
AWS Directory Service

API Reference



AWS Directory Service: API Reference

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Welcome to the AWS Directory Service API Reference

AWS Directory Service is a web service that makes it easy for you to setup and run directories in the AWS cloud, or connect your AWS resources with an existing on-premises Microsoft Active Directory. This guide provides detailed information about AWS Directory Service operations, data types, parameters, and errors. For information about AWS Directory Service features, see [AWS Directory Service](#) and the [AWS Directory Service Administration Guide](#).

Note

AWS provides SDKs that consist of libraries and sample code for various programming languages and platforms (Java, Ruby, .Net, iOS, Android, etc.). The SDKs provide a convenient way to create programmatic access to AWS Directory Service and other AWS services. For more information about the AWS SDKs, including how to download and install them, see [Tools for Amazon Web Services](#).

AWS Directory Service API

This guide provides descriptions, syntax, and examples for each of the actions and data types in AWS Directory Service.

Topics

- [API Reference \(p. 2\)](#)

API Reference

This section contains documentation for the actions, data types and common errors associated with AWS Directory Service APIs.

Topics

- [Actions \(p. 2\)](#)
- [Data Types \(p. 128\)](#)
- [Common Errors \(p. 160\)](#)

Actions

The following actions are supported:

- [AddIpRoutes \(p. 4\)](#)
- [AddTagsToResource \(p. 8\)](#)
- [CancelSchemaExtension \(p. 11\)](#)
- [ConnectDirectory \(p. 13\)](#)
- [CreateAlias \(p. 17\)](#)
- [CreateComputer \(p. 20\)](#)
- [CreateConditionalForwarder \(p. 24\)](#)
- [CreateDirectory \(p. 27\)](#)
- [CreateMicrosoftAD \(p. 31\)](#)
- [CreateSnapshot \(p. 35\)](#)
- [CreateTrust \(p. 38\)](#)
- [DeleteConditionalForwarder \(p. 42\)](#)

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- [DeleteSnapshot](#) (p. 48)
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- [UpdateNumberOfDomainControllers](#) (p. 121)
- [UpdateRadius](#) (p. 123)
- [VerifyTrust](#) (p. 126)

AddIpRoutes

If the DNS server for your on-premises domain uses a publicly addressable IP address, you must add a CIDR address block to correctly route traffic to and from your Microsoft AD on Amazon Web Services. *AddIpRoutes* adds this address block. You can also use *AddIpRoutes* to facilitate routing traffic that uses public IP ranges from your Microsoft AD on AWS to a peer VPC.

Before you call *AddIpRoutes*, ensure that all of the required permissions have been explicitly granted through a policy. For details about what permissions are required to run the *AddIpRoutes* operation, see [AWS Directory Service API Permissions: Actions, Resources, and Conditions Reference](#).

Request Syntax

```
{
  "DirectoryId": "string",
  "IpRoutes": [
    {
      "CidrIp": "string",
      "Description": "string"
    }
  ],
  "UpdateSecurityGroupForDirectoryControllers": boolean
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 4)

Identifier (ID) of the directory to which to add the address block.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

IpRoutes (p. 4)

IP address blocks, using CIDR format, of the traffic to route. This is often the IP address block of the DNS server used for your on-premises domain.

Type: Array of [IpRoute \(p. 148\)](#) objects

Required: Yes

UpdateSecurityGroupForDirectoryControllers (p. 4)

If set to true, updates the inbound and outbound rules of the security group that has the description: "AWS created security group for *directory ID* directory controllers." Following are the new rules:

Inbound:

- Type: Custom UDP Rule, Protocol: UDP, Range: 88, Source: 0.0.0.0/0
- Type: Custom UDP Rule, Protocol: UDP, Range: 123, Source: 0.0.0.0/0
- Type: Custom UDP Rule, Protocol: UDP, Range: 138, Source: 0.0.0.0/0
- Type: Custom UDP Rule, Protocol: UDP, Range: 389, Source: 0.0.0.0/0
- Type: Custom UDP Rule, Protocol: UDP, Range: 464, Source: 0.0.0.0/0

- Type: Custom UDP Rule, Protocol: UDP, Range: 445, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 88, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 135, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 445, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 464, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 636, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 1024-65535, Source: 0.0.0.0/0
- Type: Custom TCP Rule, Protocol: TCP, Range: 3268-33269, Source: 0.0.0.0/0
- Type: DNS (UDP), Protocol: UDP, Range: 53, Source: 0.0.0.0/0
- Type: DNS (TCP), Protocol: TCP, Range: 53, Source: 0.0.0.0/0
- Type: LDAP, Protocol: TCP, Range: 389, Source: 0.0.0.0/0
- Type: All ICMP, Protocol: All, Range: N/A, Source: 0.0.0.0/0

Outbound:

- Type: All traffic, Protocol: All, Range: All, Destination: 0.0.0.0/0

These security rules impact an internal network interface that is not exposed publicly.

Type: Boolean

Required: No

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

IpRouteLimitExceededException

The maximum allowed number of IP addresses was exceeded. The default limit is 100 IP address blocks.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 98
X-Amz-Target: DirectoryService_20150416.AddIpRoutes
X-Amz-Date: 20161212T212029Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.7.9
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161212/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=477f3a2802dcc303f69499723eb2e29a455fe3d1b646df0dacfd7c005a3a9509

{
  "DirectoryId": "d-926example",
  "IpRoutes": [
    {
      "Description": "my IpRoute",
      "CidrIp": "12.12.12.12/32"
    }
  ]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: cfc1cbc8-c0b0-11e6-aa44-41d91ee57463
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Mon, 12 Dec 2016 21:20:31 GMT

{
}
```

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](#)

AddTagsToResource

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

Request Syntax

```
{
  "ResourceId": "string",
  "Tags": [
    {
      "Key": "string",
      "Value": "string"
    }
  ]
}
```

Request Parameters

The request accepts the following data in JSON format.

ResourceId (p. 8)

Identifier (ID) for the directory to which to add the tag.

Type: String

Pattern: `^[d]-[0-9a-f]{10}$`

Required: Yes

Tags (p. 8)

The tags to be assigned to the directory.

Type: Array of [Tag \(p. 158\)](#) objects

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

TagLimitExceededException

The maximum allowed number of tags was exceeded.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 87
X-Amz-Target: DirectoryService_20150416.AddTagsToResource
X-Amz-Date: 20161212T222805Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.7.9
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161212/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=2756d8b256b5e6b3d74879557e4f421d21111510a78c6c3650a7a93809d533c4

{
  "ResourceId": "d-926example",
  "Tags": [
    {
      "Key": "environment",
      "Value": "production"
    }
  ]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 419ff1d5-c0ba-11e6-9ed0-172b3469d361
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Mon, 12 Dec 2016 22:28:07 GMT

{
}
```

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](#)

CancelSchemaExtension

Cancels an in-progress schema extension to a Microsoft AD directory. Once a schema extension has started replicating to all domain controllers, the task can no longer be canceled. A schema extension can be canceled during any of the following states; `Initializing`, `CreatingSnapshot`, and `UpdatingSchema`.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "SchemaExtensionId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 11)

The identifier of the directory whose schema extension will be canceled.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

SchemaExtensionId (p. 11)

The identifier of the schema extension that will be canceled.

Type: String

Pattern: `^e-[0-9a-f]{10}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 68
X-Amz-Target: DirectoryService_20150416.CancelSchemaExtension
X-Amz-Date: 20161212T231630Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161212/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=14da7b7426d03c907c02a3e29f96158b8c1cd2be2e0f323a86b338a1614848f1

{
  "DirectoryId": "d-926example",
  "SchemaExtensionId": "e-926731d2a0"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 04eada50-c0c1-11e6-887b-29887bf36843
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Mon, 12 Dec 2016 23:16:32 GMT

{
}
```

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](#)

ConnectDirectory

Creates an AD Connector to connect to an on-premises directory.

Before you call *ConnectDirectory*, ensure that all of the required permissions have been explicitly granted through a policy. For details about what permissions are required to run the *ConnectDirectory* operation, see [AWS Directory Service API Permissions: Actions, Resources, and Conditions Reference](#).

Request Syntax

```
{
  "ConnectSettings": {
    "CustomerDnsIps": [ "string" ],
    "CustomerUserName": "string",
    "SubnetIds": [ "string" ],
    "VpcId": "string"
  },
  "Description": "string",
  "Name": "string",
  "Password": "string",
  "ShortName": "string",
  "Size": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

ConnectSettings (p. 13)

A [DirectoryConnectSettings \(p. 132\)](#) object that contains additional information for the operation.

Type: [DirectoryConnectSettings \(p. 132\)](#) object

Required: Yes

Description (p. 13)

A textual description for the directory.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^([\a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*)$`

Required: No

Name (p. 13)

The fully-qualified name of the on-premises directory, such as `corp.example.com`.

Type: String

Pattern: `^([\a-zA-Z0-9]+[\.\-])+([\a-zA-Z0-9])+$`

Required: Yes

Password (p. 13)

The password for the on-premises user account.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

ShortName (p. 13)

The NetBIOS name of the on-premises directory, such as `CORP`.

Type: String

Pattern: `^[^\\/:*?\"\<\>|.]+[^\\/:*?\"<>|]*$`

Required: No

Size (p. 13)

The size of the directory.

Type: String

Valid Values: `Small` | `Large`

Required: Yes

Response Syntax

```
{
  "DirectoryId": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryId (p. 14)

The identifier of the new directory.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryLimitExceededException

The maximum number of directories in the region has been reached. You can use the [GetDirectoryLimits \(p. 89\)](#) operation to determine your directory limits in the region.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 295
X-Amz-Target: DirectoryService_20150416.ConnectDirectory
X-Amz-Date: 20161212T233740Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161212/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=60ddfa4a90d91327ef8cb510563d6f031eab1b092d5b1034fab7b157733bf86b

{
  "Name": "corp.example.com",
  "ConnectSettings": {
    "CustomerUserName": "Administrator",
    "VpcId": "vpc-45025421",
    "SubnetIds": [
      "subnet-ba0146de",
      "subnet-bef46bc8"
    ],
    "CustomerDnsIps": [
      "172.30.21.228"
    ]
  },
  "Description": "Connector to corp",
  "ShortName": "corp",
  "Password": "Str0ngP@ssw0rd",
  "Size": "Small"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: fa22d0f1-c0c3-11e6-9ed0-172b3469d361
Content-Type: application/x-amz-json-1.1
Content-Length: 30
Date: Mon, 12 Dec 2016 23:37:43 GMT

{
  "DirectoryId": "d-926example"
}
```

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](#)

CreateAlias

Creates an alias for a directory and assigns the alias to the directory. The alias is used to construct the access URL for the directory, such as `http://<alias>.awsapps.com`.

Important

After an alias has been created, it cannot be deleted or reused, so this operation should only be used when absolutely necessary.

Request Syntax

```
{
  "Alias": "string",
  "DirectoryId": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

Alias (p. 17)

The requested alias.

The alias must be unique amongst all aliases in AWS. This operation throws an `EntityAlreadyExistsException` error if the alias already exists.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 62.

Pattern: `^(?!d-)([\da-zA-Z]+)([-]*[\da-zA-Z])*`

Required: Yes

DirectoryId (p. 17)

The identifier of the directory for which to create the alias.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Response Syntax

```
{
  "Alias": "string",
  "DirectoryId": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Alias (p. 17)

The alias for the directory.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 62.

Pattern: `^(?!d-)([\da-zA-Z]+)([-]*[\da-zA-Z])*`

DirectoryId (p. 17)

The identifier of the directory.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 52X-Amz-Target:DirectoryService_20150416.CreateAlias
X-Amz-Date: 20161209T175951Z
```

```
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161209/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=673029721752b71c1ff4752d0e42e6a05283c305238538d746c2b42d7864ec11

{
  "DirectoryId": "d-926example",
  "Alias": "myaccess"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 49abfbf6-be39-11e6-9458-41d91ee57463
Content-Type: application/x-amz-json-1.1
Content-Length: 49
Date: Fri, 09 Dec 2016 17:59:57 GMT

{
  "Alias": "myaccess",
  "DirectoryId": "d-926example"
}
```

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](#)

CreateComputer

Creates a computer account in the specified directory, and joins the computer to the directory.

Request Syntax

```
{
  "ComputerAttributes": [
    {
      "Name": "string",
      "Value": "string"
    }
  ],
  "ComputerName": "string",
  "DirectoryId": "string",
  "OrganizationalUnitDistinguishedName": "string",
  "Password": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

ComputerAttributes (p. 20)

An array of [Attribute \(p. 129\)](#) objects that contain any LDAP attributes to apply to the computer account.

Type: Array of [Attribute \(p. 129\)](#) objects

Required: No

ComputerName (p. 20)

The name of the computer account.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

Required: Yes

DirectoryId (p. 20)

The identifier of the directory in which to create the computer account.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

OrganizationalUnitDistinguishedName (p. 20)

The fully-qualified distinguished name of the organizational unit to place the computer account in.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 2000.

Required: No

Password (p. 20)

A one-time password that is used to join the computer to the directory. You should generate a random, strong password to use for this parameter.

Type: String

Length Constraints: Minimum length of 8. Maximum length of 64.

Pattern: [\u0020-\u00FF]+

Required: Yes

Response Syntax

```
{
  "Computer": {
    "ComputerAttributes": [
      {
        "Name": "string",
        "Value": "string"
      }
    ],
    "ComputerId": "string",
    "ComputerName": "string"
  }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Computer (p. 21)

A [Computer \(p. 130\)](#) object that represents the computer account.

Type: [Computer \(p. 130\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

AuthenticationFailedException

An authentication error occurred.

HTTP Status Code: 400

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 245
X-Amz-Target: DirectoryService_20150416.CreateComputer
X-Amz-Date: 20161213T163452Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=5fa12f147bce3620568504361b860de07868da3b1c27d5f0bde6e5ffa51bf6ef

{
  "DirectoryId": "d-926example",
  "ComputerName": "labcomputer",
  "Password": "Str0ngP@ssw0rd",
  "ComputerAttributes": [
    {
      "Name": "ip",
      "Value": "192.168.101.100"
    }
  ],
  "OrganizationalUnitDistinguishedName": "OU=Computers,OU=example,DC=corp,DC=example,DC=com"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: afcea813-c196-11e6-a6a8-5110402a26c3
Content-Type: application/x-amz-json-1.1
Content-Length: 286
Date: Wed, 14 Dec 2016 00:46:03 GMT

{
  "Computer":{
    "ComputerAttributes":[
      {
        "Name":"DistinguishedName",
        "Value":"CN=labcomputer,OU=Computers,OU=example,DC=corp,DC=example,DC=com"
      },
      {
        "Name":"WindowsSamName",
        "Value":"labcomputer$"
      }
    ],
    "ComputerId":"S-1-5-21-1932691875-1648176379-1176097576-1124",
    "ComputerName":"labcomputer"
  }
}
```

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](#)

CreateConditionalForwarder

Creates a conditional forwarder associated with your AWS directory. Conditional forwarders are required in order to set up a trust relationship with another domain. The conditional forwarder points to the trusted domain.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "DnsIpAddr": [ "string" ],  
  "RemoteDomainName": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 24)

The directory ID of the AWS directory for which you are creating the conditional forwarder.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

DnsIpAddr (p. 24)

The IP addresses of the remote DNS server associated with RemoteDomainName.

Type: Array of strings

Pattern: `^(?:(:?25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: Yes

RemoteDomainName (p. 24)

The fully qualified domain name (FQDN) of the remote domain with which you will set up a trust relationship.

Type: String

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+[\.]?#$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 105
X-Amz-Target: DirectoryService_20150416.CreateConditionalForwarder
X-Amz-Date: 20161213T215543Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=717e381f0258731fe0197c68d1f5d2a0e96825119c15a6e0dcfa2d07063c6af6

{
  "DirectoryId": "d-926example",
  "RemoteDomainName": "sales.example.com",
  "DnsIpAddrs": [
    "172.30.21.228"
  ]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 68e74443-c180-11e6-91f4-6dbff6648f8a
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Tue, 13 Dec 2016 22:06:34 GMT

{
}
```

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](#)

CreateDirectory

Creates a Simple AD directory.

Before you call *CreateDirectory*, ensure that all of the required permissions have been explicitly granted through a policy. For details about what permissions are required to run the *CreateDirectory* operation, see [AWS Directory Service API Permissions: Actions, Resources, and Conditions Reference](#).

Request Syntax

```
{
  "Description": "string",
  "Name": "string",
  "Password": "string",
  "ShortName": "string",
  "Size": "string",
  "VpcSettings": {
    "SubnetIds": [ "string" ],
    "VpcId": "string"
  }
}
```

Request Parameters

The request accepts the following data in JSON format.

Description (p. 27)

A textual description for the directory.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

Required: No

Name (p. 27)

The fully qualified name for the directory, such as `corp.example.com`.

Type: String

Pattern: `^[a-zA-Z0-9]+[\a-zA-Z0-9-]+([a-zA-Z0-9])+$`

Required: Yes

Password (p. 27)

The password for the directory administrator. The directory creation process creates a directory administrator account with the username `Administrator` and this password.

Type: String

Pattern: `(?=^.{8,64}$)((?=.*\d)(?=.*[A-Z])(?=.*[a-z])|(?=.*\d)(?=.*^[A-Za-z0-9\s])(?=.*[a-z])|(?=.*^[A-Za-z0-9\s])(?=.*[A-Z])(?=.*[a-z])|(?=.*\d)(?=.*[A-Z])(?=.*^[A-Za-z0-9\s]))^.*`

Required: Yes

ShortName (p. 27)

The short name of the directory, such as `CORP`.

Type: String

Pattern: `^[^\\/:*?\"\\<\\>|.]+[^\\/:*?\"<>|]*$`

Required: No

Size (p. 27)

The size of the directory.

Type: String

Valid Values: `Small` | `Large`

Required: Yes

VpcSettings (p. 27)

A [DirectoryVpcSettings \(p. 142\)](#) object that contains additional information for the operation.

Type: [DirectoryVpcSettings \(p. 142\)](#) object

Required: No

Response Syntax

```
{
  "DirectoryId": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryId (p. 28)

The identifier of the directory that was created.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryLimitExceededException

The maximum number of directories in the region has been reached. You can use the [GetDirectoryLimits \(p. 89\)](#) operation to determine your directory limits in the region.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 245
X-Amz-Target: DirectoryService_20150416.CreateDirectory
X-Amz-Date: 20161213T222613Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.7.9 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=e0bf599277231d294b0ebb1c7ad7a68aafdfc49db016adbee32a167954c53d54

{
  "Description": "Regional directory for example.com",
  "VpcSettings": {
    "SubnetIds": [
      "subnet-ba0146de",
      "subnet-bef46bc8"
    ],
    "VpcId": "vpc-45025421"
  },
  "Name": "seattle.example.com",
  "ShortName": "seattle",
  "Password": "Str0ngP@ssw0rd",
  "Size": "Small"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 298112b6-c183-11e6-9b49-eff49203d13b
Content-Type: application/x-amz-json-1.1
Content-Length: 30
Date: Tue, 13 Dec 2016 22:26:17 GMT

{
  "DirectoryId": "d-926example"
}
```

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](#)

CreateMicrosoftAD

Creates a Microsoft AD in the AWS cloud.

Before you call *CreateMicrosoftAD*, ensure that all of the required permissions have been explicitly granted through a policy. For details about what permissions are required to run the *CreateMicrosoftAD* operation, see [AWS Directory Service API Permissions: Actions, Resources, and Conditions Reference](#).

Request Syntax

```

{
  "Description": "string",
  "Name": "string",
  "Password": "string",
  "ShortName": "string",
  "VpcSettings": {
    "SubnetIds": [ "string" ],
    "VpcId": "string"
  }
}

```

Request Parameters

The request accepts the following data in JSON format.

Description (p. 31)

A textual description for the directory. This label will appear on the AWS console `Directory Details` page after the directory is created.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?.!/\\s-]*$`

Required: No

Name (p. 31)

The fully qualified domain name for the directory, such as `corp.example.com`. This name will resolve inside your VPC only. It does not need to be publicly resolvable.

Type: String

Pattern: `^[a-zA-Z0-9]+[\\.-]+([a-zA-Z0-9])+$`

Required: Yes

Password (p. 31)

The password for the default administrative user named `Admin`.

Type: String

Pattern: `(?=^.{8,64}$)((?=.*\d)(?=.*[A-Z])(?=.*[a-z])|(?=.*\d)(?=.*[A-Za-z0-9\s])(?=.*[a-z])|(?=.*[A-Za-z0-9\s])(?=.*[A-Z])(?=.*[a-z])|(?=.*\d)(?=.*[A-Z])(?=.*[A-Za-z0-9\s]))^.*`

Required: Yes

ShortName (p. 31)

The NetBIOS name for your domain. A short identifier for your domain, such as `CORP`. If you don't specify a NetBIOS name, it will default to the first part of your directory DNS. For example, `CORP` for the directory DNS `corp.example.com`.

Type: String

Pattern: `^[^\\/:*?\"\<\>|.]+[^\\/:*?\"<>|]*$`

Required: No

VpcSettings (p. 31)

Contains VPC information for the [CreateDirectory \(p. 27\)](#) or [CreateMicrosoftAD \(p. 31\)](#) operation.

Type: [DirectoryVpcSettings \(p. 142\)](#) object

Required: Yes

Response Syntax

```
{
  "DirectoryId": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryId (p. 32)

The identifier of the directory that was created.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryLimitExceededException

The maximum number of directories in the region has been reached. You can use the [GetDirectoryLimits \(p. 89\)](#) operation to determine your directory limits in the region.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 207
X-Amz-Target: DirectoryService_20150416.CreateMicrosoftAD
X-Amz-Date: 20161213T231510Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.7.9 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=5a73aaebf6dd7db4a17ffa5a0a5af7f8e134ad03034cb0b3e05e4f1a999d9e0a

{
  "ShortName": "ad",
  "Password": "Str0ngP@ssw0rd",
  "Name": "ad.example.com",
  "Description": "Corporate AD directory",
  "VpcSettings": {
    "SubnetIds": [
      "subnet-ba0146de",
      "subnet-bef46bc8"
    ],
    "VpcId": "vpc-45025421"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 00019586-c18a-11e6-870b-c3330207df37
Content-Type: application/x-amz-json-1.1
Content-Length: 30
Date: Tue, 13 Dec 2016 23:15:12 GMT

{
  "DirectoryId": "d-926example"
}
```

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 a Simple AD or Microsoft AD directory in the AWS cloud.

Note

You cannot take snapshots of AD Connector directories.

Request Syntax

```
{
  "DirectoryId": "string",
  "Name": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 35)

The identifier of the directory of which to take a snapshot.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Required: Yes

Name (p. 35)

The descriptive name to apply to the snapshot.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: ^([\a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*)\$

Required: No

Response Syntax

```
{
  "SnapshotId": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SnapshotId (p. 35)

The identifier of the snapshot that was created.

Type: String

Pattern: ^s-[0-9a-f]{10}\$

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

SnapshotLimitExceededException

The maximum number of manual snapshots for the directory has been reached. You can use the [GetSnapshotLimits \(p. 91\)](#) operation to determine the snapshot limits for a directory.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 58
X-Amz-Target: DirectoryService_20150416.CreateSnapshot
X-Amz-Date: 20161213T233356Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=8789d87320d00e26fec4d745a34b3c5d898e4e89bf96b5f9c744ca612bed3d6d

{
  "DirectoryId": "d-926example",
  "Name": "ad.example.com"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9eedb7ba-c18c-11e6-a099-03078e35561b
```

```
Content-Type: application/x-amz-json-1.1
Content-Length: 29
Date: Tue, 13 Dec 2016 23:33:58 GMT

{
  "SnapshotId": "s-9267f8d3f0"
}
```

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](#)

CreateTrust

AWS Directory Service for Microsoft Active Directory allows you to configure trust relationships. For example, you can establish a trust between your Microsoft AD in the AWS cloud, and your existing on-premises Microsoft Active Directory. This would allow you to provide users and groups access to resources in either domain, with a single set of credentials.

This action initiates the creation of the AWS side of a trust relationship between a Microsoft AD in the AWS cloud and an external domain.

Request Syntax

```
{
  "ConditionalForwarderIpAddrs": [ "string" ],
  "DirectoryId": "string",
  "RemoteDomainName": "string",
  "TrustDirection": "string",
  "TrustPassword": "string",
  "TrustType": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

ConditionalForwarderIpAddrs (p. 38)

The IP addresses of the remote DNS server associated with RemoteDomainName.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: No

DirectoryId (p. 38)

The Directory ID of the Microsoft AD in the AWS cloud for which to establish the trust relationship.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

RemoteDomainName (p. 38)

The Fully Qualified Domain Name (FQDN) of the external domain for which to create the trust relationship.

Type: String

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+[\.]?$`

Required: Yes

TrustDirection (p. 38)

The direction of the trust relationship.

Type: String

Valid Values: One-Way: Outgoing | One-Way: Incoming | Two-Way

Required: Yes

TrustPassword (p. 38)

The trust password. The must be the same password that was used when creating the trust relationship on the external domain.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: Yes

TrustType (p. 38)

The trust relationship type.

Type: String

Valid Values: Forest

Required: No

Response Syntax

```
{  
  "TrustId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

TrustId (p. 39)

A unique identifier for the trust relationship that was created.

Type: String

Pattern: ^t-[0-9a-f]{10}\$

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 222
X-Amz-Target: DirectoryService_20150416.CreateTrust
X-Amz-Date: 20161213T235223Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161213/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=1f0cff7825d20bab2a0dab1e0b8bedbed72f0c22175c7d9ed0e63598ae99cae5

{
  "TrustPassword": "Str0ngP@ssw0rd",
  "DirectoryId": "d-926example",
  "RemoteDomainName": "europe.example.com",
  "ConditionalForwarderIpAddrs": [
    "172.30.21.228"
  ],
  "TrustType": "Forest",
  "TrustDirection": "One-Way: Outgoing"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 3343bc79-c18f-11e6-ba7f-e33ae22bc363
Content-Type: application/x-amz-json-1.1
Content-Length: 26
Date: Tue, 13 Dec 2016 23:52:26 GMT

{
```

```
"TrustId": "t-9267353743"  
}
```

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](#)

DeleteConditionalForwarder

Deletes a conditional forwarder that has been set up for your AWS directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "RemoteDomainName": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 42)

The directory ID for which you are deleting the conditional forwarder.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

RemoteDomainName (p. 42)

The fully qualified domain name (FQDN) of the remote domain with which you are deleting the conditional forwarder.

Type: String

Pattern: `^[a-zA-Z0-9]+[\.\-]+([a-zA-Z0-9])+[.]?$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 76
X-Amz-Target: DirectoryService_20150416.DeleteConditionalForwarder
X-Amz-Date: 20161214T001055Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.7.9
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=ffc3c3d6feac461a9b093cab94dd8957b252f2936b51f14a1ad8499a8b401d4a

{
  "DirectoryId": "d-926example",
  "RemoteDomainName": "sales.example.com"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: ca119fd0-c191-11e6-8f8e-ed61d076c15a
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 00:11:00 GMT

{
}
```

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](#)

DeleteDirectory

Deletes an AWS Directory Service directory.

Before you call *DeleteDirectory*, ensure that all of the required permissions have been explicitly granted through a policy. For details about what permissions are required to run the *DeleteDirectory* operation, see [AWS Directory Service API Permissions: Actions, Resources, and Conditions Reference](#).

Request Syntax

```
{  
  "DirectoryId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 45)

The identifier of the directory to delete.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Required: Yes

Response Syntax

```
{  
  "DirectoryId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryId (p. 45)

The directory identifier.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 31
X-Amz-Target: DirectoryService_20150416.DeleteDirectory
X-Amz-Date: 20161214T002424Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=b542aa77381528e27afcf08b229252606fa79723695fb2d19b81b51d66d7f92d

{
  "DirectoryId": "d-926example"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: abcbeb82-c193-11e6-bf9e-272b6602bf9f
Content-Type: application/x-amz-json-1.1
Content-Length: 30
Date: Wed, 14 Dec 2016 00:24:26 GMT

{
  "DirectoryId": "d-926example"
}
```

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 a directory snapshot.

Request Syntax

```
{  
  "SnapshotId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

SnapshotId (p. 48)

The identifier of the directory snapshot to be deleted.

Type: String

Pattern: `^s-[0-9a-f]{10}$`

Required: Yes

Response Syntax

```
{  
  "SnapshotId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SnapshotId (p. 48)

The identifier of the directory snapshot that was deleted.

Type: String

Pattern: `^s-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 30
X-Amz-Target: DirectoryService_20150416.DeleteSnapshot
X-Amz-Date: 20161214T012131Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=685c5716e7e11b8d5b2ed5f413d6ff47fe179a1f215b83aa89d00d3b28827c1c

{
  "SnapshotId": "s-9267f8d3f0"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: a68a1e79-c19b-11e6-870b-c3330207df37
Content-Type: application/x-amz-json-1.1
Content-Length: 29
Date: Wed, 14 Dec 2016 01:21:34 GMT

{
  "SnapshotId": "s-9267f8d3f0"
}
```

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](#)

DeleteTrust

Deletes an existing trust relationship between your Microsoft AD in the AWS cloud and an external domain.

Request Syntax

```
{  
  "DeleteAssociatedConditionalForwarder": boolean,  
  "TrustId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DeleteAssociatedConditionalForwarder (p. 51)

Delete a conditional forwarder as part of a DeleteTrustRequest.

Type: Boolean

Required: No

TrustId (p. 51)

The Trust ID of the trust relationship to be deleted.

Type: String

Pattern: ^t-[0-9a-f]{10}\$

Required: Yes

Response Syntax

```
{  
  "TrustId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

TrustId (p. 51)

The Trust ID of the trust relationship that was deleted.

Type: String

Pattern: ^t-[0-9a-f]{10}\$

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 73
X-Amz-Target: DirectoryService_20150416.DeleteTrust
X-Amz-Date: 20161214T013332Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=ced49ef4329d015ebde09b7bc586eee4455b0b1e6608ade2fd6cd123440bbd6d

{
  "TrustId": "t-9267353743",
  "DeleteAssociatedConditionalForwarder": true
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 54425c2e-c19d-11e6-b0d6-83af322c90cd
Content-Type: application/x-amz-json-1.1
Content-Length: 26
Date: Wed, 14 Dec 2016 01:33:37 GMT

{
```

```
"TrustId": "t-9267353743"  
}
```

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](#)

DeregisterEventTopic

Removes the specified directory as a publisher to the specified SNS topic.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "TopicName": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 54)

The Directory ID to remove as a publisher. This directory will no longer send messages to the specified SNS topic.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

TopicName (p. 54)

The name of the SNS topic from which to remove the directory as a publisher.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9_-]+`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 52
X-Amz-Target: DirectoryService_20150416.DeregisterEventTopic
X-Amz-Date: 20161214T014408Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=e3b8ad858165a3dd7d4fb35b0adf17bee8d71aed26b0f49e6db792ed8b10f8b1

{
  "DirectoryId": "d-926example",
  "TopicName": "snstopicexample"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: a68a1e79-c19b-11e6-870b-c3330207df37
Content-Type: application/x-amz-json-1.1
Content-Length: 29
Date: Wed, 14 Dec 2016 01:44:10 GMT

{
}
```

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](#)

DescribeConditionalForwarders

Obtains information about the conditional forwarders for this account.

If no input parameters are provided for RemoteDomainNames, this request describes all conditional forwarders for the specified directory ID.

Request Syntax

```
{
  "DirectoryId": "string",
  "RemoteDomainNames": [ "string" ]
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 57)

The directory ID for which to get the list of associated conditional forwarders.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

RemoteDomainNames (p. 57)

The fully qualified domain names (FQDN) of the remote domains for which to get the list of associated conditional forwarders. If this member is null, all conditional forwarders are returned.

Type: Array of strings

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+[\.]?#$`

Required: No

Response Syntax

```
{
  "ConditionalForwarders": [
    {
      "DnsIpAddr": [ "string" ],
      "RemoteDomainName": "string",
      "ReplicationScope": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ConditionalForwarders (p. 57)

The list of conditional forwarders that have been created.

Type: Array of [ConditionalForwarder](#) (p. 131) objects

Errors

For information about the errors that are common to all actions, see [Common Errors](#) (p. 160).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 79
X-Amz-Target: DirectoryService_20150416.DescribeConditionalForwarders
X-Amz-Date: 20161214T020215Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=d8f7ff4237b393b4734bbf5d96713dff3def651b4ab348f64bd776606147f9d

{
  "DirectoryId": "d-926example",
```

```
"RemoteDomainNames": ["sales.example.com"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 56d08425-c1a1-11e6-a132-e5016ac609f4
Content-Type: application/x-amz-json-1.1
Content-Length: 28
Date: Wed, 14 Dec 2016 02:02:18 GMT

{
  "ConditionalForwarders":[]
}
```

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](#)

DescribeDirectories

Obtains information about the directories that belong to this account.

You can retrieve information about specific directories by passing the directory identifiers in the *DirectoryIds* parameter. Otherwise, all directories that belong to the current account are returned.

This operation supports pagination with the use of the *NextToken* request and response parameters. If more results are available, the *DescribeDirectoriesResult.NextToken* member contains a token that you pass in the next call to [DescribeDirectories \(p. 60\)](#) to retrieve the next set of items.

You can also specify a maximum number of return results with the *Limit* parameter.

Request Syntax

```
{
  "DirectoryIds": [ "string" ],
  "Limit": number,
  "NextToken": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryIds (p. 60)

A list of identifiers of the directories for which to obtain the information. If this member is null, all directories that belong to the current account are returned.

An empty list results in an `InvalidParameterException` being thrown.

Type: Array of strings

Pattern: `^d-[0-9a-f]{10}$`

Required: No

Limit (p. 60)

The maximum number of items to return. If this value is zero, the maximum number of items is specified by the limitations of the operation.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 60)

The *DescribeDirectoriesResult.NextToken* value from a previous call to [DescribeDirectories \(p. 60\)](#). Pass null if this is the first call.

Type: String

Required: No

Response Syntax

```
{
  "DirectoryDescriptions": [
    {
```

```

    "AccessUrl": "string",
    "Alias": "string",
    "ConnectSettings": {
      "AvailabilityZones": [ "string" ],
      "ConnectIps": [ "string" ],
      "CustomerUserName": "string",
      "SecurityGroupId": "string",
      "SubnetIds": [ "string" ],
      "VpcId": "string"
    },
    "Description": "string",
    "DesiredNumberOfDomainControllers": number,
    "DirectoryId": "string",
    "DnsIpAddrs": [ "string" ],
    "LaunchTime": number,
    "Name": "string",
    "RadiusSettings": {
      "AuthenticationProtocol": "string",
      "DisplayLabel": "string",
      "RadiusPort": number,
      "RadiusRetries": number,
      "RadiusServers": [ "string" ],
      "RadiusTimeout": number,
      "SharedSecret": "string",
      "UseSameUsername": boolean
    },
    "RadiusStatus": "string",
    "ShortName": "string",
    "Size": "string",
    "SsoEnabled": boolean,
    "Stage": "string",
    "StageLastUpdatedDateTime": number,
    "StageReason": "string",
    "Type": "string",
    "VpcSettings": {
      "AvailabilityZones": [ "string" ],
      "SecurityGroupId": "string",
      "SubnetIds": [ "string" ],
      "VpcId": "string"
    }
  }
},
"NextToken": "string"
}

```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryDescriptions (p. 60)

The list of [DirectoryDescription \(p. 136\)](#) objects that were retrieved.

It is possible that this list contains less than the number of items specified in the *Limit* member of the request. This occurs if there are less than the requested number of items left to retrieve, or if the limitations of the operation have been exceeded.

Type: Array of [DirectoryDescription \(p. 136\)](#) objects

NextToken (p. 60)

If not null, more results are available. Pass this value for the *NextToken* parameter in a subsequent call to [DescribeDirectories \(p. 60\)](#) to retrieve the next set of items.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 46
X-Amz-Target: DirectoryService_20150416.DescribeDirectories
X-Amz-Date: 20161214T022424Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=4e138f2c34fe61b203c621e69264a9347db842b944df2eb88fce7e2c337eab8c

{
  "DirectoryIds": "d-926example",
  "Limit": 0
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 6f884e4a-c1a4-11e6-a099-03078e35561b
Content-Type: application/x-amz-json-1.1
Content-Length: 470
Date: Wed, 14 Dec 2016 02:24:27 GMT

{
  "DirectoryDescriptions":[
    {
      "AccessUrl":"myaccess.awsapps.com",
      "Alias":"myaccess",
      "DirectoryId":"d-926example",
      "DnsIpAdrrs":[
        "172.30.21.228",
        "172.30.9.82"
      ],
      "LaunchTime":1.469737584772E9,
      "Name":"corp.example.com",
      "ShortName":"example",
      "SsoEnabled":true,
      "Stage":"Active",
      "StageLastUpdatedDateTime":1.46973913171E9,
      "Type":"MicrosoftAD",
      "VpcSettings":{"
        "AvailabilityZones":[
          "us-west-2a",
          "us-west-2b"
        ],
        "SubnetIds":[
          "subnet-ba0146de",
          "subnet-bef46bc8"
        ],
        "VpcId":"vpc-45025421"
      }
    }
  ]
}
```

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](#)

DescribeDomainControllers

Provides information about any domain controllers in your directory.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "DomainControllerIds": [ "string" ],  
  "Limit": number,  
  "NextToken": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 64)

Identifier of the directory for which to retrieve the domain controller information.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

DomainControllerIds (p. 64)

A list of identifiers for the domain controllers whose information will be provided.

Type: Array of strings

Pattern: `^dc-[0-9a-f]{10}$`

Required: No

Limit (p. 64)

The maximum number of items to return.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 64)

The *DescribeDomainControllers.NextToken* value from a previous call to [DescribeDomainControllers \(p. 64\)](#). Pass null if this is the first call.

Type: String

Required: No

Response Syntax

```
{  
  "DomainControllers": [  
    {  
      ...  
    }  
  ]  
}
```

```
    "AvailabilityZone": "string",
    "DirectoryId": "string",
    "DnsIpAddr": "string",
    "DomainControllerId": "string",
    "LaunchTime": number,
    "Status": "string",
    "StatusLastUpdatedDateTime": number,
    "StatusReason": "string",
    "SubnetId": "string",
    "VpcId": "string"
  }
],
"NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DomainControllers (p. 64)

List of the [DomainController \(p. 144\)](#) objects that were retrieved.

Type: Array of [DomainController \(p. 144\)](#) objects

NextToken (p. 64)

If not null, more results are available. Pass this value for the `NextToken` parameter in a subsequent call to [DescribeDomainControllers \(p. 64\)](#) retrieve the next set of items.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

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](#)

DescribeEventTopics

Obtains information about which SNS topics receive status messages from the specified directory.

If no input parameters are provided, such as `DirectoryId` or `TopicName`, this request describes all of the associations in the account.

Request Syntax

```
{
  "DirectoryId": "string",
  "TopicNames": [ "string" ]
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 67)

The Directory ID for which to get the list of associated SNS topics. If this member is null, associations for all Directory IDs are returned.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

TopicNames (p. 67)

A list of SNS topic names for which to obtain the information. If this member is null, all associations for the specified Directory ID are returned.

An empty list results in an `InvalidParameterException` being thrown.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9_-]+`

Required: No

Response Syntax

```
{
  "EventTopics": [
    {
      "CreatedDateTime": number,
      "DirectoryId": "string",
      "Status": "string",
      "TopicArn": "string",
      "TopicName": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

EventTopics (p. 67)

A list of SNS topic names that receive status messages from the specified Directory ID.

Type: Array of [EventTopic \(p. 146\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 66
X-Amz-Target: DirectoryService_20150416.DescribeEventTopics
X-Amz-Date: 20161214T025225Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=d04fcf5cf8439dd8d0503933cab61c2bad6d6b29b9e1e5dca25f6d6de1704e17

{
  "DirectoryId": "d-926example",
  "TopicNames": "snstopicexample"
```

```
}  
}
```

Example Response

```
HTTP/1.1 200 OK  
x-amzn-RequestId: a68a1e79-c19b-11e6-870b-c3330207df37  
Content-Type: application/x-amz-json-1.1  
Content-Length: 29  
Date: Wed, 14 Dec 2016 02:52:27 GMT  
  
{  
  "EventTopics": ["eventtopicexample"]  
}
```

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

Obtains information about the directory snapshots that belong to this account.

This operation supports pagination with the use of the *NextToken* request and response parameters. If more results are available, the *DescribeSnapshots.NextToken* member contains a token that you pass in the next call to [DescribeSnapshots \(p. 70\)](#) to retrieve the next set of items.

You can also specify a maximum number of return results with the *Limit* parameter.

Request Syntax

```
{
  "DirectoryId": "string",
  "Limit": number,
  "NextToken": "string",
  "SnapshotIds": [ "string" ]
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 70)

The identifier of the directory for which to retrieve snapshot information.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

Limit (p. 70)

The maximum number of objects to return.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 70)

The *DescribeSnapshotsResult.NextToken* value from a previous call to [DescribeSnapshots \(p. 70\)](#). Pass null if this is the first call.

Type: String

Required: No

SnapshotIds (p. 70)

A list of identifiers of the snapshots to obtain the information for. If this member is null or empty, all snapshots are returned using the *Limit* and *NextToken* members.

Type: Array of strings

Pattern: `^s-[0-9a-f]{10}$`

Required: No

Response Syntax

```
{
  "NextToken": "string",
  "Snapshots": [
    {
      "DirectoryId": "string",
      "Name": "string",
      "SnapshotId": "string",
      "StartTime": number,
      "Status": "string",
      "Type": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 71)

If not null, more results are available. Pass this value in the *NextToken* member of a subsequent call to [DescribeSnapshots \(p. 70\)](#).

Type: String

Snapshots (p. 71)

The list of [Snapshot \(p. 155\)](#) objects that were retrieved.

It is possible that this list contains less than the number of items specified in the *Limit* member of the request. This occurs if there are less than the requested number of items left to retrieve, or if the limitations of the operation have been exceeded.

Type: Array of [Snapshot \(p. 155\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 76
X-Amz-Target: DirectoryService_20150416.DescribeSnapshots
X-Amz-Date: 20161214T164618Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=602552c456c471537cbafaec3b7712674bdc20574c076dace469f3848fa8ab7a

{
  "DirectoryId": "d-926example",
  "Limit": 0,
  "SnapshotIds": ["s-9267f6da4e"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: d7b33e7e-c21c-11e6-91f4-6dbff6648f8a
Content-Type: application/x-amz-json-1.1
Content-Length: 138
Date: Wed, 14 Dec 2016 16:46:21 GMT

{
  "Snapshots": [
    {
      "DirectoryId": "d-926example",
      "SnapshotId": "s-9267f6da4e",
      "StartTime": "1.481289211615E9",
      "Status": "Completed",
      "Type": "Auto"
    }
  ]
}
```

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](#)

DescribeTrusts

Obtains information about the trust relationships for this account.

If no input parameters are provided, such as `DirectoryId` or `TrustIds`, this request describes all the trust relationships belonging to the account.

Request Syntax

```
{
  "DirectoryId": "string",
  "Limit": number,
  "NextToken": "string",
  "TrustIds": [ "string" ]
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 74)

The Directory ID of the AWS directory that is a part of the requested trust relationship.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

Limit (p. 74)

The maximum number of objects to return.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 74)

The `DescribeTrustsResult.NextToken` value from a previous call to [DescribeTrusts](#) (p. 74). Pass null if this is the first call.

Type: String

Required: No

TrustIds (p. 74)

A list of identifiers of the trust relationships for which to obtain the information. If this member is null, all trust relationships that belong to the current account are returned.

An empty list results in an `InvalidParameterException` being thrown.

Type: Array of strings

Pattern: `^t-[0-9a-f]{10}$`

Required: No

Response Syntax

```
{
  "NextToken": "string",
  "Trusts": [
    {
      "CreatedDateTime": number,
      "DirectoryId": "string",
      "LastUpdatedDateTime": number,
      "RemoteDomainName": "string",
      "StateLastUpdatedDateTime": number,
      "TrustDirection": "string",
      "TrustId": "string",
      "TrustState": "string",
      "TrustStateReason": "string",
      "TrustType": "string"
    }
  ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 75)

If not null, more results are available. Pass this value for the *NextToken* parameter in a subsequent call to [DescribeTrusts \(p. 74\)](#) to retrieve the next set of items.

Type: String

Trusts (p. 75)

The list of Trust objects that were retrieved.

It is possible that this list contains less than the number of items specified in the *Limit* member of the request. This occurs if there are less than the requested number of items left to retrieve, or if the limitations of the operation have been exceeded.

Type: Array of [Trust \(p. 159\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 61
X-Amz-Target: DirectoryService_20150416.DescribeTrusts
X-Amz-Date: 20161214T210907Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=fc201f050b631958cf6c5e186c5c897e82a974dad41b0e3c141a811003fa3c9b

{
  "DirectoryId": "d-926example",
  "TrustIds": ["t-9267353df0"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 8e6560bd-c241-11e6-a4dc-e5519684970a
Content-Type: application/x-amz-json-1.1
Content-Length: 406
Date: Wed, 14 Dec 2016 21:09:09 GMT

{
  "Trusts": [
    {
      "CreatedDateTime": 1481749250.657,
      "DirectoryId": "d-926example",
      "LastUpdatedDateTime": 1481749260.156,
      "RemoteDomainName": "sales.example.com",
      "StateLastUpdatedDateTime": 1481749260.156,
      "TrustDirection": "One-Way: Outgoing",
      "TrustId": "t-9267353df0",
      "TrustState": "Failed",
    }
  ]
}
```

```
    "TrustStateReason": "The specified domain either does not exist or could not be  
    contacted. Name: sales.example.com",  
    "TrustType": "Forest"  
  }  
]  
}
```

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](#)

DisableRadius

Disables multi-factor authentication (MFA) with the Remote Authentication Dial In User Service (RADIUS) server for an AD Connector directory.

Request Syntax

```
{  
  "DirectoryId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 78)

The identifier of the directory for which to disable MFA.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
```

```
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 31
X-Amz-Target: DirectoryService_20150416.DisableRadius
X-Amz-Date: 20161214T215510Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=c7ae53fed950cedb5cc393489a79a60b9c548ee85c9c2339f8a75108a2d18525

{
  "DirectoryId": "d-926example"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: fcd40ac9-c247-11e6-a7ca-f9a52a6a0390
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 21:55:12 GMT

{
}
```

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](#)

DisableSso

Disables single-sign on for a directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "Password": "string",
  "UserName": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 80)

The identifier of the directory for which to disable single-sign on.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Password (p. 80)

The password of an alternate account to use to disable single-sign on. This is only used for AD Connector directories. For more information, see the *UserName* parameter.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

UserName (p. 80)

The username of an alternate account to use to disable single-sign on. This is only used for AD Connector directories. This account must have privileges to remove a service principal name.

If the AD Connector service account does not have privileges to remove a service principal name, you can specify an alternate account with the *UserName* and *Password* parameters. These credentials are only used to disable single sign-on and are not stored by the service. The AD Connector service account is not changed.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `[a-zA-Z0-9._-]+`

Required: No

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

AuthenticationFailedException

An authentication error occurred.

HTTP Status Code: 400

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InsufficientPermissionsException

The account does not have sufficient permission to perform the operation.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 80
X-Amz-Target: DirectoryService_20150416.DisableSso
X-Amz-Date: 20161214T221722Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=b68ee7e88af7fc741471e9098dbc1636979ae461f0b9cd2f187124abbf762455

{
  "UserName": "Admin",
  "DirectoryId": "d-926example",
  "Password": "Str0ngP@ssw0rd"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: fcd40ac9-c247-11e6-a7ca-f9a52a6a0390
```

```
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 22:17:12 GMT

{
}
```

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](#)

EnableRadius

Enables multi-factor authentication (MFA) with the Remote Authentication Dial In User Service (RADIUS) server for an AD Connector directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "RadiusSettings": {
    "AuthenticationProtocol": "string",
    "DisplayLabel": "string",
    "RadiusPort": number,
    "RadiusRetries": number,
    "RadiusServers": [ "string" ],
    "RadiusTimeout": number,
    "SharedSecret": "string",
    "UseSameUsername": boolean
  }
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 83)

The identifier of the directory for which to enable MFA.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Required: Yes

RadiusSettings (p. 83)

A [RadiusSettings \(p. 151\)](#) object that contains information about the RADIUS server.

Type: [RadiusSettings \(p. 151\)](#) object

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityAlreadyExistsException

The specified entity already exists.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 259
X-Amz-Target: DirectoryService_20150416.EnableRadius
X-Amz-Date: 20161214T214103Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=4ba918cf440a45fddd5fcd1bd65207f94e760cebbd7de404d0096c6b1e652d4e

{
  "DirectoryId": "d-926example",
  "RadiusSettings": {
    "DisplayLabel": "MyRadius",
    "UseSameUsername": true,
    "RadiusTimeout": 1,
    "AuthenticationProtocol": "PAP",
    "RadiusPort": 1200,
    "RadiusRetries": 2,
    "SharedSecret": "12345678",
    "RadiusServers": [
      "172.168.111.12"
    ]
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 045cabd8-c246-11e6-ad7a-a9557d30f017
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 21:41:05 GMT
```

```
{  
}
```

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](#)

EnableSso

Enables single sign-on for a directory.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "Password": "string",  
  "UserName": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 86)

The identifier of the directory for which to enable single-sign on.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Password (p. 86)

The password of an alternate account to use to enable single-sign on. This is only used for AD Connector directories. For more information, see the *UserName* parameter.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

UserName (p. 86)

The username of an alternate account to use to enable single-sign on. This is only used for AD Connector directories. This account must have privileges to add a service principal name.

If the AD Connector service account does not have privileges to add a service principal name, you can specify an alternate account with the *UserName* and *Password* parameters. These credentials are only used to enable single sign-on and are not stored by the service. The AD Connector service account is not changed.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `[a-zA-Z0-9._-]+`

Required: No

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

AuthenticationFailedException

An authentication error occurred.

HTTP Status Code: 400

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InsufficientPermissionsException

The account does not have sufficient permission to perform the operation.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 80
X-Amz-Target: DirectoryService_20150416.EnableSso
X-Amz-Date: 20161214T220301Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=88acc99818605aa438eb86b5be59daecce370c7db16e5e84311508e575ea0515

{
  "UserName": "Admin",
  "DirectoryId": "d-926example",
  "Password": "Str0ngP@ssw0rd"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: fcd40ac9-c247-11e6-a7ca-f9a52a6a0390
```

```
Content-Type: application/x-amz-json-1.1  
Content-Length: 2  
Date: Wed, 14 Dec 2016 22:03:03 GMT
```

```
{  
}
```

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](#)

GetDirectoryLimits

Obtains directory limit information for the current region.

Response Syntax

```
{
  "DirectoryLimits": {
    "CloudOnlyDirectoriesCurrentCount": number,
    "CloudOnlyDirectoriesLimit": number,
    "CloudOnlyDirectoriesLimitReached": boolean,
    "CloudOnlyMicrosoftADCurrentCount": number,
    "CloudOnlyMicrosoftADLimit": number,
    "CloudOnlyMicrosoftADLimitReached": boolean,
    "ConnectedDirectoriesCurrentCount": number,
    "ConnectedDirectoriesLimit": number,
    "ConnectedDirectoriesLimitReached": boolean
  }
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

DirectoryLimits (p. 89)

A [DirectoryLimits \(p. 140\)](#) object that contains the directory limits for the current region.

Type: [DirectoryLimits \(p. 140\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 2
X-Amz-Target: DirectoryService_20150416.GetDirectoryLimits
X-Amz-Date: 20161214T223512Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=550da3fb7986c02e54cb35d644fd6601bfe823c3956e9471308682df2c1977ac

{
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9526b149-c24d-11e6-bc3e-5ffd5f600cd8
Content-Type: application/x-amz-json-1.1
Content-Length: 348
Date: Wed, 14 Dec 2016 22:35:14 GMT

{
  "DirectoryLimits":{
    "CloudOnlyDirectoriesCurrentCount":2,
    "CloudOnlyDirectoriesLimit":10,
    "CloudOnlyDirectoriesLimitReached":false,
    "CloudOnlyMicrosoftADCurrentCount":2,
    "CloudOnlyMicrosoftADLimit":10,
    "CloudOnlyMicrosoftADLimitReached":false,
    "ConnectedDirectoriesCurrentCount":1,
    "ConnectedDirectoriesLimit":10,
    "ConnectedDirectoriesLimitReached":false
  }
}
```

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](#)

GetSnapshotLimits

Obtains the manual snapshot limits for a directory.

Request Syntax

```
{  
  "DirectoryId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 91)

Contains the identifier of the directory to obtain the limits for.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Required: Yes

Response Syntax

```
{  
  "SnapshotLimits": {  
    "ManualSnapshotsCurrentCount": number,  
    "ManualSnapshotsLimit": number,  
    "ManualSnapshotsLimitReached": boolean  
  }  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SnapshotLimits (p. 91)

A [SnapshotLimits \(p. 157\)](#) object that contains the manual snapshot limits for the specified directory.

Type: [SnapshotLimits \(p. 157\)](#) object

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 31
X-Amz-Target: DirectoryService_20150416.GetSnapshotLimits
X-Amz-Date: 20161214T224507Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=f9ba790cf905e14fa97fd1ed6a961c72d83a23f3e54ab126d8e4a30ec14d3cdb

{
  "DirectoryId": "d-926example"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: f7895979-c24e-11e6-a0ba-6bb2a89ebc49
Content-Type: application/x-amz-json-1.1
Content-Length: 113
Date: Wed, 14 Dec 2016 22:45:09 GMT

{
  "SnapshotLimits":{
    "ManualSnapshotsCurrentCount":1,
    "ManualSnapshotsLimit":5,
    "ManualSnapshotsLimitReached":false
  }
}
```

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](#)

ListIpRoutes

Lists the address blocks that you have added to a directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "Limit": number,
  "NextToken": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 94)

Identifier (ID) of the directory for which you want to retrieve the IP addresses.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Limit (p. 94)

Maximum number of items to return. If this value is zero, the maximum number of items is specified by the limitations of the operation.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 94)

The *ListIpRoutes.NextToken* value from a previous call to [ListIpRoutes \(p. 94\)](#). Pass null if this is the first call.

Type: String

Required: No

Response Syntax

```
{
  "IpRoutesInfo": [
    {
      "AddedDateTime": number,
      "CidrIp": "string",
      "Description": "string",
      "DirectoryId": "string",
      "IpRouteStatusMsg": "string",
      "IpRouteStatusReason": "string"
    }
  ],
  "NextToken": "string"
}
```

```
}  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

IpRoutesInfo (p. 94)

A list of [IpRoute \(p. 148\)](#)s.

Type: Array of [IpRouteInfo \(p. 149\)](#) objects

NextToken (p. 94)

If not null, more results are available. Pass this value for the *NextToken* parameter in a subsequent call to [ListIpRoutes \(p. 94\)](#) to retrieve the next set of items.

Type: String

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
```

```
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 43
X-Amz-Target: DirectoryService_20150416.ListIpRoutes
X-Amz-Date: 20161214T225328Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=4dcb72aae179937790f5b061ceb1c697ac434b27891014b609671e49e52be1dd

{
  "DirectoryId": "d-926example",
  "Limit": 0
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2214ceaa-c250-11e6-a7ca-f9a52a6a0390
Content-Type: application/x-amz-json-1.1
Content-Length: 155
Date: Wed, 14 Dec 2016 22:53:30 GMT

{
  "IpRoutesInfo": [
    {
      "AddedDateTime": 1.48157763163E9,
      "CidrIp": "12.12.12.12/32",
      "Description": "example",
      "DirectoryId": "d-926example",
      "IpRouteStatusMsg": "Added"
    }
  ]
}
```

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](#)

ListSchemaExtensions

Lists all schema extensions applied to a Microsoft AD Directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "Limit": number,
  "NextToken": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 97)

The identifier of the directory from which to retrieve the schema extension information.

Type: String

Pattern: ^d-[0-9a-f]{10}\$

Required: Yes

Limit (p. 97)

The maximum number of items to return.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 97)

The `ListSchemaExtensions.NextToken` value from a previous call to `ListSchemaExtensions`. Pass null if this is the first call.

Type: String

Required: No

Response Syntax

```
{
  "NextToken": "string",
  "SchemaExtensionsInfo": [
    {
      "Description": "string",
      "DirectoryId": "string",
      "EndDateTime": number,
      "SchemaExtensionId": "string",
      "SchemaExtensionStatus": "string",
      "SchemaExtensionStatusReason": "string",
      "StartDateTime": number
    }
  ]
}
```

```
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 97)

If not null, more results are available. Pass this value for the `NextToken` parameter in a subsequent call to `ListSchemaExtensions` to retrieve the next set of items.

Type: String

SchemaExtensionsInfo (p. 97)

Information about the schema extensions applied to the directory.

Type: Array of [SchemaExtensionInfo \(p. 153\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The `NextToken` value is not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 43
X-Amz-Target: DirectoryService_20150416.ListSchemaExtensions
X-Amz-Date: 20161214T230332Z
```

```
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=39aa3aec95444a9bf6dff7fc57d3178c9364b5d2fd560380e8fbc6eee13b3cf1

{
  "DirectoryId": "d-926example",
  "Limit": 0
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 89f9aea0-c251-11e6-b0d6-83af322c90cd
Content-Type: application/x-amz-json-1.1
Content-Length: 333
Date: Wed, 14 Dec 2016 23:03:34 GMT

{
  "SchemaExtensionsInfo":[
    {
      "Description":"example text",
      "DirectoryId":"d-926example",
      "EndDateTime":1.481586088301E9,
      "SchemaExtensionId":"e-926731d2a0",
      "SchemaExtensionStatus":"Cancelled",
      "SchemaExtensionStatusReason":"Cancellation is complete. No schema updates were
      applied to your directory.",
      "StartDateTime":1.481584463548E9
    }
  ]
}
```

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](#)

ListTagsForResource

Lists all tags on a directory.

Request Syntax

```
{  
  "Limit": number,  
  "NextToken": "string",  
  "ResourceId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

Limit (p. 100)

Reserved for future use.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

NextToken (p. 100)

Reserved for future use.

Type: String

Required: No

ResourceId (p. 100)

Identifier (ID) of the directory for which you want to retrieve tags.

Type: String

Pattern: `^[d]-[0-9a-f]{10}$`

Required: Yes

Response Syntax

```
{  
  "NextToken": "string",  
  "Tags": [  
    {  
      "Key": "string",  
      "Value": "string"  
    }  
  ]  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 100)

Reserved for future use.

Type: String

Tags (p. 100)

List of tags returned by the ListTagsForResource operation.

Type: Array of [Tag \(p. 158\)](#) objects

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidNextTokenException

The *NextToken* value is not valid.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 42
X-Amz-Target: DirectoryService_20150416.ListTagsForResource
X-Amz-Date: 20161214T231352Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
```



```
Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,  
SignedHeaders=content-type;host;x-amz-date;x-amz-target,  
Signature=72d8e8988d5a206b4e218f406544b06cb4f6fd9d8927a270317509c9861b0826  
  
{  
  "ResourceId":"d-926example",  
  "Limit": 0  
}
```

Example Response

```
HTTP/1.1 200 OK  
x-amzn-RequestId: fb7da12c-c252-11e6-a96d-2b0686697d23  
Content-Type: application/x-amz-json-1.1  
Content-Length: 53  
Date: Wed, 14 Dec 2016 23:13:54 GMT  
  
{  
  "Tags": [  
    {  
      "Key": "environment",  
      "Value": "production"  
    }  
  ]  
}
```

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](#)

RegisterEventTopic

Associates a directory with an SNS topic. This establishes the directory as a publisher to the specified SNS topic. You can then receive email or text (SMS) messages when the status of your directory changes. You get notified if your directory goes from an Active status to an Impaired or Inoperable status. You also receive a notification when the directory returns to an Active status.

Request Syntax

```
{
  "DirectoryId": "string",
  "TopicName": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 103)

The Directory ID that will publish status messages to the SNS topic.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

TopicName (p. 103)

The SNS topic name to which the directory will publish status messages. This SNS topic must be in the same region as the specified Directory ID.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9_-]+`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 63
X-Amz-Target: DirectoryService_20150416.RegisterEventTopic
X-Amz-Date: 20161214T232258Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=6e1e2996789f568cf057fa66e70b1ba114d7388510787be6092055ab97a07828

{
  "DirectoryId": "d-926example",
  "TopicName": "snstopicexample"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: a68a1e79-c19b-11e6-870b-c3330207df37
Content-Type: application/x-amz-json-1.1
Content-Length: 29
Date: Wed, 14 Dec 2016 23:23:01 GMT

{
}
```

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](#)

RemoveIpRoutes

Removes IP address blocks from a directory.

Request Syntax

```
{  
  "CidrIps": [ "string" ],  
  "DirectoryId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

CidrIps (p. 106)

IP address blocks that you want to remove.

Type: Array of strings

Pattern: `^((([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])\.)}{3}([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])|(\.)([1-9]|[1-2][0-9]|3[0-2]))$`

Required: Yes

DirectoryId (p. 106)

Identifier (ID) of the directory from which you want to remove the IP addresses.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 62
X-Amz-Target: DirectoryService_20150416.RemoveIpRoutes
X-Amz-Date: 20161214T233152Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=b3413802dda807a99b3a5783eef6fc3599eefa200820af9842cc5b24becb1802

{
  "DirectoryId": "d-926example",
  "CidrIps": ["12.12.12.12/32"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 7f62aa28-c255-11e6-b3d3-bf8f15b8b2ee
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 23:31:54 GMT

{
}
```

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](#)

RemoveTagsFromResource

Removes tags from a directory.

Request Syntax

```
{  
  "ResourceId": "string",  
  "TagKeys": [ "string" ]  
}
```

Request Parameters

The request accepts the following data in JSON format.

ResourceId (p. 109)

Identifier (ID) of the directory from which to remove the tag.

Type: String

Pattern: `^[d]-[0-9a-f]{10}$`

Required: Yes

TagKeys (p. 109)

The tag key (name) of the tag to be removed.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^([\p{L}\p{Z}\p{N}_\./=+\-@]*)$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 58
X-Amz-Target: DirectoryService_20150416.RemoveTagsFromResource
X-Amz-Date: 20161214T234556Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=707f9d53696de7adc446b3bd54404571011febc29e9b76c6aed793767639bf47

{
  "ResourceId": "d-926example",
  "TagKeys": ["environment"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 767374a0-c257-11e6-ad7a-a9557d30f017
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 23:45:58 GMT

{
}
```

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](#)

RestoreFromSnapshot

Restores a directory using an existing directory snapshot.

When you restore a directory from a snapshot, any changes made to the directory after the snapshot date are overwritten.

This action returns as soon as the restore operation is initiated. You can monitor the progress of the restore operation by calling the [DescribeDirectories \(p. 60\)](#) operation with the directory identifier. When the **DirectoryDescription.Stage** value changes to `Active`, the restore operation is complete.

Request Syntax

```
{
  "SnapshotId": "string"
}
```

Request Parameters

The request accepts the following data in JSON format.

SnapshotId (p. 112)

The identifier of the snapshot to restore from.

Type: String

Pattern: `^s-[0-9a-f]{10}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 30
X-Amz-Target: DirectoryService_20150416.RestoreFromSnapshot
X-Amz-Date: 20161214T235310Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 boto/2.8.0
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161214/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=5c6be5a543a9df855e15ed75c131318330c4acf9b791515e8b3524e2430c180f

{
  "SnapshotId": "s-9267f6da4e"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 78ebab96-c258-11e6-a4dc-e5519684970a
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Wed, 14 Dec 2016 23:53:12 GMT

{
}
```

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](#)

StartSchemaExtension

Applies a schema extension to a Microsoft AD directory.

Request Syntax

```
{  
  "CreateSnapshotBeforeSchemaExtension": boolean,  
  "Description": "string",  
  "DirectoryId": "string",  
  "LdifContent": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

CreateSnapshotBeforeSchemaExtension (p. 114)

If true, creates a snapshot of the directory before applying the schema extension.

Type: Boolean

Required: Yes

Description (p. 114)

A description of the schema extension.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

Required: Yes

DirectoryId (p. 114)

The identifier of the directory for which the schema extension will be applied to.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

LdifContent (p. 114)

The LDIF file represented as a string. To construct the LdifContent string, precede each line as it would be formatted in an ldif file with `\n`. See the example request below for more details. The file size can be no larger than 1MB.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 500000.

Required: Yes

Response Syntax

```
{
```

```
"SchemaExtensionId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SchemaExtensionId (p. 114)

The identifier of the schema extension that will be applied.

Type: String

Pattern: ^e-[0-9a-f]{10}\$

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

SnapshotLimitExceededException

The maximum number of manual snapshots for the directory has been reached. You can use the [GetSnapshotLimits \(p. 91\)](#) operation to determine the snapshot limits for a directory.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 320
X-Amz-Target: DirectoryService_20150416.StartSchemaExtension
X-Amz-Date: 20161219T190703Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161219/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=5c1200f494c1771770d7aa964e45ee36d80e724e0d9a8e62ab9822574c8cc915

{
  "CreateSnapshotBeforeSchemaExtension":true,
  "DirectoryId":"d-926example",
  "LdifContent":"dn: CN=User,CN=Schema,CN=Configuration,DC=sales,DC=example,DC=com
\nchangetype: modify\nadd: mayContain\nmayContain: drink\n-\n\nDN:\nchangetype: modify
\nreplace: schemaupdatenow\nschemaupdatenow: 1\n-",
  "Description":"Adds maycontain attribute to user class. To construct the LdifContent
string, precede each line as it would be formatted in an ldif file with \n. For example
the LdifContent string above is formatted the following way in an Ldif file:

      dn: CN=User,CN=Schema,CN=Configuration,DC=sales,DC=example,DC=com
      changetype: modify
      add: mayContain
      mayContain: drink
      -

      dn:
      changetype: modify
      replace: schemaupdatenow
      schemaupdatenow: 1
      -"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 54723d00-c61e-11e6-a96d-2b0686697d23
Content-Type: application/x-amz-json-1.1
Content-Length: 36
Date: Mon, 19 Dec 2016 19:07:04 GMT

{
  "SchemaExtensionId": "e-926731dc50"
}
```

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](#)

UpdateConditionalForwarder

Updates a conditional forwarder that has been set up for your AWS directory.

Request Syntax

```
{  
  "DirectoryId": "string",  
  "DnsIpAddr": [ "string" ],  
  "RemoteDomainName": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 118)

The directory ID of the AWS directory for which to update the conditional forwarder.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

DnsIpAddr (p. 118)

The updated IP addresses of the remote DNS server associated with the conditional forwarder.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: Yes

RemoteDomainName (p. 118)

The fully qualified domain name (FQDN) of the remote domain with which you will set up a trust relationship.

Type: String

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+[\.]?$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 107
X-Amz-Target: DirectoryService_20150416.UpdateConditionalForwarder
X-Amz-Date: 20161215T183823Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161215/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=84648cead858ef1efd7db75ce248aa3e22a78139b109eec6122dc3c495b71085

{
  "DirectoryId": "d-926example",
  "RemoteDomainName": "sales.example.com",
  "DnsIpAddr": ["172.168.101.11"]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: aa015a05-c2f5-11e6-b3d3-bf8f15b8b2ee
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Thu, 15 Dec 2016 18:38:27 GMT
```

```
{  
}
```

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](#)

UpdateNumberOfDomainControllers

Adds or removes domain controllers to or from the directory. Based on the difference between current value and new value (provided through this API call), domain controllers will be added or removed. It may take up to 45 minutes for any new domain controllers to become fully active once the requested number of domain controllers is updated. During this time, you cannot make another update request.

Request Syntax

```
{  
  "DesiredNumber": number,  
  "DirectoryId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

DesiredNumber (p. 121)

The number of domain controllers desired in the directory.

Type: Integer

Valid Range: Minimum value of 2.

Required: Yes

DirectoryId (p. 121)

Identifier of the directory to which the domain controllers will be added or removed.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

DirectoryUnavailableException

The specified directory is unavailable or could not be found.

HTTP Status Code: 400

DomainControllerLimitExceededException

The maximum allowed number of domain controllers per directory was exceeded. The default limit per directory is 20 domain controllers.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

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](#)

UpdateRadius

Updates the Remote Authentication Dial In User Service (RADIUS) server information for an AD Connector directory.

Request Syntax

```
{
  "DirectoryId": "string",
  "RadiusSettings": {
    "AuthenticationProtocol": "string",
    "DisplayLabel": "string",
    "RadiusPort": number,
    "RadiusRetries": number,
    "RadiusServers": [ "string" ],
    "RadiusTimeout": number,
    "SharedSecret": "string",
    "UseSameUsername": boolean
  }
}
```

Request Parameters

The request accepts the following data in JSON format.

DirectoryId (p. 123)

The identifier of the directory for which to update the RADIUS server information.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: Yes

RadiusSettings (p. 123)

A [RadiusSettings \(p. 151\)](#) object that contains information about the RADIUS server.

Type: [RadiusSettings \(p. 151\)](#) object

Required: Yes

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 262
X-Amz-Target: DirectoryService_20150416.UpdateRadius
X-Amz-Date: 20161215T184937Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
Credential=AKIAI7E3BYXS3example/20161215/us-west-2/ds/aws4_request,
SignedHeaders=content-type;host;x-amz-date;x-amz-target,
Signature=6cc8097b61ad0ee23e166193d317a066fееea582d252b57923a0781dc011a686

{
  "DirectoryId": "d-926example",
  "RadiusSettings": {
    "DisplayLabel": "MyRadius",
    "UseSameUsername": true,
    "RadiusTimeout": 1,
    "AuthenticationProtocol": "PAP",
    "RadiusPort": 1027,
    "RadiusRetries": 1,
    "SharedSecret": "12345678",
    "RadiusServers": [
      "172.168.101.113"
    ]
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: fcd40ac9-c247-11e6-a7ca-f9a52a6a0390
Content-Type: application/x-amz-json-1.1
Content-Length: 2
Date: Thu, 15 Dec 2016 18:49:39 GMT

{
}
```

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](#)

VerifyTrust

AWS Directory Service for Microsoft Active Directory allows you to configure and verify trust relationships.

This action verifies a trust relationship between your Microsoft AD in the AWS cloud and an external domain.

Request Syntax

```
{  
  "TrustId": "string"  
}
```

Request Parameters

The request accepts the following data in JSON format.

TrustId (p. 126)

The unique Trust ID of the trust relationship to verify.

Type: String

Pattern: `^t-[0-9a-f]{10}$`

Required: Yes

Response Syntax

```
{  
  "TrustId": "string"  
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

TrustId (p. 126)

The unique Trust ID of the trust relationship that was verified.

Type: String

Pattern: `^t-[0-9a-f]{10}$`

Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 160\)](#).

ClientException

A client exception has occurred.

HTTP Status Code: 400

EntityDoesNotExistException

The specified entity could not be found.

HTTP Status Code: 400

InvalidParameterException

One or more parameters are not valid.

HTTP Status Code: 400

ServiceException

An exception has occurred in AWS Directory Service.

HTTP Status Code: 500

UnsupportedOperationException

The operation is not supported.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST / HTTP/1.1
Host: ds.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 27
X-Amz-Target: DirectoryService_20150416.VerifyTrust
X-Amz-Date: 20161215T191010Z
User-Agent: aws-cli/1.11.24 Python/2.7.9 Windows/7 botocore/1.4.81
Content-Type: application/x-amz-json-1.1
Authorization: AWS4-HMAC-SHA256
  Credential=AKIAI7E3BYXS3example/20161215/us-west-2/ds/aws4_request,
  SignedHeaders=content-type;host;x-amz-date;x-amz-target,
  Signature=249c3fb0ac94d57cc9abb43f6422fe237fce723ddd9462a4666712e46e3b5371

{
  "TrustId": "t-9267353df0"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 3343bc79-c18f-11e6-ba7f-e33ae22bc363
Content-Type: application/x-amz-json-1.1
Content-Length: 26
Date: Thu, 15 Dec 2016 19:10:12 GMT

{
  "TrustId": "t-9267353df0"
}
```

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 following data types are supported:

- [Attribute](#) (p. 129)
- [Computer](#) (p. 130)
- [ConditionalForwarder](#) (p. 131)
- [DirectoryConnectSettings](#) (p. 132)
- [DirectoryConnectSettingsDescription](#) (p. 134)
- [DirectoryDescription](#) (p. 136)
- [DirectoryLimits](#) (p. 140)
- [DirectoryVpcSettings](#) (p. 142)
- [DirectoryVpcSettingsDescription](#) (p. 143)
- [DomainController](#) (p. 144)
- [EventTopic](#) (p. 146)
- [IpRoute](#) (p. 148)
- [IpRouteInfo](#) (p. 149)
- [RadiusSettings](#) (p. 151)
- [SchemaExtensionInfo](#) (p. 153)
- [Snapshot](#) (p. 155)
- [SnapshotLimits](#) (p. 157)
- [Tag](#) (p. 158)
- [Trust](#) (p. 159)

Attribute

Represents a named directory attribute.

Contents

Name

The name of the attribute.

Type: String

Length Constraints: Minimum length of 1.

Required: No

Value

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](#)

Computer

Contains information about a computer account in a directory.

Contents

ComputerAttributes

An array of [Attribute \(p. 129\)](#) objects containing the LDAP attributes that belong to the computer account.

Type: Array of [Attribute \(p. 129\)](#) objects

Required: No

ComputerId

The identifier of the computer.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: [[&\w+-.@](#)]+

Required: No

ComputerName

The computer name.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 15.

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](#)

ConditionalForwarder

Points to a remote domain with which you are setting up a trust relationship. Conditional forwarders are required in order to set up a trust relationship with another domain.

Contents

DnsIpAddrs

The IP addresses of the remote DNS server associated with RemoteDomainName. This is the IP address of the DNS server that your conditional forwarder points to.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: No

RemoteDomainName

The fully qualified domain name (FQDN) of the remote domains pointed to by the conditional forwarder.

Type: String

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+[.]?$`

Required: No

ReplicationScope

The replication scope of the conditional forwarder. The only allowed value is `Domain`, which will replicate the conditional forwarder to all of the domain controllers for your AWS directory.

Type: String

Valid Values: `Domain`

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](#)

DirectoryConnectSettings

Contains information for the [ConnectDirectory \(p. 13\)](#) operation when an AD Connector directory is being created.

Contents

CustomerDnsIps

A list of one or more IP addresses of DNS servers or domain controllers in the on-premises directory.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: Yes

CustomerUserName

The username of an account in the on-premises directory that is used to connect to the directory. This account must have the following privileges:

- Read users and groups
- Create computer objects
- Join computers to the domain

Type: String

Length Constraints: Minimum length of 1.

Pattern: `[a-zA-Z0-9._-]+`

Required: Yes

SubnetIds

A list of subnet identifiers in the VPC in which the AD Connector is created.

Type: Array of strings

Pattern: `^(subnet-[0-9a-f]{8})$`

Required: Yes

VpcId

The identifier of the VPC in which the AD Connector is created.

Type: String

Pattern: `^(vpc-[0-9a-f]{8})$`

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](#)

DirectoryConnectSettingsDescription

Contains information about an AD Connector directory.

Contents

AvailabilityZones

A list of the Availability Zones that the directory is in.

Type: Array of strings

Required: No

ConnectIps

The IP addresses of the AD Connector servers.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: No

CustomerUserName

The username of the service account in the on-premises directory.

Type: String

Length Constraints: Minimum length of 1.

Pattern: `[a-zA-Z0-9._-]+`

Required: No

SecurityGroupId

The security group identifier for the AD Connector directory.

Type: String

Pattern: `^(sg-[0-9a-f]{8})$`

Required: No

SubnetIds

A list of subnet identifiers in the VPC that the AD connector is in.

Type: Array of strings

Pattern: `^(subnet-[0-9a-f]{8})$`

Required: No

VpcId

The identifier of the VPC that the AD Connector is in.

Type: String

Pattern: `^(vpc-[0-9a-f]{8})$`

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](#)

DirectoryDescription

Contains information about an AWS Directory Service directory.

Contents

AccessUrl

The access URL for the directory, such as `http://<alias>.awsapps.com`. If no alias has been created for the directory, `<alias>` is the directory identifier, such as `d-xxxxxxxxxx`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Required: No

Alias

The alias for the directory. If no alias has been created for the directory, the alias is the directory identifier, such as `d-xxxxxxxxxx`.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 62.

Pattern: `^(?!d-)([da-zA-Z]+)([-]*[da-zA-Z])*`

Required: No

ConnectSettings

A [DirectoryConnectSettingsDescription](#) (p. 134) object that contains additional information about an AD Connector directory. This member is only present if the directory is an AD Connector directory.

Type: [DirectoryConnectSettingsDescription](#) (p. 134) object

Required: No

Description

The textual description for the directory.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

Required: No

DesiredNumberOfDomainControllers

The desired number of domain controllers in the directory if the directory is Microsoft AD.

Type: Integer

Valid Range: Minimum value of 2.

Required: No

DirectoryId

The directory identifier.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

DnsIpAddrs

The IP addresses of the DNS servers for the directory. For a Simple AD or Microsoft AD directory, these are the IP addresses of the Simple AD or Microsoft AD directory servers. For an AD Connector directory, these are the IP addresses of the DNS servers or domain controllers in the on-premises directory to which the AD Connector is connected.

Type: Array of strings

Pattern: `^(?:(:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: No

LaunchTime

Specifies when the directory was created.

Type: Timestamp

Required: No

Name

The fully-qualified name of the directory.

Type: String

Pattern: `^([a-zA-Z0-9]+[\.\-])+([a-zA-Z0-9])+$`

Required: No

RadiusSettings

A [RadiusSettings \(p. 151\)](#) object that contains information about the RADIUS server configured for this directory.

Type: [RadiusSettings \(p. 151\)](#) object

Required: No

RadiusStatus

The status of the RADIUS MFA server connection.

Type: String

Valid Values: `Creating` | `Completed` | `Failed`

Required: No

ShortName

The short name of the directory.

Type: String

Pattern: `^[^\\/:*?\"<>|.]+[^\\"<>|]*$`

Required: No

Size

The directory size.

Type: String

Valid Values: `Small` | `Large`

Required: No

SsoEnabled

Indicates if single-sign on is enabled for the directory. For more information, see [EnableSso \(p. 86\)](#) and [DisableSso \(p. 80\)](#).

Type: Boolean

Required: No

Stage

The current stage of the directory.

Type: String

Valid Values: `Requested` | `Creating` | `Created` | `Active` | `Inoperable` | `Impaired` | `Restoring` | `RestoreFailed` | `Deleting` | `Deleted` | `Failed`

Required: No

StageLastUpdatedDateTime

The date and time that the stage was last updated.

Type: Timestamp

Required: No

StageReason

Additional information about the directory stage.

Type: String

Required: No

Type

The directory size.

Type: String

Valid Values: `SimpleAD` | `ADConnector` | `MicrosoftAD`

Required: No

VpcSettings

A [DirectoryVpcSettingsDescription \(p. 143\)](#) object that contains additional information about a directory. This member is only present if the directory is a Simple AD or Managed AD directory.

Type: [DirectoryVpcSettingsDescription \(p. 143\)](#) 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](#)

DirectoryLimits

Contains directory limit information for a region.

Contents

CloudOnlyDirectoriesCurrentCount

The current number of cloud directories in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

CloudOnlyDirectoriesLimit

The maximum number of cloud directories allowed in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

CloudOnlyDirectoriesLimitReached

Indicates if the cloud directory limit has been reached.

Type: Boolean

Required: No

CloudOnlyMicrosoftADCurrentCount

The current number of Microsoft AD directories in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

CloudOnlyMicrosoftADLimit

The maximum number of Microsoft AD directories allowed in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

CloudOnlyMicrosoftADLimitReached

Indicates if the Microsoft AD directory limit has been reached.

Type: Boolean

Required: No

ConnectedDirectoriesCurrentCount

The current number of connected directories in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ConnectedDirectoriesLimit

The maximum number of connected directories allowed in the region.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ConnectedDirectoriesLimitReached

Indicates if the connected directory limit has been reached.

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](#)

DirectoryVpcSettings

Contains VPC information for the [CreateDirectory \(p. 27\)](#) or [CreateMicrosoftAD \(p. 31\)](#) operation.

Contents

SubnetIds

The identifiers of the subnets for the directory servers. The two subnets must be in different Availability Zones. AWS Directory Service creates a directory server and a DNS server in each of these subnets.

Type: Array of strings

Pattern: `^(subnet-[0-9a-f]{8})$`

Required: Yes

VpcId

The identifier of the VPC in which to create the directory.

Type: String

Pattern: `^(vpc-[0-9a-f]{8})$`

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](#)

DirectoryVpcSettingsDescription

Contains information about the directory.

Contents

AvailabilityZones

The list of Availability Zones that the directory is in.

Type: Array of strings

Required: No

SecurityGroupId

The security group identifier for the directory. If the directory was created before 8/1/2014, this is the identifier of the directory members security group that was created when the directory was created. If the directory was created after this date, this value is null.

Type: String

Pattern: `^(sg-[0-9a-f]{8})$`

Required: No

SubnetIds

The identifiers of the subnets for the directory servers.

Type: Array of strings

Pattern: `^(subnet-[0-9a-f]{8})$`

Required: No

VpcId

The identifier of the VPC that the directory is in.

Type: String

Pattern: `^(vpc-[0-9a-f]{8})$`

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](#)

DomainController

Contains information about the domain controllers for a specified directory.

Contents

AvailabilityZone

The Availability Zone where the domain controller is located.

Type: String

Required: No

DirectoryId

Identifier of the directory where the domain controller resides.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

DnsIpAddr

The IP address of the domain controller.

Type: String

Pattern: `^(?:(:?25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)\.){3}(?:25[0-5]|2[0-4][0-9]|[01]?[0-9][0-9]?)$`

Required: No

DomainControllerId

Identifies a specific domain controller in the directory.

Type: String

Pattern: `^dc-[0-9a-f]{10}$`

Required: No

LaunchTime

Specifies when the domain controller was created.

Type: Timestamp

Required: No

Status

The status of the domain controller.

Type: String

Valid Values: `Creating` | `Active` | `Impaired` | `Restoring` | `Deleting` | `Deleted` | `Failed`

Required: No

StatusLastUpdatedDateTime

The date and time that the status was last updated.

Type: Timestamp

Required: No

StatusReason

A description of the domain controller state.

Type: String

Required: No

SubnetId

Identifier of the subnet in the VPC that contains the domain controller.

Type: String

Pattern: `^(subnet-[0-9a-f]{8})$`

Required: No

VpcId

The identifier of the VPC that contains the domain controller.

Type: String

Pattern: `^(vpc-[0-9a-f]{8})$`

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](#)

EventTopic

Information about SNS topic and AWS Directory Service directory associations.

Contents

CreatedDateTime

The date and time of when you associated your directory with the SNS topic.

Type: Timestamp

Required: No

DirectoryId

The Directory ID of an AWS Directory Service directory that will publish status messages to an SNS topic.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

Status

The topic registration status.

Type: String

Valid Values: `Registered` | `Topic not found` | `Failed` | `Deleted`

Required: No

TopicArn

The SNS topic ARN (Amazon Resource Name).

Type: String

Required: No

TopicName

The name of an AWS SNS topic the receives status messages from the directory.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `[a-zA-Z0-9_-]+`

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](#)

IpRoute

IP address block. This is often the address block of the DNS server used for your on-premises domain.

Contents

Cidrip

IP address block using CIDR format, for example 10.0.0.0/24. This is often the address block of the DNS server used for your on-premises domain. For a single IP address use a CIDR address block with /32. For example 10.0.0.0/32.

Type: String

Pattern: `^((([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])\.)?){3}([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])\(/([1-9]|1[0-9]|1[0-2][0-9]|3[0-2]))$`

Required: No

Description

Description of the address block.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

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](#)

IpRouteInfo

Information about one or more IP address blocks.

Contents

AddedDateTime

The date and time the address block was added to the directory.

Type: Timestamp

Required: No

CidrIp

IP address block in the [IpRoute](#) (p. 148).

Type: String

Pattern: `^((([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])\.)}{3}([0-9]|[1-9][0-9]|1[0-9]{2}|2[0-4][0-9]|25[0-5])|(\.)([1-9]|[1-2][0-9]|3[0-2]))$`

Required: No

Description

Description of the [IpRouteInfo](#) (p. 149).

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^([\a-zA-Z0-9_])[\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

Required: No

DirectoryId

Identifier (ID) of the directory associated with the IP addresses.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

IpRouteStatusMsg

The status of the IP address block.

Type: String

Valid Values: `Adding | Added | Removing | Removed | AddFailed | RemoveFailed`

Required: No

IpRouteStatusReason

The reason for the `IpRouteStatusMsg`.

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](#)

RadiusSettings

Contains information about a Remote Authentication Dial In User Service (RADIUS) server.

Contents

AuthenticationProtocol

The protocol specified for your RADIUS endpoints.

Type: String

Valid Values: PAP | CHAP | MS-CHAPv1 | MS-CHAPv2

Required: No

DisplayLabel

Not currently used.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Required: No

RadiusPort

The port that your RADIUS server is using for communications. Your on-premises network must allow inbound traffic over this port from the AWS Directory Service servers.

Type: Integer

Valid Range: Minimum value of 1025. Maximum value of 65535.

Required: No

RadiusRetries

The maximum number of times that communication with the RADIUS server is attempted.

Type: Integer

Valid Range: Minimum value of 0. Maximum value of 10.

Required: No

RadiusServers

An array of strings that contains the IP addresses of the RADIUS server endpoints, or the IP addresses of your RADIUS server load balancer.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 256.

Required: No

RadiusTimeout

The amount of time, in seconds, to wait for the RADIUS server to respond.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 20.

Required: No

SharedSecret

Not currently used.

Type: String

Length Constraints: Minimum length of 8. Maximum length of 512.

Required: No

UseSameUsername

Not currently used.

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](#)

SchemaExtensionInfo

Information about a schema extension.

Contents

Description

A description of the schema extension.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^[a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?./!\s-]*$`

Required: No

DirectoryId

The identifier of the directory to which the schema extension is applied.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

EndDateTime

The date and time that the schema extension was completed.

Type: Timestamp

Required: No

SchemaExtensionId

The identifier of the schema extension.

Type: String

Pattern: `^e-[0-9a-f]{10}$`

Required: No

SchemaExtensionStatus

The current status of the schema extension.

Type: String

Valid Values: `Initializing | CreatingSnapshot | UpdatingSchema | Replicating | CancelInProgress | RollbackInProgress | Cancelled | Failed | Completed`

Required: No

SchemaExtensionStatusReason

The reason for the `SchemaExtensionStatus`.

Type: String

Required: No

StartDateTime

The date and time that the schema extension started being applied to the directory.

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 directory snapshot.

Contents

DirectoryId

The directory identifier.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

Name

The descriptive name of the snapshot.

Type: String

Length Constraints: Minimum length of 0. Maximum length of 128.

Pattern: `^([\a-zA-Z0-9_][\a-zA-Z0-9_@#%*+=:?.!\s-]*)*$`

Required: No

SnapshotId

The snapshot identifier.

Type: String

Pattern: `^s-[0-9a-f]{10}$`

Required: No

StartTime

The date and time that the snapshot was taken.

Type: Timestamp

Required: No

Status

The snapshot status.

Type: String

Valid Values: `Creating` | `Completed` | `Failed`

Required: No

Type

The snapshot type.

Type: String

Valid Values: `Auto` | `Manual`

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](#)

SnapshotLimits

Contains manual snapshot limit information for a directory.

Contents

ManualSnapshotsCurrentCount

The current number of manual snapshots of the directory.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ManualSnapshotsLimit

The maximum number of manual snapshots allowed.

Type: Integer

Valid Range: Minimum value of 0.

Required: No

ManualSnapshotsLimitReached

Indicates if the manual snapshot limit has been reached.

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](#)

Tag

Metadata assigned to a directory consisting of a key-value pair.

Contents

Key

Required name of the tag. The string value can be Unicode characters and cannot be prefixed with "aws:". The string can contain only the set of Unicode letters, digits, white-space, '_', ':', '/', '=', '+', '-' (Java regex: "`^[\\p{L}\\p{Z}\\p{N}_:/=+\\-]*$`").

Type: String

Length Constraints: Minimum length of 1. Maximum length of 128.

Pattern: `^[\\p{L}\\p{Z}\\p{N}_:/=+\\-]*$`

Required: Yes

Value

The optional value of the tag. The string value can be Unicode characters. The string can contain only the set of Unicode letters, digits, white-space, '_', ':', '/', '=', '+', '-' (Java regex: "`^[\\p{L}\\p{Z}\\p{N}_:/=+\\-]*$`").

Type: String

Length Constraints: Minimum length of 0. Maximum length of 256.

Pattern: `^[\\p{L}\\p{Z}\\p{N}_:/=+\\-]*$`

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](#)

Trust

Describes a trust relationship between an Microsoft AD in the AWS cloud and an external domain.

Contents

CreatedDateTime

The date and time that the trust relationship was created.

Type: Timestamp

Required: No

DirectoryId

The Directory ID of the AWS directory involved in the trust relationship.

Type: String

Pattern: `^d-[0-9a-f]{10}$`

Required: No

LastUpdatedDateTime

The date and time that the trust relationship was last updated.

Type: Timestamp

Required: No

RemoteDomainName

The Fully Qualified Domain Name (FQDN) of the external domain involved in the trust relationship.

Type: String

Pattern: `^[a-zA-Z0-9]+[\.\-]+([a-zA-Z0-9])+[\.]?#$`

Required: No

StateLastUpdatedDateTime

The date and time that the TrustState was last updated.

Type: Timestamp

Required: No

TrustDirection

The trust relationship direction.

Type: String

Valid Values: `One-Way: Outgoing` | `One-Way: Incoming` | `Two-Way`

Required: No

TrustId

The unique ID of the trust relationship.

Type: String

Pattern: `^t-[0-9a-f]{10}$`

Required: No

TrustState

The trust relationship state.

Type: String

Valid Values: `Creating` | `Created` | `Verifying` | `VerifyFailed` | `Verified` | `Deleting` | `Deleted` | `Failed`

Required: No

TrustStateReason

The reason for the TrustState.

Type: String

Required: No

TrustType

The trust relationship type.

Type: String

Valid Values: `Forest`

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](#)

Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

AccessDeniedException

You do not have sufficient access to perform this action.

HTTP Status Code: 400

IncompleteSignature

The request signature does not conform to AWS standards.

HTTP Status Code: 400

InternalFailure

The request processing has failed because of an unknown error, exception or failure.

HTTP Status Code: 500

InvalidAction

The action or operation requested is invalid. Verify that the action is typed correctly.

HTTP Status Code: 400

InvalidClientTokenId

The X.509 certificate or AWS access key ID provided does not exist in our records.

HTTP Status Code: 403

InvalidParameterCombination

Parameters that must not be used together were used together.

HTTP Status Code: 400

InvalidParameterValue

An invalid or out-of-range value was supplied for the input parameter.

HTTP Status Code: 400

InvalidQueryParameter

The AWS query string is malformed or does not adhere to AWS standards.

HTTP Status Code: 400

MalformedQueryString

The query string contains a syntax error.

HTTP Status Code: 404

MissingAction

The request is missing an action or a required parameter.

HTTP Status Code: 400

MissingAuthenticationToken

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

MissingParameter

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

OptInRequired

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

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.

HTTP Status Code: 400

ServiceUnavailable

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

ThrottlingException

The request was denied due to request throttling.

HTTP Status Code: 400

ValidationError

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400

Logging AWS Directory Service API Calls Using CloudTrail

The AWS Directory Service API is integrated with AWS CloudTrail, a service that captures API calls made by or on behalf of AWS Directory Service in your AWS account and delivers the log files to an Amazon S3 bucket that you specify. CloudTrail captures API calls from the AWS Directory Service API and CLI. Using the information collected by CloudTrail, you can determine what request was made to AWS Directory Service, the source IP address from which the request was made, who made the request, when it was made, and so on. For more information about CloudTrail, including how to configure and enable it, see the [AWS CloudTrail User Guide](#).

AWS Directory Service Information in CloudTrail

When CloudTrail logging is enabled in your AWS account, API calls made to AWS Directory Service actions are tracked in log files. AWS Directory Service records are written together with other AWS service records in a log file. CloudTrail determines when to create and write to a new file based on a time period and file size. All calls made to the AWS Directory Service API or CLI calls are logged by CloudTrail.

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** field 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 AWS Directory Service log files from multiple AWS regions and AWS accounts into a single Amazon S3 bucket. For more information, see [Aggregating CloudTrail Log Files to a Single Amazon S3 Bucket](#).

Understanding AWS Directory Service 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 parameters, the date and time of the action, and so on. The log entries are not guaranteed to be in any particular order; that is, they are not an ordered stack trace of the public API calls.

Sensitive information, such as passwords, authentication tokens, file comments, and file contents are redacted in the log entries.

The following example shows an example of a CloudTrail log entry for AWS Directory Service:

```
{
  "Records" : [
    {
      "eventVersion" : "1.02",
      "userIdentity" :
      {
        "type" : "IAMUser",
        "principalId" : "<user_id>",
        "arn" : "<user_arn>",
        "accountId" : "<account_id>",
        "accessKeyId" : "<access_key_id>",
        "userName" : "<username>"
      },
      "eventTime" : "<event_time>",
      "eventSource" : "ds.amazonaws.com",
      "eventName" : "CreateDirectory",
      "awsRegion" : "<region>",
      "sourceIPAddress" : "<IP_address>",
      "userAgent" : "<user_agent>",
      "requestParameters" :
      {
        "name" : "<name>",
        "shortName" : "<short_name>",
        "vpcSettings" :
        {
          "vpcId" : "<vpc_id>",
          "subnetIds" : [
            "<subnet_id_1>",
            "<subnet_id_2>"
          ]
        },
        "type" : "<size>",
        "setAsDefault" : <option>,
        "password" : "****OMITTED****"
      },
      "responseElements" :
      {
        "requestId" : "<request_id>",
        "directoryId" : "<directory_id>"
      },
      "requestID" : "<request_id>",
      "eventID" : "<event_id>",
      "eventType" : "AwsApiCall",
      "recipientAccountId" : "<account_id>"
    }
  ]
}
```

Document History

The following table describes the important changes to the documentation in this release of the *AWS Directory Service API Reference*.

- **Latest documentation update:** December 16, 2016

Change	Description	Date Changed
New API examples	Added examples to each API in the guide.	December 16, 2016
Schema extensions	Added 3 APIs for schema extensions with Microsoft AD.	November 14, 2016
Microsoft AD	Added documentation for Microsoft AD.	November 17, 2015
New guide	This is the first release of the AWS Directory Service API Reference Guide.	May 14, 2015