOptionsSpecification

Describes VPN connection options.

Contents

StaticRoutesOnly

Indicates whether the VPN connection uses static routes only. Static routes must be used for devices that don't support BGP.

Type: Boolean

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpnGateway

Describes a virtual private gateway.

Contents

attachments
Any VPCs attached to the virtual private gateway.
Type: array of VpcAttachment (p. 872) objects
Required: No

availabilityZone
The Availability Zone where the virtual private gateway was created, if applicable. This field may be empty or not returned.
Type: String
Required: No

state
The current state of the virtual private gateway.
Type: String
Valid Values: `pending | available | deleting | deleted`
Required: No

tagSet
Any tags assigned to the virtual private gateway.
Type: array of Tag (p. 847) objects
Required: No

type
The type of VPN connection the virtual private gateway supports.
Type: String
Valid Values: `ipsec.1`
Required: No

vpnGatewayId
The ID of the virtual private gateway.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

VpnStaticRoute

Describes a static route for a VPN connection.

Contents

destinationCidrBlock
The CIDR block associated with the local subnet of the customer data center.
Type: String
Required: No

source
Indicates how the routes were provided.
Type: String
Valid Values: `Static`
Required: No

state
The current state of the static route.
Type: String
Valid Values: `pending | available | deleting | deleted`
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2

Making API Requests

We provide the Query API for Amazon EC2, as well as software development kits (SDK) for Amazon Web Services (AWS) that enable you to access Amazon EC2 from your preferred programming language.

To monitor the calls made to the Amazon EC2 API for your account, including calls made by the AWS Management Console, command line tools, and other services, use AWS CloudTrail. For more information, see the AWS CloudTrail User Guide.

Topics

Required Knowledge

If you plan to access Amazon EC2 through an API, you should be familiar with the following:

- XML
- Web services
- HTTP requests
- One or more programming languages, such as Java, PHP, Perl, Python, Ruby, C#, or C++.

Available APIs for Amazon EC2

The Amazon EC2 Query API provides HTTP or HTTPS requests that use the HTTP verb GET or POST and a Query parameter named `Action`.

AWS provides libraries, sample code, tutorials, and other resources for software developers who prefer to build applications using language-specific APIs instead of submitting a request over HTTP or HTTPS. These libraries provide basic functions that automatically take care of tasks such as cryptographically signing your requests, retrying requests, and handling error responses, so that it is easier for you to get started.

For more information about downloading the AWS SDKs, see AWS SDKs and Tools. For more information about the language-specific APIs for Amazon EC2, see the following documentation.

AWS SDK for .NET

- Amazon.EC2
- Amazon.EC2.Model
- Amazon.EC2.Util

AWS SDK for Java

- com.amazonaws.services.ec2
- com.amazonaws.services.ec2.model
- com.amazonaws.services.ec2.util

AWS SDK for JavaScript

- AWS.EC2

AWS SDK for Python

- boto.ec2

AWS SDK for Ruby

- Aws::EC2

AWS SDK for PHP

- Ec2Client

AWS SDK for IOS

- AWSEC2

AWS SDK for Android

- com.amazonaws.services.ec2
- com.amazonaws.services.ec2.model
- com.amazonaws.services.ec2.util

Query Requests

Query requests are HTTP or HTTPS requests that use the HTTP verb GET or POST and a Query parameter named `Action`. For a list of Amazon EC2 API actions, see Actions.

Topics

Structure of a GET Request

The Amazon EC2 documentation presents the GET requests as URLs, which can be used directly in a browser.

> **Tip**
> Because the GET requests are URLs, you must URL encode the parameter values. In the Amazon EC2 documentation, we leave the example GET requests unencoded to make them easier to read.

The request consists of the following:

- **Endpoint**: The URL that serves as the entry point for the web service.
- **Action**: The action that you want to perform; for example, use `RunInstances` to launch an instance.
- **Parameters**: Any parameters for the action; each parameter is separated by an ampersand (&).
- **Version**: The API version to use.
- **Authorization parameters**: The authorization parameters that AWS uses to ensure the validity and authenticity of the request. Amazon EC2 supports Signature Version 2 and Signature Version 4; for more information, see Signature Version 2 Signing Process and Signature Version 4 Signing Process in the *Amazon Web Services General Reference*.

The following optional parameters can be included in your request:

- **DryRun**: Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns `DryRunOperation`; otherwise, it returns `UnauthorizedOperation`.
- **SecurityToken**: The temporary security token obtained through a call to AWS Security Token Service.

For more information about common parameters for API requests, see Common Query Parameters (p. 908).

The following is an example request that launches instances:

```
https://ec2.amazonaws.com/?
Action=RunInstances&ImageId=ami-2bb65342&MaxCount=3&MinCount=1&Placement.AvailabilityZone=u
east-1a&Monitoring.Enabled=true&Version=2016-11-15&X-Amz-
Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIDEXAMPLE%2F20130813%2Fus-
east-1%2Fec2%2Faws4_request&X-Amz-Date=20130813T150206Z&X-
Amz-SignedHeaders=content-type%3host%3x-amz-date&X-Amz-
Signature=525d1a96c69b5549dd78dbbec8efe264102288b83ba87b7d58d4b76b71f59fd2
Content-type: application/json
host:ec2.amazonaws.com
```

To make these example requests even easier to read, the Amazon EC2 documentation presents them in the following format:

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Placement.AvailabilityZone=us-east-1a
&Monitoring.Enabled=true
&Version=2016-11-15
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIAIOSFODNN7EXAMPLEus-east-1%2Fec2%2Faws4_request
&X-Amz-Date=20130813T150206Z
&X-Amz-SignedHeaders=content-type%3host%3x-amz-date
&X-Amz-
Signature=ced6826de92d2bdeed8f846f0bf508e8559e98e4b0194b84example54174deb456c
Content-type: application/json
host:ec2.amazonaws.com
```

The first line specifies the endpoint of the request. After the endpoint is a question mark (?), which separates the endpoint from the parameters.

The `Action` parameter indicates the action to perform. For a complete list of actions, see Actions.

The remaining lines specify additional parameters for the request.

Important
Before you specify your access key ID for the `AWSAccessKeyId` or `Credential` parameter, review and follow the guidance in Best Practices for Managing AWS Access Keys.

Endpoints

An endpoint is a URL that serves as an entry point for a web service. You can select a regional endpoint for Amazon EC2 when you make your requests to reduce latency. For more information about regions, see Regions and Availability Zones in the *Amazon EC2 User Guide for Linux Instances*. For information about the endpoints for Amazon EC2, see Regions and Endpoints in the *Amazon Web Services General Reference*.

If you specify the general endpoint, `ec2.amazonaws.com`, we use the endpoint for `us-east-1`. To use a different region, specify its associated endpoint. For example, if you specify `ec2.us-west-2.amazonaws.com` as the endpoint, we direct your request to the `us-west-2` endpoint.

Query Parameters

Each Query request must include required common parameters to handle authentication and selection of an action.

Some operations take lists of parameters. These lists are specified using the *param.n* notation, where *n* is an integer starting from 1.

The following example adds multiple devices to a block device mapping using a list of `BlockDeviceMapping` parameters.

```
http://ec2.amazonaws.com/?Action=RunInstances
&ImageId.1=ami-72aa081b
...
```

```
&BlockDeviceMapping.1.DeviceName=/dev/sdj
&BlockDeviceMapping.1.Ebs.NoDevice=true
&BlockDeviceMapping.2.DeviceName=/dev/sdh
&BlockDeviceMapping.2.Ebs.VolumeSize=300
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.VirtualName=ephemeral1
&AUTHPARAMS
```

Query API Authentication

You can send Query requests over either the HTTP or HTTPS protocol.

Regardless of which protocol you use, you must include a signature in every Query request. Amazon EC2 supports Signature Version 2 and Signature Version 4. For more information, see Signature Version 2 Signing Process and Signature Version 4 Signing Process in the *Amazon Web Services General Reference*.

Signature Version 4 requests allow you specify all the authorization parameters in a single header, for example:

```
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
X-Amz-Date: 20130813T150211Z
Host: ec2.amazonaws.com
Authorization: AWS4-HMAC-SHA256 Credential=AKIDEXAMPLE/20130813/us-
east-1/ec2/aws4_request, SignedHeaders=content-type;host;x-amz-date,
 Signature=ced6826de92d2bdeed8f846f0bf508e8559e98e4b0194b84example54174deb456c

http://ec2.amazonaws.com/?Action=RunInstances
ImageId=ami-2bb65342
&MaxCount=3
&MinCount=1
&Monitoring.Enabled=true
&Placement.AvailabilityZone=us-east-1a
&Version=2016-11-15
```

In the example Query requests we present in the Amazon EC2 documentation, we omit headers and the parameters related to authentication to make it easier for you to focus on the parameters for the action. We replace them with the following literal string to remind you that you must include these parameters in your request: `&AUTHPARAMS`.

Query Response Structures

In response to a Query request, the service returns an XML data structure that conforms to an XML schema defined for Amazon EC2. The structure of an XML response is specific to the associated request. In general, the response data types are named according to the operation performed and whether the data type is a container (can have children). Examples of containers include `groupSet` for security groups and `keySet` for key pairs (see the example that follows). Item elements are children of containers, and their contents vary according to the container's role.

Every successful response includes a request ID in a `requestId` element, and every unsuccessful response includes a request ID in a `RequestID` element. The value is a unique string that AWS assigns. If you ever have issues with a particular request, AWS will ask for the request ID to help troubleshoot the issue. The following shows an example response.

```
<DescribeKeyPairsResponse xmlns="http://ec2.amazonaws.com/doc/2016-11-15/">
```

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>gsg-keypair</keyName>
      <keyFingerprint>
         00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
      </keyFingerprint>
    </item>
  </keySet>
</DescribeKeyPairsResponse>
```

Troubleshooting API Request Errors

In the Amazon EC2 Query API, errors codes are indicated as being either client or server. Client errors usually occur because there is a problem with the structure, content, or validity of the request. Server errors usually indicate a server-side issue.

For more information about API error codes, see Error Codes.

Topics

Query API Request Rate

We throttle Amazon EC2 API requests for each AWS account on a per-region basis to help the performance of the service. We ensure that all calls to the Amazon EC2 API (whether they originate from an application, calls to a command line interface, or the Amazon EC2 console) don't exceed the maximum allowed API request rate. The maximum API request rate may vary across regions. Note that API requests made by IAM users are attributed to the underlying AWS account.

The Amazon EC2 API actions are divided into the following categories:

- Describe actions, such as `DescribeInstances` and `DescribeVolumes`. These requests simply retrieve cached data, so they have the highest request limit.
- Modify actions, such as `RunInstances` and `CreateVolumes`. These requests create or modify resources, so they have a lower request limit than describe calls.
- The `CreateKeyPair`, `GetConsoleOutput` `AuthorizeSecurityGroupIngress`, and `RevokeSecurityGroupIngress` actions. These requests take the most time and resource to complete, so they have the lowest request limit.

If an API request exceeds the API request rate for its category, the request returns the `RequestLimitExceeded` error code. To prevent this error, ensure that your application doesn't retry API requests at a high rate. You can do this by using care when polling and by using exponential backoff retries.

Polling

Your application might need to call an API repeatedly to check for an update in status. Before you start polling, give the request time to potentially complete. When you begin polling, use an appropriate sleep interval between successive requests. For best results, use an increasing sleep interval.

Retries or batch processing

Your application might need to retry an API request after it fails, or to process multiple resources (for example, all your volumes). To lower the rate of API requests, use an appropriate sleep interval between successive requests. For best results, use an increasing or variable sleep interval.

Calculating the sleep interval

When you have to poll or retry an API request, we recommend using an exponential backoff algorithm to calculate the sleep interval between API calls. The idea behind exponential backoff is to use progressively longer waits between retries for consecutive error responses. For more information, and implementation examples of this algorithm, see Error Retries and Exponential Backoff in AWS.

Eventual Consistency

The Amazon EC2 API follows an eventual consistency model, due to the distributed nature of the system supporting the API. This means that the result of an API command you run that affects your Amazon EC2 resources might not be immediately visible to all subsequent commands you run. You should keep this in mind when you carry out an API command that immediately follows a previous API command.

Eventual consistency can affect the way you manage your resources. For example, if you run a command to create a resource, it will eventually be visible to other commands. This means that if you run a command to modify or describe the resource that you just created, its ID might not have propagated throughout the system, and you will get an error responding that the resource does not exist.

To manage eventual consistency, you can do the following:

- Confirm the state of the resource before you run a command to modify it. Run the appropriate `Describe` command using an exponential backoff algorithm to ensure that you allow enough time for the previous command to propagate through the system. To do this, run the `Describe` command repeatedly, starting with a couple of seconds of wait time, and increasing gradually up to five minutes of wait time.
- Add wait time between subsequent commands, even if a `Describe` command returns an accurate response. Apply an exponential backoff algorithm starting with a couple of seconds of wait time, and increase gradually up to about five minutes of wait time.

Eventual Consistency Error Examples

The following are examples of error codes you may encounter as a result of eventual consistency.

- `InvalidInstanceID.NotFound`

  If you successfully run the `RunInstances` command, and then immediately run another command using the instance ID that was provided in the response of `RunInstances`, it may return an `InvalidInstanceID.NotFound` error. This does not mean the instance does not exist.

  Some specific commands that may be affected are:

  - `DescribeInstances`: To confirm the actual state of the instance, run this command using an exponential backoff algorithm.
  - `TerminateInstances`: To confirm the state of the instance, first run the `DescribeInstances` command using an exponential backoff algorithm.

    Important
    If you get an `InvalidInstanceID.NotFound` error after running `TerminateInstances`, this does not mean that the instance is or will be terminated.

Your instance could still be running. This is why it is important to first confirm the instance's state using `DescribeInstances`.

- `InvalidGroup.NotFound`

  If you successfully run the `CreateSecurityGroup` command, and then immediately run another command using the instance ID that was provided in the response of `CreateSecurityGroup`, it may return an `InvalidGroup.NotFound` error. To confirm the state of the security group, run the `DescribeSecurityGroups` command using an exponential backoff algorithm.

- `InstanceLimitExceeded`

  You have requested more instances than your current instance limit allows for the specified instance type. You could reach this limit unexpectedly if you are launching and terminating instances rapidly, as terminated instances count toward your instance limit for a while after they've been terminated.

Unauthorized Operation

By default, AWS Identity and Access Management (IAM) users don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API, unless they've been explicitly granted permission through IAM policies. If an IAM user attempts to perform an action for which permission has not been granted, the request returns the following error: `Client.UnauthorizedOperation`.

This error may occur when a policy is unintentionally restrictive. For example, to allow an IAM user to launch instances into a specific subnet, you need to grant permissions for the following resources by specifying their ARNs in your IAM policy: instances, volumes, AMIs, the specific subnet, network interfaces, key pairs, and security groups. If you omit the permission for volumes, for example, the user is only able to launch an instance from an instance store-backed AMI, as they do not have permission to create the root EBS volume for an EBS-backed instance.

For more information about creating IAM policies for Amazon EC2, see IAM Policies for Amazon EC2 in the *Amazon EC2 User Guide for Linux Instances*.

Currently, not all API actions support resource-level permissions; we'll add support for more in the future. For more information about which ARNs you can use with which Amazon EC2 API actions, see Granting IAM Users Required Permissions for Amazon EC2 Resources.

Ensuring Idempotency

An *idempotent* operation completes no more than one time.

When you launch an instance, the request typically returns before the operation has completed. You determine whether the operation was successful by monitoring the state of the instance (it goes from `pending` to `running`). If the operation times out or there are connection issues, you might need to retry the request. However, if the original request and a retry are both successful, you'll end up with more instances than you intended to launch.

If you launch your instance using run-instances (AWS CLI), ec2-run-instances (Amazon EC2 CLI), or RunInstances, you can optionally provide a client token to ensure that the request is idempotent. If you repeat a request, the same response is returned for each repeated request. The only information that might vary in the response is the state of the instance.

Contents

- Example Idempotent Command (p. 896)
- Example Idempotent Query (p. 897)

Client Tokens

A client token is a unique, case-sensitive string of up to 64 ASCII characters. It is included in the response when you describe the instance. A client token is valid for at least 24 hours after the termination of the instance. You should not reuse a client token in another call later on.

If you repeat a request with the same client token, but change another request parameter, Amazon EC2 returns an `IdempotentParameterMismatch` error.

You can use the same client token for the same request across different regions. For example, if you send an idempotent request to launch an instance in the `us-east-1` region, and then use the same client token in a request in other regions, we'll launch instances in each of those regions.

The following table shows common response codes and the recommended course of action.

Code	Retry	Comments
200 (OK)	No effect	The request has succeeded and any further retries have no effect.
400 (Client Error)	Not recommended	The request will never succeed (for example, a specified parameter value is not valid). If the request involves a resource that is in the process of changing states, repeating the request could possibly succeed (for example, launching an instance using an Amazon EBS volume that is about to become `available`).
500 (Server Internal Error)	Recommended	The error is generally transient. Repeat the request with an appropriate backoff strategy.
503 (Server Unavailable)	Recommended	The error can occur when there is extreme load. Repeat the request with an appropriate backoff strategy.

Idempotency Support

The following commands and actions are idempotent:

AWS CLI Idempotent Commands

- associate-address
- create-vpn-connection
- disassociate-address
- terminate-instances

Query API Idempotent Actions

- AssociateAddress
- CreateVpnConnection

- DisassociateAddress
- TerminateInstances

The following commands and actions support idempotent operations using a client token:

AWS CLI Commands with a --client-token Option

- allocate-hosts
- copy-image
- create-flow-logs
- create-nat-gateway
- create-reserved-instances-listing
- create-route
- create-vpc-endpoint
- import-image
- import-snapshot
- modify-reserved-instances
- request-spot-fleet
- request-spot-instances
- run-instances

Query API Actions with a ClientToken Parameter

- AllocateHosts
- CopyImage
- CreateFlowLogs
- CreateNatGateway
- CreateReservedInstancesListing
- CreateRoute
- CreateVpcEndpoint
- ImportImage
- ImportSnapshot
- ModifyReservedInstances
- RequestSpotFleet
- RequestSpotInstances
- RunInstances

Example Idempotent Command

To make a command an idempotent request, add the `--client-token` option. The client token is a unique, case-sensitive string of up to 64 ASCII characters.

AWS CLI

Use the run-instances command as follows to make an idempotent request:

```
aws ec2 run-instances --image-id ami-b232d0db --count 1 --key-name my-key-
pair --client-token 550e8400-e29b-41d4-a716-446655440000
```

Amazon EC2 CLI

Use the ec2-run-instances command as follows to make an idempotent request:

```
ec2-run-instances ami-b232d0db -k my-key-pair --client-token 550e8400-
e29b-41d4-a716-446655440000
```

Example Idempotent Query

Use the RunInstances action as follows to make an idempotent request:

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-3ac33653
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&ClientToken=550e8400-e29b-41d4-a716-446655440000
&AUTHPARAMS
```

The `ClientToken` parameter requires a unique, case-sensitive string of up to 64 ASCII characters.

SOAP Requests

We have deprecated the SOAP API for Amazon EC2. After 1 December 2015, we will no longer support SOAP requests for any API versions, including versions 2014-02-01 and earlier. If you use a SOAP request against a later API version or after 1 December 2015, you will receive the following response:

```
Client.UnsupportedProtocol: SOAP is no longer supported.
```

Similarly, the AWS software development kits (SDKs) will no longer support SOAP requests after 1 December 2015 for any API version.

If you are using the Amazon EC2 CLI tools, you can no longer use the `EC2_PRIVATE_KEY` and `EC2_CERT` environment variables. You must use the `AWS_ACCESS_KEY` and `AWS_SECRET_KEY` variables instead. For more information, see Setting Up the Amazon EC2 CLI and AMI Tools.

We recommend that you use the Query API for Amazon EC2, or the SDKs for AWS. For more information, see Making API Requests (p. 887).

Cross-Origin Resource Sharing Support

The Amazon EC2 API supports cross-origin resource sharing (CORS). CORS defines a way for client web applications that are loaded in one domain to interact with resources in a different domain. For more information, go to the Cross-Origin Resource Sharing W3C Recommendation. With CORS support for Amazon EC2, you can build rich client-side web applications that leverage the Amazon EC2

API. For example, suppose you are hosting a web site, `mywebsite.example.com`, and you want to use JavaScript on your web pages to make requests to the Amazon EC2 API. Normally, a browser blocks JavaScript from allowing these requests, but with CORS, you are able to make cross-origin Amazon EC2 API calls from `mywebsite.example.com`.

CORS is already enabled for the Amazon EC2 API, and is ready for you to use. You do not need to perform any additional configuration steps to start using this feature. There is no change to the way that you make calls to the Amazon EC2 API; they must still be signed with valid AWS credentials to ensure that AWS can authenticate the requestor. For more information, see Signing AWS API Requests in the *Amazon Web Services General Reference*.

The implementation of CORS in the Amazon EC2 API is standardized. Your application can send a simple request to the Amazon EC2 API, or, depending on the content of the request, a preflight request followed by an actual request. Amazon EC2 allows the request from any origin

For more information about CORS and examples of how it works, go to the following article on the Mozilla Developer Network: HTTP access control (CORS).

Simple/Actual Requests

The following are the criteria that define a simple request:

- Requests only use the `GET` or `POST` HTTP methods. If the `POST` method is used, then `Content-Type` can only be one of the following: `application/x-www-form-urlencoded`, `multipart/form-data`, or `text/plain`.
- Requests do not set custom headers, such as `X-Other-Header`.

Amazon EC2 allows the request from any origin. Any `GET` or `POST` request that attempts to use browser credentials by setting the `Access-Control-Allow-Credentials` value to `true` (where `XMLHttpRequest.withCredentials = true`) will fail.

The following information describes the request headers to Amazon EC2:

Simple/Actual Request Header Values

- `Origin`: Specifies the domain that would like access to the resource (in this case, the resource is Amazon EC2). This is inserted by the browser in a cross-origin request.

The following information describes the response headers that Amazon EC2 returns (or does not return) after a simple or actual request:

Simple/Actual Response Header Values

- `Access-Control-Allow-Origin`: Specifies the domain that can access the resource (in this case, the resource is Amazon EC2). This is always returned with a * value; therefore, Amazon EC2 will allow any cross-domain origin, and will never allow browser credentials, such as cookies.
- `Access-Control-Allow-Credentials`: Indicates whether browser credentials can be used to make the actual request. This is never returned; therefore, the browser should interpret the value as `Access-Control-Allow-Credentials: false`.

Preflight Requests

If the content of your request meets the criteria below, then your request is preflighted to check whether the actual request should be sent. A preflight request first sends an HTTP request to the resource (in this case, Amazon EC2) using the `OPTIONS` method.

The following are the criteria that define a preflight request:

- Requests use HTTP methods other than `GET` or `POST`; however, if the `POST` method is used, then the `Content-Type` is not one of the following: `application/x-www-form-urlencoded`, `multipart/form-data`, or `text/plain`.
- Requests set custom headers; for example, `X-Other-Header`.

The Amazon EC2 CORS implementation will allow any headers, and will allow any origin in the actual request.

The following information describes the request headers for a preflight request to Amazon EC2:

Preflight Request Header Values

- `Origin`: Specifies the domain that would like access to the resource (in this case, the resource is Amazon EC2). This is inserted by the browser in a cross-origin request.
- `Access-Control-Request-Method`: The HTTP method that will be used in the actual request from the browser.
- `Access-Control-Request-Headers`: The custom headers that will be sent in the actual cross-origin request.

The following information is about the response headers that Amazon EC2 returns (or does not return) after a preflight request:

Preflight Response Header Values

- `Access-Control-Allow-Origin`: Specifies the domain that can access the resource (in this case, the resource is Amazon EC2). This is always returned with a * value; therefore, Amazon EC2 will allow any cross-domain origin, and will never allow browser credentials, such as cookies.
- `Access-Control-Allow-Credentials`: Indicates whether browser credentials can be used to make the actual request. This is never returned by Amazon EC2; therefore, the browser should interpret the value as `Access-Control-Allow-Credentials: false`.
- `Access-Control-Expose-Headers`: Allows headers to be exposed to the browser. This is never returned by Amazon EC2; therefore, no return headers from Amazon EC2 can be read by the requesting domain.
- `Access-Control-Max-Age`: Specifies how long preflight request results can be cached. The value is set to 1800 seconds (30 minutes).
- `Access-Control-Allow-Methods`: Indicates which methods are allowed when making an actual request. The following methods are allowed: `GET`, `POST`, `OPTIONS`, `DELETE`, and `PUT`. This also depends on how you are calling the Amazon EC2 API; for example, by using the Query API, or by using REST.
- `Access-Control-Allow-Headers`: Indicates which headers can be used in the actual request. Amazon EC2 accepts any headers in preflight requests. If the HTTP headers are not relevant in the actual request, they are ignored.

Logging API Calls Using AWS CloudTrail

Amazon EC2, Amazon EBS, and Amazon VPC are integrated with AWS CloudTrail, a service that captures API calls and delivers the log files to an Amazon S3 bucket that you specify. The API calls can be made indirectly by using the console, or directly by using a client such as the Amazon EC2 CLI, the AWS CLI, or the AWS SDKs. Using the information collected by CloudTrail, you can determine

what request was made, the source IP address from which the request was made, who made the request, when it was made, and so on. To learn more about CloudTrail, including how to configure and enable it, see the AWS CloudTrail User Guide.

Amazon EC2, Amazon EBS, and Amazon VPC Information in CloudTrail

When CloudTrail logging is enabled, calls made to Amazon EC2, Amazon EBS, and Amazon VPC actions are tracked in log files, along with any other AWS service records. CloudTrail determines when to create and write to a new file based on a specified time period and file size.

All of the Amazon EC2, Amazon EBS, and Amazon VPC actions are logged. For example, calls to the RunInstances, DescribeInstances, or CreateImage API actions generate entries in the CloudTrail log files.

Every log entry contains information about who generated the request. The user identity information in the log helps you determine whether the request was made with root or IAM user credentials, with temporary security credentials for a role or federated user, or by another AWS service. For more information, see the **userIdentity** element topic in the CloudTrail Event Reference.

You can store your log files in your bucket for as long as you want, but you can also define Amazon S3 lifecycle rules to archive or delete log files automatically. By default, your log files are encrypted by using Amazon S3 server-side encryption (SSE).

You can choose to have CloudTrail publish Amazon SNS notifications when new log files are delivered if you want to take quick action upon log file delivery. For more information, see Configuring Amazon SNS Notifications.

You can also aggregate Amazon EC2, Amazon EBS, and Amazon VPC log files from multiple AWS regions and multiple AWS accounts into a single Amazon S3 bucket. For more information, see Aggregating CloudTrail Log Files to a Single Amazon S3 Bucket.

Understanding Amazon EC2, Amazon EBS, and Amazon VPC Log File Entries

CloudTrail log files can contain one or more log entries where each entry is made up of multiple JSON-formatted events. A log entry represents a single request from any source and includes information about the requested action, any input parameters, the date and time of the action, and so on. The log entries are not in any particular order; that is, they are not an ordered stack trace of the public API calls.

The following log file record shows that a user terminated an instance.

```
{
   "Records":[
      {
         "eventVersion":"1.03",
         "userIdentity":{
            "type":"Root",
            "principalId":"123456789012",
            "arn":"arn:aws:iam::123456789012:root",
            "accountId":"123456789012",
            "accessKeyId":"AKIAIOSFODNN7EXAMPLE",
            "userName":"user"
```

```
        },
        "eventTime":"2016-05-20T08:27:45Z",
        "eventSource":"ec2.amazonaws.com",
        "eventName":"TerminateInstances",
        "awsRegion":"us-west-2",
        "sourceIPAddress":"198.51.100.1",
        "userAgent":"aws-cli/1.10.10 Python/2.7.9 Windows/7botocore/1.4.1",
        "requestParameters":{
           "instancesSet":{
              "items":[{
                 "instanceId":"i-1a2b3c4d"
              }]
           }
        },
        "responseElements":{
           "instancesSet":{
              "items":[{
                 "instanceId":"i-1a2b3c4d",
                 "currentState":{
                    "code":32,
                    "name":"shutting-down"
                 },
                 "previousState":{
                    "code":16,
                    "name":"running"
                 }
              }]
           }
        },
        "requestID":"be112233-1ba5-4ae0-8e2b-1c302EXAMPLE",
        "eventID":"6e12345-2a4e-417c-aa78-7594fEXAMPLE",
        "eventType":"AwsApiCall",
        "recipientAccountId":"123456789012"
     }
   ]
}
```

VM Import Manifest

The import manifest is an XML file created by the ec2-import-instance CLI command or AWS Management Portal for vCenter and consumed by the Amazon EC2 API operations ImportInstance or ImportVolume, or by the ec2-import-volume CLI command. The manifest allows a virtual machine image to be broken into small parts for transfer and then reassembled at the destination, with support for retrying failed partial transfers. This file is normally created, consumed, and destroyed by the Amazon EC2 tools without user intervention.

In some exceptional situations, developers may wish to construct a manifest manually or programmatically, making it possible to bypass certain API operations while still providing a manifest for other operations that require the file as a parameter value.

This topic documents the structure of the manifest and provides a sample file.

Note
Direct manipulation of the manifest departs from the standard workflow of the Amazon EC2 API and CLI. In general, we recommend that you follow the procedures in Importing and Exporting Instances when importing VM images.

Manifest Schema

The schema below describes the format of the manifest. Documentation for the schema elements is presented inline.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <xs:element name="manifest">
        <xs:complexType>
            <xs:sequence>
                <xs:element name="version" type="xs:string">
                    <xs:annotation>
                        <xs:documentation> Version designator for the
 manifest file,
                        </xs:documentation>
                    </xs:annotation>
                </xs:element>
                <xs:element name="file-format" type="xs:string">
                    <xs:annotation>
                        <xs:documentation> File format of volume to be
 imported, with value RAW,
                            VHD, or VMDK. </xs:documentation>
                    </xs:annotation>
                </xs:element>
                <xs:element name="importer" type="Importer">
                    <xs:annotation>
                        <xs:documentation> Complex type describing the
 software that created the
                            manifest. </xs:documentation>
                    </xs:annotation>
                </xs:element>
                <xs:element name="self-destruct-url" type="xs:anyURI">
                    <xs:annotation>
                        <xs:documentation> Signed URL used to delete the
 stored manifest file.
                        </xs:documentation>
                    </xs:annotation>
                </xs:element>
                <xs:element name="import" type="Import">
                    <xs:annotation>
                        <xs:documentation> Complex type describing the size
 and chunking of the
                            volume file. </xs:documentation>
                    </xs:annotation>
                </xs:element>
            </xs:sequence>
        </xs:complexType>
    </xs:element>

    <xs:complexType name="Importer">
        <xs:sequence>
            <xs:element name="name" type="xs:string">
                <xs:annotation>
                    <xs:documentation> Name of the software that created the
 manifest.
                    </xs:documentation>
                </xs:annotation>
            </xs:element>
```

```
            <xs:element name="version" type="xs:string">
                <xs:annotation>
                    <xs:documentation> Version of the software that created
 the manifest.
                    </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="release" type="xs:string">
                <xs:annotation>
                    <xs:documentation> Release number of the software that
 created the manifest.
                    </xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="Import">
        <xs:sequence>
            <xs:element name="size" type="xs:long">
                <xs:annotation>
                    <xs:documentation> Exact size of the file to be imported
 (bytes on disk).
                    </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="volume-size" type="xs:long">
                <xs:annotation>
                    <xs:documentation> Rounded size in gigabytes of volume to
 be imported.
                    </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="parts" type="Parts">
                <xs:annotation>
                    <xs:documentation> Complex type describing and counting
 the parts into which the
                        file is split. </xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
    </xs:complexType>

    <xs:complexType name="Parts">
        <xs:sequence>
            <xs:element minOccurs="1" maxOccurs="unbounded" name="part"
 type="Part">
                <xs:annotation>
                    <xs:documentation> Definition of a particular part. Any
 number of parts may be
                        defined. </xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
        <xs:attribute name="count" type="xs:int">
            <xs:annotation>
                <xs:documentation> Total count of the parts. </
xs:documentation>
            </xs:annotation>
```

```
        </xs:attribute>
    </xs:complexType>

    <xs:complexType name="Part">
        <xs:sequence>
            <xs:element name="byte-range" type="ByteRange">
                <xs:annotation>
                    <xs:documentation> Complex type defining the starting and
 ending byte count of a
                        part. </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="key" type="xs:string">
                <xs:annotation>
                    <xs:documentation> The S3 object name of the part. </
xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="head-url" type="xs:anyURI">
                <xs:annotation>
                    <xs:documentation> Signed URLs for issuing a HEAD request
 on the S3 object
                        containing this part. </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="get-url" type="xs:anyURI">
                <xs:annotation>
                    <xs:documentation> Signed URLs for issuing a GET request
 on the S3 object
                        containing this part. </xs:documentation>
                </xs:annotation>
            </xs:element>
            <xs:element name="delete-url" minOccurs="0" type="xs:anyURI">
                <xs:annotation>
                    <xs:documentation> Signed URLs for issuing a DELETE
 request on the S3 object
                        containing this part. </xs:documentation>
                </xs:annotation>
            </xs:element>
        </xs:sequence>
        <xs:attribute name="index" type="xs:int">
            <xs:annotation>
                <xs:documentation> Index number of this part. </
xs:documentation>
            </xs:annotation>
        </xs:attribute>
    </xs:complexType>

    <xs:complexType name="ByteRange">
        <xs:attribute name="start" type="xs:long">
            <xs:annotation>
                <xs:documentation> Offset of a part's first byte in the disk
 image.
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
        <xs:attribute name="end" type="xs:long">
            <xs:annotation>
```

```
                <xs:documentation> Offset of a part's last byte in the disk
 image.
                </xs:documentation>
            </xs:annotation>
        </xs:attribute>
    </xs:complexType>
</xs:schema>
```

Examples

This first example of a manifest describes a volume image with two parts. The files containing the parts are on a local system and must be uploaded to Amazon S3.

```
<manifest>
    <version>2010-11-15</version>
    <file-format>VMDK</file-format>
    <importer>
        <name>ec2-upload-disk-image</name>
        <version>1.0.0</version>
        <release>2010-11-15</release>
    </importer>
    <self-destruct-url>https://example-disk-part-
bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-
d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdkmanifest.xml?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=m
%2Bl%2FkuKuvfEeD%2Fya%2B0TrgeiH%2FLM%3D</self-destruct-url>
    <import>
        <size>12595200</size>
        <volume-size>1</volume-size>
        <parts count="2">
            <part index="0">
                <byte-range end="10485759" start="0"/>
                <key>d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-
x86_64-disk.vmdk.part0</key>
                <head-url>https://example-disk-part-bucket.s3.amazonaws.com/
d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=2yqS2VGYXGmqcbu
%2FrQEn8FGIKaI%3D</head-url>
                <get-url>https://example-disk-part-bucket.s3.amazonaws.com/
d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=nEvl8VhFoEuIjJFRkA
%3D</get-url>
                <delete-url>https://example-disk-
part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-
d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part0?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=CX19zc4Eys8BN
%2FXsoepk%2Bi3i4No%3D</delete-url>
            </part>
            <part index="1">
                <byte-range end="12595199" start="10485760"/>
                <key>d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-
x86_64-disk.vmdk.part1</key>
                <head-url>https://example-disk-part-bucket.s3.amazonaws.com/
d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=3b
%2F8ky92L8g%2BBf15Ou194VnR4Js%3D</head-url>
                <get-url>https://example-disk-part-bucket.s3.amazonaws.com/
d6e1ca17-72f6-4ab0-b2c8-d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?
```

```
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=W
%2FxagI5ChmfqqgY8WwyDJ3Rgviw%3D</get-url>
                <delete-url>https://example-disk-
part-bucket.s3.amazonaws.com/d6e1ca17-72f6-4ab0-b2c8-
d7ba8186cb23/cirros-0.3.2-x86_64-disk.vmdk.part1?
AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&amp;Expires=1416618486&amp;Signature=08FH3QPwkIcNURnNpT
%3D</delete-url>
            </part>
        </parts>
    </import>
</manifest>
```

The second example describes a volume image with a single part that has already been uploaded to Amazon S3.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<manifest>
    <version>2010-11-15</version>
    <file-format>VMDK</file-format>
    <importer>
        <name>Linux_RHEL_59_64.vmdk</name>
        <version>1.0.0</version>
        <release>2010-11-15</release>
    </importer>
    <self-destruct-url>https://example-disk-part-bucket.s3.ap-
northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-
HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE
%2Fap-northeast-2%2Fs3%2Faws4_request&amp;X-Amz-
Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-
Signature=4dbf803f2e52fb6a876d3b63778033af42ec11155b37366ab4fca56691672807&amp;X-
Amz-SignedHeaders=Host</self-destruct-url>
    <import>
        <size>994433536</size>
        <volume-size>1</volume-size>
        <parts count="1">
            <part index="0">
                <byte-range end="994433536" start="0"/>
                <key>Linux_RHEL_59_64.vmdk</key>
                <head-url>https://example-disk-part-bucket.s3.ap-
northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-
HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE
%2Fap-northeast-2%2Fs3%2Faws4_request&amp;X-Amz-
Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-
Signature=4c3a7bdf3ef8fa53a5585fc67747c81ea1f65bf09f3768998a575dabf5dfda2e&amp;X-
Amz-SignedHeaders=Host</head-url>
                <get-url>https://example-disk-part-bucket.s3.ap-
northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-
HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE
%2Fap-northeast-2%2Fs3%2Faws4_request&amp;X-Amz-
Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-
Signature=329d6abb673e4ce11c0aa602f34f62fb8ced703e8ae6c04f24c16e79d7699e52&amp;X-
Amz-SignedHeaders=Host</get-url>
                <delete-url>https://example-disk-part-bucket.s3.ap-
northeast-2.amazonaws.com/Linux_RHEL_59_64.vmdk?X-Amz-Algorithm=AWS4-
HMAC-SHA256&amp;X-Amz-Credential=AKIAJ26ZRPZDGYJT4KAQFEXAMPLE
%2Fap-northeast-2%2Fs3%2Faws4_request&amp;X-Amz-
Date=20151119T234529Z&amp;X-Amz-Expires=604800&amp;X-Amz-
```

```
Signature=4dbf803f2e52fb6a876d3b63778033af42ec11155b37366ab4fca56691672807&amp;X-
Amz-SignedHeaders=Host</delete-url>
            </part>
        </parts>
    </import>
</manifest>
```

Common Query Parameters

Most Amazon EC2 API actions support the parameters described in the following tables. The common parameters vary depending on whether you're using Signature Version 2 or Signature Version 4 to sign your requests.

For more information about using the Query API for Amazon EC2, see Making API Requests (p. 887).

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Common Query Parameters for Signature Version 2

For more information about Signature Version 2, see Signature Version 2 Signing Process in the *Amazon Web Services General Reference*.

Name	Description	Required
Action	The action to perform. Example: `RunInstances`	Yes
Version	The API version to use.	Yes
AWSAccessKeyId	The access key ID for the request sender. This identifies the account which will be charged for usage of the service. The account that's associated with the access key ID must be signed up for Amazon EC2, or the request isn't accepted. Example: `AKIAIOSFODNN7EXAMPLE`	Yes

Name	Description	Required
Expires	The date and time at which the signature included in the request expires, in the format YYYY-MM-DDThh:mm:ssZ. For more information, see ISO 8601. Example: `2006-07-07T15:04:56Z`	Conditional. Requests must include either *Timestamp* or *Expires*, but cannot contain both.
Timestamp	The date and time at which the request is signed, in the format YYYY-MM-DDThh:mm:ssZ. For more information, see ISO 8601. Example: `2006-07-07T15:04:56Z`	Conditional. Requests must include either *Timestamp* or *Expires*, but cannot contain both.
Signature	The request signature. Example: `Qnpl4Qk/7tINHzfXCiT7VEXAMPLE`	Yes
SignatureMethod	The hash algorithm you use to create the request signature. Valid values: `HmacSHA256` | `HmacSHA1`. Example: `HmacSHA256`	Yes
SignatureVersion	The signature version you use to sign the request. Set this value to `2`. Example: `2`	Yes
DryRun	Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns `DryRunOperation`; otherwise, it returns `UnauthorizedOperation`.	No
SecurityToken	The temporary security token obtained through a call to AWS Security Token Service. Example: `AQoEXAMPLEH4aoAH0gNCAPyJxz4BlCFFxWNE1OPTgk5TthT+FvwqnKwRcOIfrRh3c/L`	No

Parameter values must be URL-encoded. This is true for any Query parameter passed to Amazon EC2 and is typically necessary in the *Signature* parameter. Some clients do this automatically, but this is not the norm.

Common Query Parameters for Signature Version 4

For more information about Signature Version 4, see Signature Version 4 Signing Process in the *Amazon Web Services General Reference*.

Name	Description	Required
Action	The action to perform. Example: `RunInstances`	Yes
Version	The API version to use.	Yes
X-Amz-Algorithm	The hash algorithm you use to create the request signature. Example: `AWS4-HMAC-SHA256`	Yes
X-Amz-Credential	The credential scope for the request, in the format *access-key-ID*/*YYYYMMDD*/*region*/*service*/`aws4_request` Example: `AKIDEXAMPLE/20140707/us-east-1/ec2/aws4_request`	Yes
X-Amz-Date	The date and time at which the request is signed, in the format YYYYMMDDThhmmssZ. The date must match the date that's included in the credential scope for the `X-Amz-Credential` parameter, or the date used in an `Authorization` header (see the note below the table). Example: `20140707T150456Z`	Yes
X-Amz-SignedHeaders	The headers you are including as part of the request. At a minimum, you must include the `host` header. If you include an `x-amz-date` header in your request, you must include it in the list of signed headers. Example: `content-type;host;user-agent`	Yes
X-Amz-Signature	A signature derived from your secret access key. Example: `ced6826de92d2bdeed8f846f0bf508e8559example`	Yes
X-Amz-Security-Token	The temporary security token obtained through a call to AWS Security Token Service. Example: `AQoEXAMPLEH4aoAH0gNCAPyJxz4BlCFFxWNE1OPTgk5TthT+FvwqnKwRcOIfrRh3c/L`	No
DryRun	Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns `DryRunOperation`; otherwise, it returns `UnauthorizedOperation`.	No

Note
The `X-Amz-Algorithm`, `X-Amz-Credential`, `X-Amz-SignedHeaders`, and `X-Amz-Signature` parameters can either be specified as separate parameters in the query string, or their values can be included in a single `Authorization` header. For more information, see Adding Signing Information to the Authorization Header in the *Amazon Web Services General Reference*.

Granting IAM Users Required Permissions for Amazon EC2 Resources

By default, AWS Identity and Access Management (IAM) users don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API. To allow IAM users to create or modify resources and perform tasks, you must create IAM policies that grant IAM users permissions for the specific resources and API actions they'll need to use, and then attach those policies to the IAM users or groups that require those permissions.

For more information and for example policies, see IAM Policies for Amazon EC2 in the *Amazon EC2 User Guide*.

When you make an API request, the parameters that you specify in the request determine which resources an IAM user must have permission to use. If the user doesn't have the required permissions, the request fails. For example, if you use `RunInstances` to launch an instance in a subnet (by specifying the *`SubnetId`* parameter), an IAM user must have permission to use the VPC.

If an action creates a resource, an IAM user must have permission to create the resource or the request fails. Many Amazon EC2 resources receive an identifier when they are created. Because you can't know what that identifier is in advance, you must use a wildcard in the ARN for a resource when it is to be created by the request, as shown in the following sections. Note that because you can't tag a resource when you create it, you can't use any of the tag condition keys with a resource that's created by an action. (We'll add support for tagging a resource at creation later.)

Resource-level permissions refers to the ability to specify which resources users are allowed to perform actions on. Amazon EC2 has partial support for resource-level permissions. This means that for certain Amazon EC2 actions, you can control when users are allowed to use those actions based on conditions that have to be fulfilled, or specific resources that users are allowed to use. For example, you can grant users permission to launch instances, but only of a specific type, and only using a specific AMI.

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Supported Resource-Level Permissions

The following sections describe the resources that are created or modified by the Amazon EC2 actions, and the ARNs and Amazon EC2 condition keys that you can use in an IAM policy statement to grant users permission to create or modify particular Amazon EC2 resources. (We'll add support for additional actions, ARNs, and condition keys later.)

When specifying an ARN, you can use the * wildcard in your paths; for example, when you cannot or do not want to specify exact resource IDs. For examples of using wildcards, see the Example Policies in the *Amazon EC2 User Guide*.

Topics

Customer Gateways

Resource	ARN Format	Condition Keys
Action: DeleteCustomerGateway (p. 170)		
Customer gateway	arn:aws:ec2:*region*:*account*:customer-gateway/* arn:aws:ec2:*region*:*account*:customer-gateway/*cgw-id*	ec2:Region ec2:ResourceTag/*tag-key*

DHCP Options Sets

Resource	ARN Format	Condition Keys
Action: DeleteDhcpOptions (p. 172)		
DHCP options set	arn:aws:ec2:*region*:*account*:dhcp-options/* arn:aws:ec2:*region*:*account*:dhcp-options/*dhcp-options-id*	ec2:Region ec2:ResourceTag/*tag-key*

Instances

Resource	ARN Format	Condition Keys
Action: AssociateIamInstanceProfile (p. 36)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: AttachClassicLinkVpc (p. 44)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Security Group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy
Action: DetachClassicLinkVpc (p. 436)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy
Action: DisassociateIamInstanceProfile (p. 455)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: GetConsoleScreenshot (p. 473)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: RebootInstances (p. 546)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: ReplaceIamInstanceProfileAssociation (p. 558)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy

Resource	ARN Format	Condition Keys
Action: RunInstances (p. 595)		
Image	arn:aws:ec2:*region*::image/* arn:aws:ec2:*region*::image/*image-id*	ec2:ImageType ec2:Owner ec2:Public ec2:Region ec2:RootDeviceType ec2:ResourceTag/*tag-key*
Instance	arn:aws:ec2:*region*:*account*:instance/*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:RootDeviceType ec2:Tenancy
Key pair	arn:aws:ec2:*region*:*account*:key-pair/* arn:aws:ec2:*region*:*account*:key-pair/*key-pair-name*	ec2:Region
Network interface	arn:aws:ec2:*region*:*account*:network-interface/* (if specifying a subnet in the request) arn:aws:ec2:*region*:*account*:network-interface/*eni-id*	ec2:AvailabilityZone ec2:Region ec2:Subnet ec2:ResourceTag/*tag-key* ec2:Vpc
Placement group	arn:aws:ec2:*region*:*account*:placement-group/* arn:aws:ec2:*region*:*account*:placement-group/*placement-group-name*	ec2:Region ec2:PlacementGroupStrategy
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc

Resource	ARN Format	Condition Keys
Snapshot	arn:aws:ec2:*region*::snapshot/* arn:aws:ec2:*region*::snapshot/*snapshot-id*	ec2:Owner ec2:ParentVolume ec2:Region ec2:SnapshotTime ec2:ResourceTag/*tag-key* ec2:VolumeSize
Subnet	arn:aws:ec2:*region*:*account*:subnet/* arn:aws:ec2:*region*:*account*:subnet/*subnet-id*	ec2:AvailabilityZone ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Volume	arn:aws:ec2:*region*:*account*:volume/* (if launching from an EBS-backed image)	ec2:AvailabilityZone ec2:ParentSnapshot ec2:Region ec2:VolumeIops ec2:VolumeSize ec2:VolumeType
Action: StartInstances (p. 605)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: StopInstances (p. 607)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Action: TerminateInstances (p. 609)		
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy

Internet Gateways

Resource	ARN Format	Condition Keys
Action: DeleteInternetGateway (p. 178)		
Internet gateway	arn:aws:ec2:*region*:*account*:internet-gateway/* arn:aws:ec2:*region*:*account*:internet-gateway/*igw-id*	ec2:Region ec2:ResourceTag/*tag-key*

Network ACLs

Resource	ARN Format	Condition Keys
Action: DeleteNetworkAcl (p. 184)		
Network ACL	arn:aws:ec2:*region*:*account*:network-acl/* arn:aws:ec2:*region*:*account*:network-acl/*nacl-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Action: DeleteNetworkAclEntry (p. 186)		
Network ACL	arn:aws:ec2:*region*:*account*:network-acl/* arn:aws:ec2:*region*:*account*:network-acl/*nacl-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc

Route Tables

Resource	ARN Format	Condition Keys
Action: DeleteRoute (p. 192)		
Route table	arn:aws:ec2:*region*:*account*:route-table/* arn:aws:ec2:*region*:*account*:route-table/*route-table-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Action: DeleteRouteTable (p. 194)		
Route table	arn:aws:ec2:*region*:*account*:route-table/* arn:aws:ec2:*region*:*account*:route-table/*route-table-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc

Security Groups

Resource	ARN Format	Condition Keys
Action: AuthorizeSecurityGroupEgress (p. 55)		
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc

Resource	ARN Format	Condition Keys
Action: AuthorizeSecurityGroupIngress (p. 58)		
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Action: DeleteSecurityGroup (p. 196)		
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Action: RevokeSecurityGroupEgress (p. 589)		
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc
Action: RevokeSecurityGroupIngress (p. 592)		
Security group	arn:aws:ec2:*region*:*account*:security-group/* arn:aws:ec2:*region*:*account*:security-group/*security-group-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Vpc

Volumes

Resource	ARN Format	Condition Keys
Action: AttachVolume (p. 50)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Volume	arn:aws:ec2:*region*:*account*:volume/* arn:aws:ec2:*region*:*account*:volume/*volume-id*	ec2:AvailabilityZone ec2:ParentSnapshot ec2:Region ec2:ResourceTag/*tag-key* ec2:VolumeIops ec2:VolumeSize ec2:VolumeType
Action: DeleteVolume (p. 207)		
Volume	arn:aws:ec2:*region*:*account*:volume/* arn:aws:ec2:*region*:*account*:volume/*volume-id*	ec2:AvailabilityZone ec2:ParentSnapshot ec2:Region ec2:ResourceTag/*tag-key* ec2:VolumeIops ec2:VolumeSize ec2:VolumeType
Action: DetachVolume (p. 442)		

Resource	ARN Format	Condition Keys
Instance	arn:aws:ec2:*region*:*account*:instance/* arn:aws:ec2:*region*:*account*:instance/*instance-id*	ec2:AvailabilityZone ec2:EbsOptimized ec2:InstanceProfile ec2:InstanceType ec2:PlacementGroup ec2:Region ec2:ResourceTag/*tag-key* ec2:RootDeviceType ec2:Tenancy
Volume	arn:aws:ec2:*region*:*account*:volume/* arn:aws:ec2:*region*:*account*:volume/*volume-id*	ec2:AvailabilityZone ec2:ParentSnapshot ec2:Region ec2:ResourceTag/*tag-key* ec2:VolumeIops ec2:VolumeSize ec2:VolumeType

VPCs

Resource	ARN Format	Condition Keys
Action: DisableVpcClassicLink (p. 449)		
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy
Action: EnableVpcClassicLink (p. 467)		
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy

VPC Peering Connections

Resource	ARN Format	Condition Keys
Action: AcceptVpcPeeringConnection (p. 18)		
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy
VPC peering connection	arn:aws:ec2:*region*:*account*:vpc-peering-connection/* arn:aws:ec2:*region*:*account*:vpc-peering-connection/*vpc-peering-connection-id*	ec2:AccepterVpc ec2:Region ec2:ResourceTag/*tag-key* ec2:RequesterVpc
Action: CreateVpcPeeringConnection (p. 160)		
VPC	arn:aws:ec2:*region*:*account*:vpc/* arn:aws:ec2:*region*:*account*:vpc/*vpc-id*	ec2:Region ec2:ResourceTag/*tag-key* ec2:Tenancy
VPC peering connection	arn:aws:ec2:*region*:*account*:vpc-peering-connection/*	ec2:AccepterVpc ec2:Region ec2:RequesterVpc
Action: DeleteVpcPeeringConnection (p. 213)		
VPC peering connection	arn:aws:ec2:*region*:*account*:vpc-peering-connection/* arn:aws:ec2:*region*:*account*:vpc-peering-connection/*vpc-peering-connection-id*	ec2:AccepterVpc ec2:Region ec2:ResourceTag/*tag-key* ec2:RequesterVpc
Action: RejectVpcPeeringConnection (p. 552)		
VPC peering connection	arn:aws:ec2:*region*:*account*:vpc-peering-connection/* arn:aws:ec2:*region*:*account*:vpc-peering-connection/*vpc-peering-connection-id*	ec2:AccepterVpc ec2:Region ec2:ResourceTag/*tag-key* ec2:RequesterVpc

Unsupported Resource-Level Permissions

All Amazon EC2 actions can be used in an IAM policy to either grant or deny users permission to use that action. However, not all Amazon EC2 actions support resource-level permissions, which enable you to specify the resources on which an action can be performed. The following Amazon EC2 API actions currently do not support resource-level permissions; therefore, to use these actions in an IAM policy, you must grant users permission to use all resources for the action by using a * wildcard for the `Resource` element in your statement. You may not be able to use Amazon EC2 condition keys for these actions. For examples, see Example Policies for CLI or SDK.

- AllocateAddress
- AllocateHosts
- AssignPrivateIpAddresses
- AssociateAddress
- AssociateDhcpOptions
- AssociateRouteTable
- AttachInternetGateway
- AttachNetworkInterface
- AttachVpnGateway
- BundleInstance
- CancelBundleTask
- CancelConversionTask
- CancelExportTask
- CancelImportTask
- CancelReservedInstancesListing
- CancelSpotFleetRequests
- CancelSpotInstanceRequests
- ConfirmProductInstance
- CopyImage
- CopySnapshot
- CreateCustomerGateway
- CreateDhcpOptions
- CreateFlowLogs
- CreateImage
- CreateInstanceExportTask
- CreateInternetGateway
- CreateKeyPair
- CreateNatGateway
- CreateNetworkAcl
- CreateNetworkAclEntry
- CreateNetworkInterface
- CreatePlacementGroup
- CreateReservedInstancesListing
- CreateRoute
- CreateRouteTable
- CreateSecurityGroup
- CreateSnapshot

- CreateSpotDatafeedSubscription
- CreateSubnet
- CreateTags
- CreateVolume
- CreateVpc
- CreateVpcEndpoint
- CreateVpnConnection
- CreateVpnConnectionRoute
- CreateVpnGateway
- DeleteFlowLogs
- DeleteKeyPair
- DeleteNatGateways
- DeleteNetworkInterface
- DeletePlacementGroup
- DeleteSnapshot
- DeleteSpotDatafeedSubscription
- DeleteSubnet
- DeleteTags
- DeleteVpc
- DeleteVpcEndpoints
- DeleteVpnConnection
- DeleteVpnConnectionRoute
- DeleteVpnGateway
- DeregisterImage
- DescribeAccountAttributes
- DescribeAddresses
- DescribeAvailabilityZones
- DescribeBundleTasks
- DescribeClassicLinkInstances
- DescribeConversionTasks
- DescribeCustomerGateways
- DescribeDhcpOptions
- DescribeExportTasks
- DescribeHosts
- DescribeIamInstanceProfileAssociations
- DescribeIdentityIdFormat
- DescribeIdFormat
- DescribeImageAttribute
- DescribeImages
- DescribeImportImageTasks
- DescribeImportSnapshotTasks
- DescribeInstanceAttribute
- DescribeInstances
- DescribeInstanceStatus
- DescribeInternetGateways
- DescribeFlowLogs

- DescribeKeyPairs
- DescribeMovingAddresses
- DescribeNatGateways
- DescribeNetworkAcls
- DescribeNetworkInterfaceAttribute
- DescribeNetworkInterfaces
- DescribePlacementGroups
- DescribePrefixLists
- DescribeRegions
- DescribeReservedInstances
- DescribeReservedInstancesListings
- DescribeReservedInstancesModifications
- DescribeReservedInstancesOfferings
- DescribeRouteTables
- DescribeScheduledInstanceAvailability
- DescribeScheduledInstances
- DescribeSecurityGroupReferences
- DescribeSecurityGroups
- DescribeStaleSecurityGroups
- DescribeSnapshotAttribute
- DescribeSnapshots
- DescribeSpotDatafeedSubscription
- DescribeSpotFleetInstances
- DescribeSpotFleetRequestHistory
- DescribeSpotFleetRequests
- DescribeSpotInstanceRequests
- DescribeSpotPriceHistory
- DescribeSubnets
- DescribeTags
- DescribeVolumeAttribute
- DescribeVolumes
- DescribeVolumeStatus
- DescribeVpcAttribute
- DescribeVpcClassicLink
- DescribeVpcClassicLinkDnsSupport
- DescribeVpcEndpoints
- DescribeVpcEndpointServices
- DescribeVpcPeeringConnections
- DescribeVpcs
- DescribeVpnConnections
- DescribeVpnGateways
- DetachInternetGateway
- DetachNetworkInterface
- DetachVpnGateway
- DisableVgwRoutePropagation
- DisableVpcClassicLinkDnsSupport

- DisassociateAddress
- DisassociateRouteTable
- EnableVgwRoutePropagation
- EnableVolumeIO
- EnableVpcClassicLinkDnsSupport
- GetConsoleOutput
- GetPasswordData
- ImportImage
- ImportInstance
- ImportKeyPair
- ImportSnapshot
- ImportVolume
- ModifyHosts
- ModifyIdentityIdFormat
- ModifyIdFormat
- ModifyImageAttribute
- ModifyInstanceAttribute
- ModifyInstancePlacement
- ModifyNetworkInterfaceAttribute
- ModifyReservedInstances
- ModifySnapshotAttribute
- ModifySpotFleetRequest
- ModifySubnetAttribute
- ModifyVolumeAttribute
- ModifyVpcAttribute
- ModifyVpcEndpoint
- ModifyVpcPeeringConnectionOptions
- MonitorInstances
- MoveAddressToVpc
- PurchaseReservedInstancesOffering
- PurchaseScheduledInstances
- RegisterImage
- ReleaseAddress
- ReleaseHosts
- ReplaceNetworkAclAssociation
- ReplaceNetworkAclEntry
- ReplaceRoute
- ReplaceRouteTableAssociation
- ReportInstanceStatus
- RequestSpotFleet
- RequestSpotInstances
- ResetImageAttribute
- ResetInstanceAttribute
- ResetNetworkInterfaceAttribute
- ResetSnapshotAttribute
- RestoreAddressToClassic

- RunScheduledInstances
- UnassignPrivateIpAddresses
- UnmonitorInstances

Error Codes

Amazon EC2 has two types of error codes:

- **Client errors**. These errors are usually caused by something the client did, such as specifying an incorrect or invalid parameter in the request, or using an action or resource on behalf of a user that doesn't have permission to use the action or resource. These errors are accompanied by a 400-series HTTP response code.
- **Server errors**. These errors are usually caused by an AWS server-side issue. These errors are accompanied by a 500-series HTTP response code.

Contents

Common Client Errors

This section lists the common client errors that all actions can return.

Error Code	Description
`AuthFailure`	The provided credentials could not be validated. You may not be authorized to carry out the request; for example, associating an Elastic IP address that is not yours, or trying to use an AMI for which you do not have permissions. Ensure that your account is authorized to use the Amazon EC2 service, that your credit card details are correct, and that you are using the correct access keys.
`Blocked`	Your account is currently blocked. Contact aws-verification@amazon.com if you have questions.
`DryRunOperation`	The user has the required permissions, so the request would have succeeded, but the `DryRun` parameter was used.

Error Code	Description
IdempotentParameterMismatch	The request uses the same client token as a previous, but non-identical request. Do not reuse a client token with different requests, unless the requests are identical.
IncompleteSignature	The request signature does not conform to AWS standards.
InvalidAction	The action or operation requested is not valid. Verify that the action is typed correctly.
InvalidCharacter	A specified character is invalid.
InvalidClientTokenId	The X.509 certificate or AWS access key ID provided does not exist in our records.
InvalidPaginationToken	The specified pagination token is not valid or is expired.
InvalidParameter	A parameter specified in a request is not valid, is unsupported, or cannot be used. The returned message provides an explanation of the error value. For example, if you are launching an instance, you can't specify a security group and subnet that are in different VPCs.
InvalidParameterCombination	Indicates an incorrect combination of parameters, or a missing parameter. For example, trying to terminate an instance without specifying the instance ID.
InvalidParameterValue	A value specified in a parameter is not valid, is unsupported, or cannot be used. Ensure that you specify a resource by using its full ID. The returned message provides an explanation of the error value.
InvalidQueryParameter	The AWS query string is malformed or does not adhere to AWS standards.
MalformedQueryString	The query string contains a syntax error.
MissingAction	The request is missing an action or a required parameter.
MissingAuthenticationToken	The request must contain either a valid (registered) AWS access key ID or X.509 certificate.
MissingParameter	The request is missing a required parameter. Ensure that you have supplied all the required parameters for the request; for example, the resource ID.
OptInRequired	You are not authorized to use the requested service. Ensure that you have subscribed to the service you are trying to use. If you are new to AWS, your account might take some time to be activated while your credit card details are being verified.

Error Code	Description
`PendingVerification`	Your account is pending verification. Until the verification process is complete, you may not be able to carry out requests with this account. If you have questions, contact AWS Support.
`RequestExpired`	The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future. If you're using temporary security credentials, this error can also occur if the credentials have expired. For more information, see Temporary Security Credentials in the *IAM User Guide*.
`UnauthorizedOperation`	You are not authorized to perform this operation. Check your IAM policies, and ensure that you are using the correct access keys. For more information, see Controlling Access. If the returned message is encoded, you can decode it using the `DecodeAuthorizationMessage` action. For more information, see DecodeAuthorizationMessage in the *AWS Security Token Service API Reference*.
`UnknownParameter`	An unknown or unrecognized parameter was supplied. Requests that could cause this error include supplying a misspelled parameter or a parameter that is not supported for the specified API version.
`UnsupportedInstanceAttribute`	The specified attribute cannot be modified.
`UnsupportedOperation`	The specified request includes an unsupported operation. For example, you can't stop an instance that's instance store-backed. Or you might be trying to launch an instance type that is not supported by the specified AMI. The returned message provides details of the unsupported operation.
`UnsupportedProtocol`	SOAP has been deprecated and is no longer supported. For more information, see SOAP Requests.
`ValidationError`	The input fails to satisfy the constraints specified by an AWS service.

Client Errors For Specific Actions

This section lists client errors that are specific to certain Amazon EC2 API actions.

Error Code	Description
`ActiveVpcPeeringConnectionPerVpcLimitExceeded`	You've reached the limit on the number of active VPC peering connections you can have for the specified VPC.

Error Code	Description
`AddressLimitExceeded`	You've reached the limit on the number of Elastic IP addresses that you can allocate. For more information, see Elastic IP Address Limit. If you need additional Elastic IP addresses, complete the Amazon EC2 Elastic IP Address Request Form. If you need additional Elastic IP addresses for your VPCs, complete the Amazon VPC Limits form.
`AttachmentLimitExceeded`	You've reached the limit on the number of Amazon EBS volumes or network interfaces that can be attached to a single instance.
`BootForVolumeTypeUnsupported`	The specified volume type cannot be used as a boot volume. For more information, see Amazon EBS Volume Types.
`BundlingInProgress`	The specified instance already has a bundling task in progress.
`CannotDelete`	You cannot delete the 'default' security group in your VPC, but you can change its rules. For more information, see Amazon EC2 Security Groups.
`CidrConflict`	You cannot enable a VPC for ClassicLink or extend a VPC peering connection to use the ClassicLink connection of a peer VPC if the VPC has routing that conflicts with the EC2-Classic private IP address range.
`ConcurrentSnapshotLimitExceeded`	You've reached the limit on the number of concurrent snapshots you can create on the specified volume. Wait until the 'pending' requests have completed, and check that you do not have snapshots that are in a incomplete state, such as 'error', which count against your concurrent snapshot limit.
`ConcurrentTagAccess`	You can't run simultaneous commands to modify a tag for a specific resource. Allow sufficient wait time for the previous request to complete, then retry your request. For more information, see Error Retries and Exponential Backoff in AWS.
`CustomerGatewayLimitExceeded`	You've reached the limit on the number of customer gateways you can create for the region. For more information, see Amazon VPC Limits. To request an increase on your customer gateway limit, complete the Amazon VPC Limits form.
`CustomerKeyHasBeenRevoked`	The customer master key cannot be accessed. For more information, see Amazon EBS Encryption.
`DeleteConversionTaskError`	The conversion task cannot be canceled.

Error Code	Description
`DependencyViolation`	The specified object has dependent resources. A number of resources in a VPC may have dependent resources, which prevent you from deleting or detaching them. Remove the dependencies first, then retry your request. For example, this error occurs if you try to delete a security group in a VPC that is in use by another security group.
`DisallowedForDedicatedTenancyNetwork`	Dedicated tenancy VPCs cannot be used with ClassicLink. If you want to allow your dedicated tenancy VPC to be enabled for ClassicLink, contact AWS Support.
`DiskImageSizeTooLarge`	The disk image exceeds the allowed limit (for instance or volume import).
`EIPMigratedToVpc`	The Elastic IP address has been migrated to EC2-VPC, and cannot be used in EC2-Classic.
`EncryptedVolumesNotSupported`	Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption in the *Amazon EC2 User Guide for Linux Instances*.
`FleetNotInModifiableState`	The Spot Fleet request must be in the `active` state in order to modify it. For more information, see Modifying a Spot Fleet Request.
`FlowLogAlreadyExists`	A flow log with the specified configuration already exists.
`FlowLogsLimitExceeded`	You've reached the limit on the number of flow logs you can create. For more information, see Amazon VPC Limits.
`FilterLimitExceeded`	The request uses too many filters or too many filter values.
`Gateway.NotAttached`	An Internet gateway is not attached to a VPC. If you are trying to detach an Internet gateway, ensure that you specify the correct VPC. If you are trying to associate an Elastic IP address with a network interface or an instance, ensure that an Internet gateway is attached to the relevant VPC.
`HostAlreadyCoveredByReservation`	The specified Dedicated Host is already covered by a reservation.
`HostLimitExceeded`	You've reached the limit on the number of Dedicated Hosts that you can allocate. For more information, see Dedicated Hosts.
`IdempotentInstanceTerminated`	The request to launch an instance uses the same client token as a previous request for which the instance has been terminated.

Error Code	Description
`IncorrectInstanceState`	The instance is in an incorrect state for the requested action. For example, some instance attributes, such as user data, can only be modified if the instance is in a 'stopped' state. If you are associating an Elastic IP address with a network interface, ensure that the instance that the interface is attached to is not in the 'pending' state.
`IncorrectState`	The resource is in an incorrect state for the request. This error can occur if you are trying to attach a volume that is still being created. Ensure that the volume is in the 'available' state. If you are creating a snapshot, ensure that the previous request to create a snapshot on the same volume has completed. If you are deleting a virtual private gateway, ensure that it's detached from the VPC.
`IncompatibleHostRequirements`	There are no available or compatible Dedicated Hosts available on which to launch or start the instance.
`InstanceAlreadyLinked`	The EC2-Classic instance you are trying to link is already linked to another VPC. You cannot link an EC2-Classic instance to more than one VPC at a time.
`InstanceLimitExceeded`	You've reached the limit on the number of instances you can run concurrently. The limit depends on the instance type. For more information, see How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.
`InsufficientCapacityOnHost`	There is not enough capacity on the Dedicated Host to launch or start the instance.
`InsufficientFreeAddressesInSubnet`	The specified subnet does not contain enough free private IP addresses to fulfill your request. Use the DescribeSubnets request to view how many IP addresses are available (unused) in your subnet. IP addresses associated with stopped instances are considered unavailable.
`InsufficientReservedInstancesCapacity`	There is insufficient capacity for the requested Reserved instances.
`InternetGatewayLimitExceeded`	You've reached the limit on the number of Internet gateways that you can create. For more information, see Amazon VPC Limits. To request an increase on the Internet gateway limit, complete the Amazon VPC Limits form.
`InvalidAddress.Locked`	The specified Elastic IP address cannot be released from your account. A reverse DNS record may be associated with the Elastic IP address. Contact AWS Support to unlock the address.

Error Code	Description
`InvalidAddress.Malformed`	The specified IP address is not valid. Ensure that you provide the address in the form `xx.xx.xx.xx`; for example, `55.123.45.67`
`InvalidAddress.NotFound`	The specified Elastic IP address that you are describing cannot be found. Ensure that you specify the region in which the IP address is located, if it's not in the default region.
`InvalidAddressID.NotFound`	The specified allocation ID for the Elastic IP address you are trying to release cannot be found. Ensure that you specify the region in which the IP address is located, if it's not in the default region.
`InvalidAffinity`	The specified affinity value is not valid.
`InvalidAllocationID.NotFound`	The specified allocation ID you are trying to describe or associate does not exist. Ensure that you specify the region in which the IP address is located, if it's not in the default region.
`InvalidAMIAttributeItemValue`	The value of an item added to, or removed from, an image attribute is not valid. If you are specifying a `userId`, check that it is in the form of an AWS account ID, without hyphens.
`InvalidAMIID.Malformed`	The specified AMI ID is malformed. Ensure that you provide the full AMI ID, in the form ami-*xxxxxxxx*.
`InvalidAMIID.NotFound`	The specified AMI does not exist. Check the AMI ID, and ensure that you specify the region in which the AMI is located, if it's not in the default region. This error may also occur if you specified an incorrect kernel ID when launching an instance.
`InvalidAMIID.Unavailable`	The specified AMI has been deregistered and is no longer available, or is not in a state from which you can launch an instance.
`InvalidAMIName.Duplicate`	The specified AMI name is already in use by another AMI. If you have recently deregistered an AMI with the same name, allow enough time for the change to propagate through the system, and retry your request.
`InvalidAMIName.Malformed`	AMI names must be between 3 and 128 characters long, and may contain letters, numbers, and only the following characters: ( ) . - / _
`InvalidAssociationID.NotFound`	The specified association ID (for an Elastic IP address, a route table, or network ACL) does not exist. Ensure that you specify the region in which the association ID is located, if it's not in the default region.
`InvalidAttachment.NotFound`	Indicates an attempt to detach a volume from an instance to which it is not attached.

Error Code	Description
`InvalidAttachmentID.NotFound`	The specified network interface attachment does not exist.
`InvalidAutoPlacement`	The specified value for auto-placement is not valid.
`InvalidAvailabilityZone`	The specified Availability Zone is not valid.
`InvalidBlockDeviceMapping`	A block device mapping parameter is not valid. The returned message indicates the incorrect value.
`InvalidBundleID.NotFound`	The specified bundle task ID cannot be found. Ensure that you specify the region in which the bundle task is located, if it's not in the default region.
`InvalidClientToken`	The specified client token is not valid. For more information, see Client Tokens (p. 895).
`InvalidConversionTaskId`	The specified conversion task ID (for instance or volume import) is not valid.
`InvalidConversionTaskId.Malformed`	The specified conversion task ID (for instance or volume import) is malformed. Ensure that you've specified the ID in the form import-i-*xxxxxxxx*.
`InvalidCustomerGateway.DuplicateIpAddress`	There is a conflict among the specified gateway IP addresses. Each VPN connection in a region must be created with a unique customer gateway IP address (across all AWS accounts). For more information, see Your Customer Gateway in the *Amazon VPC Network Administrator Guide*.
`InvalidCustomerGatewayId.Malformed`	The specified customer gateway ID is malformed, or cannot be found. Specify the ID in the form cgw-*xxxxxxxx*, and ensure that you specify the region in which the customer gateway is located, if it's not in the default region.
`InvalidCustomerGatewayID.NotFound`	The specified customer gateway ID cannot be found. Ensure that you specify the region in which the customer gateway is located, if it's not in the default region.
`InvalidCustomerGatewayState`	The customer gateway is not in the `available` state, and therefore cannot be used.
`InvalidDevice.InUse`	The device to which you are trying to attach (for example, `/dev/sdh`) is already in use on the instance.
`InvalidDhcpOptionID.NotFound`	The specified DHCP options set does not exist. Ensure that you specify the region in which the DHCP options set is located, if it's not in the default region.
`InvalidDhcpOptionsID.NotFound`	The specified DHCP options set does not exist. Ensure that you specify the region in which the DHCP options set is located, if it's not in the default region.

Error Code	Description
`InvalidDhcpOptionsId.Malformed`	The specified DHCP options set ID is malformed. Ensure that you provide the full DHCP options set ID in the request, in the form dopt-*xxxxxxxx*.
`InvalidExportTaskID.NotFound`	The specified export task ID cannot be found.
`InvalidFilter`	The specified filter is not valid.
`InvalidFlowLogId.NotFound`	The specified flow log does not exist. Ensure that you have indicated the region in which the flow log is located, if it's not in the default region.
`InvalidFormat`	The specified disk format (for the instance or volume import) is not valid.
`InvalidGatewayID.NotFound`	The specified gateway does not exist.
`InvalidGroup.Duplicate`	You cannot create a security group with the same name as an existing security group in the same VPC, or the same region (EC2-Classic).
`InvalidGroupId.Malformed`	The specified security group ID is malformed. Ensure that you provide the full security group ID in the request, in the form sg-*xxxxxxxx*.
`InvalidGroup.InUse`	The specified security group can't be deleted because it's in use by another security group. You can remove dependencies by modifying or deleting rules in the affected security groups.
`InvalidGroup.NotFound`	The specified security group does not exist. This error can occur because the ID of a recently created security group has not propagated through the system. For more information, see Eventual Consistency (p. 893). You can't specify a security group that is in a different region or VPC than the request.
`InvalidGroup.Reserved`	The name 'default' is reserved, and cannot be used to create a new security group. You also cannot delete the default EC2-Classic security group, but you can change its rules. For more information, see Amazon EC2 Security Groups.
`InvalidHostConfiguration`	The specified Dedicated Host configuration is not supported.
`InvalidHostId`	The specified Dedicated Host ID is not valid.
`InvalidHostID.Malformed`	The specified Dedicated Host ID is not formed correctly. Ensure that you provide the full ID in the form h-*xxxxxxxxxxxxxxxxx*.
`InvalidHostId.Malformed`	The specified Dedicated Host ID is not formed correctly. Ensure that you provide the full ID in the form h-*xxxxxxxxxxxxxxxxx*.

Error Code	Description
`InvalidHostID.NotFound`	The specified Dedicated Host ID does not exist. Ensure that you specify the region in which the Dedicated Host is located, if it's not in the default region.
`InvalidHostId.NotFound`	The specified Dedicated Host ID does not exist. Ensure that you specify the region in which the Dedicated Host is located, if it's not in the default region.
`InvalidHostReservationId.Malformed`	The specified Dedicated Host Reservation ID is not formed correctly. Ensure that you provide the full ID in the form hr-*xxxxxxxxxxxxxxxxx*.
`InvalidHostReservationOfferingId.Malformed`	The specified Dedicated Host Reservation offering is not formed correctly. Ensure that you provide the full ID in the form hro-*xxxxxxxxxxxxxxxxx*.
`InvalidHostState`	The Dedicated Host must be in the `available` state to complete the operation.
`InvalidID`	The specified ID for the resource you are trying to tag is not valid. Ensure that you provide the full resource ID; for example, ami-2bb65342 for an AMI. If you're using the command line tools on a Windows system, you might need to use quotation marks for the key-value pair; for example, `"Name=TestTag"`.
`InvalidInput`	An input parameter in the request is not valid; for example, if you specified an incorrect Reserved Instance listing ID in the request or if the Reserved Instance you are trying to list cannot be sold in the Reserved Instances Marketplace (e.g., if it has a scope of Region, or is a Convertible Reserved Instance).
`InvalidInstanceAttributeValue`	The specified instance attribute value is not valid. This error is most commonly encountered when trying to set the `InstanceType`/`--instance-type` attribute to an unrecognized value.

Error Code	Description
`InvalidInstanceID`	This error commonly occurs when trying to associate an IP address with an instance that is not in the 'running' state. This error can also occur when trying to perform an operation on an instance that has multiple network interfaces. A network interface can have individual attributes; therefore, you may need to specify the network interface ID as part of the request, or use a different request. For example, each network interface in an instance can have a source/destination check flag. If you want to modify this attribute, you need to modify the network interface attribute, and not the instance attribute. If you want to create a route in a route table, you need to provide a specific network interface ID as part of the request.
`InvalidInstanceID.Malformed`	The specified instance ID is malformed. Ensure that you provide the full instance ID in the request, in the form i-*xxxxxxxx* or i-*xxxxxxxxxxxxxxxxx*.
`InvalidInstanceID.NotFound`	The specified instance does not exist. Ensure that you have indicated the region in which the instance is located, if it's not in the default region. This error may occur because the ID of a recently created instance has not propagated through the system. For more information, see Eventual Consistency (p. 893).
`InvalidInstanceID.NotLinkable`	The specified instance cannot be linked to the specified VPC. Ensure that the instance is an EC2-Classic instance. This error may also occur if the instance was recently launched, and its ID has not yet propagated through the system. Wait a few minutes, or wait until the instance is in the `running` state, and then try again.
`InvalidInstanceFamily`	The instance family for the Dedicated Host Reservation offering is different from the instance family of the Dedicated Hosts.
`InvalidInstanceState`	The instance is not in an appropriate state to complete the request. If you're modifying the instance placement, the instance must be in the `stopped` state.
`InvalidInstanceType`	The instance type is not supported for this request. For example, you can only bundle instance store-backed Windows instances.

Error Code	Description
`InvalidInterface.IpAddressLimitExceeded`	The number of private IP addresses for a specified network interface exceeds the limit for the type of instance you are trying to launch. For more information about the maximum number of private IP addresses per ENI, see Private IP addresses per ENI.
`InvalidInternetGatewayId.Malformed`	The specified Internet gateway ID is malformed. Ensure that you provide the full ID in the request, in the form igw-*xxxxxxxx*.
`InvalidInternetGatewayID.NotFound`	The specified Internet gateway does not exist. Ensure that you specify the region in which the Internet gateway is located, if it's not in the default region.
`InvalidIPAddress.InUse`	The specified IP address is already in use. If you are trying to release an address, you must first disassociate it from the instance.
`InvalidKey.Format`	The key pair is not specified in a valid OpenSSH public key format.
`InvalidKeyPair.Duplicate`	The key pair name already exists in that region. If you are creating or importing a key pair, ensure that you use a unique name.
`InvalidKeyPair.Format`	The format of the public key you are attempting to import is not valid.
`InvalidKeyPair.NotFound`	The specified key pair name does not exist. Ensure that you specify the region in which the key pair is located, if it's not in the default region.
`InvalidManifest`	The specified AMI has an unparsable manifest, or you may not have access to the location of the manifest file in Amazon S3.
`InvalidMaxResults`	The specified value for MaxResults is not valid.
`InvalidNatGatewayID.NotFound`	The specified NAT gateway ID does not exist. Ensure that you specify the region in which the NAT gateway is located, if it's not in the default region.
`InvalidNetworkAclEntry.NotFound`	The specified network ACL entry does not exist.
`InvalidNetworkAclId.Malformed`	The specified network ACL ID is malformed. Ensure that you provide the ID in the form acl-*xxxxxxxx*.
`InvalidNetworkAclID.NotFound`	The specified network ACL does not exist. Ensure that you specify the region in which the network ACL is located, if it's not in the default region.
`InvalidNetworkInterfaceAttachmentId.Malformed`	The ID for the network interface attachment is malformed. Ensure that you use the attachment ID rather than the network interface ID, in the form eni-attach-*xxxxxxxx*.

Error Code	Description
`InvalidNetworkInterface.InUse`	The specified interface is currently in use and cannot be deleted or attached to another instance. Ensure that you have detached the network interface first. You may also receive the `InvalidParameterValue` error if a network interface is in use.
`InvalidNetworkInterfaceId.Malformed`	The specified network interface ID is malformed. Ensure that you specify the network interface ID in the form eni-*xxxxxxxx*.
`InvalidNetworkInterfaceID.NotFound`	The specified network interface does not exist. Ensure that you specify the region in which the network interface is located, if it's not in the default region.
`InvalidNextToken`	The specified NextToken is not valid.
`InvalidOption.Conflict`	A VPN connection between the virtual private gateway and the customer gateway already exists.
`InvalidPermission.Duplicate`	The specified inbound or outbound rule already exists for that security group.
`InvalidPermission.Malformed`	The specified security group rule is malformed. If you are specifying an IP address range, ensure that you use CIDR notation; for example, 203.0.113.0/24.
`InvalidPermission.NotFound`	The specified rule does not exist in this security group.
`InvalidPlacementGroup.Duplicate`	The specified placement group already exists in that region.
`InvalidPlacementGroup.InUse`	The specified placement group is in use. If you are trying to delete a placement group, ensure that its instances have been terminated.
`InvalidPlacementGroup.Unknown`	The specified placement group cannot be found. Ensure that you specify the region in which the placement group is located, if it's not in the default region.
`InvalidPolicyDocument`	The specified policy document is not a valid JSON policy document.
`InvalidPrefixListId.Malformed`	The specified prefix list ID is malformed. Ensure that you provide the ID in the form pl-*xxxxxxxx*.
`InvalidPrefixListId.NotFound`	The specified prefix list ID does not exist. Ensure that you have indicated the region for the service, if it's not in the default region.
`InvalidProductInfo`	(AWS Marketplace) The product code is not valid.
`InvalidPurchaseToken.Expired`	The specified purchase token has expired.
`InvalidPurchaseToken.Malformed`	The specified purchase token is not valid.

Error Code	Description
`InvalidQuantity`	The specified quantity of Dedicated Hosts is not valid.
`InvalidRegion`	The specified region is not valid. For copying a snapshot or image, specify the source region using its region code, for example, us-west-2.
`InvalidRequest`	The request is not valid. The returned message provides details about the nature of the error.
`InvalidReservationID.Malformed`	The specified reservation ID is not valid.
`InvalidReservationID.NotFound`	The specified reservation does not exist.
`InvalidReservedInstancesId`	The specified Reserved instance does not exist.
`InvalidReservedInstancesOfferingId`	The specified Reserved instances offering does not exist.
`InvalidResourceType.Unknown`	The specified resource type is not supported or is not valid. To view resource types that support longer IDs, use DescribeIdFormat.
`InvalidRoute.InvalidState`	The specified route is not valid.
`InvalidRoute.Malformed`	The specified route is not valid. If you are deleting a route in a VPN connection, ensure that you've entered the value for the CIDR block correctly.
`InvalidRoute.NotFound`	The specified route does not exist in the specified route table. Ensure that you indicate the exact CIDR range for the route in the request. This error can also occur if you've specified a route table ID in the request that does not exist.
`InvalidRouteTableId.Malformed`	The specified route table ID is malformed. Ensure that you specify the route table ID in the form rtb-*xxxxxxxx*.
`InvalidRouteTableID.NotFound`	The specified route table does not exist. Ensure that you specify the region in which the route table is located, if it's not in the default region.
`InvalidScheduledInstance`	The specified Scheduled Instance does not exist.
`InvalidSecurityGroupID.NotFound`	The specified security group does not exist. If you are creating a network interface, ensure that you specify a VPC security group, and not an EC2-Classic security group.
`InvalidSecurity.RequestHasExpired`	The difference between the request timestamp and the AWS server time is greater than 5 minutes. Ensure that your system clock is accurate and configured to use the correct time zone.
`InvalidServiceName`	The name of the AWS service is not valid. Ensure that you provide the name of the service in the form `com.amazonaws.<region>.<service_name>`; for example `com.amazonaws.us-east-1.s3`.

Error Code	Description
`InvalidSnapshotID.Malformed`	The snapshot ID is not valid.
`InvalidSnapshot.InUse`	The snapshot that you are trying to delete is in use by one or more AMIs.
`InvalidSnapshot.NotFound`	The specified snapshot does not exist. Ensure that you specify the region in which the snapshot is located, if it's not in the default region.
`InvalidSpotDatafeed.NotFound`	You have no data feed for Spot instances.
`InvalidSpotFleetRequestConfig`	The Spot fleet request configuration is not valid. Ensure that you provide valid values for all of the configuration parameters; for example, a valid AMI ID. Limits apply on the target capacity and the number of launch specifications per Spot fleet request. For more information, see Spot Fleet Limits.
`InvalidSpotFleetRequestId.Malformed`	The specified Spot fleet request ID is malformed. Ensure that you specify the Spot fleet request ID in the form `sfr-` followed by 36 characters, including hyphens; for example, `sfr-123f8fc2-11aa-22bb-33cc-example12710`.
`InvalidSpotFleetRequestId.NotFound`	The specified Spot fleet request ID does not exist. Ensure that you specify the region in which the Spot fleet request is located, if it's not in the default region.
`InvalidSpotInstanceRequestID.Malformed`	The specified Spot instance request ID is not valid. Ensure that you specify the Spot instance request ID in the form sir-*xxxxxxxx*.
`InvalidSpotInstanceRequestID.NotFound`	The specified Spot instance request ID does not exist. Ensure that you specify the region in which the Spot instance request is located, if it's not in the default region.
`InvalidState`	The specified resource is not in the correct state for the request; for example, if you are trying to enable monitoring on a recently terminated instance, or if you are trying to create a snapshot when a previous identical request has not yet completed.
`InvalidStateTransition`	The specified VPC peering connection is not in the correct state for the request. For example, you may be trying to accept a VPC peering request that has failed, or that was rejected.
`InvalidSubnet`	The specified subnet ID is not valid or does not exist.
`InvalidSubnet.Conflict`	The specified CIDR block conflicts with that of another subnet in your VPC.

Error Code	Description
`InvalidSubnetID.NotFound`	The specified subnet does not exist. Ensure that you have indicated the region in which the subnet is located, if it's not in the default region.
`InvalidSubnet.Range`	The CIDR block you've specified for the subnet is not valid. The allowed block size is between a `/28` netmask and `/16` netmask.
`InvalidTargetArn.Unknown`	The specified ARN for the IAM user, IAM role, or root user is not valid or does not exist.
`InvalidTenancy`	You cannot modify the tenancy of an instance with a tenancy of `default`. You can modify the tenancy of instances with a tenancy of `host` or `dedicated`.
`InvalidTime`	The specified timestamp is not valid.
`InvalidUserID.Malformed`	The specified user or owner is not valid. If you are performing a DescribeImages request, you must specify a valid value for the `owner` or `executableBy` parameters, such as an AWS account ID. If you are performing a DescribeSnapshots request, you must specify a valid value for the `owner` or `restorableBy` parameters.
`InvalidVolumeID.Duplicate`	The Amazon EBS volume already exists.
`InvalidVolumeID.Malformed`	The specified volume ID is not valid. Check the letter-number combination carefully.
`InvalidVolumeID.ZoneMismatch`	The specified volume and instance are in different Availability Zones.
`InvalidVolume.NotFound`	The specified volume does not exist. Ensure that you have indicated the region in which the volume is located, if it's not in the default region. Ensure that you are using the correct access credentials.
`InvalidVolume.ZoneMismatch`	The specified volume is not in the same Availability Zone as the specified instance. You can only attach an Amazon EBS volume to an instance if they are in the same Availability Zone.
`InvalidVpcEndpointId.Malformed`	The specified VPC endpoint ID is malformed. Use the full VPC endpoint ID in the request, in the form vpce-*xxxxxxxx*.
`InvalidVpcEndpointId.NotFound`	The specified VPC endpoint does not exist. Ensure that you have indicated the region in which the endpoint is located, if it's not in the default region.
`InvalidVpcID.Malformed`	The specified VPC ID is malformed. Ensure that you've specified the ID in the form vpc-*xxxxxxxx*.
`InvalidVpcID.NotFound`	The specified VPC does not exist. Ensure that you have indicated the region in which the VPC is located, if it's not in the default region.

Error Code	Description
`InvalidVpcPeeringConnectionId.Malformed`	The specified VPC peering connection ID is malformed. Ensure that you provide the ID in the form pcx-*xxxxxxxx*.
`InvalidVpcPeeringConnectionID.NotFound`	The specified VPC peering connection ID does not exist. Ensure that you have indicated the region in which the VPC peering connection is located, if it's not in the default region.
`InvalidVpcPeeringConnectionState.DnsHostnamesDisabled`	To enable DNS hostname resolution for the VPC peering connection, DNS hostname support must be enabled for the VPCs.
`InvalidVpcRange`	The specified CIDR block range is not valid. The block range must be between a /28 netmask and /16 netmask. For more information, see Your VPC and Subnets.
`InvalidVpcState`	The specified VPC already has a virtual private gateway attached to it.
`InvalidVpnConnectionID`	The specified VPN connection ID cannot be found. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.
`InvalidVpnConnectionID.NotFound`	The specified VPN connection ID does not exist. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.
`InvalidVpnConnection.InvalidState`	The VPN connection must be in the `available` state to complete the request.
`InvalidVpnConnection.InvalidType`	The specified VPN connection does not support static routes.
`InvalidVpnGatewayAttachment.NotFound`	An attachment between the specified virtual private gateway and specified VPC does not exist. This error can also occur if you've specified an incorrect VPC ID in the request.
`InvalidVpnGatewayID.NotFound`	The specified virtual private gateway does not exist. Ensure that you have indicated the region in which the virtual private gateway is located, if it's not in the default region.
`InvalidVpnGatewayState`	The virtual private gateway is not in an `available` state.
`InvalidZone.NotFound`	The specified Availability Zone does not exist, or is not available for you to use. Use the DescribeAvailabilityZones request to list the Availability Zones that are currently available to you. Ensure that you have indicated the region for the Availability Zone in the request, if it's not in the default region. Specify the full name of the Availability Zone: for example, us-east-1a.

Error Code	Description
`KeyPairLimitExceeded`	You've reached the limit on the number of key pairs that you can have in this region. For more information, see Amazon EC2 Key Pairs.
`LegacySecurityGroup`	Any VPC created using an API version older than 2011-01-01 may have the 2009-07-15-default security group. You must delete this security group before you can attach an Internet gateway to the VPC.
`LimitPriceExceeded`	The cost of the total order is greater than the specified limit price (instance count * price).
`MaxIOPSLimitExceeded`	You've reached the limit on your IOPS usage for that region. If you need to increase your volume limit, complete the Amazon EC2 EBS Volume Limit Form.
`MaxScheduledInstanceCapacityExceeded`	You've attempted to launch more instances than you purchased.
`MaxSpotFleetRequestCountExceeded`	You've reached one or both of these limits: the total number of Spot fleet requests that you can make, or the total number of instances in all Spot fleets for the region (the target capacity). For more information, see Spot Fleet Limits.
`MaxSpotInstanceCountExceeded`	You've reached the limit on the number of Spot instances that you can launch. The limit depends on the instance type. For more information, see How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.
`MissingInput`	An input parameter is missing.
`NatGatewayLimitExceeded`	You've reached the limit on the number of NAT gateways that you can create. For more information, see Amazon VPC Limits.
`NatGatewayMalformed`	The specified NAT gateway ID is not formed correctly. Ensure that you specify the NAT gateway ID in the form nat-*xxxxxxxxxxxxxxxxx*.
`NatGatewayNotFound`	The specified NAT gateway does not exist. Ensure that you have indicated the region in which the NAT gateway is located, if it's not in the default region.
`NetworkAclEntryAlreadyExists`	The specified rule number already exists in this network ACL.
`NetworkAclEntryLimitExceeded`	You've reached the limit on the number of rules that you can add to the network ACL. For more information, see Amazon VPC Limits.

Error Code	Description
`NetworkAclLimitExceeded`	You've reached the limit on the number of network ACLs that you can create for the specified VPC. For more information, see Amazon VPC Limits. To request an increase on your network ACL limit, complete the Amazon VPC Limits form.
`NetworkInterfaceLimitExceeded`	You've reached the limit on the number of network interfaces that you can create. For more information, see Amazon VPC Limits.
`NonEBSInstance`	The specified instance does not support Amazon EBS. Restart the instance and try again, to ensure that the code is run on an instance with updated code.
`NoSuchVersion`	The specified API version does not exist.
`NotExportable`	The specified instance cannot be exported. You can only export instances that were previously imported into Amazon EC2. For more information, see Exporting EC2 Instances
`OperationNotPermitted`	The specified operation is not allowed. This error can occur for a number of reasons; for example, you might be trying to terminate an instance that has termination protection enabled, or trying to detach the primary network interface (eth0) from an instance.
`OutstandingVpcPeeringConnectionLimitExceeded`	You've reached the limit on the number of VPC peering connection requests that you can create for the specified VPC.
`PendingSnapshotLimitExceeded`	You've reached the limit on the number of Amazon EBS snapshots that you can have in the pending state.
`PendingVpcPeeringConnectionLimitExceeded`	You've reached the limit on the number of pending VPC peering connections that you can have.
`PlacementGroupLimitExceeded`	You've reached the limit on the number of placement groups that you can have.
`PrivateIpAddressLimitExceeded`	You've reached the limit on the number of private IP addresses that you can assign to the specified network interface for that type of instance. For more information about the maximum number of private IP addresses per ENI, see Private IP addresses per ENI.

Error Code	Description
`RequestResourceCountExceeded`	Details in your Spot request exceed the numbers allowed by the Spot service in one of the following ways, depending on the action that generated the error: —If you get this error when you submitted a bid for Spot instances, check the number of Spot instances specified in your request. The number shouldn't exceed the 3,000 maximum allowed per request. Resend your Spot instance request and specify a number less than 3,000. If your account's regional Spot request limit is greater than 3,000 instances, you can access these instances by submitting multiple smaller requests. —If you get this error when you sent Describe Spot instance requests, check the number of requests for Spot instance data, the amount of data you requested, and how often you sent the request. The frequency with which you requested the data combined with the amount of data exceeds the levels allowed by the Spot service. Try again and submit fewer large Describe requests over longer intervals.
`ReservedInstancesCountExceeded`	You've reached the limit for the number of Reserved Instances.
`ReservedInstancesLimitExceeded`	Your current quota does not allow you to purchase the required number of Reserved instances.
`ReservedInstancesUnavailable`	The requested Reserved Instances are not available.
`Resource.AlreadyAssigned`	The specified private IP address is already assigned to a resource. Unassign the private IP first, or use a different private IP address.
`Resource.AlreadyAssociated`	The specified resource is already in use. For example, in EC2-VPC, you cannot associate an Elastic IP address with an instance if it's already associated with another instance. You also cannot attach an Internet gateway to more than one VPC at a time.
`ResourceCountExceeded`	You have exceeded the number of resources allowed for this request; for example, if you try to launch more instances than AWS allows in a single request. This limit is separate from your individual resource limit. If you get this error, break up your request into smaller requests; for example, if you are launching 15 instances, try launching 5 instances in 3 separate requests.
`ResourceCountLimitExceeded`	You have exceeded a resource limit for creating routes.

Error Code	Description
`ResourceLimitExceeded`	You have exceeded an Amazon EC2 resource limit. For example, you might have too many snapshot copies in progress.
`RouteAlreadyExists`	A route for the specified CIDR block already exists in this route table.
`RouteLimitExceeded`	You've reached the limit on the number of routes that you can add to a route table.
`RouteTableLimitExceeded`	You've reached the limit on the number of route tables that you can create for the specified VPC. For more information about route table limits, see Amazon VPC Limits.
`RulesPerSecurityGroupLimitExceeded`	You've reached the limit on the number of rules that you can add to a security group. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Security Group Rules.
`ScheduledInstanceLimitExceeded`	You've reached the limit on the number of Scheduled Instances that you can purchase.
`ScheduledInstanceParameterMismatch`	The launch specification does not match the details for the Scheduled Instance.
`ScheduledInstanceSlotNotOpen`	You can launch a Scheduled Instance only during its scheduled time periods.
`ScheduledInstanceSlotUnavailable`	The requested Scheduled Instance is no longer available during this scheduled time period.
`SecurityGroupLimitExceeded`	You've reached the limit on the number of security groups that you can create, or that you can assign to an instance. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Creating Your Own Security Groups.
`SecurityGroupsPerInstanceLimitExceeded`	You've reached the limit on the number of security groups that you can assign to an instance. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Amazon EC2 Security Groups.
`SecurityGroupsPerInterfaceLimitExceeded`	You've reached the limit on the number of security groups you can associate with the specified network interface. For more information, see Amazon VPC Limits.
`SignatureDoesNotMatch`	The request signature that Amazon has does not match the signature that you provided. Check your AWS access keys and signing method.
`SnapshotCopyUnsupported.InterRegion`	Inter-region snapshot copy is not supported for this region.

Error Code	Description
`SnapshotCreationPerVolumeRateExceeded`	The rate limit for creating concurrent snapshots of an EBS volume has been exceeded. Wait at least 15 seconds between concurrent volume snapshots.
`SnapshotLimitExceeded`	You've reached the limit on the number of Amazon EBS snapshots that you can create. To request an increase on your snapshot limit, complete the Amazon EC2 EBS Volume Limit Form.
`SubnetLimitExceeded`	You've reached the limit on the number of subnets that you can create for the specified VPC. For more information about subnet limits, see Amazon VPC Limits. To request an increase on your subnet limit, complete the Amazon VPC Limits form.
`TagLimitExceeded`	You've reached the limit on the number of tags that you can assign to the specified resource. For more information, see Tag Restrictions.
`UnavailableHostRequirements`	There are no valid Dedicated Hosts available on which you can launch an instance.
`UnknownPrincipalType.Unsupported`	The principal type is not supported. The principal must be an IAM user, IAM role, or the root user for the AWS account.
`UnknownVolumeType`	The specified volume type is unsupported. The supported volume types are `gp2`, `io1`, `st1`, `sc1`, and `standard`.
`Unsupported`	The specified request is unsupported. For example, you might be trying to launch an instance in an Availability Zone that currently has constraints on that instance type. The returned message provides details of the unsupported request.
`UnsupportedHostConfiguration`	The specified Dedicated Host configuration is unsupported. For more information about supported configurations, see Dedicated Hosts.
`UnsupportedInstanceTypeOnHost`	The instance type is not supported on the Dedicated Host. For more information about supported instance types, see Amazon EC2 Dedicated Hosts Pricing.
`VolumeInUse`	The specified Amazon EBS volume is attached to an instance. Ensure that the specified volume is in an ‘available’ state.
`VolumeIOPSLimit`	The maximum IOPS limit for the volume has been reached. For more information, see Amazon EBS Volume Types.
`VolumeLimitExceeded`	You've reached the limit on your Amazon EBS volume storage. To request an increase, complete the Amazon EC2 EBS Volume Limit Form.

Error Code	Description
`VolumeTypeNotAvailableInZone`	The specified Availability Zone does not support Provisioned IOPS SSD volumes. Try launching your instance in a different Availability Zone, or don't specify a zone in the request. If you're creating a volume, try specifying a different Availability Zone in the request.
`VpcCidrConflict`	You cannot enable a VPC for ClassicLink if the VPC has routing that conflicts with the EC2-Classic private IP address range of `10/8`; for example, if your VPC's route table points to `10.0.0.0/16` for a VPC peering connection. This excludes local routes for VPCs in the `10.0.0.0/16` and `10.1.0.0/16` IP address ranges. For more information, see Routing for Classic Link.
`VPCIdNotSpecified`	You have no default VPC in which to carry out the request. Specify a VPC ID or subnet ID, or in the case of security groups, specify the ID, and not the security group name. You can contact AWS Support to create a new default VPC.
`VpcEndpointLimitExceeded`	You've reached the limit on the number of VPC endpoints that you can create in the region. For more information about VPC limits, see Amazon VPC Limits. To request an increase on your VPC limit, complete the Amazon VPC Limits form.
`VpcLimitExceeded`	You've reached the limit on the number of VPCs that you can create in the region. For more information about VPC limits, see Amazon VPC Limits. To request an increase on your VPC limit, complete the Amazon VPC Limits form.
`VpcPeeringConnectionAlreadyExists`	A VPC peering connection between the VPCs already exists.
`VpcPeeringConnectionsPerVpcLimitExceeded`	You've reached the limit on the number of VPC peering connections that you can have per VPC. For more information, see Amazon VPC Limits.
`VPCResourceNotSpecified`	The specified resource can be used only in a VPC; for example, T2 instances. Ensure that you have a VPC in your account, and then specify a subnet ID or network interface ID in the request.
`VpnConnectionLimitExceeded`	You've reached the limit on the number of VPN connections that you can create. For more information about limits, see Amazon VPC Limits. To request an increase on your VPN connection limit, complete the Amazon VPC Limits form.
`VpnGatewayAttachmentLimitExceeded`	You've reached the limit on the number of VPCs that can be attached to the specified virtual private gateway.

Error Code	Description
`VpnGatewayLimitExceeded`	You've reached the limit on the number of virtual private gateways that you can create. For more information about limits, see Amazon VPC Limits. To request an increase on your virtual private gateway limit, complete the Amazon VPC Limits form.
`ZonesMismatched`	The Availability Zone for the instance does not match that of the Dedicated Host.

Common Causes of Client Errors

There are a number of reasons that you might encounter an error while performing a request. Some errors can be prevented or easily solved by following these guidelines:

- **Specify the region**: Some resources can't be shared between regions. If you are specifying a resource that's located in a region other than the default region (us-east-1), you need to specify its region in the request. If the resource cannot be found, you'll get the following kind of error: `Client.Invalid`*Resource*`.NotFound`; for example, `Client.InvalidInstanceID.NotFound`.
- **Allow for eventual consistency**: Some errors are caused because a previous request has not yet propagated thorough the system. For more information, see Eventual Consistency (p. 893).
- **Use a sleep interval between request rates**: Amazon EC2 API requests are throttled to help maintain the performance of the service. If your requests have been throttled, you'll get the following error: `Client.RequestLimitExceeded`. For more information, see Query API Request Rate (p. 892).
- **Use the full ID of the resource**: When specifying a resource, ensure that you use its full ID, and not its user-supplied name or description. For example, when specifying a security group in a request, use its ID in the form sg-*xxxxxxxx*.
- **Check your services**: Ensure that you have signed up for all the services you are attempting to use. You can check which services you're signed up for by going to the **My Account** section of the AWS home page.
- **Check your permissions**: Ensure that you have the required permissions to carry out the request. If you are not authorized, you'll get the following error: `Client.UnauthorizedOperation`. For more information, see Controlling Access in the *Amazon EC2 User Guide for Linux Instances*.
- **Check your VPC**: Some resources cannot be shared between VPCs; for example, security groups.
- **Check your credentials**: Ensure that you provide your access keys when you are making requests; that you have entered the credentials correctly; and, if you have more than one account, that you are using the correct credentials for a particular account. If the provided credentials are incorrect, you may get the following error: `Client.AuthFailure`.

Server Errors

This section lists server errors that can be returned.

Error Code	Description
`InsufficientAddressCapacity`	Not enough available addresses to satisfy your minimum request. Reduce the number of addresses you are requesting or wait for additional capacity to become available.

Error Code	Description
`InsufficientCapacity`	There is not enough capacity to fulfill your import instance request. You can wait for additional capacity to become available.
`InsufficientInstanceCapacity`	There is not enough capacity to fulfill your instance request. Reduce the number of instances in your request, or wait for additional capacity to become available. You can also try launching an instance by selecting different instance types (which you can resize at a later stage). The returned message might also give specific guidance about how to solve the problem.
`InsufficientHostCapacity`	There is not enough capacity to fulfill your Dedicated Host request. Reduce the number of Dedicated Hosts in your request, or wait for additional capacity to become available.
`InsufficientReservedInstanceCapacity`	Not enough available Reserved instances to satisfy your minimum request. Reduce the number of Reserved instances in your request or wait for additional capacity to become available.
`InternalError`	An internal error has occurred. Retry your request, but if the problem persists, contact us with details by posting a message on the AWS forums.
`InternalFailure`	The request processing has failed because of an unknown error, exception or failure.
`RequestLimitExceeded`	The maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account. For best results, use an increasing or variable sleep interval between requests. For more information, see Query API Request Rate (p. 892).
`ServiceUnavailable`	The request has failed due to a temporary failure of the server.
`Unavailable`	The server is overloaded and can't handle the request.

Example Error Response

The following shows the structure of a request error response.

```
<Response>
    <Errors>
         <Error>
           <Code>Error code text</Code>
           <Message>Error message</Message>
         </Error>
    </Errors>
    <RequestID>request ID</RequestID>
</Response>
```

The following shows an example of an error response.

```
<Response>
    <Errors>
         <Error>
           <Code>InvalidInstanceID.NotFound</Code>
           <Message>The instance ID 'i-1a2b3c4d' does not exist</Message>
         </Error>
    </Errors>
    <RequestID>ea966190-f9aa-478e-9ede-example</RequestID>
</Response>
```

Eventual Consistency

The Amazon EC2 API follows an eventual consistency model, due to the distributed nature of the system supporting the API. This means that when you run an API command, the result may not be immediately visible to subsequent API commands, which can result in an error.

For more information about eventual consistency and how to manage it, see Eventual Consistency (p. 893).