Amazon Relational Database Service

API Reference

API Version 2013-09-09

Amazon Relational Database Service: API Reference

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Welcome

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easier to set up, operate, and scale a relational database in the cloud. It provides cost-efficient, resizable capacity for an industry-standard relational database and manages common database administration tasks, freeing up developers to focus on what makes their applications and businesses unique.

Amazon RDS gives you access to the capabilities of a MySQL, PostgreSQL, Microsoft SQL Server, or Oracle database server. This means the code, applications, and tools you already use today with your existing databases work with Amazon RDS without modification. Amazon RDS automatically backs up your database and maintains the database software that powers your DB instance. Amazon RDS is flexible: you can scale your database instance's compute resources and storage capacity to meet your application's demand. As with all Amazon Web Services, there are no up-front investments, and you pay only for the resources you use.

This is an interface reference for Amazon RDS. It contains documentation for a programming or command line interface you can use to manage Amazon RDS. Note that Amazon RDS is asynchronous, which means that some interfaces may require techniques such as polling or callback functions to determine when a command has been applied. In this reference, the parameter descriptions indicate whether a command is applied immediately, on the next instance reboot, or during the maintenance window. For a summary of the Amazon RDS interfaces, go to Available RDS Interfaces.

This document was last updated on February 5, 2014.

Actions

The following actions are supported:

AddSourceIdentifierToSubscription

Description

Adds a source identifier to an existing RDS event notification subscription.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

SourceIdentifier
   The identifier of the event source to be added. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it cannot end with a hyphen or contain two consecutive hyphens.

   Constraints:

   - If the source type is a DB instance, then a `DBInstanceIdentifier` must be supplied.
   - If the source type is a DB security group, a `DBSecurityGroupName` must be supplied.
   - If the source type is a DB parameter group, a `DBParameterGroupName` must be supplied.
   - If the source type is a DB snapshot, a `DBSnapshotIdentifier` must be supplied.

   Type: String

   Required: Yes

SubscriptionName
   The name of the RDS event notification subscription you want to add a source identifier to.

   Type: String

   Required: Yes

Response Elements

The following elements are returned in a structure named `EventSubscription`.

CustSubscriptionId
   The RDS event notification subscription Id.

   Type: String

CustomerAwsId
   The AWS customer account associated with the RDS event notification subscription.

   Type: String

Enabled
   A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

   Type: Boolean

EventCategoriesList
   A list of event categories for the RDS event notification subscription.

   Type: String list

SnsTopicArn
   The topic ARN of the RDS event notification subscription.

Type: String

SourceIdsList
A list of source Ids for the RDS event notification subscription.

Type: String list

SourceType
The source type for the RDS event notification subscription.

Type: String

Status
The status of the RDS event notification subscription.

Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

SubscriptionCreationTime
The time the RDS event notification subscription was created.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

SourceNotFound
The requested source could not be found.

HTTP Status Code: 404

SubscriptionNotFound
The subscription name does not exist.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=AddSourceIdentifierToSubscription
        ?SubscriptionName=EventSubscription01
        &SourceIdentifier=dbinstance01
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T011410Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
<AddSourceIdentifierToSubscriptionResponse xmlns="http://rds.amazon
aws.com/doc/2013-01-10/">
  <AddSourceIdentifierToSubscriptionResult>
    <EventSubscription>
      <Enabled>true</Enabled>
      <CustomerAwsId>012345678901</CustomerAwsId>
      <SourceType>db-instance</SourceType>
      <Status>modifying</Status>
      <SourceIdsList>
        <SourceId>dbinstance01</SourceId>
      </SourceIdsList>
      <SubscriptionCreationTime>2013-01-28 00:29:23.736</SubscriptionCreation
Time>
      <EventCategoriesList>
        <EventCategory>creation</EventCategory>
        <EventCategory>deletion</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>EventSubscription01</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
    </EventSubscription>
  </AddSourceIdentifierToSubscriptionResult>
  <ResponseMetadata>
    <RequestId>05d0fd8a-68e8-11e2-8e4d-31f087d822e1</RequestId>
  </ResponseMetadata>
</AddSourceIdentifierToSubscriptionResponse>
```

AddTagsToResource

Description

Adds metadata tags to an Amazon RDS resource. These tags can also be used with cost allocation reporting to track cost associated with Amazon RDS resources, or used in Condition statement in IAM policy for Amazon RDS.

For an overview on tagging Amazon RDS resources, see Tagging Amazon RDS Resources.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

ResourceName
The Amazon RDS resource the tags will be added to. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

Required: Yes

Tags.member.N
The tags to be assigned to the Amazon RDS resource.

Type: Tag (p. 244) list

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBSnapshotNotFound
DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

AuthorizeDBSecurityGroupIngress

Description

Enables ingress to a DBSecurityGroup using one of two forms of authorization. First, EC2 or VPC security groups can be added to the DBSecurityGroup if the application using the database is running on EC2 or VPC instances. Second, IP ranges are available if the application accessing your database is running on the Internet. Required parameters for this API are one of CIDR range, EC2SecurityGroupId for VPC, or (EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId for non-VPC).

> **Note**
> You cannot authorize ingress from an EC2 security group in one Region to an Amazon RDS DB instance in another. You cannot authorize ingress from a VPC security group in one VPC to an Amazon RDS DB instance in another.

For an overview of CIDR ranges, go to the Wikipedia Tutorial.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

CIDRIP
The IP range to authorize.

Type: String

Required: No

DBSecurityGroupName
The name of the DB security group to add authorization to.

Type: String

Required: Yes

EC2SecurityGroupId
Id of the EC2 security group to authorize. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

EC2SecurityGroupName
Name of the EC2 security group to authorize. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

EC2SecurityGroupOwnerId
AWS Account Number of the owner of the EC2 security group specified in the EC2SecurityGroupName parameter. The AWS Access Key ID is not an acceptable value. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DBSecurityGroup`.

DBSecurityGroupDescription
Provides the description of the DB security group.

Type: String

DBSecurityGroupName
Specifies the name of the DB security group.

Type: String

EC2SecurityGroups
Contains a list of EC2SecurityGroup (p. 223) elements.

Type: EC2SecurityGroup (p. 223) list

IPRanges
Contains a list of IPRange (p. 228) elements.

Type: IPRange (p. 228) list

OwnerId
Provides the AWS ID of the owner of a specific DB security group.

Type: String

VpcId
Provides the VpcId of the DB security group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

AuthorizationAlreadyExists
The specified CIDRIP or EC2 security group is already authorized for the specified DB security group.

HTTP Status Code: 400

AuthorizationQuotaExceeded
DB security group authorization quota has been reached.

HTTP Status Code: 400

DBSecurityGroupNotFound
DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

InvalidDBSecurityGroupState
The state of the DB security group does not allow deletion.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?CIDRIP=192.168.1.1%2F24
    &DBSecurityGroupName=mydbsecuritygroup
    &Version=2013-05-15
    &Action=AuthorizeDBSecurityGroupIngress
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T17%3A10%3A50.274Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<AuthorizeDBSecurityGroupIngressResponse xmlns="http://rds.amazon
aws.com/doc/2013-05-15/">
  <AuthorizeDBSecurityGroupIngressResult>
    <DBSecurityGroup>
      <EC2SecurityGroups/>
     <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroupDescrip
tion>
      <IPRanges>
        <IPRange>
          <CIDRIP>192.168.1.1/24</CIDRIP>
          <Status>authorizing</Status>
        </IPRange>
      </IPRanges>
      <OwnerId>621567473609</OwnerId>
      <DBSecurityGroupName>mydbsecuritygroup</DBSecurityGroupName>
      <VpcId>vpc-1ab2c3d4</VpcId>
    </DBSecurityGroup>
  </AuthorizeDBSecurityGroupIngressResult>
  <ResponseMetadata>
    <RequestId>d9799197-bf2d-11de-b88d-993294bf1c81</RequestId>
  </ResponseMetadata>
</AuthorizeDBSecurityGroupIngressResponse>
```

CopyDBSnapshot

Description

Copies the specified DBSnapshot. The source DBSnapshot must be in the "available" state.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

SourceDBSnapshotIdentifier
> The identifier for the source DB snapshot.
>
> Constraints:
> - Must specify a valid system snapshot in the "available" state.
> - If the source snapshot is in the same region as the copy, specify a valid DB snapshot identifier.
> - If the source snapshot is in a different region than the copy, specify a valid DB snapshot ARN. For more information, go to Copying a DB Snapshot.
>
> Example: `rds:mydb-2012-04-02-00-01`
>
> Example:
> `arn:aws:rds:rr-regn-1:123456789012:snapshot:mysql-instance1-snapshot-20130805`
>
> Type: String
>
> Required: Yes

Tags.member.N
> A list of tags.
>
> Type: Tag (p. 244) list
>
> Required: No

TargetDBSnapshotIdentifier
> The identifier for the copied snapshot.
>
> Constraints:
> - Cannot be null, empty, or blank
> - Must contain from 1 to 255 alphanumeric characters or hyphens
> - First character must be a letter
> - Cannot end with a hyphen or contain two consecutive hyphens
>
> Example: `my-db-snapshot`
>
> Type: String
>
> Required: Yes

Response Elements

The following elements are returned in a structure named `DBSnapshot`.

AllocatedStorage
Specifies the allocated storage size in gigabytes (GB).

Type: Integer

AvailabilityZone
Specifies the name of the Availability Zone the DB instance was located in at the time of the DB snapshot.

Type: String

DBInstanceIdentifier
Specifies the DB instance identifier of the DB instance this DB snapshot was created from.

Type: String

DBSnapshotIdentifier
Specifies the identifier for the DB snapshot.

Type: String

Engine
Specifies the name of the database engine.

Type: String

EngineVersion
Specifies the version of the database engine.

Type: String

InstanceCreateTime
Specifies the time (UTC) when the snapshot was taken.

Type: DateTime

Iops
Specifies the Provisioned IOPS (I/O operations per second) value of the DB instance at the time of the snapshot.

Type: Integer

LicenseModel
License model information for the restored DB instance.

Type: String

MasterUsername
Provides the master username for the DB snapshot.

Type: String

OptionGroupName
Provides the option group name for the DB snapshot.

Type: String

PercentProgress
The percentage of the estimated data that has been transferred.

Type: Integer

Port
Specifies the port that the database engine was listening on at the time of the snapshot.

Type: Integer

SnapshotCreateTime
Provides the time (UTC) when the snapshot was taken.

Type: DateTime

SnapshotType

Provides the type of the DB snapshot.

Type: String

SourceRegion

The region that the DB snapshot was created in or copied from.

Type: String

Status

Specifies the status of this DB snapshot.

Type: String

VpcId

Provides the Vpc Id associated with the DB snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSnapshotAlreadyExists

DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400

DBSnapshotNotFound

DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

InvalidDBSnapshotState

The state of the DB snapshot does not allow deletion.

HTTP Status Code: 400

SnapshotQuotaExceeded

Request would result in user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=CopyDBSnapshot
    &SourceDBSnapshotIdentifier=rds:simcoprod01-2012-04-02-00-01
    &TargetDBSnapshotIdentifier=mydbsnapshot
    &Version=2013-05-15
    &SignatureVersion=2&SignatureMethod=HmacSHA256
    &Timestamp=2011-12-12T06%3A27%3A42.551Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<CopyDBSnapshotResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <CopyDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <Engine>mysql</Engine>
      <Status>available</Status>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <LicenseModel>general-public-license</LicenseModel>
      <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <EngineVersion>5.1.50</EngineVersion>
      <DBSnapshotIdentifier>mydbsnapshot</DBSnapshotIdentifier>
      <SnapshotType>manual</SnapshotType>
      <MasterUsername>master</MasterUsername>
    </DBSnapshot>
  </CopyDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>c4181d1d-8505-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</CopyDBSnapshotResponse>
```

CreateDBInstance

Description

Creates a new DB instance.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

AllocatedStorage
The amount of storage (in gigabytes) to be initially allocated for the database instance.

Type: Integer

MySQL

Constraints: Must be an integer from 5 to 3072.

PostgreSQL

Constraints: Must be an integer from 5 to 3072.

Oracle

Constraints: Must be an integer from 10 to 3072.

SQL Server

Constraints: Must be an integer from 200 to 1024 (Standard Edition and Enterprise Edition) or from 30 to 1024 (Express Edition and Web Edition)

Type: Integer

Required: Yes

AutoMinorVersionUpgrade
Indicates that minor engine upgrades will be applied automatically to the DB instance during the maintenance window.

Default: `true`

Type: Boolean

Required: No

AvailabilityZone
The EC2 Availability Zone that the database instance will be created in.

Default: A random, system-chosen Availability Zone in the endpoint's region.

Example: `us-east-1d`

Constraint: The AvailabilityZone parameter cannot be specified if the MultiAZ parameter is set to `true`. The specified Availability Zone must be in the same region as the current endpoint.

Type: String

Required: No

BackupRetentionPeriod

The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

Default: 1

Constraints:

- Must be a value from 0 to 35
- Cannot be set to 0 if the DB instance is a source to read replicas

Type: Integer

Required: No

CharacterSetName

For supported engines, indicates that the DB instance should be associated with the specified CharacterSet.

Type: String

Required: No

DBInstanceClass

The compute and memory capacity of the DB instance.

Valid Values: `db.t1.micro | db.m1.small | db.m1.medium | db.m1.large | db.m1.xlarge | db.m2.xlarge |db.m2.2xlarge | db.m2.4xlarge`

Type: String

Required: Yes

DBInstanceIdentifier

The DB instance identifier. This parameter is stored as a lowercase string.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens (1 to 15 for SQL Server).
- First character must be a letter.
- Cannot end with a hyphen or contain two consecutive hyphens.

Example: `mydbinstance`

Type: String

Required: Yes

DBName

The meaning of this parameter differs according to the database engine you use.

Type: String

MySQL

The name of the database to create when the DB instance is created. If this parameter is not specified, no database is created in the DB instance.

Constraints:

- Must contain 1 to 64 alphanumeric characters
- Cannot be a word reserved by the specified database engine

PostgreSQL

The name of the database to create when the DB instance is created. If this parameter is not specified, no database is created in the DB instance.

Constraints:
- Must contain 1 to 63 alphanumeric characters
- Must begin with a letter or an underscore. Subsequent characters can be letters, underscores, or digits (0-9).
- Cannot be a word reserved by the specified database engine

Oracle

The Oracle System ID (SID) of the created DB instance.

Default: `ORCL`

Constraints:
- Cannot be longer than 8 characters

SQL Server

Not applicable. Must be null.

Type: String

Required: No

DBParameterGroupName
The name of the DB parameter group to associate with this DB instance. If this argument is omitted, the default DBParameterGroup for the specified engine will be used.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

DBSecurityGroups.member.N
A list of DB security groups to associate with this DB instance.

Default: The default DB security group for the database engine.

Type: String list

Required: No

DBSubnetGroupName
A DB subnet group to associate with this DB instance.

If there is no DB subnet group, then it is a non-VPC DB instance.

Type: String

Required: No

Engine
The name of the database engine to be used for this instance.

Valid Values: `MySQL` | `oracle-se1` | `oracle-se` | `oracle-ee` | `sqlserver-ee` | `sqlserver-se` | `sqlserver-ex` | `sqlserver-web` | `postgres`

Type: String

Required: Yes

EngineVersion
The version number of the database engine to use.

MySQL

Example: `5.1.42`

Type: String

PostgreSQL

Example: `9.3`

Type: String

Oracle

Example: `11.2.0.2.v2`

Type: String

SQL Server

Example: `10.50.2789.0.v1`

Type: String

Required: No

Iops
The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Constraints: Must be an integer greater than 1000.

Type: Integer

Required: No

LicenseModel
License model information for this DB instance.

Valid values: `license-included | bring-your-own-license | general-public-license`

Type: String

Required: No

MasterUserPassword
The password for the master database user. Can be any printable ASCII character except "/", """, or "@".

Type: String

MySQL

Constraints: Must contain from 8 to 41 characters.

Oracle

Constraints: Must contain from 8 to 30 characters.

SQL Server

Constraints: Must contain from 8 to 128 characters.

Type: String

Required: Yes

MasterUsername
The name of master user for the client DB instance.

MySQL

Constraints:

- Must be 1 to 16 alphanumeric characters.
- First character must be a letter.
- Cannot be a reserved word for the chosen database engine.

Type: String

Oracle

Constraints:

- Must be 1 to 30 alphanumeric characters.
- First character must be a letter.
- Cannot be a reserved word for the chosen database engine.

SQL Server

Constraints:

- Must be 1 to 128 alphanumeric characters.
- First character must be a letter.
- Cannot be a reserved word for the chosen database engine.

Type: String

Required: Yes

MultiAZ
Specifies if the DB instance is a Multi-AZ deployment. You cannot set the AvailabilityZone parameter if the MultiAZ parameter is set to true.

Type: Boolean

Required: No

OptionGroupName
Indicates that the DB instance should be associated with the specified option group.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, cannot be removed from an option group, and that option group cannot be removed from a DB instance once it is associated with a DB instance

Type: String

Required: No

Port
The port number on which the database accepts connections.

MySQL

Default: `3306`

Valid Values: `1150-65535`

Type: Integer

PostgreSQL

Default: `5432`

Valid Values: `1150-65535`

Type: Integer

Oracle

Default: `1521`

Valid Values: `1150-65535`

SQL Server

Default: `1433`

Valid Values: `1150-65535` except for `1434`, `3389`, `47001`, `49152`, and `49152` through `49156`.

Type: Integer

Required: No

PreferredBackupWindow
The daily time range during which automated backups are created if automated backups are enabled, using the `BackupRetentionPeriod` parameter.

Default: A 30-minute window selected at random from an 8-hour block of time per region. See the Amazon RDS User Guide for the time blocks for each region from which the default backup windows are assigned.

Constraints: Must be in the format `hh24:mi-hh24:mi`. Times should be Universal Time Coordinated (UTC). Must not conflict with the preferred maintenance window. Must be at least 30 minutes.

Type: String

Required: No

PreferredMaintenanceWindow
The weekly time range (in UTC) during which system maintenance can occur.

Format: `ddd:hh24:mi-ddd:hh24:mi`

Default: A 30-minute window selected at random from an 8-hour block of time per region, occurring on a random day of the week. To see the time blocks available, see Adjusting the Preferred Maintenance Window in the Amazon RDS User Guide.

Valid Days: Mon, Tue, Wed, Thu, Fri, Sat, Sun

Constraints: Minimum 30-minute window.

Type: String

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

Required: No

Tags.member.N

A list of tags.

Type: Tag (p. 244) list

Required: No

VpcSecurityGroupIds.member.N

A list of EC2 VPC security groups to associate with this DB instance.

Default: The default EC2 VPC security group for the DB subnet group's VPC.

Type: String list

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass

Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier

Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus

Specifies the current state of this database.

Type: String

DBName

The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups

Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups

Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup

Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint

Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine

Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion

Indicates the database engine version.

Type: String

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceAlreadyExists

User already has a DB instance with the given identifier.

HTTP Status Code: 400

DBParameterGroupNotFound

DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

DBSecurityGroupNotFound

DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

InstanceQuotaExceeded

Request would result in user exceeding the allowed number of DB instances.

HTTP Status Code: 400

InsufficientDBInstanceCapacity

Specified DB instance class is not available in the specified Availability Zone.

HTTP Status Code: 400

InvalidSubnet
> The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

> HTTP Status Code: 400

InvalidVPCNetworkState
> DB subnet group does not cover all Availability Zones after it is created because users' change.

> HTTP Status Code: 400

OptionGroupNotFound
> The specified option group could not be found.

> HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZ
> Provisioned IOPS not available in the specified Availability Zone.

> HTTP Status Code: 400

StorageQuotaExceeded
> Request would result in user exceeding the allowed amount of storage available across all DB instances.

> HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=CreateDBInstance
   &DBInstanceIdentifier=SimCoProd01
   &Engine=mysql
   &MasterUserPassword=Password01
   &AllocatedStorage=10
   &MasterUsername=master
   &Version=2013-05-15
   &DBInstanceClass=db.m1.large
   &DBSubnetGroupName=dbSubnetgroup01
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &Timestamp=2011-05-23T05%3A54%3A53.578Z
   &AWSAccessKeyId=<AWS Access Key ID>
   &Signature=<Signature>
```

Sample Response

```
<CreateDBInstanceResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
    <CreateDBInstanceResult>
        <DBInstance>
            <ReadReplicaDBInstanceIdentifiers/>
            <Engine>mysql</Engine>
            <PendingModifiedValues>
                <MasterUserPassword>****</MasterUserPassword>
            </PendingModifiedValues>
```

```
            <BackupRetentionPeriod>1</BackupRetentionPeriod>
            <MultiAZ>false</MultiAZ>
            <LicenseModel>general-public-license</LicenseModel>
            <DBSubnetGroup>
                <VpcId>990524496922</VpcId>
                <SubnetGroupStatus>Complete</SubnetGroupStatus>
          <DBSubnetGroupDescription>description</DBSubnetGroupDescription>

                <DBSubnetGroupName>subnet_grp1</DBSubnetGroupName>
                <Subnets>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7c5b4115</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1c</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7b5b4112</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1b</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-3ea6bd57</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1d</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                </Subnets>
            </DBSubnetGroup>
            <DBInstanceStatus>creating</DBInstanceStatus>
            <EngineVersion>5.1.50</EngineVersion>
            <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
            <DBParameterGroups>
                <DBParameterGroup>
                    <ParameterApplyStatus>in-sync</ParameterApplyStatus>
                 <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>

                </DBParameterGroup>
            </DBParameterGroups>
            <DBSecurityGroups>
                <DBSecurityGroup>
                    <Status>active</Status>
                    <DBSecurityGroupName>default</DBSecurityGroupName>
                </DBSecurityGroup>
            </DBSecurityGroups>
            <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
            <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
            <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMainten
anceWindow>
                <AllocatedStorage>10</AllocatedStorage>
                <DBInstanceClass>db.m1.large</DBInstanceClass>
                <MasterUsername>master</MasterUsername>
        </DBInstance>
    </CreateDBInstanceResult>
```

```
    <ResponseMetadata>
        <RequestId>2e5d4270-8501-11e0-bd9b-a7b1ece36d51</RequestId>
    </ResponseMetadata>
</CreateDBInstanceResponse>
```

CreateDBInstanceReadReplica

Description

Creates a DB instance that acts as a read replica of a source DB instance.

All read replica DB instances are created as Single-AZ deployments with backups disabled. All other DB instance attributes (including DB security groups and DB parameter groups) are inherited from the source DB instance, except as specified below.

Important

The source DB instance must have backup retention enabled.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

AutoMinorVersionUpgrade
Indicates that minor engine upgrades will be applied automatically to the read replica during the maintenance window.

Default: Inherits from the source DB instance

Type: Boolean

Required: No

AvailabilityZone
The Amazon EC2 Availability Zone that the read replica will be created in.

Default: A random, system-chosen Availability Zone in the endpoint's region.

Example: `us-east-1d`

Type: String

Required: No

DBInstanceClass
The compute and memory capacity of the read replica.

Valid Values: `db.m1.small | db.m1.medium | db.m1.large | db.m1.xlarge | db.m2.xlarge |db.m2.2xlarge | db.m2.4xlarge`

Default: Inherits from the source DB instance.

Type: String

Required: No

DBInstanceIdentifier
The DB instance identifier of the read replica. This is the unique key that identifies a DB instance. This parameter is stored as a lowercase string.

Type: String

Required: Yes

DBSubnetGroupName

Specifies a DB subnet group for the DB instance. The new DB instance will be created in the VPC associated with the DB subnet group. If no DB subnet group is specified, then the new DB instance is not created in a VPC.

Constraints:

- Can only be specified if the source DB instance identifier specifies a DB instance in another region.
- The specified DB subnet group must be in the same region in which the operation is running.
- All read replicas in one region that are created from the same source DB instance must either:
  - Specify DB subnet groups from the same VPC. All these read replicas will be created in the same VPC.
  - Not specify a DB subnet group. All these read replicas will be created outside of any VPC.

Type: String

Required: No

Iops

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Type: Integer

Required: No

OptionGroupName

The option group the DB instance will be associated with. If omitted, the default option group for the engine specified will be used.

Type: String

Required: No

Port

The port number that the DB instance uses for connections.

Default: Inherits from the source DB instance

Valid Values: `1150-65535`

Type: Integer

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

Required: No

SourceDBInstanceIdentifier

The identifier of the DB instance that will act as the source for the read replica. Each DB instance can have up to five read replicas.

Constraints:

- Must be the identifier of an existing DB instance.
- Can specify a DB instance that is a read replica only if the source is running MySQL 5.6.
- The specified DB instance must have automatic backups enabled, its backup retention period must be greater than 0.
- If the source DB instance is in the same region as the read replica, specify a valid DB instance identifier.
- If the source DB instance is in a different region than the read replica, specify a valid DB instance ARN. For more information, go to Constructing a Amazon RDS Amazon Resource Name (ARN).

Type: String

Required: Yes

Tags.member.N

A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass

Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier

Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus
Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups
Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups
Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup
Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint
Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine
Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion
Indicates the database engine version.

Type: String

InstanceCreateTime
Provides the date and time the DB instance was created.

Type: DateTime

Iops
Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime
Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel
License model information for this DB instance.

Type: String

MasterUsername
Contains the master username for the DB instance.

Type: String

MultiAZ
Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships
Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues
Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow
Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow
Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible
Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers
Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier
Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceAlreadyExists

User already has a DB instance with the given identifier.

HTTP Status Code: 400

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBParameterGroupNotFound

DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

DBSecurityGroupNotFound

DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupNotAllowed

Indicates that the DBSubnetGroup should not be specified while creating read replicas that lie in the same region as the source instance.

HTTP Status Code: 400

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

InstanceQuotaExceeded

Request would result in user exceeding the allowed number of DB instances.

HTTP Status Code: 400

InsufficientDBInstanceCapacity

Specified DB instance class is not available in the specified Availability Zone.

HTTP Status Code: 400

InvalidDBInstanceState

The specified DB instance is not in the *available* state.

HTTP Status Code: 400

InvalidDBSubnetGroup

Indicates the DBSubnetGroup does not belong to the same VPC as that of an existing cross region read replica of the same source instance.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

InvalidVPCNetworkState

DB subnet group does not cover all Availability Zones after it is created because users' change.

HTTP Status Code: 400

OptionGroupNotFound

The specified option group could not be found.

HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZ

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

Request would result in user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=CreateDBInstanceReadReplica
   &DBInstanceIdentifier=myreadreplica
   &SourceDBInstanceIdentifier=mydbinstance
   &Version=2013-05-15
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &Timestamp=2011-05-15T23%3A35%3A07.325Z
   &AWSAccessKeyId=<AWS Access Key ID>
   &Signature=<Signature>
```

Sample Response

```
<CreateDBInstanceReadReplicaResponse xmlns="http://rds.amazonaws.com/doc/2013-
05-15/">
  <CreateDBInstanceReadReplicaResult>
```

```
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <BackupRetentionPeriod>0</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <DBInstanceIdentifier>myreadreplica</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <ReadReplicaSourceDBInstanceIdentifier>mydbinstance</ReadReplicaSourceD
BInstanceIdentifier>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PreferredBackupWindow>23:00-01:00</PreferredBackupWindow>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
     <PreferredMaintenanceWindow>sun:05:00-sun:09:00</PreferredMaintenanceWin
dow>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceClass>db.m1.small</DBInstanceClass>
      <MasterUsername>master</MasterUsername>
    </DBInstance>
  </CreateDBInstanceReadReplicaResult>
  <ResponseMetadata>
    <RequestId>3e24c5cd-c6e2-11df-8463-4f0c49644cb7</RequestId>
  </ResponseMetadata>
</CreateDBInstanceReadReplicaResponse>
```

CreateDBParameterGroup

Description

Creates a new DB parameter group.

A DB parameter group is initially created with the default parameters for the database engine used by the DB instance. To provide custom values for any of the parameters, you must modify the group after creating it using *ModifyDBParameterGroup*. Once you've created a DB parameter group, you need to associate it with your DB instance using *ModifyDBInstance*. When you associate a new DB parameter group with a running DB instance, you need to reboot the DB Instance for the new DB parameter group and associated settings to take effect.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupFamily
The DB parameter group family name. A DB parameter group can be associated with one and only one DB parameter group family, and can be applied only to a DB instance running a database engine and engine version compatible with that DB parameter group family.

Type: String

Required: Yes

DBParameterGroupName
The name of the DB parameter group.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

    Note
    This value is stored as a lower-case string.

Type: String

Required: Yes

Description
The description for the DB parameter group.

Type: String

Required: Yes

Tags.member.N
A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `DBParameterGroup`.

DBParameterGroupFamily
Provides the name of the DB parameter group family that this DB parameter group is compatible with.

Type: String

DBParameterGroupName
Provides the name of the DB parameter group.

Type: String

Description
Provides the customer-specified description for this DB parameter group.

Type: String

Errors

For information about the errors that are common to all actions, see .

DBParameterGroupAlreadyExists
A DB parameter group with the same name exists.

HTTP Status Code: 400

DBParameterGroupQuotaExceeded
Request would result in user exceeding the allowed number of DB parameter groups.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=CreateDBParameterGroup
    &DBParameterGroupName=mydbparametergroup3
    &DBParameterGroupFamily=MySQL5.1
    &Version=2013-05-15
    &Description=My%20new%20DBParameterGroup
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-11T18%3A09%3A29.793Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<CreateDBParameterGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <CreateDBParameterGroupResult>
    <DBParameterGroup>
      <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
      <Description>My new DBParameterGroup</Description>
      <DBParameterGroupName>mydbparametergroup3</DBParameterGroupName>
    </DBParameterGroup>
  </CreateDBParameterGroupResult>
  <ResponseMetadata>
    <RequestId>0b447b66-bf36-11de-a88b-7b5b3d23b3a7</RequestId>
  </ResponseMetadata>
</CreateDBParameterGroupResponse>
```

CreateDBSecurityGroup

Description

Creates a new DB security group. DB security groups control access to a DB instance.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSecurityGroupDescription
The description for the DB security group.

Type: String

Required: Yes

DBSecurityGroupName
The name for the DB security group. This value is stored as a lowercase string.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens
- Must not be "Default"
- May not contain spaces

Example: `mysecuritygroup`

Type: String

Required: Yes

Tags.member.N
A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `DBSecurityGroup`.

DBSecurityGroupDescription
Provides the description of the DB security group.

Type: String

DBSecurityGroupName
Specifies the name of the DB security group.

Type: String

EC2SecurityGroups
Contains a list of EC2SecurityGroup (p. 223) elements.

Type: EC2SecurityGroup (p. 223) list

IPRanges
Contains a list of IPRange (p. 228) elements.

Type: IPRange (p. 228) list

OwnerId
Provides the AWS ID of the owner of a specific DB security group.

Type: String

VpcId
Provides the VpcId of the DB security group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSecurityGroupAlreadyExists
A DB security group with the name specified in *DBSecurityGroupName* already exists.

HTTP Status Code: 400

DBSecurityGroupNotSupported
A DB security group is not allowed for this action.

HTTP Status Code: 400

DBSecurityGroupQuotaExceeded
Request would result in user exceeding the allowed number of DB security groups.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=CreateDBSecurityGroup
    &DBSecurityGroupName=mydbsecuritygroup
    &DBSecurityGroupDescription=My%20new%20DBSecurityGroup
    &EC2VpcId=vpc-1a2b3c4d
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T18%3A14%3A49.482Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<CreateDBSecurityGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

    <CreateDBSecurityGroupResult>
```

```
        <DBSecurityGroup>
            <EC2SecurityGroups/>
          <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroup
Description>
            <IPRanges/>
            <OwnerId>565419523791</OwnerId>
            <DBSecurityGroupName>mydbsecuritygroup</DBSecurityGroupName>
            <VpcId>vpc-1a2b3c4d</VpcId>
        </DBSecurityGroup>
    </CreateDBSecurityGroupResult>
    <ResponseMetadata>
        <RequestId>ed662948-a57b-11df-9e38-7ffab86c801f</RequestId>
    </ResponseMetadata>
</CreateDBSecurityGroupResponse>
```

CreateDBSnapshot

Description

Creates a DBSnapshot. The source DBInstance must be in "available" state.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
The DB instance identifier. This is the unique key that identifies a DB instance.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

DBSnapshotIdentifier
The identifier for the DB snapshot.

Constraints:

- Cannot be null, empty, or blank
- Must contain from 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example: `my-snapshot-id`

Type: String

Required: Yes

Tags.member.N
A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `DBSnapshot`.

AllocatedStorage
Specifies the allocated storage size in gigabytes (GB).

Type: Integer

AvailabilityZone
Specifies the name of the Availability Zone the DB instance was located in at the time of the DB snapshot.

Type: String

DBInstanceIdentifier
Specifies the DB instance identifier of the DB instance this DB snapshot was created from.

Type: String

DBSnapshotIdentifier
Specifies the identifier for the DB snapshot.

Type: String

Engine
Specifies the name of the database engine.

Type: String

EngineVersion
Specifies the version of the database engine.

Type: String

InstanceCreateTime
Specifies the time (UTC) when the snapshot was taken.

Type: DateTime

Iops
Specifies the Provisioned IOPS (I/O operations per second) value of the DB instance at the time of the snapshot.

Type: Integer

LicenseModel
License model information for the restored DB instance.

Type: String

MasterUsername
Provides the master username for the DB snapshot.

Type: String

OptionGroupName
Provides the option group name for the DB snapshot.

Type: String

PercentProgress
The percentage of the estimated data that has been transferred.

Type: Integer

Port
Specifies the port that the database engine was listening on at the time of the snapshot.

Type: Integer

SnapshotCreateTime
Provides the time (UTC) when the snapshot was taken.

Type: DateTime

SnapshotType
Provides the type of the DB snapshot.

Type: String

SourceRegion
The region that the DB snapshot was created in or copied from.

Type: String

Status
Specifies the status of this DB snapshot.

Type: String

VpcId
Provides the Vpc Id associated with the DB snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBSnapshotAlreadyExists
DBSnapshotIdentifier is already used by an existing snapshot.

HTTP Status Code: 400

InvalidDBInstanceState
The specified DB instance is not in the *available* state.

HTTP Status Code: 400

SnapshotQuotaExceeded
Request would result in user exceeding the allowed number of DB snapshots.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=CreateDBSnapshot
    &DBInstanceIdentifier=simcoprod01
    &DBSnapshotIdentifier=mydbsnapshot
    &Version=2013-05-15
    &SignatureVersion=2&SignatureMethod=HmacSHA256
    &Timestamp=2011-05-23T06%3A27%3A42.551Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<CreateDBSnapshotResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <CreateDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <Engine>mysql</Engine>
```

```
      <Status>creating</Status>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <LicenseModel>general-public-license</LicenseModel>
      <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <EngineVersion>5.1.50</EngineVersion>
      <DBSnapshotIdentifier>mydbsnapshot</DBSnapshotIdentifier>
      <SnapshotType>manual</SnapshotType>
      <MasterUsername>master</MasterUsername>
    </DBSnapshot>
  </CreateDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>c4181d1d-8505-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</CreateDBSnapshotResponse>
```

CreateDBSubnetGroup

Description

Creates a new DB subnet group. DB subnet groups must contain at least one subnet in at least two AZs in the region.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSubnetGroupDescription
    The description for the DB subnet group.

    Type: String

    Required: Yes

DBSubnetGroupName
    The name for the DB subnet group. This value is stored as a lowercase string.

    Constraints: Must contain no more than 255 alphanumeric characters or hyphens. Must not be "Default".

    Example: `mySubnetgroup`

    Type: String

    Required: Yes

SubnetIds.member.N
    The EC2 Subnet IDs for the DB subnet group.

    Type: String list

    Required: Yes

Tags.member.N
    A list of tags.

    Type: Tag (p. 244) list

    Required: No

Response Elements

The following elements are returned in a structure named `DBSubnetGroup`.

DBSubnetGroupDescription
    Provides the description of the DB subnet group.

    Type: String

DBSubnetGroupName
    Specifies the name of the DB subnet group.

    Type: String

SubnetGroupStatus
    Provides the status of the DB subnet group.

Type: String

Subnets

Contains a list of Subnet (p. 243) elements.

Type: Subnet (p. 243) list

VpcId

Provides the VpcId of the DB subnet group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSubnetGroupAlreadyExists

DBSubnetGroupName is already used by an existing DB subnet group.

HTTP Status Code: 400

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupQuotaExceeded

Request would result in user exceeding the allowed number of DB subnet groups.

HTTP Status Code: 400

DBSubnetQuotaExceeded

Request would result in user exceeding the allowed number of subnets in a DB subnet groups.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=CreateDBSubnetGroup
    &DBSubnetGroupName=mydbsubnetgroup
    &DBSubnetGroupDescription=My%20new%20DBSubnetGroup
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T18%3A14%3A49.482Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<CreateDBSubnetGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

    <CreateDBSubnetGroupResult>
            <DBSubnetGroup>
                <VpcId>990524496922</VpcId>
                <SubnetGroupStatus>Complete</SubnetGroupStatus>
                <DBSubnetGroupDescription>My new DBSubnetGroup</DBSubnetGroup
Description>
                <DBSubnetGroupName>mydbsubnetgroup</DBSubnetGroupName>
                <Subnets>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7c5b4115</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1c</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7b5b4112</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1b</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-3ea6bd57</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1d</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                </Subnets>
            </DBSubnetGroup>
    </CreateDBSubnetGroupResult>
    <ResponseMetadata>
        <RequestId>ed662948-a57b-11df-9e38-7ffab86c801f</RequestId>
    </ResponseMetadata>
</CreateDBSubnetGroupResponse>
```

CreateEventSubscription

Description

Creates an RDS event notification subscription. This action requires a topic ARN (Amazon Resource Name) created by either the RDS console, the SNS console, or the SNS API. To obtain an ARN with SNS, you must create a topic in Amazon SNS and subscribe to the topic. The ARN is displayed in the SNS console.

You can specify the type of source (SourceType) you want to be notified of, provide a list of RDS sources (SourceIds) that triggers the events, and provide a list of event categories (EventCategories) for events you want to be notified of. For example, you can specify SourceType = db-instance, SourceIds = mydbinstance1, mydbinstance2 and EventCategories = Availability, Backup.

If you specify both the SourceType and SourceIds, such as SourceType = db-instance and SourceIdentifier = myDBInstance1, you will be notified of all the db-instance events for the specified source. If you specify a SourceType but do not specify a SourceIdentifier, you will receive notice of the events for that source type for all your RDS sources. If you do not specify either the SourceType nor the SourceIdentifier, you will be notified of events generated from all RDS sources belonging to your customer account.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Enabled
A Boolean value; set to **true** to activate the subscription, set to **false** to create the subscription but not active it.

Type: Boolean

Required: No

EventCategories.member.N
A list of event categories for a SourceType that you want to subscribe to. You can see a list of the categories for a given SourceType in the Events topic in the Amazon RDS User Guide or by using the **DescribeEventCategories** action.

Type: String list

Required: No

SnsTopicArn
The Amazon Resource Name (ARN) of the SNS topic created for event notification. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Required: Yes

SourceIds.member.N
The list of identifiers of the event sources for which events will be returned. If not specified, then all sources are included in the response. An identifier must begin with a letter and must contain only ASCII letters, digits, and hyphens; it cannot end with a hyphen or contain two consecutive hyphens.

Constraints:
- If SourceIds are supplied, SourceType must also be provided.
- If the source type is a DB instance, then a `DBInstanceIdentifier` must be supplied.
- If the source type is a DB security group, a `DBSecurityGroupName` must be supplied.

- If the source type is a DB parameter group, a `DBParameterGroupName` must be supplied.
- If the source type is a DB snapshot, a `DBSnapshotIdentifier` must be supplied.

Type: String list

Required: No

SourceType

The type of source that will be generating the events. For example, if you want to be notified of events generated by a DB instance, you would set this parameter to db-instance. if this value is not specified, all events are returned.

Valid values: db-instance | db-parameter-group | db-security-group | db-snapshot

Type: String

Required: No

SubscriptionName

The name of the subscription.

Constraints: The name must be less than 255 characters.

Type: String

Required: Yes

Tags.member.N

A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `EventSubscription`.

CustSubscriptionId

The RDS event notification subscription Id.

Type: String

CustomerAwsId

The AWS customer account associated with the RDS event notification subscription.

Type: String

Enabled

A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

Type: Boolean

EventCategoriesList

A list of event categories for the RDS event notification subscription.

Type: String list

SnsTopicArn

The topic ARN of the RDS event notification subscription.

Type: String

SourceIdsList
> A list of source Ids for the RDS event notification subscription.
>
> Type: String list

SourceType
> The source type for the RDS event notification subscription.
>
> Type: String

Status
> The status of the RDS event notification subscription.
>
> Constraints:
>
> Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist
>
> The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.
>
> Type: String

SubscriptionCreationTime
> The time the RDS event notification subscription was created.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

EventSubscriptionQuotaExceeded
> You have reached the maximum number of event subscriptions.
>
> HTTP Status Code: 400

SNSInvalidTopic
> SNS has responded that there is a problem with the SND topic specified.
>
> HTTP Status Code: 400

SNSNoAuthorization
> You do not have permission to publish to the SNS topic ARN.
>
> HTTP Status Code: 400

SNSTopicArnNotFound
> The SNS topic ARN does not exist.
>
> HTTP Status Code: 404

SourceNotFound
> The requested source could not be found.
>
> HTTP Status Code: 404

SubscriptionAlreadyExist
> The supplied subscription name already exists.
>
> HTTP Status Code: 400

SubscriptionCategoryNotFound
> The supplied category does not exist.
>
> HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=CreateEventSubscription
        &SubscriptionName=EventSubscription02
        &Enabled=true
       &SnsTopicArn=arn%3Aaws%3Asns%3Aus-east-1%3A012345678901%3AEventSubscrip
tion01
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T002941Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
          https://rds.us-east-1.amazonaws.com/
        ?Action=CreateEventSubscription
        &SubscriptionName=EventSubscription03
        &SourceType=db-instance
        &EventCategories.member.1=creation
        &EventCategories.member.2=deletion
        &SourceIds.member.1=dbinstance01
        &SourceIds.member.2=dbinstance02
        &Enabled=true
       &SnsTopicArn=arn%3Aaws%3Asns%3Aus-east-1%3A012345678901%3AEventSubscrip
tion01
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T014117Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
<CreateEventSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2013-01-
10/">
  <CreateEventSubscriptionResult>
    <EventSubscription>
      <Enabled>true</Enabled>
      <CustomerAwsId>012345678901</CustomerAwsId>
      <Status>creating</Status>
      <SubscriptionCreationTime>Mon Jan 28 00:29:42 UTC 2013</SubscriptionCre
ationTime>
      <CustSubscriptionId>EventSubscription02</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
    </EventSubscription>
  </CreateEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>cf3407aa-68e1-11e2-bd13-a92da73b3119</RequestId>
  </ResponseMetadata>
</CreateEventSubscriptionResponse>
```

```
        <CreateEventSubscriptionResponse xmlns="http://rds.amazon
aws.com/doc/2013-01-10/">
<CreateEventSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2013-01-
10/">
  <CreateEventSubscriptionResult>
    <EventSubscription>
      <Enabled>true</Enabled>
      <CustomerAwsId>012345678901</CustomerAwsId>
      <SourceType>db-instance</SourceType>
      <Status>creating</Status>
      <SourceIdsList>
        <SourceId>dbinstance01</SourceId>
        <SourceId>dbinstance02</SourceId>
      </SourceIdsList>
      <SubscriptionCreationTime>Mon Jan 28 01:41:19 UTC 2013</SubscriptionCre
ationTime>
      <EventCategoriesList>
        <EventCategory>creation</EventCategory>
        <EventCategory>deletion</EventCategory>
      </EventCategoriesList>
      <CustSubscriptionId>EventSubscription03</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
    </EventSubscription>
  </CreateEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>d064b48c-68eb-11e2-ab10-11125abcb784</RequestId>
  </ResponseMetadata>
</CreateEventSubscriptionResponse>
```

CreateOptionGroup

Description

Creates a new option group. You can create up to 20 option groups.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

EngineName
Specifies the name of the engine that this option group should be associated with.

Type: String

Required: Yes

MajorEngineVersion
Specifies the major version of the engine that this option group should be associated with.

Type: String

Required: Yes

OptionGroupDescription
The description of the option group.

Type: String

Required: Yes

OptionGroupName
Specifies the name of the option group to be created.

Constraints:
- Must be 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example: `myoptiongroup`

Type: String

Required: Yes

Tags.member.N
A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `OptionGroup`.

AllowsVpcAndNonVpcInstanceMemberships
> Indicates whether this option group can be applied to both VPC and non-VPC instances. The value 'true' indicates the option group can be applied to both VPC and non-VPC instances.
>
> Type: Boolean

EngineName
> Engine name that this option group can be applied to.
>
> Type: String

MajorEngineVersion
> Indicates the major engine version associated with this option group.
>
> Type: String

OptionGroupDescription
> Provides the description of the option group.
>
> Type: String

OptionGroupName
> Specifies the name of the option group.
>
> Type: String

Options
> Indicates what options are available in the option group.
>
> Type: Option (p. 229) list

VpcId
> If AllowsVpcAndNonVpcInstanceMemberships is 'false', this field is blank. If AllowsVpcAndNonVpcInstanceMemberships is 'true' and this field is blank, then this option group can be applied to both VPC and non-VPC instances. If this field contains a value, then this option group can only be applied to instances that are in the VPC indicated by this field.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

OptionGroupAlreadyExists
> The option group you are trying to create already exists.
>
> HTTP Status Code: 400

OptionGroupQuotaExceeded
> The quota of 20 option groups was exceeded for this AWS account.
>
> HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
              ?Action=CreateOptionGroup
              &OptionGroupName=myoptiongroup
```

```
                    &EngineName=oracle-se1
                    &MajorEngineVersion=11.2
                    &OptionGroupDescription=Test option group
```

Sample Response

```
<CreateOptionGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
              <CreateOptionGroupResult>
                  <OptionGroup>
                      <MajorEngineVersion>11.2</MajorEngineVersion>
                      <OptionGroupName>myoptiongroup</OptionGroupName>
                      <EngineName>oracle-se1</EngineName>
                    <OptionGroupDescription>Test option group</OptionGroup
Description>
                      <Options/>
                  </OptionGroup>
              </CreateOptionGroupResult>
              <ResponseMetadata>
                  <RequestId>b2416a8a-84c9-11e1-a264-0b23c28bc344</RequestId>

              </ResponseMetadata>
          </CreateOptionGroupResponse>
```

DeleteDBInstance

Description

The DeleteDBInstance action deletes a previously provisioned DB instance. A successful response from the web service indicates the request was received correctly. When you delete a DB instance, all automated backups for that instance are deleted and cannot be recovered. Manual DB snapshots of the DB instance to be deleted are not deleted.

If a final DB snapshot is requested the status of the RDS instance will be "deleting" until the DB snapshot is created. The API action `DescribeDBInstance` is used to monitor the status of this operation. The action cannot be canceled or reverted once submitted.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
> The DB instance identifier for the DB instance to be deleted. This parameter isn't case sensitive.
>
> Constraints:
> - Must contain from 1 to 63 alphanumeric characters or hyphens
> - First character must be a letter
> - Cannot end with a hyphen or contain two consecutive hyphens
>
> Type: String
>
> Required: Yes

FinalDBSnapshotIdentifier
> The DBSnapshotIdentifier of the new DBSnapshot created when SkipFinalSnapshot is set to `false`.
>
> > **Note**
> > Specifying this parameter and also setting the SkipFinalShapshot parameter to true results in an error.
>
> Constraints:
> - Must be 1 to 255 alphanumeric characters
> - First character must be a letter
> - Cannot end with a hyphen or contain two consecutive hyphens
> - Cannot be specified when deleting a read replica.
>
> Type: String
>
> Required: No

SkipFinalSnapshot
> Determines whether a final DB snapshot is created before the DB instance is deleted. If `true` is specified, no DBSnapshot is created. If `false` is specified, a DB snapshot is created before the DB instance is deleted.
>
> Specify `true` when deleting a read replica.
>
> > **Note**
> > The FinalDBSnapshotIdentifier parameter must be specified if SkipFinalSnapshot is `false`.
>
> Default: `false`

Type: Boolean

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage
Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade
Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone
Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod
Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName
If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass
Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier
Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus
Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups

Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups

Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup

Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint

Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine

Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion

Indicates the database engine version.

Type: String

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
>   *DBInstanceIdentifier* does not refer to an existing DB instance.

>   HTTP Status Code: 404

DBSnapshotAlreadyExists
>   *DBSnapshotIdentifier* is already used by an existing snapshot.

>   HTTP Status Code: 400

InvalidDBInstanceState
>   The specified DB instance is not in the *available* state.

>   HTTP Status Code: 400

SnapshotQuotaExceeded
>   Request would result in user exceeding the allowed number of DB snapshots.

>   HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DeleteDBInstance
    &DBInstanceIdentifier=myrestoreddbinstance
    &SkipFinalSnapshot=true
    &Version=2013-05-15
    &Timestamp=2011-05-23T07%3A19%3A35.947Z
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DeleteDBInstanceResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <DeleteDBInstanceResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2011-05-23T07:15:00Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>deleting</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <Endpoint>
        <Port>3306</Port>
       <Address>myrestoreddbinstance.cu7u2t4uz396.us-east.rds.amazonaws.com</Ad
dress>
      </Endpoint>
      <DBInstanceIdentifier>myrestoreddbinstance</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
```

```
            <ParameterApplyStatus>in-sync</ParameterApplyStatus>
            <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
          </DBParameterGroup>
        </DBParameterGroups>
        <DBSecurityGroups>
          <DBSecurityGroup>
            <Status>active</Status>
            <DBSecurityGroupName>default</DBSecurityGroupName>
          </DBSecurityGroup>
        </DBSecurityGroups>
        <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
        <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
       <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
        <AvailabilityZone>us-east-1d</AvailabilityZone>
        <InstanceCreateTime>2011-05-23T06:52:48.255Z</InstanceCreateTime>
        <AllocatedStorage>10</AllocatedStorage>
        <DBInstanceClass>db.m1.large</DBInstanceClass>
        <MasterUsername>master</MasterUsername>
      </DBInstance>
  </DeleteDBInstanceResult>
  <ResponseMetadata>
    <RequestId>03ea4ae8-850d-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</DeleteDBInstanceResponse>
```

DeleteDBParameterGroup

Description

Deletes a specified DBParameterGroup. The DBParameterGroup cannot be associated with any RDS instances to be deleted.

> **Note**
> The specified DB parameter group cannot be associated with any DB instances.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupName
The name of the DB parameter group.

Constraints:
- Must be the name of an existing DB parameter group
- You cannot delete a default DB parameter group
- Cannot be associated with any DB instances

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBParameterGroupNotFound
DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

InvalidDBParameterGroupState
The DB parameter group cannot be deleted because it is in use.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DeleteDBParameterGroup
    &DBParameterGroupName=mydbparametergroup
    &Version=2013-05-15
    &SignatureVersion=2&SignatureMethod=HmacSHA256
    &Timestamp=2011-05-11T18%3A47%3A08.851Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DeleteDBParameterGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <ResponseMetadata>
    <RequestId>4dc38be9-bf3b-11de-a88b-7b5b3d23b3a7</RequestId>
  </ResponseMetadata>
</DeleteDBParameterGroupResponse>
```

DeleteDBSecurityGroup

Description

Deletes a DB security group.

Note
The specified DB security group must not be associated with any DB instances.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSecurityGroupName
The name of the DB security group to delete.

> **Note**
> You cannot delete the default DB security group.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens
- Must not be "Default"
- May not contain spaces

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSecurityGroupNotFound
DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

InvalidDBSecurityGroupState
The state of the DB security group does not allow deletion.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
 ?Action=DeleteDBSecurityGroup
 &DBSecurityGroupName=mysecuritygroup
 &Version=2013-05-15
```

```
&SignatureVersion=2
&SignatureMethod=HmacSHA256
&Timestamp=2011-02-15T17%3A48%3A21.746Z
&AWSAccessKeyId=<AWS Access Key ID>
&Signature=<Signature>
```

Sample Response

```
<DeleteDBSecurityGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

  <ResponseMetadata>
    <RequestId>5d013245-4172-11df-8520-e7e1e602a915</RequestId>
  </ResponseMetadata>
</DeleteDBSecurityGroupResponse>
```

DeleteDBSnapshot

Description

Deletes a DBSnapshot. If the snapshot is being copied, the copy operation is terminated.

> **Note**
> The DBSnapshot must be in the `available` state to be deleted.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSnapshotIdentifier
The DBSnapshot identifier.

Constraints: Must be the name of an existing DB snapshot in the `available` state.

Type: String

Required: Yes

Response Elements

The following elements are returned in a structure named `DBSnapshot`.

AllocatedStorage
Specifies the allocated storage size in gigabytes (GB).

Type: Integer

AvailabilityZone
Specifies the name of the Availability Zone the DB instance was located in at the time of the DB snapshot.

Type: String

DBInstanceIdentifier
Specifies the DB instance identifier of the DB instance this DB snapshot was created from.

Type: String

DBSnapshotIdentifier
Specifies the identifier for the DB snapshot.

Type: String

Engine
Specifies the name of the database engine.

Type: String

EngineVersion
Specifies the version of the database engine.

Type: String

InstanceCreateTime
Specifies the time (UTC) when the snapshot was taken.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value of the DB instance at the time of the snapshot.

Type: Integer

LicenseModel

License model information for the restored DB instance.

Type: String

MasterUsername

Provides the master username for the DB snapshot.

Type: String

OptionGroupName

Provides the option group name for the DB snapshot.

Type: String

PercentProgress

The percentage of the estimated data that has been transferred.

Type: Integer

Port

Specifies the port that the database engine was listening on at the time of the snapshot.

Type: Integer

SnapshotCreateTime

Provides the time (UTC) when the snapshot was taken.

Type: DateTime

SnapshotType

Provides the type of the DB snapshot.

Type: String

SourceRegion

The region that the DB snapshot was created in or copied from.

Type: String

Status

Specifies the status of this DB snapshot.

Type: String

VpcId

Provides the Vpc Id associated with the DB snapshot.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSnapshotNotFound

DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

InvalidDBSnapshotState

The state of the DB snapshot does not allow deletion.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazon.com/
    &DBSnapshotIdentifier=mydbsnapshot
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-23T06%3A27%3A42.551Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DeleteDBSnapshotResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <DeleteDBSnapshotResult>
    <DBSnapshot>
      <Port>3306</Port>
      <SnapshotCreateTime>2011-03-11T07:20:24.082Z</SnapshotCreateTime>
      <Engine>mysql</Engine>
      <Status>deleted</Status>
      <AvailabilityZone>us-east-1d</AvailabilityZone>
      <LicenseModel>general-public-license</LicenseModel>
      <InstanceCreateTime>2010-07-16T00:06:59.107Z</InstanceCreateTime>
      <AllocatedStorage>60</AllocatedStorage>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <EngineVersion>5.1.47</EngineVersion>
      <DBSnapshotIdentifier>mysnapshot2</DBSnapshotIdentifier>
      <SnapshotType>manual</SnapshotType>
      <MasterUsername>master</MasterUsername>
    </DBSnapshot>
  </DeleteDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>627a43a1-8507-11e0-bd9b-a7b1ece36d51</RequestId>
  </ResponseMetadata>
</DeleteDBSnapshotResponse>
```

DeleteDBSubnetGroup

Description

Deletes a DB subnet group.

> **Note**
> The specified database subnet group must not be associated with any DB instances.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSubnetGroupName
The name of the database subnet group to delete.

> **Note**
> You cannot delete the default subnet group.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSubnetGroupNotFound
DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

InvalidDBSubnetGroupState
The DB subnet group cannot be deleted because it is in use.

HTTP Status Code: 400

InvalidDBSubnetState
The DB subnet is not in the *available* state.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DeleteDBSubnetGroup
    &DBSubnetGroupName=mysubnetgroup
```

```
&Version=2013-05-15
&SignatureVersion=2
&SignatureMethod=HmacSHA256
&Timestamp=2011-02-15T17%3A48%3A21.746Z
&AWSAccessKeyId=<AWS Access Key ID>
&Signature=<Signature>
```

Sample Response

```
<DeleteDBSubnetGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

    <ResponseMetadata>
      <RequestId>5d013245-4172-11df-8520-e7e1e602a915</RequestId>
    </ResponseMetadata>
  </DeleteDBSubnetGroupResponse>
```

DeleteEventSubscription

Description

Deletes an RDS event notification subscription.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

SubscriptionName
> The name of the RDS event notification subscription you want to delete.

> Type: String

> Required: Yes

Response Elements

The following elements are returned in a structure named `EventSubscription`.

CustSubscriptionId
> The RDS event notification subscription Id.

> Type: String

CustomerAwsId
> The AWS customer account associated with the RDS event notification subscription.

> Type: String

Enabled
> A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

> Type: Boolean

EventCategoriesList
> A list of event categories for the RDS event notification subscription.

> Type: String list

SnsTopicArn
> The topic ARN of the RDS event notification subscription.

> Type: String

SourceIdsList
> A list of source Ids for the RDS event notification subscription.

> Type: String list

SourceType
> The source type for the RDS event notification subscription.

> Type: String

Status
> The status of the RDS event notification subscription.

> Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

SubscriptionCreationTime
The time the RDS event notification subscription was created.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

InvalidEventSubscriptionState
This error can occur if someone else is modifying a subscription. You should retry the action.

HTTP Status Code: 400

SubscriptionNotFound
The subscription name does not exist.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=DeleteEventSubscription
        &SubscriptionName=EventSubscription01
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T012739Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
<DeleteEventSubscriptionResponse xmlns="http://rds.amazonaws.com/doc/2013-01-
10/">
  <DeleteEventSubscriptionResult>
    <EventSubscription>
      <Enabled>true</Enabled>
      <CustomerAwsId>012345678901</CustomerAwsId>
      <SourceType>db-instance</SourceType>
      <Status>deleting</Status>
      <SubscriptionCreationTime>2013-01-28 00:29:23.736</SubscriptionCreation
Time>
      <EventCategoriesList>
```

```
            <EventCategory>creation</EventCategory>
            <EventCategory>deletion</EventCategory>
        </EventCategoriesList>
        <CustSubscriptionId>EventSubscription01</CustSubscriptionId>
        <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
      </EventSubscription>
  </DeleteEventSubscriptionResult>
  <ResponseMetadata>
    <RequestId>e7cf30ac-68e9-11e2-bd13-a92da73b3119</RequestId>
  </ResponseMetadata>
</DeleteEventSubscriptionResponse>
```

DeleteOptionGroup

Description

Deletes an existing option group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

OptionGroupName
> The name of the option group to be deleted.
>
> > **Note**
> > You cannot delete default option groups.
>
> Type: String
>
> Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

InvalidOptionGroupState
> The option group is not in the *available* state.
>
> HTTP Status Code: 400

OptionGroupNotFound
> The specified option group could not be found.
>
> HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
            ?Action=DeleteOptionGroup
            &OptionGroupName=myoptiongroup
```

Sample Response

```
<DeleteOptionGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
        </DeleteOptionGroupResponse>
```

DescribeDBEngineVersions

Description

Returns a list of the available DB engines.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupFamily
The name of a specific DB parameter group family to return details for.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

DefaultOnly
Indicates that only the default version of the specified engine or engine and major version combination is returned.

Type: Boolean

Required: No

Engine
The database engine to return.

Type: String

Required: No

EngineVersion
The database engine version to return.

Example: `5.1.49`

Type: String

Required: No

Filters.member.N
Type: Filter (p. 227) list

Required: No

ListSupportedCharacterSets
If this parameter is specified, and if the requested engine supports the CharacterSetName parameter for CreateDBInstance, the response includes a list of supported character sets for each engine version.

Type: Boolean

Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more than the `MaxRecords` value is available, a pagination token called a marker is included in the response so that the following results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBEngineVersionsResult`.

DBEngineVersions

A list of `DBEngineVersion` elements.

Type: DBEngineVersion (p. 203) list

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=DescribeDBEngineVersions
   &MaxRecords=100
   &Version=2013-05-15
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &Timestamp=2011-05-23T07%3A34%3A17.435Z
   &AWSAccessKeyId=<AWS Access Key ID>
   &Signature=<Signature>
```

Sample Response

```
<DescribeDBEngineVersionsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <DescribeDBEngineVersionsResult>
```

```
    <DBEngineVersions>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <EngineVersion>5.1.42</EngineVersion>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.1.45</EngineVersion>
        <DBEngineVersionDescription>yaSSL Security Fixes</DBEngineVersionDes
cription>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.1.47</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.47.R1 with InnoDB Plugin
1.0.8</DBEngineVersionDescription>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.1.48</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.47.R1 with InnoDB Plugin
1.0.8</DBEngineVersionDescription>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.1.49</EngineVersion>
        <DBEngineVersionDescription>MySQL 5.1.49-R1 with innodb plugin</DBEn
gineVersionDescription>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.1.50</EngineVersion>
       <DBEngineVersionDescription>MySQL 5.1.50-R3</DBEngineVersionDescription>

      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>mysql5.5</DBParameterGroupFamily>
        <Engine>mysql</Engine>
        <DBEngineDescription>Use instead of mysql5.1</DBEngineDescription>
        <EngineVersion>5.5.7</EngineVersion>
       <DBEngineVersionDescription>MySQL 5.5.7.R1</DBEngineVersionDescription>

      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-ee-11.2</DBParameterGroupFamily>
        <Engine>oracle-ee</Engine>
        <DBEngineDescription>Oracle Database Server EE</DBEngineDescription>
```

```
            <EngineVersion>11.2.0.2</EngineVersion>
            <DBEngineVersionDescription>Oracle EE release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-ee-11.2</DBParameterGroupFamily>
        <Engine>oracle-ee</Engine>
        <DBEngineDescription>Oracle Database Server EE</DBEngineDescription>
        <EngineVersion>11.2.0.2.v2</EngineVersion>
        <DBEngineVersionDescription>First Oracle Enterprise Edition One - DB
Engine Version 11.2.0.2.v2</DBEngineVersionDescription>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-ee-11.2</DBParameterGroupFamily>
        <Engine>oracle-ee</Engine>
        <DBEngineDescription>Oracle Database Server EE</DBEngineDescription>
        <EngineVersion>11.2.0.2.v3</EngineVersion>
        <DBEngineVersionDescription>Oracle EE release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se-11.2</DBParameterGroupFamily>
        <Engine>oracle-se</Engine>
        <DBEngineDescription>Oracle Database Server SE</DBEngineDescription>
        <EngineVersion>11.2.0.2</EngineVersion>
        <DBEngineVersionDescription>Oracle SE release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se-11.2</DBParameterGroupFamily>
        <Engine>oracle-se</Engine>
        <DBEngineDescription>Oracle Database Server SE</DBEngineDescription>
        <EngineVersion>11.2.0.2.v2</EngineVersion>
        <DBEngineVersionDescription>Oracle SE release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
```

```
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se-11.2</DBParameterGroupFamily>
        <Engine>oracle-se</Engine>
        <DBEngineDescription>Oracle Database Server SE</DBEngineDescription>
        <EngineVersion>11.2.0.2.v3</EngineVersion>
        <DBEngineVersionDescription>Oracle SE release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se1-11.2</DBParameterGroupFamily>
        <Engine>oracle-se1</Engine>
        <DBEngineDescription>Oracle Database Server SE1</DBEngineDescription>
        <EngineVersion>11.2.0.2</EngineVersion>
       <DBEngineVersionDescription>Oracle SE1 release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se1-11.2</DBParameterGroupFamily>
        <Engine>oracle-se1</Engine>
        <DBEngineDescription>Oracle Database Server SE1</DBEngineDescription>
        <EngineVersion>11.2.0.2.v2</EngineVersion>
       <DBEngineVersionDescription>Oracle SE1 release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
      <DBEngineVersion>
        <DBParameterGroupFamily>oracle-se1-11.2</DBParameterGroupFamily>
        <Engine>oracle-se1</Engine>
        <DBEngineDescription>Oracle Database Server SE1</DBEngineDescription>
        <EngineVersion>11.2.0.2.v3</EngineVersion>
       <DBEngineVersionDescription>Oracle SE1 release</DBEngineVersionDescrip
tion>
        <CharacterSet>
            <CharacterSetName>AL32UTF8</CharacterSetName>
            <CharacterSetDescription>Unicode 5.0 UTF-8 Universal character
set</CharacterSetDescription>
        </CharacterSet>
      </DBEngineVersion>
    </DBEngineVersions>
  </DescribeDBEngineVersionsResult>
  <ResponseMetadata>
```

```
      <RequestId>1162dc55-850f-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</DescribeDBEngineVersionsResponse>
```

DescribeDBInstances

Description

Returns information about provisioned RDS instances. This API supports pagination.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
> The user-supplied instance identifier. If this parameter is specified, information from only the specific DB instance is returned. This parameter isn't case sensitive.

> Constraints:

> - Must contain from 1 to 63 alphanumeric characters or hyphens
> - First character must be a letter
> - Cannot end with a hyphen or contain two consecutive hyphens

> Type: String

> Required: No

Filters.member.N
> This parameter is not currently supported.

> Type: Filter (p. 227) list

> Required: No

Marker
> An optional pagination token provided by a previous DescribeDBInstances request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

> Type: String

> Required: No

MaxRecords
> The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

> Default: 100

> Constraints: minimum 20, maximum 100

> Type: Integer

> Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBInstancesResult`.

DBInstances

A list of DBInstance (p. 204) instances.

Type: DBInstance (p. 204) list

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords .

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=DescribeDBInstances
   &Version=2013-05-15
   &MaxRecords=100
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &Timestamp=2011-05-23T06%3A54%3A55.116Z
   &AWSAccessKeyId=< Your AWS Access ID Key >
   &Signature= < Your Signature >
```

Sample Response

```
<DescribeDBInstancesResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

  <DescribeDBInstancesResult>
    <DBInstances>
      <DBInstance>
        <ReadReplicaDBInstanceIdentifiers/>
        <LatestRestorableTime>2011-05-23T06:50:00Z</LatestRestorableTime>
        <Engine>mysql</Engine>
        <PendingModifiedValues/>
        <BackupRetentionPeriod>1</BackupRetentionPeriod>
        <MultiAZ>false</MultiAZ>
        <LicenseModel>general-public-license</LicenseModel>
        <DBInstanceStatus>available</DBInstanceStatus>
        <EngineVersion>5.1.50</EngineVersion>
        <Endpoint>
          <Port>3306</Port>
         <Address>simcoprod01.cu7u2t4uz396.us-east-1.rds.amazonaws.com</Address>
```

```
          </Endpoint>
          <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
          <DBParameterGroups>
            <DBParameterGroup>
              <ParameterApplyStatus>in-sync</ParameterApplyStatus>
              <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
            </DBParameterGroup>
          </DBParameterGroups>
          <DBSecurityGroups>
            <DBSecurityGroup>
              <Status>active</Status>
              <DBSecurityGroupName>default</DBSecurityGroupName>
            </DBSecurityGroup>
          </DBSecurityGroups>
          <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
          <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
        <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
          <AvailabilityZone>us-east-1a</AvailabilityZone>
          <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
          <AllocatedStorage>10</AllocatedStorage>
          <OptionGroupMemberships>
            <OptionGroupMembership>
              <OptionGroupName>default.mysql5.1</OptionGroupName>
              <Status>in-sync</Status>
            </OptionGroupMembership>
          </OptionGroupMemberships>
          <DBInstanceClass>db.m1.large</DBInstanceClass>
          <MasterUsername>master</MasterUsername>
        </DBInstance>
    </DescribeDBInstancesResult>
    <ResponseMetadata>
      <RequestId>9135fff3-8509-11e0-bd9b-a7b1ece36d51</RequestId>
    </ResponseMetadata>
</DescribeDBInstancesResponse>
```

DescribeDBLogFiles

Description

Returns a list of DB log files for the DB instance.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
The customer-assigned name of the DB instance that contains the log files you want to list.

Constraints:
- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

FileLastWritten
Filters the available log files for files written since the specified date, in POSIX timestamp format.

Type: Long

Required: No

FileSize
Filters the available log files for files larger than the specified size.

Type: Long

Required: No

FilenameContains
Filters the available log files for log file names that contain the specified string.

Type: String

Required: No

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker
The pagination token provided in the previous request. If this parameter is specified the response includes only records beyond the marker, up to MaxRecords.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBLogFilesResult`.

DescribeDBLogFiles

The DB log files returned.

Type: DescribeDBLogFilesDetails (p. 216) list

Marker

An optional paging token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
?DBInstanceIdentifier=rrak-mysql
&MaxRecords=100
&Version=2013-02-12
&Action=DescribeDBLogFiles
&SignatureVersion=4
&SignatureMethod=HmacSHA256
&Timestamp=20130327T173621Z
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Date=20130327T173621Z
&X-Amz-SignedHeaders=Host
&X-Amz-Expires=20130327T173621Z
&X-Amz-Credential=<AWS Access Key ID>
&X-Amz-Signature=<Signature>
```

Sample Response

```
<DescribeDBLogFilesResponse xmlns="http://rds.amazonaws.com/doc/2013-02-12/">
  <DescribeDBLogFilesResult>
    <DescribeDBLogFiles>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364403600000</LastWritten>
        <LogFileName>error/mysql-error-running.log</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364338800000</LastWritten>
        <LogFileName>error/mysql-error-running.log.0</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364342400000</LastWritten>
        <LogFileName>error/mysql-error-running.log.1</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364346000000</LastWritten>
        <LogFileName>error/mysql-error-running.log.2</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364349600000</LastWritten>
        <LogFileName>error/mysql-error-running.log.3</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
      <DescribeDBLogFilesDetails>
        <LastWritten>1364405700000</LastWritten>
        <LogFileName>error/mysql-error.log</LogFileName>
        <Size>0</Size>
      </DescribeDBLogFilesDetails>
    </DescribeDBLogFiles>
  </DescribeDBLogFilesResult>
  <ResponseMetadata>
    <RequestId>d70fb3b3-9704-11e2-a0db-871552e0ef19</RequestId>
  </ResponseMetadata>
</DescribeDBLogFilesResponse>
```

DescribeDBParameterGroups

Description

Returns a list of `DBParameterGroup` descriptions. If a `DBParameterGroupName` is specified, the list will contain only the description of the specified DB parameter group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupName
The name of a specific DB parameter group to return details for.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker
An optional pagination token provided by a previous `DescribeDBParameterGroups` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBParameterGroupsResult`.

DBParameterGroups
> A list of DBParameterGroup (p. 209) instances.
>
> Type: DBParameterGroup (p. 209) list

Marker
> An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.
>
> Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBParameterGroupNotFound
> *DBParameterGroupName* does not refer to an existing DB parameter group.
>
> HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeDBParameterGroups
    &DBParameterGroupName=myparamsgroup
    &MaxRecords=100
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T17%3A54%3A32.899Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeDBParameterGroupsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <DescribeDBParameterGroupsResult>
    <DBParameterGroups>
      <DBParameterGroup>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Description>Default parameter group for mysql5.1</Description>
        <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
      </DBParameterGroup>
      <DBParameterGroup>
        <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
        <Description>My DB Param Group</Description>
        <DBParameterGroupName>testdbparamgroup</DBParameterGroupName>
      </DBParameterGroup>
    </DBParameterGroups>
  </DescribeDBParameterGroupsResult>
  <ResponseMetadata>
```

```
    <RequestId>cb8d9bb4-a02a-11df-bd60-c955b7d6e8e0</RequestId>
  </ResponseMetadata>
</DescribeDBParameterGroupsResponse>
```

DescribeDBParameters

Description

Returns the detailed parameter list for a particular DB parameter group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupName

The name of a specific DB parameter group to return details for.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

Filters.member.N

This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker

An optional pagination token provided by a previous `DescribeDBParameters` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Source

The parameter types to return.

Default: All parameter types returned

Valid Values: `user | system | engine-default`

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBParametersResult`.

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Parameters
A list of Parameter (p. 237) values.

Type: Parameter (p. 237) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBParameterGroupNotFound
DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeDBParameters
    &DBParameterGroupName=mydbparametergroup
    &Source=system
    &MaxRecords=100
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-11T19%3A31%3A42.262Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeDBParametersResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

  <DescribeDBParametersResult>
    <Parameters>
      <Parameter>
        <ParameterValue>rdsdbbin/mysql</ParameterValue>
        <DataType>string</DataType>
        <Source>system</Source>
```

```
            <IsModifiable>false</IsModifiable>
            <Description>The MySQL installation base directory.</Description>
            <ApplyType>static</ApplyType>
            <ParameterName>basedir</ParameterName>
        </Parameter>
        <Parameter>
            <ParameterValue>32768</ParameterValue>
            <DataType>integer</DataType>
            <Source>system</Source>
            <IsModifiable>true</IsModifiable>
            <Description>The size of the cache to hold the SQL statements for the
binary log during a transaction.</Description>
            <ApplyType>dynamic</ApplyType>
            <AllowedValues>4096-9223372036854775807</AllowedValues>
            <ParameterName>binlog_cache_size</ParameterName>
        </Parameter>
    </Parameters>
  </DescribeDBParametersResult>
  <ResponseMetadata>
    <RequestId>8743f2cf-bf41-11de-8c8e-49155882c409</RequestId>
  </ResponseMetadata>
</DescribeDBParametersResponse>
```

DescribeDBSecurityGroups

Description

Returns a list of `DBSecurityGroup` descriptions. If a `DBSecurityGroupName` is specified, the list will contain only the descriptions of the specified DB security group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSecurityGroupName
The name of the DB security group to return details for.

Type: String

Required: No

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker
An optional pagination token provided by a previous DescribeDBSecurityGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBSecurityGroupsResult`.

DBSecurityGroups
A list of DBSecurityGroup (p. 210) instances.

Type: DBSecurityGroup (p. 210) list

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSecurityGroupNotFound
DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeDBSecurityGroups
    &Version=2013-05-15
    &MaxRecords=100
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T19%3A40%3A19.926Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeDBSecurityGroupsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <DescribeDBSecurityGroupsResult>
    <DBSecurityGroups>
      <DBSecurityGroup>
        <EC2SecurityGroups>
          <EC2SecurityGroup>
            <Status>authorized</Status>
            <EC2SecurityGroupName>myec2securitygroup</EC2SecurityGroupName>
            <EC2SecurityGroupOwnerId>054794666394</EC2SecurityGroupOwnerId>
          </EC2SecurityGroup>
        </EC2SecurityGroups>
        <DBSecurityGroupDescription>default</DBSecurityGroupDescription>
        <IPRanges>
          <IPRange>
            <CIDRIP>127.0.0.1/30</CIDRIP>
            <Status>authorized</Status>
          </IPRange>
        </IPRanges>
        <OwnerId>621567473609</OwnerId>
        <DBSecurityGroupName>default</DBSecurityGroupName>
        <VpcId>vpc-1ab2c3d4</VpcId>
      </DBSecurityGroup>
      <DBSecurityGroup>
        <EC2SecurityGroups/>
        <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroupDe
```

```
scription>
        <IPRanges>
          <IPRange>
            <CIDRIP>192.168.1.1/24</CIDRIP>
            <Status>authorized</Status>
          </IPRange>
        </IPRanges>
        <OwnerId>621567473609</OwnerId>
        <DBSecurityGroupName>mydbsecuritygroup</DBSecurityGroupName>
        <VpcId>vpc-1ab2c3d5</VpcId>
      </DBSecurityGroup>
      <DBSecurityGroup>
        <EC2SecurityGroups/>
        <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroupDe
scription>
        <IPRanges/>
        <OwnerId>621567473609</OwnerId>
        <DBSecurityGroupName>mydbsecuritygroup4</DBSecurityGroupName>
        <VpcId>vpc-1ab2c3d6</VpcId>
      </DBSecurityGroup>
    </DBSecurityGroups>
  </DescribeDBSecurityGroupsResult>
  <ResponseMetadata>
    <RequestId>bbdad154-bf42-11de-86a4-97241dfaadff</RequestId>
  </ResponseMetadata>
</DescribeDBSecurityGroupsResponse>
```

DescribeDBSnapshots

Description

Returns information about DB snapshots. This API supports pagination.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier

A DB instance identifier to retrieve the list of DB snapshots for. Cannot be used in conjunction with `DBSnapshotIdentifier`. This parameter is not case sensitive.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

DBSnapshotIdentifier

A specific DB snapshot identifier to describe. Cannot be used in conjunction with `DBInstanceIdentifier`. This value is stored as a lowercase string.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens
- If this is the identifier of an automated snapshot, the `SnapshotType` parameter must also be specified.

Type: String

Required: No

Filters.member.N

This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker

An optional pagination token provided by a previous `DescribeDBSnapshots` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords

The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

SnapshotType

The type of snapshots that will be returned. Values can be "automated" or "manual." If not specified, the returned results will include all snapshots types.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeDBSnapshotsResult`.

DBSnapshots

A list of DBSnapshot (p. 212) instances.

Type: DBSnapshot (p. 212) list

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSnapshotNotFound

DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazon.com/
    ?Action=DescribeDBSnapshots
    &MaxRecords=100
    &Version=2013-05-15
    &Timestamp=2011-05-23T06%3A27%3A42.551Z
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeDBSnapshotsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

  <DescribeDBSnapshotsResult>
    <DBSnapshots>
      <DBSnapshot>
        <Port>3306</Port>
        <SnapshotCreateTime>2011-05-23T06:29:03.483Z</SnapshotCreateTime>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <AvailabilityZone>us-east-1a</AvailabilityZone>
        <LicenseModel>general-public-license</LicenseModel>
        <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
        <AllocatedStorage>10</AllocatedStorage>
        <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
        <EngineVersion>5.1.50</EngineVersion>
        <DBSnapshotIdentifier>mydbsnapshot</DBSnapshotIdentifier>
        <SnapshotType>manual</SnapshotType>
        <MasterUsername>master</MasterUsername>
        <OptionGroupName>myoptiongroupname</OptionGroupName>
      </DBSnapshot>
      <DBSnapshot>
        <Port>3306</Port>
        <SnapshotCreateTime>2011-03-11T07:20:24.082Z</SnapshotCreateTime>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <AvailabilityZone>us-east-1a</AvailabilityZone>
        <LicenseModel>general-public-license</LicenseModel>
        <InstanceCreateTime>2010-08-04T23:27:36.420Z</InstanceCreateTime>
        <AllocatedStorage>50</AllocatedStorage>
        <DBInstanceIdentifier>mydbinstance</DBInstanceIdentifier>
        <EngineVersion>5.1.49</EngineVersion>
        <DBSnapshotIdentifier>mysnapshot1</DBSnapshotIdentifier>
        <SnapshotType>manual</SnapshotType>
        <MasterUsername>sa</MasterUsername>
        <OptionGroupName>myoptiongroupname</OptionGroupName>
      </DBSnapshot>
      <DBSnapshot>
        <Port>3306</Port>
        <SnapshotCreateTime>2012-04-02T00:01:24.082Z</SnapshotCreateTime>
        <Engine>mysql</Engine>
        <Status>available</Status>
        <AvailabilityZone>us-east-1d</AvailabilityZone>
        <LicenseModel>general-public-license</LicenseModel>
        <InstanceCreateTime>2010-07-16T00:06:59.107Z</InstanceCreateTime>
        <AllocatedStorage>60</AllocatedStorage>
        <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
        <EngineVersion>5.1.47</EngineVersion>
        <DBSnapshotIdentifier>rds:simcoprod01-2012-04-02-00-01</DBSnapshotIden
tifier>
        <SnapshotType>automated</SnapshotType>
        <MasterUsername>master</MasterUsername>
        <OptionGroupName>myoptiongroupname</OptionGroupName>
      </DBSnapshot>
    </DBSnapshots>
  </DescribeDBSnapshotsResult>
```

```
  <ResponseMetadata>
    <RequestId>c4191173-8506-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</DescribeDBSnapshotsResponse>
```

DescribeDBSubnetGroups

Description

Returns a list of DBSubnetGroup descriptions. If a DBSubnetGroupName is specified, the list will contain only the descriptions of the specified DBSubnetGroup.

For an overview of CIDR ranges, go to the Wikipedia Tutorial.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSubnetGroupName
    The name of the DB subnet group to return details for.

    Type: String

    Required: No

Filters.member.N
    This parameter is not currently supported.

    Type: Filter (p. 227) list

    Required: No

Marker
    An optional pagination token provided by a previous DescribeDBSubnetGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by MaxRecords.

    Type: String

    Required: No

MaxRecords
    The maximum number of records to include in the response. If more records exist than the specified MaxRecords value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

    Default: 100

    Constraints: minimum 20, maximum 100

    Type: Integer

    Required: No

Response Elements

The following elements are returned in a structure named DescribeDBSubnetGroupsResult.

DBSubnetGroups
    A list of DBSubnetGroup (p. 214) instances.

    Type: DBSubnetGroup (p. 214) list

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeDBSubnetGroups
    &Version=2013-05-15
    &MaxRecords=100
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T19%3A40%3A19.926Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeDBSubnetGroupsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
      <DescribeDBSubnetGroupsResult>
         <DBSubnetGroups>
            <DBSubnetGroup>
                <VpcId>990524496922</VpcId>
                <SubnetGroupStatus>Complete</SubnetGroupStatus>
              <DBSubnetGroupDescription>description</DBSubnetGroupDescrip
tion>
                <DBSubnetGroupName>subnet_grp1</DBSubnetGroupName>
                <Subnets>
                   <Subnet>
                       <SubnetStatus>Active</SubnetStatus>
                     <SubnetIdentifier>subnet-7c5b4115</SubnetIdentifier>

                       <SubnetAvailabilityZone>
                            <Name>us-east-1c</Name>
                       </SubnetAvailabilityZone>
                   </Subnet>
                   <Subnet>
                       <SubnetStatus>Active</SubnetStatus>
                     <SubnetIdentifier>subnet-7b5b4112</SubnetIdentifier>
```

```
                        <SubnetAvailabilityZone>
                            <Name>us-east-1b</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                      <SubnetIdentifier>subnet-3ea6bd57</SubnetIdentifier>

                        <SubnetAvailabilityZone>
                            <Name>us-east-1d</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                </Subnets>
            </DBSubnetGroup>
            <DBSubnetGroup>
                <VpcId>990524496922</VpcId>
                <SubnetGroupStatus>Complete</SubnetGroupStatus>
              <DBSubnetGroupDescription>description</DBSubnetGroupDescrip
tion>
                <DBSubnetGroupName>subnet_grp2</DBSubnetGroupName>
                <Subnets>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                      <SubnetIdentifier>subnet-7c5b4115</SubnetIdentifier>

                        <SubnetAvailabilityZone>
                            <Name>us-east-1c</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                      <SubnetIdentifier>subnet-7b5b4112</SubnetIdentifier>

                        <SubnetAvailabilityZone>
                            <Name>us-east-1b</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                      <SubnetIdentifier>subnet-3ea6bd57</SubnetIdentifier>

                        <SubnetAvailabilityZone>
                            <Name>us-east-1d</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                </Subnets>
            </DBSubnetGroup>
        </DBSubnetGroups>
    </DescribeDBSubnetGroupsResult>
    <ResponseMetadata>
        <RequestId>31d0faee-229b-11e1-81f1-df3a2a803dad</RequestId>
    </ResponseMetadata>
</DescribeDBSubnetGroupsResponse>
```

DescribeEngineDefaultParameters

Description

Returns the default engine and system parameter information for the specified database engine.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupFamily
> The name of the DB parameter group family.
>
> Type: String
>
> Required: Yes

Filters.member.N
> Type: Filter (p. 227) list
>
> Required: No

Marker
> An optional pagination token provided by a previous `DescribeEngineDefaultParameters` request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.
>
> Type: String
>
> Required: No

MaxRecords
> The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.
>
> Default: 100
>
> Constraints: minimum 20, maximum 100
>
> Type: Integer
>
> Required: No

Response Elements

The following elements are returned in a structure named `EngineDefaults`.

DBParameterGroupFamily
> Specifies the name of the DB parameter group family which the engine default parameters apply to.
>
> Type: String

Marker
> An optional pagination token provided by a previous EngineDefaults request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .
>
> Type: String

Parameters
>   Contains a list of engine default parameters.

>   Type: Parameter (p. 237) list

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeEngineDefaultParameters
    &DBParameterGroupFamily=mysql5.1
    &Version=2013-05-15
    &MaxRecords=100
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T19%3A10%3A03.510Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeEngineDefaultParametersResponse xmlns="http://rds.amazon
aws.com/doc/2013-05-15/">
  <DescribeEngineDefaultParametersResult>
    <EngineDefaults>
      <Marker>bG93ZXJfY2FzZV90YWJsZV9uYW1lcw==</Marker>
      <DBParameterGroupFamily>mysql5.1</DBParameterGroupFamily>
      <Parameters>
        <Parameter>
          <DataType>boolean</DataType>
          <Source>engine-default</Source>
          <IsModifiable>false</IsModifiable>
          <Description>Controls whether user-defined functions that have only
an xxx symbol for the main function can be loaded</Description>
          <ApplyType>static</ApplyType>
          <AllowedValues>0,1</AllowedValues>
          <ParameterName>allow-suspicious-udfs</ParameterName>
        </Parameter>
        <Parameter>
          <DataType>integer</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Intended for use with master-to-master replication, and
 can be used to control the operation of AUTO_INCREMENT columns</Description>
          <ApplyType>dynamic</ApplyType>
          <AllowedValues>1-65535</AllowedValues>
          <ParameterName>auto_increment_increment</ParameterName>
        </Parameter>
        <Parameter>
          <DataType>integer</DataType>
          <Source>engine-default</Source>
          <IsModifiable>true</IsModifiable>
          <Description>Determines the starting point for the AUTO_INCREMENT
```

```
column value</Description>
          <ApplyType>dynamic</ApplyType>
          <AllowedValues>1-65535</AllowedValues>
          <ParameterName>auto_increment_offset</ParameterName>
        </Parameter>
    </EngineDefaults>
  </DescribeEngineDefaultParametersResult>
  <ResponseMetadata>
    <RequestId>6c1341eb-a124-11df-bf5c-973b09643c5d</RequestId>
  </ResponseMetadata>
</DescribeEngineDefaultParametersResponse>
```

DescribeEventCategories

Description

Displays a list of categories for all event source types, or, if specified, for a specified source type. You can see a list of the event categories and source types in the Events topic in the Amazon RDS User Guide.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

SourceType
The type of source that will be generating the events.

Valid values: db-instance | db-parameter-group | db-security-group | db-snapshot

Type: String

Required: No

Response Elements

The following element is returned in a structure named `DescribeEventCategoriesResult`.

EventCategoriesMapList
A list of EventCategoriesMap data types.

Type: EventCategoriesMap (p. 226) list

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=DescribeEventCategories
        &SourceType=db-instance
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T013452Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
        <DescribeEventCategoriesResponse xmlns="http://rds.amazon
aws.com/doc/2013-01-10/">
  <DescribeEventCategoriesResult>
    <EventCategoriesMapList>
      <EventCategoriesMap>
        <SourceType>db-instance</SourceType>
        <EventCategories>
          <EventCategory>failover</EventCategory>
          <EventCategory>low storage</EventCategory>
          <EventCategory>maintenance</EventCategory>
          <EventCategory>recovery</EventCategory>
          <EventCategory>restoration</EventCategory>
          <EventCategory>deletion</EventCategory>
          <EventCategory>configuration change</EventCategory>
          <EventCategory>failover</EventCategory>
          <EventCategory>availability</EventCategory>
          <EventCategory>creation</EventCategory>
          <EventCategory>backup</EventCategory>
          <EventCategory>notification</EventCategory>
        </EventCategories>
      </EventCategoriesMap>
    </EventCategoriesMapList>
  </DescribeEventCategoriesResult>
  <ResponseMetadata>
    <RequestId>ea3bf54b-68ea-11e2-bd13-a92da73b3119</RequestId>
  </ResponseMetadata>
</DescribeEventCategoriesResponse>
```

DescribeEventSubscriptions

Description

Lists all the subscription descriptions for a customer account. The description for a subscription includes SubscriptionName, SNSTopicARN, CustomerID, SourceType, SourceID, CreationTime, and Status.

If you specify a SubscriptionName, lists the description for that subscription.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker
An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

SubscriptionName
The name of the RDS event notification subscription you want to describe.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeEventSubscriptionsResult`.

EventSubscriptionsList
A list of EventSubscriptions data types.

Type: EventSubscription (p. 226) list

Marker
　　An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request.
　　If this parameter is specified, the response includes only records beyond the marker, up to the value
　　specified by `MaxRecords`.

　　Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

SubscriptionNotFound
　　The subscription name does not exist.

　　HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=DescribeEventSubscriptions
        &MaxRecords=100
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T004543Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
<DescribeEventSubscriptionsResponse xmlns="http://rds.amazonaws.com/doc/2013-
01-10/">
  <DescribeEventSubscriptionsResult>
    <EventSubscriptionsList>
      <EventSubscription>
        <Enabled>true</Enabled>
        <CustomerAwsId>012345678901</CustomerAwsId>
        <Status>active</Status>
      <SubscriptionCreationTime>2013-01-28 00:29:23.736</SubscriptionCreation
Time>
        <CustSubscriptionId>EventSubscription01</CustSubscriptionId>
      <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
      </EventSubscription>
      <EventSubscription>
        <Enabled>true</Enabled>
        <CustomerAwsId>012345678901</CustomerAwsId>
        <Status>active</Status>
      <SubscriptionCreationTime>2013-01-28 00:29:42.851</SubscriptionCreation
Time>
```

```
        <CustSubscriptionId>EventSubscription02</CustSubscriptionId>
        <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
      </EventSubscription>
    </EventSubscriptionsList>
  </DescribeEventSubscriptionsResult>
  <ResponseMetadata>
    <RequestId>0ce48079-68e4-11e2-91fe-5daa8e68c7d4</RequestId>
  </ResponseMetadata>
</DescribeEventSubscriptionsResponse>
```

DescribeEvents

Description

Returns events related to DB instances, DB security groups, DB snapshots, and DB parameter groups for the past 14 days. Events specific to a particular DB instance, DB security group, database snapshot, or DB parameter group can be obtained by providing the name as a parameter. By default, the past hour of events are returned.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Duration
> The number of minutes to retrieve events for.

> Default: 60

> Type: Integer

> Required: No

EndTime
> The end of the time interval for which to retrieve events, specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

> Example: 2009-07-08T18:00Z

> Type: DateTime

> Required: No

EventCategories.member.N
> A list of event categories that trigger notifications for a event notification subscription.

> Type: String list

> Required: No

Filters.member.N
> This parameter is not currently supported.

> Type: Filter (p. 227) list

> Required: No

Marker
> An optional pagination token provided by a previous DescribeEvents request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

> Type: String

> Required: No

MaxRecords
> The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results may be retrieved.

> Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

SourceIdentifier

The identifier of the event source for which events will be returned. If not specified, then all sources are included in the response.

Constraints:

- If SourceIdentifier is supplied, SourceType must also be provided.
- If the source type is `DBInstance`, then a `DBInstanceIdentifier` must be supplied.
- If the source type is `DBSecurityGroup`, a `DBSecurityGroupName` must be supplied.
- If the source type is `DBParameterGroup`, a `DBParameterGroupName` must be supplied.
- If the source type is `DBSnapshot`, a `DBSnapshotIdentifier` must be supplied.
- Cannot end with a hyphen or contain two consecutive hyphens.

Type: String

Required: No

SourceType

The event source to retrieve events for. If no value is specified, all events are returned.

Type: String

Valid Values: `db-instance | db-parameter-group | db-security-group | db-snapshot`

Required: No

StartTime

The beginning of the time interval to retrieve events for, specified in ISO 8601 format. For more information about ISO 8601, go to the ISO8601 Wikipedia page.

Example: 2009-07-08T18:00Z

Type: DateTime

Required: No

Response Elements

The following elements are returned in a structure named `DescribeEventsResult`.

Events

A list of Event (p. 225) instances.

Type: Event (p. 225) list

Marker

An optional pagination token provided by a previous Events request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeEvents
    &Duration=1440
    &MaxRecords=100
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T20%3A00%3A44.420Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeEventsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <DescribeEventsResult>
    <Events>
      <Event>
        <Message>Applied change to security group</Message>
        <SourceType>db-security-group</SourceType>
        <Date>2010-08-11T17:12:52.860Z</Date>
        <SourceIdentifier>mydbsecuritygroup</SourceIdentifier>
      </Event>
      <Event>
        <Message>Database instance created</Message>
        <SourceType>db-instance</SourceType>
        <Date>2010-08-11T18:10:15.269Z</Date>
        <SourceIdentifier>mydbinstance3</SourceIdentifier>
      </Event>
      <Event>
        <Message>Backing up database instance</Message>
        <SourceType>db-instance</SourceType>
        <Date>2010-08-11T18:10:34.690Z</Date>
        <SourceIdentifier>mydbinstance3</SourceIdentifier>
      </Event>
      <Event>
        <Message>Backing up DB instance</Message>
        <SourceType>db-instance</SourceType>
        <Date>2010-08-11T18:25:52.263Z</Date>
        <SourceIdentifier>mynewdbinstance</SourceIdentifier>
      </Event>
      <Event>
        <Message>Creating user snapshot</Message>
        <SourceType>db-snapshot</SourceType>
        <Date>2010-08-11T18:25:52.263Z</Date>
        <SourceIdentifier>mynewdbsnapshot3</SourceIdentifier>
      </Event>
    </Events>
  </DescribeEventsResult>
  <ResponseMetadata>
    <RequestId>95b948cd-bf45-11de-86a4-97241dfaadff</RequestId>
```

```
    </ResponseMetadata>
</DescribeEventsResponse>
```

DescribeOptionGroupOptions

Description

Describes all available options.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

EngineName
A required parameter. Options available for the given Engine name will be described.

Type: String

Required: Yes

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

MajorEngineVersion
If specified, filters the results to include only options for the specified major engine version.

Type: String

Required: No

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DescribeOptionGroupOptionsResult`.

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

OptionGroupOptions
  List of available option group options.

  Type: OptionGroupOption (p. 232) list

Examples

Sample Request

```
https://rds.amazonaws.com/
                ?Action=DescribeOptionGroupOptions
                &EngineName=oracle-se1
                &MajorEngineVersion=11.2
```

Sample Response

```
<DescribeOptionGroupOptionsResponse xmlns="http://rds.amazonaws.com/doc/2013-
05-15/">
                <DescribeOptionGroupOptionsResult>
                  <OptionGroupOptions>
                    <OptionGroupOption>
                      <MajorEngineVersion>11.2</MajorEngineVersion>
                      <PortRequired>true</PortRequired>
                      <OptionsDependedOn/>
                     <Description>Oracle Enterprise Manager</Description>

                      <DefaultPort>1158</DefaultPort>
                      <Name>OEM</Name>
                      <EngineName>oracle-se1</EngineName>
                     <MinimumRequiredMinorEngineVersion>0.2.v3</Minimum
RequiredMinorEngineVersion>
                      <Persistent>false</Persistent>
                      <Permanent>false</Permanent>
                    </OptionGroupOption>
                  </OptionGroupOptions>
                </DescribeOptionGroupOptionsResult>
                <ResponseMetadata>
                  <RequestId>d9c8f6a1-84c7-11e1-a264-0b23c28bc344</RequestId>

                </ResponseMetadata>
            </DescribeOptionGroupOptionsResponse>
```

DescribeOptionGroups

Description

Describes the available option groups.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

EngineName
Filters the list of option groups to only include groups associated with a specific database engine.

Type: String

Required: No

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

MajorEngineVersion
Filters the list of option groups to only include groups associated with a specific database engine version. If specified, then EngineName must also be specified.

Type: String

Required: No

Marker
An optional pagination token provided by a previous DescribeOptionGroups request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

OptionGroupName
The name of the option group to describe. Cannot be supplied together with EngineName or MajorEngineVersion.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeOptionGroupsResult`.

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

OptionGroupsList
List of option groups.

Type: OptionGroup (p. 231) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

OptionGroupNotFound
The specified option group could not be found.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
              ?Action=DescribeOptionGroups
              &OptionGroupName=myoptiongroup
              &MaxRecords=100 https://rds.amazonaws.com/
              ?Action=DescribeOptionGroups
              &MaxRecords=100
```

Sample Response

```
<DescribeOptionGroupsResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

              <DescribeOptionGroupsResult>
                  <OptionGroupsList>
                      <OptionGroup>
                          <MajorEngineVersion>11.2</MajorEngineVersion>
                          <OptionGroupName>myoptiongroup</OptionGroupName>
                          <EngineName>oracle-se1</EngineName>
                          <OptionGroupDescription>Test option group</Option
GroupDescription>

                          <Options/>
                      </OptionGroup>
                  </OptionGroupsList>
```

```
                </DescribeOptionGroupsResult>
                <ResponseMetadata>
                    <RequestId>6088823d-84c8-11e1-a264-0b23c28bc344</RequestId>

                </ResponseMetadata>
            </DescribeOptionGroupsResponse> <DescribeOptionGroupsResponse xm
lns="http://rds.amazonaws.com/doc/2013-05-15/">
                <DescribeOptionGroupsResult>
                    <OptionGroupsList>
                        <OptionGroup>
                            <MajorEngineVersion>11.2</MajorEngineVersion>
                            <OptionGroupName>myoptiongroup</OptionGroupName>
                            <EngineName>oracle-se1</EngineName>
                            <OptionGroupDescription>Test option group</Option
GroupDescription>
                            <Options/>
                        </OptionGroup>
                        <OptionGroup>
                            <MajorEngineVersion>11.2</MajorEngineVersion>
                            <OptionGroupName>default:oracle-se1-11-2</Option
GroupName>
                            <EngineName>oracle-se1</EngineName>
                            <OptionGroupDescription>Default option group.</Op
tionGroupDescription>
                            <Options/>
                        </OptionGroup>
                    </OptionGroupsList>
                </DescribeOptionGroupsResult>
                <ResponseMetadata>
                    <RequestId>e4b234d9-84d5-11e1-87a6-71059839a52b</RequestId>

                </ResponseMetadata>
            </DescribeOptionGroupsResponse>
```

DescribeOrderableDBInstanceOptions

Description

Returns a list of orderable DB instance options for the specified engine.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceClass
> The DB instance class filter value. Specify this parameter to show only the available offerings matching the specified DB instance class.
>
> Type: String
>
> Required: No

Engine
> The name of the engine to retrieve DB instance options for.
>
> Type: String
>
> Required: Yes

EngineVersion
> The engine version filter value. Specify this parameter to show only the available offerings matching the specified engine version.
>
> Type: String
>
> Required: No

Filters.member.N
> This parameter is not currently supported.
>
> Type: Filter (p. 227) list
>
> Required: No

LicenseModel
> The license model filter value. Specify this parameter to show only the available offerings matching the specified license model.
>
> Type: String
>
> Required: No

Marker
> An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .
>
> Type: String
>
> Required: No

MaxRecords
> The maximum number of records to include in the response. If more records exist than the specified `MaxRecords` value, a pagination token called a marker is included in the response so that the remaining results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

Vpc

The VPC filter value. Specify this parameter to show only the available VPC or non-VPC offerings.

Type: Boolean

Required: No

Response Elements

The following elements are returned in a structure named
`DescribeOrderableDBInstanceOptionsResult`.

Marker

An optional pagination token provided by a previous OrderableDBInstanceOptions request. If this
parameter is specified, the response includes only records beyond the marker, up to the value
specified by `MaxRecords` .

Type: String

OrderableDBInstanceOptions

An OrderableDBInstanceOption (p. 235) structure containing information about orderable options for
the DB instance.

Type: OrderableDBInstanceOption (p. 235) list

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=DescribeOrderableDBInstanceOptions
   &Engine=mysql
   &MaxRecords=100
   &Version=2013-05-15
   &Timestamp=2011-05-23T07%3A49%3A17.749Z
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &AWSAccessKeyId=<AWS Access Key ID>
   &Signature=<Signature>
```

Sample Response

```
<DescribeOrderableDBInstanceOptionsResponse xmlns="http://rds.amazon
aws.com/doc/2013-05-15/">
  <DescribeOrderableDBInstanceOptionsResult>
  <!-- NOTE: Example truncated for space -->
    <OrderableDBInstanceOptions>
```

```
<OrderableDBInstanceOption>
  <MultiAZCapable>true</MultiAZCapable>
  <Engine>mysql</Engine>
  <LicenseModel>general-public-license</LicenseModel>
  <ReadReplicaCapable>true</ReadReplicaCapable>
  <EngineVersion>5.1.45</EngineVersion>
  <DBInstanceClass>db.m1.large</DBInstanceClass>
  <AvailabilityZones>
    <AvailabilityZone>
      <Name>us-east-1a</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-1b</Name>
      <ProvisionedIopsCapable>no</ProvisionedIopsCapable>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-1d</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
  </AvailabilityZones>
</OrderableDBInstanceOption>
<OrderableDBInstanceOption>
  <MultiAZCapable>true</MultiAZCapable>
  <Engine>mysql</Engine>
  <LicenseModel>general-public-license</LicenseModel>
  <ReadReplicaCapable>true</ReadReplicaCapable>
  <EngineVersion>5.1.45</EngineVersion>
  <DBInstanceClass>db.m1.small</DBInstanceClass>
  <AvailabilityZones>
    <AvailabilityZone>
      <Name>us-east-1a</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-1b</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-1d</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
  </AvailabilityZones>
</OrderableDBInstanceOption>
<OrderableDBInstanceOption>
  <MultiAZCapable>true</MultiAZCapable>
  <Engine>mysql</Engine>
  <LicenseModel>general-public-license</LicenseModel>
  <ReadReplicaCapable>true</ReadReplicaCapable>
  <EngineVersion>5.1.45</EngineVersion>
  <DBInstanceClass>db.m1.xlarge</DBInstanceClass>
  <AvailabilityZones>
    <AvailabilityZone>
      <Name>us-east-1a</Name>
      <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
    </AvailabilityZone>
    <AvailabilityZone>
      <Name>us-east-1b</Name>
```

```
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
                  <AvailabilityZone>
                    <Name>us-east-1d</Name>
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
              </AvailabilityZones>
          </OrderableDBInstanceOption>
          <OrderableDBInstanceOption>
            <MultiAZCapable>true</MultiAZCapable>
            <Engine>mysql</Engine>
            <LicenseModel>general-public-license</LicenseModel>
            <ReadReplicaCapable>true</ReadReplicaCapable>
            <EngineVersion>5.1.45</EngineVersion>
            <DBInstanceClass>db.m2.2xlarge</DBInstanceClass>
            <AvailabilityZones>
                  <AvailabilityZone>
                    <Name>us-east-1a</Name>
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
                  <AvailabilityZone>
                    <Name>us-east-1b</Name>
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
                  <AvailabilityZone>
                    <Name>us-east-1d</Name>
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
              </AvailabilityZones>
          </OrderableDBInstanceOption>
          <OrderableDBInstanceOption>
            <MultiAZCapable>true</MultiAZCapable>
            <Engine>mysql</Engine>
            <LicenseModel>general-public-license</LicenseModel>
            <ReadReplicaCapable>true</ReadReplicaCapable>
            <EngineVersion>5.1.45</EngineVersion>
            <DBInstanceClass>db.m2.4xlarge</DBInstanceClass>
            <AvailabilityZones>
                  <AvailabilityZone>
                    <Name>us-east-1a</Name>
                    <ProvisionedIopsCapable>yes</ProvisionedIopsCapable>
                  </AvailabilityZone>
                  <AvailabilityZone>
                    <Name>us-east-1b</Name>
                    <ProvisionedIopsCapable>no</ProvisionedIopsCapable>
                  </AvailabilityZone>
                  <AvailabilityZone>
                    <Name>us-east-1d</Name>
                    <ProvisionedIopsCapable>no</ProvisionedIopsCapable>
                  </AvailabilityZone>
              </AvailabilityZones>
          </OrderableDBInstanceOption>
        </OrderableDBInstanceOptions>
    </DescribeOrderableDBInstanceOptionsResult>
    <ResponseMetadata>
      <RequestId>2a0406d7-8511-11e0-90aa-eb648410240d</RequestId>
    </ResponseMetadata>
</DescribeOrderableDBInstanceOptionsResponse>
```

DescribeReservedDBInstances

Description

Returns information about reserved DB instances for this account, or about a specified reserved DB instance.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceClass
The DB instance class filter value. Specify this parameter to show only those reservations matching the specified DB instances class.

Type: String

Required: No

Duration
The duration filter value, specified in years or seconds. Specify this parameter to show only reservations for this duration.

Valid Values: `1 | 3 | 31536000 | 94608000`

Type: String

Required: No

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

MaxRecords
The maximum number of records to include in the response. If more than the `MaxRecords` value is available, a pagination token called a marker is included in the response so that the following results can be retrieved.

Default: 100

Constraints: minimum 20, maximum 100

Type: Integer

Required: No

MultiAZ
The Multi-AZ filter value. Specify this parameter to show only those reservations matching the specified Multi-AZ parameter.

Type: Boolean

Required: No

OfferingType

The offering type filter value. Specify this parameter to show only the available offerings matching the specified offering type.

Valid Values: `"Light Utilization"` | `"Medium Utilization"` | `"Heavy Utilization"`

Type: String

Required: No

ProductDescription

The product description filter value. Specify this parameter to show only those reservations matching the specified product description.

Type: String

Required: No

ReservedDBInstanceId

The reserved DB instance identifier filter value. Specify this parameter to show only the reservation that matches the specified reservation ID.

Type: String

Required: No

ReservedDBInstancesOfferingId

The offering identifier filter value. Specify this parameter to show only purchased reservations matching the specified offering identifier.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeReservedDBInstancesResult`.

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

ReservedDBInstances

A list of reserved DB instances.

Type: ReservedDBInstance (p. 240) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

ReservedDBInstanceNotFound

The specified reserved DB Instance not found.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeReservedDBInstances
    &ReservedDBInstanceId=customerSpecifiedID
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2012-12-18T18%3A31%3A36.118Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeReservedDBInstancesResponse xmlns="http://rds.amazonaws.com/doc/2013-
05-15/">
  <DescribeReservedDBInstancesResult>
    <ReservedDBInstances>
      <ReservedDBInstance>
        <OfferingType>Medium Utilization</OfferingType>
        <CurrencyCode>USD</CurrencyCode>
        <RecurringCharges/>
        <ProductDescription>mysql</ProductDescription>
        <ReservedDBInstancesOfferingId>649fd0c8-cf6d-47a0-bfa6-
060f8e75e95f</ReservedDBInstancesOfferingId>
        <MultiAZ>false</MultiAZ>
        <State>active</State>
        <ReservedDBInstanceId>myreservationid</ReservedDBInstanceId>
        <DBInstanceCount>1</DBInstanceCount>
        <StartTime>2010-12-15T00:25:14.131Z</StartTime>
        <Duration>31536000</Duration>
        <FixedPrice>227.5</FixedPrice>
        <UsagePrice>0.046</UsagePrice>
        <DBInstanceClass>db.m1.small</DBInstanceClass>
      </ReservedDBInstance>
  </DescribeReservedDBInstancesResult>
  <ResponseMetadata>
    <RequestId>c695119b-2961-11e1-bd06-6fe008f046c3</RequestId>
  </ResponseMetadata>
</DescribeReservedDBInstancesResponse>
```

DescribeReservedDBInstancesOfferings

Description

Lists available reserved DB instance offerings.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceClass
> The DB instance class filter value. Specify this parameter to show only the available offerings matching the specified DB instance class.
>
> Type: String
>
> Required: No

Duration
> Duration filter value, specified in years or seconds. Specify this parameter to show only reservations for this duration.
>
> Valid Values: `1 | 3 | 31536000 | 94608000`
>
> Type: String
>
> Required: No

Filters.member.N
> This parameter is not currently supported.
>
> Type: Filter (p. 227) list
>
> Required: No

Marker
> An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.
>
> Type: String
>
> Required: No

MaxRecords
> The maximum number of records to include in the response. If more than the `MaxRecords` value is available, a pagination token called a marker is included in the response so that the following results can be retrieved.
>
> Default: 100
>
> Constraints: minimum 20, maximum 100
>
> Type: Integer
>
> Required: No

MultiAZ
> The Multi-AZ filter value. Specify this parameter to show only the available offerings matching the specified Multi-AZ parameter.
>
> Type: Boolean

Required: No

OfferingType

The offering type filter value. Specify this parameter to show only the available offerings matching the specified offering type.

Valid Values: `"Light Utilization"` | `"Medium Utilization"` | `"Heavy Utilization"`

Type: String

Required: No

ProductDescription

Product description filter value. Specify this parameter to show only the available offerings matching the specified product description.

Type: String

Required: No

ReservedDBInstancesOfferingId

The offering identifier filter value. Specify this parameter to show only the available offering that matches the specified reservation identifier.

Example: `438012d3-4052-4cc7-b2e3-8d3372e0e706`

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DescribeReservedDBInstancesOfferingsResult`.

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

ReservedDBInstancesOfferings

A list of reserved DB instance offerings.

Type: ReservedDBInstancesOffering (p. 241) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

ReservedDBInstancesOfferingNotFound

Specified offering does not exist.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=DescribeReservedDBInstancesOfferings
    &ReservedDBInstancesOfferingId=438012d3-4052-4cc7-b2e3-8d3372e0e706
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-12-18T18%3A31%3A36.118Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<DescribeReservedDBInstancesOfferingsResponse xmlns="http://rds.amazonaws.com/doc/2012-04-02/">
  <DescribeReservedDBInstancesOfferingsResult>
    <ReservedDBInstancesOfferings>
      <ReservedDBInstancesOffering>
        <Duration>31536000</Duration>
        <OfferingType>Heavy Utilization</OfferingType>
        <CurrencyCode>USD</CurrencyCode>
        <RecurringCharges>
          <RecurringCharge>
            <RecurringChargeFrequency>Hourly</RecurringChargeFrequency>
            <RecurringChargeAmount>0.123</RecurringChargeAmount>
          </RecurringCharge>
        </RecurringCharges>
        <FixedPrice>162.0</FixedPrice>
        <ProductDescription>mysql</ProductDescription>
        <UsagePrice>0.0</UsagePrice>
        <MultiAZ>false</MultiAZ>
       <ReservedDBInstancesOfferingId>SampleOfferingId</ReservedDBInstancesOfferingId>
        <DBInstanceClass>db.m1.small</DBInstanceClass>
      </ReservedDBInstancesOffering>
    </ReservedDBInstancesOfferings>
  </DescribeReservedDBInstancesOfferingsResult>
  <ResponseMetadata>
    <RequestId>521b420a-2961-11e1-bd06-6fe008f046c3</RequestId>
  </ResponseMetadata>
</DescribeReservedDBInstancesOfferingsResponse>
```

DownloadDBLogFilePortion

Description

Downloads all or a portion of the specified log file.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
The customer-assigned name of the DB instance that contains the log files you want to list.

Constraints:
- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

LogFileName
The name of the log file to be downloaded.

Type: String

Required: Yes

Marker
The pagination token provided in the previous request or "0". If the Marker parameter is specified the response includes only records beyond the marker, up to NumberOfLines or MaxRecords, whichever is smaller.

Type: String

Required: No

NumberOfLines
The number of lines to download.

If the NumberOfLines parameter is specified, then the block of lines returned can be from the beginning or the end of the log file, depending on the value of the Marker parameter.
- If neither Marker or NumberOfLines (or MaxRecords) are specified, the entire log file is returned.
- If NumberOfLines is specified and Marker is not specified, then the most recent lines from the end of the log file are returned.
- If Marker is specified as "0", then the specified number of lines from the beginning of the log file are returned.
- You can download the log file in blocks of lines by specifying the size of the block using the NumberOfLines parameter, and by specifying a value of "0" for the Marker parameter in your first request. Include the Marker value returned in the response as the Marker value for the next request, continuing until the AdditionalDataPending response element returns false.

Type: Integer

Required: No

Response Elements

The following elements are returned in a structure named `DownloadDBLogFilePortionResult`.

AdditionalDataPending
AdditionalDataPending indicates there is more data to be downloaded.

Type: Boolean

LogFileData
Entries from the specified log file.

Type: String

Marker
A pagination token that can be used in a subsequent DownloadDBLogFilePortion request.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-west-2.amazonaws.com/
?Action=DownloadDBLogFilePortion
&DBInstanceIdentifier=myexampledb
&LogFileName=log%2FERROR
&Marker=0&
NumberOfLines=50
&Version=2013-09-09
&X-Amz-Algorithm=AWS4-HMAC-SHA256
&X-Amz-Credential=AKIADQKE4SARGYLE/20140127/us-west-2/rds/aws4_request
&X-Amz-Date=20140127T235259Z
&X-Amz-SignedHeaders=content-type;host;user-agent;x-amz-content-sha256;x-amz-
date
&X-Amz-Signature=2171c5a8e91a70202e77de7e81df75787f3bbd6b4ea97f7a426205474fcc446f
```

Sample Response

```
<DownloadDBLogFilePortionResponse xmlns="http://rds.amazonaws.com/doc/2013-09-
09/">
  <DownloadDBLogFilePortionResult>
    <Marker>0:4485</Marker>
    <LogFileData>??2014-01-26 23:59:00.01 spid54      Microsoft SQL Server 2012
- 11.0.2100.60 (X64)

 Feb 10 2012 19:39:15

 Copyright (c) Microsoft Corporation

 Web Edition (64-bit) on Windows NT 6.1 &lt;X64&gt; (Build 7601: Service Pack
1) (Hypervisor)



2014-01-26 23:59:00.01 spid54        (c) Microsoft Corporation.

2014-01-26 23:59:00.01 spid54        All rights reserved.

2014-01-26 23:59:00.01 spid54        Server process ID is 2976.

2014-01-26 23:59:00.01 spid54        System Manufacturer: 'Xen', System Model:
'HVM domU'.

2014-01-26 23:59:00.01 spid54        Authentication mode is MIXED.

2014-01-26 23:59:00.01 spid54        Logging SQL Server messages in file
'D:\RDSDBDATA\Log\ERROR'.

2014-01-26 23:59:00.01 spid54        The service account is 'WORKGROUP\AMAZONA-
NUQUUMV$'. This is an informational message; no user action is required.

2014-01-26 23:59:00.01 spid54        The error log has been reinitialized. See
the previous log for older entries.

2014-01-27 00:00:56.42 spid25s       This instance of SQL Server has been using
a process ID of 2976 since 10/21/2013 2:16:50 AM (local) 10/21/2013 2:16:50 AM
 (UTC). This is an informational message only; no user action is required.

2014-01-27 09:35:15.43 spid71        I/O is frozen on database model. No user
action is required. However, if I/O is not resumed promptly, you could cancel
the backup.

2014-01-27 09:35:15.44 spid72        I/O is frozen on database msdb. No user action
 is required. However, if I/O is not resumed promptly, you could cancel the
backup.

2014-01-27 09:35:15.44 spid74        I/O is frozen on database rdsadmin. No user
 action is required. However, if I/O is not resumed promptly, you could cancel
 the backup.

2014-01-27 09:35:15.44 spid73        I/O is frozen on database master. No user
action is required. However, if I/O is not resumed promptly, you could cancel
the backup.
```

```
2014-01-27 09:35:25.57 spid73       I/O was resumed on database master. No user
 action is required.

2014-01-27 09:35:25.57 spid74       I/O was resumed on database rdsadmin. No
user action is required.

2014-01-27 09:35:25.57 spid71       I/O was resumed on database model. No user
action is required.

2014-01-27 09:35:25.57 spid72       I/O was resumed on database msdb. No user
action is required.


</LogFileData>
    <AdditionalDataPending>false</AdditionalDataPending>
  </DownloadDBLogFilePortionResult>
  <ResponseMetadata>
    <RequestId>27143615-87ae-11e3-acc9-fb64b157268e</RequestId>
  </ResponseMetadata>
</DownloadDBLogFilePortionResponse>
```

ListTagsForResource

Description

Lists all tags on an Amazon RDS resource.

For an overview on tagging an Amazon RDS resource, see Tagging Amazon RDS Resources.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Filters.member.N
This parameter is not currently supported.

Type: Filter (p. 227) list

Required: No

ResourceName
The Amazon RDS resource with tags to be listed. This value is an Amazon Resource Name (ARN).
For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

Type: String

Required: Yes

Response Elements

The following element is returned in a structure named `ListTagsForResourceResult`.

TagList
List of tags returned by the ListTagsForResource operation.

Type: Tag (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBSnapshotNotFound
DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

ModifyDBInstance

Description

Modify settings for a DB instance. You can change one or more database configuration parameters by specifying these parameters and the new values in the request.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

AllocatedStorage
The new storage capacity of the RDS instance. Changing this parameter does not result in an outage and the change is applied during the next maintenance window unless the ApplyImmediately parameter is set to true for this request.

MySQL

Default: Uses existing setting

Valid Values: 5-3072

Constraints: Value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

Type: Integer

PostgreSQL

Default: Uses existing setting

Valid Values: 5-3072

Constraints: Value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

Type: Integer

Oracle

Default: Uses existing setting

Valid Values: 10-3072

Constraints: Value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

SQL Server

Cannot be modified.

If you choose to migrate your DB instance from using standard storage to using Provisioned IOPS, or from using Provisioned IOPS to using standard storage, the process can take time. The duration of the migration depends on several factors such as database load, storage size, storage type (standard or Provisioned IOPS), amount of IOPS provisioned (if any), and the number of prior scale

storage operations. Typical migration times are under 24 hours, but the process can take up to several days in some cases. During the migration, the DB instance will be available for use, but may experience performance degradation. While the migration takes place, nightly backups for the instance will be suspended. No other Amazon RDS operations can take place for the instance, including modifying the instance, rebooting the instance, deleting the instance, creating a read replica for the instance, and creating a DB snapshot of the instance.

Type: Integer

Required: No

AllowMajorVersionUpgrade

Indicates that major version upgrades are allowed. Changing this parameter does not result in an outage and the change is asynchronously applied as soon as possible.

Constraints: This parameter must be set to true when specifying a value for the EngineVersion parameter that is a different major version than the DB instance's current version.

Type: Boolean

Required: No

ApplyImmediately

Specifies whether or not the modifications in this request and any pending modifications are asynchronously applied as soon as possible, regardless of the `PreferredMaintenanceWindow` setting for the DB instance.

If this parameter is passed as `false`, changes to the DB instance are applied on the next call to RebootDBInstance (p. 168), the next maintenance reboot, or the next failure reboot, whichever occurs first. See each parameter to determine when a change is applied.

Default: `false`

Type: Boolean

Required: No

AutoMinorVersionUpgrade

Indicates that minor version upgrades will be applied automatically to the DB instance during the maintenance window. Changing this parameter does not result in an outage except in the following case and the change is asynchronously applied as soon as possible. An outage will result if this parameter is set to `true` during the maintenance window, and a newer minor version is available, and RDS has enabled auto patching for that engine version.

Type: Boolean

Required: No

BackupRetentionPeriod

The number of days to retain automated backups. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

Changing this parameter can result in an outage if you change from 0 to a non-zero value or from a non-zero value to 0. These changes are applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request. If you change the parameter from one non-zero value to another non-zero value, the change is asynchronously applied as soon as possible.

Default: Uses existing setting

Constraints:

• Must be a value from 0 to 35

- Can be specified for a read replica only if the source is running MySQL 5.6
- Cannot be set to 0 if the DB instance is a source to read replicas

Type: Integer

Required: No

DBInstanceClass

The new compute and memory capacity of the DB instance. To determine the instance classes that are available for a particular DB engine, use the DescribeOrderableDBInstanceOptions (p. 121) action.

Passing a value for this parameter causes an outage during the change and is applied during the next maintenance window, unless the `ApplyImmediately` parameter is specified as `true` for this request.

Default: Uses existing setting

Valid Values: `db.t1.micro | db.m1.small | db.m1.medium | db.m1.large | db.m1.xlarge | db.m2.xlarge | db.m2.2xlarge | db.m2.4xlarge`

Type: String

Required: No

DBInstanceIdentifier

The DB instance identifier. This value is stored as a lowercase string.

Constraints:
- Must be the identifier for an existing DB instance
- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

DBParameterGroupName

The name of the DB parameter group to apply to this DB instance. Changing this parameter does not result in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request.

Default: Uses existing setting

Constraints: The DB parameter group must be in the same DB parameter group family as this DB instance.

Type: String

Required: No

DBSecurityGroups.member.N

A list of DB security groups to authorize on this DB instance. Changing this parameter does not result in an outage and the change is asynchronously applied as soon as possible.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String list

Required: No

EngineVersion

The version number of the database engine to upgrade to. Changing this parameter results in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request.

For major version upgrades, if a non-default DB parameter group is currently in use, a new DB parameter group in the DB parameter group family for the new engine version must be specified. The new DB parameter group can be the default for that DB parameter group family.

Example: `5.1.42`

Type: String

Required: No

Iops

The new Provisioned IOPS (I/O operations per second) value for the RDS instance. Changing this parameter does not result in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request.

Default: Uses existing setting

Constraints: Value supplied must be at least 10% greater than the current value. Values that are not at least 10% greater than the existing value are rounded up so that they are 10% greater than the current value.

SQL Server

Setting the IOPS value for the SQL Server database engine is not supported.

Type: Integer

If you choose to migrate your DB instance from using standard storage to using Provisioned IOPS, or from using Provisioned IOPS to using standard storage, the process can take time. The duration of the migration depends on several factors such as database load, storage size, storage type (standard or Provisioned IOPS), amount of IOPS provisioned (if any), and the number of prior scale storage operations. Typical migration times are under 24 hours, but the process can take up to several days in some cases. During the migration, the DB instance will be available for use, but may experience performance degradation. While the migration takes place, nightly backups for the instance will be suspended. No other Amazon RDS operations can take place for the instance, including modifying the instance, rebooting the instance, deleting the instance, creating a read replica for the instance, and creating a DB snapshot of the instance.

Type: Integer

Required: No

MasterUserPassword

The new password for the DB instance master user. Can be any printable ASCII character except "/", """, or "@".

Changing this parameter does not result in an outage and the change is asynchronously applied as soon as possible. Between the time of the request and the completion of the request, the `MasterUserPassword` element exists in the `PendingModifiedValues` element of the operation response.

Default: Uses existing setting

Constraints: Must be 8 to 41 alphanumeric characters (MySQL), 8 to 30 alphanumeric characters (Oracle), or 8 to 128 alphanumeric characters (SQL Server).

Note
Amazon RDS API actions never return the password, so this action provides a way to regain access to a master instance user if the password is lost.

Type: String

Required: No

MultiAZ
Specifies if the DB instance is a Multi-AZ deployment. Changing this parameter does not result in an outage and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request.

Constraints: Cannot be specified if the DB instance is a read replica.

Type: Boolean

Required: No

NewDBInstanceIdentifier
The new DB instance identifier for the DB instance when renaming a DB Instance. This value is stored as a lowercase string.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: No

OptionGroupName
Indicates that the DB instance should be associated with the specified option group. Changing this parameter does not result in an outage except in the following case and the change is applied during the next maintenance window unless the `ApplyImmediately` parameter is set to `true` for this request. If the parameter change results in an option group that enables OEM, this change can cause a brief (sub-second) period during which new connections are rejected but existing connections are not interrupted.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, cannot be removed from an option group, and that option group cannot be removed from a DB instance once it is associated with a DB instance

Type: String

Required: No

PreferredBackupWindow
The daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`. Changing this parameter does not result in an outage and the change is asynchronously applied as soon as possible.

Constraints:

- Must be in the format hh24:mi-hh24:mi
- Times should be Universal Time Coordinated (UTC)
- Must not conflict with the preferred maintenance window
- Must be at least 30 minutes

Type: String

Required: No

PreferredMaintenanceWindow

The weekly time range (in UTC) during which system maintenance can occur, which may result in an outage. Changing this parameter does not result in an outage, except in the following situation, and the change is asynchronously applied as soon as possible. If there are pending actions that cause a reboot, and the maintenance window is changed to include the current time, then changing this parameter will cause a reboot of the DB instance. If moving this window to the current time, there must be at least 30 minutes between the current time and end of the window to ensure pending changes are applied.

Default: Uses existing setting

Format: ddd:hh24:mi-ddd:hh24:mi

Valid Days: Mon | Tue | Wed | Thu | Fri | Sat | Sun

Constraints: Must be at least 30 minutes

Type: String

Required: No

VpcSecurityGroupIds.member.N

A list of EC2 VPC security groups to authorize on this DB instance. This change is asynchronously applied as soon as possible.

Constraints:
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String list

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass
Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier
Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus
Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups
Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups
Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup
Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint
Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine
Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion
Indicates the database engine version.

Type: String

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceAlreadyExists

User already has a DB instance with the given identifier.

HTTP Status Code: 400

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBParameterGroupNotFound

DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

DBSecurityGroupNotFound

DBSecurityGroupName does not refer to an existing DB security group.

HTTP Status Code: 404

DBUpgradeDependencyFailure

The DB upgrade failed because a resource the DB depends on could not be modified.

HTTP Status Code: 400

InsufficientDBInstanceCapacity

Specified DB instance class is not available in the specified Availability Zone.

HTTP Status Code: 400

InvalidDBInstanceState

The specified DB instance is not in the *available* state.

HTTP Status Code: 400

InvalidDBSecurityGroupState

The state of the DB security group does not allow deletion.

HTTP Status Code: 400

InvalidVPCNetworkState

DB subnet group does not cover all Availability Zones after it is created because users' change.

HTTP Status Code: 400

OptionGroupNotFound

The specified option group could not be found.

HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZ

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

Request would result in user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
   ?Action=ModifyDBInstance
   &DBInstanceIdentifier=simcoprod01
   &AllocatedStorage=50
   &Version=2013-05-15
   &ApplyImmediately=false
   &SignatureVersion=2
   &SignatureMethod=HmacSHA256
   &Timestamp=2011-05-23T08%3A02%3A09.574Z
   &AWSAccessKeyId=<AWS Access Key ID>
   &Signature=<Signature>
```

Sample Response

```
<ModifyDBInstanceResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <ModifyDBInstanceResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2011-05-23T08:00:00Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues>
        <AllocatedStorage>50</AllocatedStorage>
      </PendingModifiedValues>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
```

```
      <DBInstanceStatus>available</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <Endpoint>
        <Port>3306</Port>
       <Address>simcoprod01.cu7u2t4uz396.us-east-1.rds.amazonaws.com</Address>

      </Endpoint>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
     <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceClass>db.m1.large</DBInstanceClass>
      <MasterUsername>master</MasterUsername>
    </DBInstance>
  </ModifyDBInstanceResult>
  <ResponseMetadata>
    <RequestId>f61a020f-8512-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</ModifyDBInstanceResponse>
```

ModifyDBParameterGroup

Description

Modifies the parameters of a DB parameter group. To modify more than one parameter, submit a list of the following: `ParameterName`, `ParameterValue`, and `ApplyMethod`. A maximum of 20 parameters can be modified in a single request.

> **Note**
>
> The `apply-immediate` method can be used only for dynamic parameters; the `pending-reboot` method can be used with MySQL, PostgreSQL, and Oracle DB instances for either dynamic or static parameters. For Microsoft SQL Server DB instances, the `pending-reboot` method can be used only for static parameters.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupName
The name of the DB parameter group.

Constraints:

- Must be the name of an existing DB parameter group
- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

Parameters.member.N
An array of parameter names, values, and the apply method for the parameter update. At least one parameter name, value, and apply method must be supplied; subsequent arguments are optional. A maximum of 20 parameters may be modified in a single request.

Valid Values (for the application method): `immediate` | `pending-reboot`

> **Note**
> You can use the immediate value with dynamic parameters only. You can use the pending-reboot value for both dynamic and static parameters, and changes are applied when DB instance reboots.

Type: Parameter (p. 237) list

Required: Yes

Response Elements

The following element is returned in a structure named `ModifyDBParameterGroupResult`.

DBParameterGroupName
The name of the DB parameter group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBParameterGroupNotFound
DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

InvalidDBParameterGroupState
The DB parameter group cannot be deleted because it is in use.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=ModifyDBParameterGroup
    &DBParameterGroupName=mydbparametergroup
    &Parameters.member.1.ParameterName=max_user_connections
    &Parameters.member.1.ParameterValue=24
    &Parameters.member.1.ApplyMethod=pending-reboot
    &Parameters.member.2.ParameterName=max_allowed_packet
    &Parameters.member.2.ParameterValue=1024
    &Parameters.member.2.ApplyMethod=immediate
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-11T21%3A25%3A00.686Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<ModifyDBParameterGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-
15/">
  <ModifyDBParameterGroupResult>
    <DBParameterGroupName>mydbparametergroup</DBParameterGroupName>
  </ModifyDBParameterGroupResult>
  <ResponseMetadata>
    <RequestId>5ba91f97-bf51-11de-bf60-ef2e377db6f3</RequestId>
  </ResponseMetadata>
</ModifyDBParameterGroupResponse>
```

ModifyDBSubnetGroup

Description

Modifies an existing DB subnet group. DB subnet groups must contain at least one subnet in at least two AZs in the region.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBSubnetGroupDescription
The description for the DB subnet group.

Type: String

Required: No

DBSubnetGroupName
The name for the DB subnet group. This value is stored as a lowercase string.

Constraints: Must contain no more than 255 alphanumeric characters or hyphens. Must not be "Default".

Example: `mySubnetgroup`

Type: String

Required: Yes

SubnetIds.member.N
The EC2 subnet IDs for the DB subnet group.

Type: String list

Required: Yes

Response Elements

The following elements are returned in a structure named `DBSubnetGroup`.

DBSubnetGroupDescription
Provides the description of the DB subnet group.

Type: String

DBSubnetGroupName
Specifies the name of the DB subnet group.

Type: String

SubnetGroupStatus
Provides the status of the DB subnet group.

Type: String

Subnets
Contains a list of Subnet (p. 243) elements.

Type: Subnet (p. 243) list

VpcId

Provides the VpcId of the DB subnet group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

DBSubnetQuotaExceeded

Request would result in user exceeding the allowed number of subnets in a DB subnet groups.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

SubnetAlreadyInUse

The DB subnet is already in use in the Availability Zone.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=ModifyDBSubnetGroup
    &DBSubnetGroupName=mydbsubnetgroup
    &DBSubnetGroupDescription=My%20modified%20DBSubnetGroup
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T18%3A14%3A49.482Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<ModifyDBSubnetGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

    <ModifyDBSubnetGroupResult>
```

```
            <DBSubnetGroup>
                <VpcId>990524496922</VpcId>
                <SubnetGroupStatus>Complete</SubnetGroupStatus>
                <DBSubnetGroupDescription>My modified DBSubnetGroup</DBSubnet
GroupDescription>
                <DBSubnetGroupName>mydbsubnetgroup</DBSubnetGroupName>
                <Subnets>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7c5b4115</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1c</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-7b5b4112</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1b</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                    <Subnet>
                        <SubnetStatus>Active</SubnetStatus>
                        <SubnetIdentifier>subnet-3ea6bd57</SubnetIdentifier>
                        <SubnetAvailabilityZone>
                            <Name>us-east-1d</Name>
                        </SubnetAvailabilityZone>
                    </Subnet>
                </Subnets>
            </DBSubnetGroup>
        </ModifyDBSubnetGroupResult>
        <ResponseMetadata>
            <RequestId>ed662948-a57b-11df-9e38-7ffab86c801f</RequestId>
        </ResponseMetadata>
    </ModifyDBSubnetGroupResponse>
```

ModifyEventSubscription

Description

Modifies an existing RDS event notification subscription. Note that you cannot modify the source identifiers using this call; to change source identifiers for a subscription, use the AddSourceIdentifierToSubscription (p. 4) and RemoveSourceIdentifierFromSubscription (p. 174) calls.

You can see a list of the event categories for a given SourceType in the Events topic in the Amazon RDS User Guide or by using the **DescribeEventCategories** action.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

Enabled

A Boolean value; set to **true** to activate the subscription.

Type: Boolean

Required: No

EventCategories.member.N

A list of event categories for a SourceType that you want to subscribe to. You can see a list of the categories for a given SourceType in the Events topic in the Amazon RDS User Guide or by using the **DescribeEventCategories** action.

Type: String list

Required: No

SnsTopicArn

The Amazon Resource Name (ARN) of the SNS topic created for event notification. The ARN is created by Amazon SNS when you create a topic and subscribe to it.

Type: String

Required: No

SourceType

The type of source that will be generating the events. For example, if you want to be notified of events generated by a DB instance, you would set this parameter to db-instance. if this value is not specified, all events are returned.

Valid values: db-instance | db-parameter-group | db-security-group | db-snapshot

Type: String

Required: No

SubscriptionName

The name of the RDS event notification subscription.

Type: String

Required: Yes

Response Elements

The following elements are returned in a structure named `EventSubscription`.

CustSubscriptionId
The RDS event notification subscription Id.

Type: String

CustomerAwsId
The AWS customer account associated with the RDS event notification subscription.

Type: String

Enabled
A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

Type: Boolean

EventCategoriesList
A list of event categories for the RDS event notification subscription.

Type: String list

SnsTopicArn
The topic ARN of the RDS event notification subscription.

Type: String

SourceIdsList
A list of source Ids for the RDS event notification subscription.

Type: String list

SourceType
The source type for the RDS event notification subscription.

Type: String

Status
The status of the RDS event notification subscription.

Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

SubscriptionCreationTime
The time the RDS event notification subscription was created.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

EventSubscriptionQuotaExceeded
> You have reached the maximum number of event subscriptions.

> HTTP Status Code: 400

SNSInvalidTopic
> SNS has responded that there is a problem with the SND topic specified.

> HTTP Status Code: 400

SNSNoAuthorization
> You do not have permission to publish to the SNS topic ARN.

> HTTP Status Code: 400

SNSTopicArnNotFound
> The SNS topic ARN does not exist.

> HTTP Status Code: 404

SubscriptionCategoryNotFound
> The supplied category does not exist.

> HTTP Status Code: 404

SubscriptionNotFound
> The subscription name does not exist.

> HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=ModifyEventSubscription
        &SubscriptionName=EventSubscription01
        &EventCategories.member.1=creation
        &EventCategories.member.2=deletion
        &SourceType=db-instance
        &Enabled=true
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T005359Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
        <ModifyEventSubscriptionResponse xmlns="http://rds.amazon
aws.com/doc/2013-01-10/">
          <ModifyEventSubscriptionResult>
            <EventSubscription>
                <Enabled>true</Enabled>
                <CustomerAwsId>012345678901</CustomerAwsId>
```

```
                <SourceType>db-instance</SourceType>
                <Status>modifying</Status>
            <SubscriptionCreationTime>2013-01-28 00:29:23.736</Subscription
CreationTime>
                <EventCategoriesList>
                    <EventCategory>creation</EventCategory>
                    <EventCategory>deletion</EventCategory>
                </EventCategoriesList>
                <CustSubscriptionId>EventSubscription01</CustSubscriptionId>
                <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscrip
tion01</SnsTopicArn>
            </EventSubscription>
        </ModifyEventSubscriptionResult>
        <ResponseMetadata>
          <RequestId>34907d48-68e5-11e2-98ef-2b071ac20a57</RequestId>
        </ResponseMetadata>
      </ModifyEventSubscriptionResponse>
```

ModifyOptionGroup

Description

Modifies an existing option group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

ApplyImmediately
Indicates whether the changes should be applied immediately, or during the next maintenance window for each instance associated with the option group.

Type: Boolean

Required: No

OptionGroupName
The name of the option group to be modified.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, cannot be removed from an option group, and that option group cannot be removed from a DB instance once it is associated with a DB instance

Type: String

Required: Yes

OptionsToInclude.member.N
Options in this list are added to the option group or, if already present, the specified configuration is used to update the existing configuration.

Type: OptionConfiguration (p. 230) list

Required: No

OptionsToRemove.member.N
Options in this list are removed from the option group.

Type: String list

Required: No

Response Elements

The following elements are returned in a structure named `OptionGroup`.

AllowsVpcAndNonVpcInstanceMemberships
Indicates whether this option group can be applied to both VPC and non-VPC instances. The value 'true' indicates the option group can be applied to both VPC and non-VPC instances.

Type: Boolean

EngineName
Engine name that this option group can be applied to.

Type: String

MajorEngineVersion

Indicates the major engine version associated with this option group.

Type: String

OptionGroupDescription

Provides the description of the option group.

Type: String

OptionGroupName

Specifies the name of the option group.

Type: String

Options

Indicates what options are available in the option group.

Type: Option (p. 229) list

VpcId

If AllowsVpcAndNonVpcInstanceMemberships is 'false', this field is blank. If AllowsVpcAndNonVpcInstanceMemberships is 'true' and this field is blank, then this option group can be applied to both VPC and non-VPC instances. If this field contains a value, then this option group can only be applied to instances that are in the VPC indicated by this field.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

InvalidOptionGroupState

The option group is not in the *available* state.

HTTP Status Code: 400

OptionGroupNotFound

The specified option group could not be found.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
            ?Action=ModifyOptionGroup
            &OptionGroupName=myoptiongroup
            &OptionsToInclude=OEM
            &DBSecurityGroupMemberships=default
            &ApplyImmediately=true https://rds.amazonaws.com/
            ?Action=ModifyOptionGroup
            &OptionGroupName=myoptiongroup
            &OptionsToRemove=OEM
            &ApplyImmediately=true
```

Sample Response

```
<ModifyOptionGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
                <ModifyOptionGroupResult>
                    <OptionGroup>
                        <OptionGroupName>myoptiongroup</OptionGroupName>
                        <OptionGroupDescription>Test option group</OptionGroup
Description>
                        <EngineName>oracle-se1</EngineName>
                        <MajorEngineVersion>11.2</MajorEngineVersion>
                        <Options>
                            <Option>
                                <OptionName>OEM</OptionName>
                                <OptionDescription>Oracle Enterprise Manager</Op
tionDescription>
                                <Port>1158</Port>
                                <DBSecurityGroupMembership>
                                    <DBSecurityGroupName>default</DBSecurity
GroupName>
                                    <Status>ACTIVE</Status>
                                </DBSecurityGroupMembership>
                            </Option>
                        </Options>
                    </OptionGroup>
                </ModifyOptionGroupResult>
                <ResponseMetadata>
                    <RequestId>ed662948-a57b-11df-9e38-7ffab86c801f</RequestId>

                </ResponseMetadata>
            </ModifyOptionGroupResponse> <ModifyOptionGroupResponse xmlns="ht
tp://rds.amazonaws.com/doc/2013-05-15/">
                <ModifyOptionGroupResult>
                    <OptionGroup>
                        <OptionGroupName>myoptiongroup</OptionGroupName>
                        <OptionGroupDescription>Test option group</OptionGroup
Description>
                        <EngineName>oracle-se1</EngineName>
                        <MajorEngineVersion>11.2</MajorEngineVersion>
                        <Options/>
                    </OptionGroup>
                </ModifyOptionGroupResult>
                <ResponseMetadata>
                    <RequestId>ed662948-a57b-11df-9e38-7ffab86c801f</RequestId>

                </ResponseMetadata>
            </ModifyOptionGroupResponse>
```

PromoteReadReplica

Description

Promotes a read replica DB instance to a standalone DB instance.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

BackupRetentionPeriod
The number of days to retain automated backups. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups.

Default: 1

Constraints:

- Must be a value from 0 to 8

Type: Integer

Required: No

DBInstanceIdentifier
The DB instance identifier. This value is stored as a lowercase string.

Constraints:

- Must be the identifier for an existing read replica DB instance
- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example:

Type: String

Required: Yes

PreferredBackupWindow
The daily time range during which automated backups are created if automated backups are enabled, using the `BackupRetentionPeriod` parameter.

Default: A 30-minute window selected at random from an 8-hour block of time per region. See the Amazon RDS User Guide for the time blocks for each region from which the default backup windows are assigned.

Constraints: Must be in the format `hh24:mi-hh24:mi`. Times should be Universal Time Coordinated (UTC). Must not conflict with the preferred maintenance window. Must be at least 30 minutes.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass

Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier

Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus

Specifies the current state of this database.

Type: String

DBName

The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups

Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups

Provides List of DB security group elements containing only DBSecurityGroup.Name and DBSecurityGroup.Status subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup
Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint
Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine
Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion
Indicates the database engine version.

Type: String

InstanceCreateTime
Provides the date and time the DB instance was created.

Type: DateTime

Iops
Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime
Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel
License model information for this DB instance.

Type: String

MasterUsername
Contains the master username for the DB instance.

Type: String

MultiAZ
Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships
Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues
Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow
Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow
>   Specifies the weekly time range (in UTC) during which system maintenance can occur.

>   Type: String

PubliclyAccessible
>   Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

>   Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

>   - **Default VPC:**true
>   - **VPC:**false

>   If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

>   Type: Boolean

ReadReplicaDBInstanceIdentifiers
>   Contains one or more identifiers of the read replicas associated with this DB instance.

>   Type: String list

ReadReplicaSourceDBInstanceIdentifier
>   Contains the identifier of the source DB instance if this DB instance is a read replica.

>   Type: String

SecondaryAvailabilityZone
>   If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

>   Type: String

StatusInfos
>   The status of a read replica. If the instance is not a read replica, this will be blank.

>   Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups
>   Provides List of VPC security group elements that the DB instance belongs to.

>   Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
>   *DBInstanceIdentifier* does not refer to an existing DB instance.

>   HTTP Status Code: 404

InvalidDBInstanceState
>   The specified DB instance is not in the *available* state.

>   HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=PromoteReadReplica
    &DBInstanceIdentifier=simcoprod01
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2012-08-23T08%3A02%3A09.574Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<PromoteReadReplicaResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <PromoteReadReplicaResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2011-05-23T08:00:00Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues>
        <AllocatedStorage>50</AllocatedStorage>
      </PendingModifiedValues>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>available</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <Endpoint>
        <Port>3306</Port>
       <Address>simcoprod01.cu7u2t4uz396.us-east-1.rds.amazonaws.com</Address>

      </Endpoint>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
      <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
      <AllocatedStorage>10</AllocatedStorage>
```

```
      <DBInstanceClass>db.m1.large</DBInstanceClass>
      <MasterUsername>master</MasterUsername>
    </DBInstance>
  </PromoteReadReplicaResult>
  <ResponseMetadata>
    <RequestId>f61a020f-8512-11e0-90aa-eb648410240d</RequestId>
  </ResponseMetadata>
</PromoteReadReplicaResponse>
```

PurchaseReservedDBInstancesOffering

Description

Purchases a reserved DB instance offering.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceCount
   The number of instances to reserve.

   Default: 1

   Type: Integer

   Required: No

ReservedDBInstanceId
   Customer-specified identifier to track this reservation.

   Example: myreservationID

   Type: String

   Required: No

ReservedDBInstancesOfferingId
   The ID of the Reserved DB instance offering to purchase.

   Example: 438012d3-4052-4cc7-b2e3-8d3372e0e706

   Type: String

   Required: Yes

Tags.member.N
   A list of tags.

   Type: Tag (p. 244) list

   Required: No

Response Elements

The following elements are returned in a structure named ReservedDBInstance.

CurrencyCode
   The currency code for the reserved DB instance.

   Type: String

DBInstanceClass
   The DB instance class for the reserved DB instance.

   Type: String

DBInstanceCount
   The number of reserved DB instances.

Type: Integer

Duration
The duration of the reservation in seconds.

Type: Integer

FixedPrice
The fixed price charged for this reserved DB instance.

Type: Double

MultiAZ
Indicates if the reservation applies to Multi-AZ deployments.

Type: Boolean

OfferingType
The offering type of this reserved DB instance.

Type: String

ProductDescription
The description of the reserved DB instance.

Type: String

RecurringCharges
The recurring price charged to run this reserved DB instance.

Type: RecurringCharge (p. 239) list

ReservedDBInstanceId
The unique identifier for the reservation.

Type: String

ReservedDBInstancesOfferingId
The offering identifier.

Type: String

StartTime
The time the reservation started.

Type: DateTime

State
The state of the reserved DB instance.

Type: String

UsagePrice
The hourly price charged for this reserved DB instance.

Type: Double

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

ReservedDBInstanceAlreadyExists
User already has a reservation with the given identifier.

HTTP Status Code: 404

ReservedDBInstanceQuotaExceeded
>   Request would exceed the user's DB Instance quota.

>   HTTP Status Code: 400

ReservedDBInstancesOfferingNotFound
>   Specified offering does not exist.

>   HTTP Status Code: 404

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=PurchaseReservedDBInstancesOffering
    &ReservedDBInstanceId=myreservationID
    &ReservedDBInstancesOfferingId=438012d3-4052-4cc7-b2e3-8d3372e0e706
    &DBInstanceCount=1
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-10T18%3A31%3A36.118Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<PurchaseReservedDBInstancesOfferingResponse xmlns="http://rds.amazon
aws.com/doc/2013-05-15/">
  <PurchaseReservedDBInstancesOfferingResult>
    <ReservedDBInstance>
      <OfferingType>Medium Utilization</OfferingType>
      <CurrencyCode>USD</CurrencyCode>
      <RecurringCharges/>
      <ProductDescription>mysql</ProductDescription>
      <ReservedDBInstancesOfferingId> 438012d3-4052-4cc7-b2e3-
8d3372e0e706</ReservedDBInstancesOfferingId>
      <MultiAZ>true</MultiAZ>
      <State>payment-pending</State>
      <ReservedDBInstanceId>myreservationID</ReservedDBInstanceId>
      <DBInstanceCount>10</DBInstanceCount>
      <StartTime>2011-12-18T23:24:56.577Z</StartTime>
      <Duration>31536000</Duration>
      <FixedPrice>123.0</FixedPrice>
      <UsagePrice>0.123</UsagePrice>
      <DBInstanceClass>db.m1.small</DBInstanceClass>
    </ReservedDBInstance>
  </PurchaseReservedDBInstancesOfferingResult>
  <ResponseMetadata>
    <RequestId>7f099901-29cf-11e1-bd06-6fe008f046c3</RequestId>
  </ResponseMetadata>
</PurchaseReservedDBInstancesOfferingResponse>
```

RebootDBInstance

Description

Rebooting a DB instance restarts the database engine service. A reboot also applies to the DB instance any modifications to the associated DB parameter group that were pending. Rebooting a DB instance results in a momentary outage of the instance, during which the DB instance status is set to rebooting. If the RDS instance is configured for MultiAZ, it is possible that the reboot will be conducted through a failover. An Amazon RDS event is created when the reboot is completed.

If your DB instance is deployed in multiple Availability Zones, you can force a failover from one AZ to the other during the reboot. You might force a failover to test the availability of your DB instance deployment or to restore operations to the original AZ after a failover occurs.

The time required to reboot is a function of the specific database engine's crash recovery process. To improve the reboot time, we recommend that you reduce database activities as much as possible during the reboot process to reduce rollback activity for in-transit transactions.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBInstanceIdentifier
    The DB instance identifier. This parameter is stored as a lowercase string.

    Constraints:
    - Must contain from 1 to 63 alphanumeric characters or hyphens
    - First character must be a letter
    - Cannot end with a hyphen or contain two consecutive hyphens

    Type: String

    Required: Yes

ForceFailover
    When `true`, the reboot will be conducted through a MultiAZ failover.

    Constraint: You cannot specify `true` if the instance is not configured for MultiAZ.

    Type: Boolean

    Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage
    Specifies the allocated storage size specified in gigabytes.

    Type: Integer

AutoMinorVersionUpgrade
    Indicates that minor version patches are applied automatically.

    Type: Boolean

AvailabilityZone
Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod
Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName
If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass
Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier
Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus
Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups
Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups
Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup
Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint

Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine

Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion

Indicates the database engine version.

Type: String

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

InvalidDBInstanceState

The specified DB instance is not in the *available* state.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=RebootDBInstance
    &DBInstanceIdentifier=simcoprod01
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &Timestamp=2011-05-23T06%3A10%3A31.216Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<RebootDBInstanceResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">
  <RebootDBInstanceResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <LatestRestorableTime>2011-05-23T06:07:38.831Z</LatestRestorableTime>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>rebooting</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <Endpoint>
        <Port>3306</Port>
       <Address>simcoprod01.cu7u2t4uz396.us-east-1.rds.amazonaws.com</Address>

      </Endpoint>
      <DBInstanceIdentifier>simcoprod01</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
     <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
      <AvailabilityZone>us-east-1a</AvailabilityZone>
      <InstanceCreateTime>2011-05-23T06:06:43.110Z</InstanceCreateTime>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceClass>db.m1.large</DBInstanceClass>
      <MasterUsername>master</MasterUsername>
```

```
        </DBInstance>
    </RebootDBInstanceResult>
    <ResponseMetadata>
        <RequestId>5d5df758-8503-11e0-90aa-eb648410240d</RequestId>
    </ResponseMetadata>
</RebootDBInstanceResponse>
```

RemoveSourceIdentifierFromSubscription

Description

Removes a source identifier from an existing RDS event notification subscription.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

SourceIdentifier
> The source identifier to be removed from the subscription, such as the **DB instance identifier** for a DB instance or the name of a security group.

> Type: String

> Required: Yes

SubscriptionName
> The name of the RDS event notification subscription you want to remove a source identifier from.

> Type: String

> Required: Yes

Response Elements

The following elements are returned in a structure named `EventSubscription`.

CustSubscriptionId
> The RDS event notification subscription Id.

> Type: String

CustomerAwsId
> The AWS customer account associated with the RDS event notification subscription.

> Type: String

Enabled
> A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

> Type: Boolean

EventCategoriesList
> A list of event categories for the RDS event notification subscription.

> Type: String list

SnsTopicArn
> The topic ARN of the RDS event notification subscription.

> Type: String

SourceIdsList
> A list of source Ids for the RDS event notification subscription.

> Type: String list

SourceType
> The source type for the RDS event notification subscription.

Type: String

Status

The status of the RDS event notification subscription.

Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic.
The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

SubscriptionCreationTime

The time the RDS event notification subscription was created.

Type: String

Errors

For information about the errors that are common to all actions, see .

SourceNotFound

The requested source could not be found.

HTTP Status Code: 404

SubscriptionNotFound

The subscription name does not exist.

HTTP Status Code: 404

Examples

Sample Request

```
https://rds.us-east-1.amazonaws.com/
        ?Action=RemoveSourceIdentifierFromSubscription
        &SubscriptionName=EventSubscription01
        &SourceIdentifier=dbinstance01
        &Version=2013-01-10
        &SignatureVersion=4
        &SignatureMethod=HmacSHA256
        &Timestamp=20130128T012415Z
        &AWSAccessKeyId=<AWS Access Key ID>
        &Signature=<Signature>
```

Sample Response

```
<RemoveSourceIdentifierFromSubscriptionResponse xmlns="http://rds.amazon
aws.com/doc/2013-01-10/">
  <RemoveSourceIdentifierFromSubscriptionResult>
```

```
      <EventSubscription>
        <Enabled>true</Enabled>
        <CustomerAwsId>012345678901</CustomerAwsId>
        <SourceType>db-instance</SourceType>
        <Status>modifying</Status>
        <SubscriptionCreationTime>2013-01-28 00:29:23.736</SubscriptionCreation
Time>
        <EventCategoriesList>
          <EventCategory>creation</EventCategory>
          <EventCategory>deletion</EventCategory>
        </EventCategoriesList>
        <CustSubscriptionId>EventSubscription01</CustSubscriptionId>
        <SnsTopicArn>arn:aws:sns:us-east-1:012345678901:EventSubscription01</Sn
sTopicArn>
      </EventSubscription>
    </RemoveSourceIdentifierFromSubscriptionResult>
    <ResponseMetadata>
      <RequestId>6f0b82bf-68e9-11e2-b97b-43c6362ec60d</RequestId>
    </ResponseMetadata>
</RemoveSourceIdentifierFromSubscriptionResponse>
```

RemoveTagsFromResource

Description

Removes metadata tags from an Amazon RDS resource.

For an overview on tagging an Amazon RDS resource, see Tagging Amazon RDS Resources.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

ResourceName
   The Amazon RDS resource the tags will be removed from. This value is an Amazon Resource Name (ARN). For information about creating an ARN, see Constructing an RDS Amazon Resource Name (ARN).

   Type: String

   Required: Yes

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

   Type: String list

   Required: Yes

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceNotFound
   DBInstanceIdentifier does not refer to an existing DB instance.

   HTTP Status Code: 404

DBSnapshotNotFound
   DBSnapshotIdentifier does not refer to an existing DB snapshot.

   HTTP Status Code: 404

ResetDBParameterGroup

Description

Modifies the parameters of a DB parameter group to the engine/system default value. To reset specific parameters submit a list of the following: `ParameterName` and `ApplyMethod`. To reset the entire DB parameter group, specify the `DBParameterGroup` name and `ResetAllParameters` parameters. When resetting the entire group, dynamic parameters are updated immediately and static parameters are set to `pending-reboot` to take effect on the next DB instance restart or `RebootDBInstance` request.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

DBParameterGroupName
The name of the DB parameter group.

Constraints:

- Must be 1 to 255 alphanumeric characters
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

Parameters.member.N
An array of parameter names, values, and the apply method for the parameter update. At least one parameter name, value, and apply method must be supplied; subsequent arguments are optional. A maximum of 20 parameters may be modified in a single request.

MySQL

Valid Values (for Apply method): `immediate | pending-reboot`

You can use the immediate value with dynamic parameters only. You can use the `pending-reboot` value for both dynamic and static parameters, and changes are applied when DB instance reboots.

Oracle

Valid Values (for Apply method): `pending-reboot`

Type: Parameter (p. 237) list

Required: No

ResetAllParameters
Specifies whether (`true`) or not (`false`) to reset all parameters in the DB parameter group to default values.

Default: `true`

Type: Boolean

Required: No

Response Elements

The following element is returned in a structure named `ResetDBParameterGroupResult`.

DBParameterGroupName
The name of the DB parameter group.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBParameterGroupNotFound
DBParameterGroupName does not refer to an existing DB parameter group.

HTTP Status Code: 404

InvalidDBParameterGroupState
The DB parameter group cannot be deleted because it is in use.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=ResetDBParameterGroup
    &DBParameterGroupName=mydbparametergroup
    &Parameters.member.1.ParameterName=max_user_connections
    &Parameters.member.1.ApplyMethod=pending-reboot
    &Parameters.member.2.ParameterName=max_allowed_packet
    &Parameters.member.2.ApplyMethod=immediate
    &ResetAllParameters=false
    &Version=2013-05-15
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<ResetDBParameterGroupResponse xmlns="http://rds.amazonaws.com/doc/2013-05-15/">

  <ResetDBParameterGroupResult>
    <DBParameterGroupName>mydbparametergroup</DBParameterGroupName>
  </ResetDBParameterGroupResult>
  <ResponseMetadata>
    <RequestId>071e758f-bf57-11de-9f9f-53d6aee22de9</RequestId>
```

```
  </ResponseMetadata>
</ResetDBParameterGroupResponse>
```

RestoreDBInstanceFromDBSnapshot

Description

Creates a new DB instance from a DB snapshot. The target database is created from the source database restore point with the same configuration as the original source database, except that the new RDS instance is created with the default security group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

AutoMinorVersionUpgrade
Indicates that minor version upgrades will be applied automatically to the DB instance during the maintenance window.

Type: Boolean

Required: No

AvailabilityZone
The EC2 Availability Zone that the database instance will be created in.

Default: A random, system-chosen Availability Zone.

Constraint: You cannot specify the AvailabilityZone parameter if the MultiAZ parameter is set to `true`.

Example: `us-east-1a`

Type: String

Required: No

DBInstanceClass
The compute and memory capacity of the Amazon RDS DB instance.

Valid Values: `db.t1.micro | db.m1.small | db.m1.medium | db.m1.large | db.m1.xlarge | db.m2.2xlarge | db.m2.4xlarge`

Type: String

Required: No

DBInstanceIdentifier
The identifier for the DB snapshot to restore from.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

DBName
The database name for the restored DB instance.

Note

This parameter doesn't apply to the MySQL engine.

Type: String

Required: No

DBSnapshotIdentifier
Name of the DB instance to create from the DB snapshot. This parameter isn't case sensitive.

Constraints:

- Must contain from 1 to 255 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Example: `my-snapshot-id`

Type: String

Required: Yes

DBSubnetGroupName
The DB subnet group name to use for the new instance.

Type: String

Required: No

Engine
The database engine to use for the new instance.

Default: The same as source

Constraint: Must be compatible with the engine of the source

Example: `oracle-ee`

Type: String

Required: No

Iops
Specifies the amount of provisioned IOPS for the DB instance, expressed in I/O operations per second. If this parameter is not specified, the IOPS value will be taken from the backup. If this parameter is set to 0, the new instance will be converted to a non-PIOPS instance, which will take additional time, though your DB instance will be available for connections before the conversion starts.

Constraints: Must be an integer greater than 1000.

SQL Server

Setting the IOPS value for the SQL Server database engine is not supported.

Type: Integer

Required: No

LicenseModel
License model information for the restored DB instance.

Default: Same as source.

Valid values: `license-included` | `bring-your-own-license` | `general-public-license`

Type: String

Required: No

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Constraint: You cannot specify the AvailabilityZone parameter if the MultiAZ parameter is set to `true`.

Type: Boolean

Required: No

OptionGroupName

The name of the option group to be used for the restored DB instance.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, cannot be removed from an option group, and that option group cannot be removed from a DB instance once it is associated with a DB instance

Type: String

Required: No

Port

The port number on which the database accepts connections.

Default: The same port as the original DB instance

Constraints: Value must be `1150-65535`

Type: Integer

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:** true
- **VPC:** false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

Required: No

Tags.member.N

A list of tags.

Type: Tag (p. 244) list

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage
Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade
Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone
Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod
Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName
If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass
Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier
Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus
Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups

Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups

Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup

Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint

Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine

Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion

Indicates the database engine version.

Type: String

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceAlreadyExists

User already has a DB instance with the given identifier.

HTTP Status Code: 400

DBSnapshotNotFound

DBSnapshotIdentifier does not refer to an existing DB snapshot.

HTTP Status Code: 404

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

InstanceQuotaExceeded

Request would result in user exceeding the allowed number of DB instances.

HTTP Status Code: 400

InsufficientDBInstanceCapacity

Specified DB instance class is not available in the specified Availability Zone.

HTTP Status Code: 400

InvalidDBSnapshotState

The state of the DB snapshot does not allow deletion.

HTTP Status Code: 400

InvalidRestore

Cannot restore from vpc backup to non-vpc DB instance.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

InvalidVPCNetworkState

DB subnet group does not cover all Availability Zones after it is created because users' change.

HTTP Status Code: 400

OptionGroupNotFound

The specified option group could not be found.

HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZ

Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded

Request would result in user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazon.com/
    ?Action=RestoreDBInstanceFromDBSnapshot
    &DBSnapshotIdentifier=mydbsnapshot
    &DBInstanceIdentifier=myrestoreddbinstance
    &Version=2013-05-15
    &Timestamp=2011-05-23T06%3A47%3A11.071Z
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<RestoreDBInstanceFromDBSnapshotResponse xmlns="http://rds.amazon
aws.com/doc/2013-05-15/">
  <RestoreDBInstanceFromDBSnapshotResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <DBInstanceIdentifier>myrestoreddbinstance</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
      </DBParameterGroups>
      <DBSecurityGroups>
        <DBSecurityGroup>
          <Status>active</Status>
          <DBSecurityGroupName>default</DBSecurityGroupName>
        </DBSecurityGroup>
      </DBSecurityGroups>
      <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
      <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
      <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
      <AllocatedStorage>10</AllocatedStorage>
      <DBInstanceClass>db.m1.large</DBInstanceClass>
      <MasterUsername>master</MasterUsername>
    </DBInstance>
  </RestoreDBInstanceFromDBSnapshotResult>
  <ResponseMetadata>
    <RequestId>7ca622e8-8508-11e0-bd9b-a7b1ece36d51</RequestId>
  </ResponseMetadata>
</RestoreDBInstanceFromDBSnapshotResponse>
```

RestoreDBInstanceToPointInTime

Description

Restores a DB instance to an arbitrary point-in-time. Users can restore to any point in time before the latestRestorableTime for up to backupRetentionPeriod days. The target database is created from the source database with the same configuration as the original database except that the DB instance is created with the default DB security group.

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

AutoMinorVersionUpgrade
Indicates that minor version upgrades will be applied automatically to the DB instance during the maintenance window.

Type: Boolean

Required: No

AvailabilityZone
The EC2 Availability Zone that the database instance will be created in.

Default: A random, system-chosen Availability Zone.

Constraint: You cannot specify the AvailabilityZone parameter if the MultiAZ parameter is set to true.

Example: `us-east-1a`

Type: String

Required: No

DBInstanceClass
The compute and memory capacity of the Amazon RDS DB instance.

Valid Values: `db.t1.micro | db.m1.small | db.m1.medium | db.m1.large | db.m1.xlarge | db.m2.2xlarge | db.m2.4xlarge`

Default: The same DBInstanceClass as the original DB instance.

Type: String

Required: No

DBName
The database name for the restored DB instance.

> **Note**
>
> This parameter is not used for the MySQL engine.

Type: String

Required: No

DBSubnetGroupName
The DB subnet group name to use for the new instance.

Type: String

Required: No

Engine

The database engine to use for the new instance.

Default: The same as source

Constraint: Must be compatible with the engine of the source

Example: `oracle-ee`

Type: String

Required: No

Iops

The amount of Provisioned IOPS (input/output operations per second) to be initially allocated for the DB instance.

Constraints: Must be an integer greater than 1000.

SQL Server

Setting the IOPS value for the SQL Server database engine is not supported.

Type: Integer

Required: No

LicenseModel

License model information for the restored DB instance.

Default: Same as source.

Valid values: `license-included` | `bring-your-own-license` | `general-public-license`

Type: String

Required: No

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Constraint: You cannot specify the AvailabilityZone parameter if the MultiAZ parameter is set to `true`.

Type: Boolean

Required: No

OptionGroupName

The name of the option group to be used for the restored DB instance.

Permanent options, such as the TDE option for Oracle Advanced Security TDE, cannot be removed from an option group, and that option group cannot be removed from a DB instance once it is associated with a DB instance

Type: String

Required: No

Port

The port number on which the database accepts connections.

Constraints: Value must be `1150-65535`

Default: The same port as the original DB instance.

Type: Integer

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

Required: No

RestoreTime

The date and time to restore from.

Valid Values: Value must be a UTC time

Constraints:

- Must be before the latest restorable time for the DB instance
- Cannot be specified if UseLatestRestorableTime parameter is true

Example: `2009-09-07T23:45:00Z`

Type: DateTime

Required: No

SourceDBInstanceIdentifier

The identifier of the source DB instance from which to restore.

Constraints:

- Must be the identifier of an existing database instance
- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

Tags.member.N

A list of tags.

Type: Tag (p. 244) list

Required: No

TargetDBInstanceIdentifier

The name of the new database instance to be created.

Constraints:

- Must contain from 1 to 63 alphanumeric characters or hyphens
- First character must be a letter
- Cannot end with a hyphen or contain two consecutive hyphens

Type: String

Required: Yes

UseLatestRestorableTime

Specifies whether (`true`) or not (`false`) the DB instance is restored from the latest backup time.

Default: `false`

Constraints: Cannot be specified if RestoreTime parameter is provided.

Type: Boolean

Required: No

Response Elements

The following elements are returned in a structure named `DBInstance`.

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

DBInstanceClass

Contains the name of the compute and memory capacity class of the DB instance.

Type: String

DBInstanceIdentifier

Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

DBInstanceStatus

Specifies the current state of this database.

Type: String

DBName
The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

DBParameterGroups
Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

DBSecurityGroups
Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

DBSubnetGroup
Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Endpoint
Specifies the connection endpoint.

Type: Endpoint (p. 224)

Engine
Provides the name of the database engine to be used for this DB instance.

Type: String

EngineVersion
Indicates the database engine version.

Type: String

InstanceCreateTime
Provides the date and time the DB instance was created.

Type: DateTime

Iops
Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

LatestRestorableTime
Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

LicenseModel

License model information for this DB instance.

Type: String

MasterUsername

Contains the master username for the DB instance.

Type: String

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

DBInstanceAlreadyExists

User already has a DB instance with the given identifier.

HTTP Status Code: 400

DBInstanceNotFound

DBInstanceIdentifier does not refer to an existing DB instance.

HTTP Status Code: 404

DBSubnetGroupDoesNotCoverEnoughAZs

Subnets in the DB subnet group should cover at least 2 Availability Zones unless there is only 1 availablility zone.

HTTP Status Code: 400

DBSubnetGroupNotFound

DBSubnetGroupName does not refer to an existing DB subnet group.

HTTP Status Code: 400

InstanceQuotaExceeded

Request would result in user exceeding the allowed number of DB instances.

HTTP Status Code: 400

InsufficientDBInstanceCapacity

Specified DB instance class is not available in the specified Availability Zone.

HTTP Status Code: 400

InvalidDBInstanceState

The specified DB instance is not in the *available* state.

HTTP Status Code: 400

InvalidRestore

Cannot restore from vpc backup to non-vpc DB instance.

HTTP Status Code: 400

InvalidSubnet

The requested subnet is invalid, or multiple subnets were requested that are not all in a common VPC.

HTTP Status Code: 400

InvalidVPCNetworkState

DB subnet group does not cover all Availability Zones after it is created because users' change.

HTTP Status Code: 400

OptionGroupNotFound
The specified option group could not be found.

HTTP Status Code: 400

PointInTimeRestoreNotEnabled
SourceDBInstanceIdentifier refers to a DB instance with *BackupRetentionPeriod* equal to 0.

HTTP Status Code: 400

ProvisionedIopsNotAvailableInAZ
Provisioned IOPS not available in the specified Availability Zone.

HTTP Status Code: 400

StorageQuotaExceeded
Request would result in user exceeding the allowed amount of storage available across all DB instances.

HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazon.com/
    ?Action=RestoreDBInstanceToPointInTime
    &TargetDBInstanceIdentifier=restored-db
    &SourceDBInstanceIdentifier=simcoprod01
    &UseLatestRestorableTime=true
    &Version=2013-05-15
    &Timestamp=2011-05-23T07%3A06%3A02.313Z
    &SignatureVersion=2
    &SignatureMethod=HmacSHA256
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<RestoreDBInstanceToPointInTimeResponse xmlns="http://rds.amazonaws.com/doc/2013-
05-15/">
  <RestoreDBInstanceToPointInTimeResult>
    <DBInstance>
      <ReadReplicaDBInstanceIdentifiers/>
      <Engine>mysql</Engine>
      <PendingModifiedValues/>
      <BackupRetentionPeriod>1</BackupRetentionPeriod>
      <MultiAZ>false</MultiAZ>
      <LicenseModel>general-public-license</LicenseModel>
      <DBInstanceStatus>creating</DBInstanceStatus>
      <EngineVersion>5.1.50</EngineVersion>
      <DBInstanceIdentifier>restored-db</DBInstanceIdentifier>
      <DBParameterGroups>
        <DBParameterGroup>
          <ParameterApplyStatus>in-sync</ParameterApplyStatus>
          <DBParameterGroupName>default.mysql5.1</DBParameterGroupName>
        </DBParameterGroup>
```

```
        </DBParameterGroups>
        <DBSecurityGroups>
          <DBSecurityGroup>
            <Status>active</Status>
            <DBSecurityGroupName>default</DBSecurityGroupName>
          </DBSecurityGroup>
        </DBSecurityGroups>
        <PreferredBackupWindow>00:00-00:30</PreferredBackupWindow>
        <AutoMinorVersionUpgrade>true</AutoMinorVersionUpgrade>
       <PreferredMaintenanceWindow>sat:07:30-sat:08:00</PreferredMaintenanceWin
dow>
        <AllocatedStorage>10</AllocatedStorage>
        <DBInstanceClass>db.m1.large</DBInstanceClass>
        <MasterUsername>master</MasterUsername>
      </DBInstance>
    </RestoreDBInstanceToPointInTimeResult>
    <ResponseMetadata>
      <RequestId>1ef546bc-850b-11e0-90aa-eb648410240d</RequestId>
    </ResponseMetadata>
</RestoreDBInstanceToPointInTimeResponse>
```

RevokeDBSecurityGroupIngress

Description

Revokes ingress from a DBSecurityGroup for previously authorized IP ranges or EC2 or VPC Security Groups. Required parameters for this API are one of CIDRIP, EC2SecurityGroupId for VPC, or (EC2SecurityGroupOwnerId and either EC2SecurityGroupName or EC2SecurityGroupId).

Request Parameters

For information about the common parameters that all actions use, see Common Parameters (p. 245).

CIDRIP

The IP range to revoke access from. Must be a valid CIDR range. If `CIDRIP` is specified, `EC2SecurityGroupName`, `EC2SecurityGroupId` and `EC2SecurityGroupOwnerId` cannot be provided.

Type: String

Required: No

DBSecurityGroupName

The name of the DB security group to revoke ingress from.

Type: String

Required: Yes

EC2SecurityGroupId

The id of the EC2 security group to revoke access from. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

EC2SecurityGroupName

The name of the EC2 security group to revoke access from. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

EC2SecurityGroupOwnerId

The AWS Account Number of the owner of the EC2 security group specified in the `EC2SecurityGroupName` parameter. The AWS Access Key ID is not an acceptable value. For VPC DB security groups, `EC2SecurityGroupId` must be provided. Otherwise, EC2SecurityGroupOwnerId and either `EC2SecurityGroupName` or `EC2SecurityGroupId` must be provided.

Type: String

Required: No

Response Elements

The following elements are returned in a structure named `DBSecurityGroup`.

DBSecurityGroupDescription
    Provides the description of the DB security group.

    Type: String

DBSecurityGroupName
    Specifies the name of the DB security group.

    Type: String

EC2SecurityGroups
    Contains a list of EC2SecurityGroup (p. 223) elements.

    Type: EC2SecurityGroup (p. 223) list

IPRanges
    Contains a list of IPRange (p. 228) elements.

    Type: IPRange (p. 228) list

OwnerId
    Provides the AWS ID of the owner of a specific DB security group.

    Type: String

VpcId
    Provides the VpcId of the DB security group.

    Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 249).

AuthorizationNotFound
    Specified CIDRIP or EC2 security group is not authorized for the specified DB security group.

    HTTP Status Code: 404

DBSecurityGroupNotFound
    DBSecurityGroupName does not refer to an existing DB security group.

    HTTP Status Code: 404

InvalidDBSecurityGroupState
    The state of the DB security group does not allow deletion.

    HTTP Status Code: 400

Examples

Sample Request

```
https://rds.amazonaws.com/
    ?Action=RevokeDBSecurityGroupIngress
    &DBSecurityGroupName=mydbsecuritygroup
    &CIDRIP=192.168.1.1%2F24
    &Version=2013-05-15
    &SignatureVersion=2&SignatureMethod=HmacSHA256
    &Timestamp=2011-02-15T22%3A32%3A12.515Z
    &AWSAccessKeyId=<AWS Access Key ID>
    &Signature=<Signature>
```

Sample Response

```
<RevokeDBSecurityGroupIngressResponse xmlns="http://rds.amazonaws.com/doc/2013-
05-15/">
  <RevokeDBSecurityGroupIngressResult>
    <DBSecurityGroup>
      <EC2SecurityGroups/>
     <DBSecurityGroupDescription>My new DBSecurityGroup</DBSecurityGroupDescrip
tion>
      <IPRanges>
        <IPRange>
          <CIDRIP>192.168.1.1/24</CIDRIP>
          <Status>revoking</Status>
        </IPRange>
      </IPRanges>
      <OwnerId>621567473609</OwnerId>
      <DBSecurityGroupName>mydbsecuritygroup</DBSecurityGroupName>
      <VpcId>vpc-1ab2c3d4</VpcId>
    </DBSecurityGroup>
  </RevokeDBSecurityGroupIngressResult>
  <ResponseMetadata>
    <RequestId>beecb8ac-bf5a-11de-9f9f-53d6aee22de9</RequestId>
  </ResponseMetadata>
</RevokeDBSecurityGroupIngressResponse>
```

Data Types

The Amazon Relational Database Service API contains several data types that various actions use. This section describes each data type in detail.

> **Note**
> The order of each element in the response is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

AvailabilityZone

Description

Contains Availability Zone information.

This data type is used as an element in the following data type:

Contents

Name
The name of the availability zone.

Type: String

Required: No

ProvisionedIopsCapable
True indicates the availability zone is capable of provisioned IOPs.

Type: Boolean

Required: No

CharacterSet

Description

This data type is used as a response element in the action DescribeDBEngineVersions (p. 76).

Contents

CharacterSetDescription
The description of the character set.

Type: String

Required: No

CharacterSetName
The name of the character set.

Type: String

Required: No

DBEngineVersion

Description

This data type is used as a response element in the action DescribeDBEngineVersions (p. 76).

Contents

DBEngineDescription
The description of the database engine.

Type: String

Required: No

DBEngineVersionDescription
The description of the database engine version.

Type: String

Required: No

DBParameterGroupFamily
The name of the DB parameter group family for the database engine.

Type: String

Required: No

DefaultCharacterSet
The default character set for new instances of this engine version, if the `CharacterSetName` parameter of the CreateDBInstance API is not specified.

Type: CharacterSet (p. 203)

Required: No

Engine
The name of the database engine.

Type: String

Required: No

EngineVersion
The version number of the database engine.

Type: String

Required: No

SupportedCharacterSets
A list of the character sets supported by this engine for the `CharacterSetName` parameter of the CreateDBInstance API.

Type: CharacterSet (p. 203) list

Required: No

DBInstance

Description

Contains the result of a successful invocation of the following actions:

- CreateDBInstance (p. 15)
- DeleteDBInstance (p. 57)
- ModifyDBInstance (p. 136)

This data type is used as a response element in the DescribeDBInstances (p. 82) action.

Contents

AllocatedStorage

Specifies the allocated storage size specified in gigabytes.

Type: Integer

Required: No

AutoMinorVersionUpgrade

Indicates that minor version patches are applied automatically.

Type: Boolean

Required: No

AvailabilityZone

Specifies the name of the Availability Zone the DB instance is located in.

Type: String

Required: No

BackupRetentionPeriod

Specifies the number of days for which automatic DB snapshots are retained.

Type: Integer

Required: No

CharacterSetName

If present, specifies the name of the character set that this instance is associated with.

Type: String

Required: No

DBInstanceClass

Contains the name of the compute and memory capacity class of the DB instance.

Type: String

Required: No

DBInstanceIdentifier

Contains a user-supplied database identifier. This is the unique key that identifies a DB instance.

Type: String

Required: No

DBInstanceStatus

Specifies the current state of this database.

Type: String

Required: No

DBName

The meaning of this parameter differs according to the database engine you use. For example, this value returns only MySQL information when returning values from CreateDBInstanceReadReplica since read replicas are only supported for MySQL.

MySQL

Contains the name of the initial database of this instance that was provided at create time, if one was specified when the DB instance was created. This same name is returned for the life of the DB instance.

Type: String

Oracle

Contains the Oracle System ID (SID) of the created DB instance. Not shown when the returned parameters do not apply to an Oracle DB instance.

Type: String

Required: No

DBParameterGroups

Provides the list of DB parameter groups applied to this DB instance.

Type: DBParameterGroupStatus (p. 210) list

Required: No

DBSecurityGroups

Provides List of DB security group elements containing only `DBSecurityGroup.Name` and `DBSecurityGroup.Status` subelements.

Type: DBSecurityGroupMembership (p. 211) list

Required: No

DBSubnetGroup

Specifies information on the subnet group associated with the DB instance, including the name, description, and subnets in the subnet group.

Type: DBSubnetGroup (p. 214)

Required: No

Endpoint

Specifies the connection endpoint.

Type: Endpoint (p. 224)

Required: No

Engine

Provides the name of the database engine to be used for this DB instance.

Type: String

Required: No

EngineVersion

Indicates the database engine version.

Type: String

Required: No

InstanceCreateTime

Provides the date and time the DB instance was created.

Type: DateTime

Required: No

Iops

Specifies the Provisioned IOPS (I/O operations per second) value.

Type: Integer

Required: No

LatestRestorableTime

Specifies the latest time to which a database can be restored with point-in-time restore.

Type: DateTime

Required: No

LicenseModel

License model information for this DB instance.

Type: String

Required: No

MasterUsername

Contains the master username for the DB instance.

Type: String

Required: No

MultiAZ

Specifies if the DB instance is a Multi-AZ deployment.

Type: Boolean

Required: No

OptionGroupMemberships

Provides the list of option group memberships for this DB instance.

Type: OptionGroupMembership (p. 232) list

Required: No

PendingModifiedValues

Specifies that changes to the DB instance are pending. This element is only included when changes are pending. Specific changes are identified by subelements.

Type: PendingModifiedValues (p. 238)

Required: No

PreferredBackupWindow

Specifies the daily time range during which automated backups are created if automated backups are enabled, as determined by the `BackupRetentionPeriod`.

Type: String

Required: No

PreferredMaintenanceWindow

Specifies the weekly time range (in UTC) during which system maintenance can occur.

Type: String

Required: No

PubliclyAccessible

Specifies the accessibility options for the DB instance. A value of true specifies an Internet-facing instance with a publicly resolvable DNS name, which resolves to a public IP address. A value of false specifies an internal instance with a DNS name that resolves to a private IP address.

Default: The default behavior varies depending on whether a VPC has been requested or not. The following list shows the default behavior in each case.

- **Default VPC:**true
- **VPC:**false

If no DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be publicly accessible. If a specific DB subnet group has been specified as part of the request and the PubliclyAccessible value has not been set, the DB instance will be private.

Type: Boolean

Required: No

ReadReplicaDBInstanceIdentifiers

Contains one or more identifiers of the read replicas associated with this DB instance.

Type: String list

Required: No

ReadReplicaSourceDBInstanceIdentifier

Contains the identifier of the source DB instance if this DB instance is a read replica.

Type: String

Required: No

SecondaryAvailabilityZone

If present, specifies the name of the secondary Availability Zone for a DB instance with multi-AZ support.

Type: String

Required: No

StatusInfos

The status of a read replica. If the instance is not a read replica, this will be blank.

Type: DBInstanceStatusInfo (p. 208) list

Required: No

VpcSecurityGroups

Provides List of VPC security group elements that the DB instance belongs to.

Type: VpcSecurityGroupMembership (p. 244) list

Required: No

DBInstanceStatusInfo

Description

Provides a list of status information for a DB instance.

Contents

Message
Details of the error if there is an error for the instance. If the instance is not in an error state, this value is blank.

Type: String

Required: No

Normal
Boolean value that is true if the instance is operating normally, or false if the instance is in an error state.

Type: Boolean

Required: No

Status
Status of the DB instance. For a StatusType of read replica, the values can be replicating, error, stopped, or terminated.

Type: String

Required: No

StatusType
This value is currently "read replication."

Type: String

Required: No

DBParameterGroup

Description

Contains the result of a successful invocation of the CreateDBParameterGroup (p. 36) action.

This data type is used as a request parameter in the DeleteDBParameterGroup (p. 63) action, and as a response element in the DescribeDBParameterGroups (p. 88) action.

Contents

DBParameterGroupFamily
Provides the name of the DB parameter group family that this DB parameter group is compatible with.

Type: String

Required: No

DBParameterGroupName
Provides the name of the DB parameter group.

Type: String

Required: No

Description
Provides the customer-specified description for this DB parameter group.

Type: String

Required: No

DBParameterGroupStatus

Description

The status of the DB parameter group.

This data type is used as a response element in the following actions:

Contents

DBParameterGroupName
The name of the DP parameter group.

Type: String

Required: No

ParameterApplyStatus
The status of parameter updates.

Type: String

Required: No

DBSecurityGroup

Description

Contains the result of a successful invocation of the following actions:

This data type is used as a response element in the action.

Contents

DBSecurityGroupDescription

Provides the description of the DB security group.

Type: String

Required: No

DBSecurityGroupName

Specifies the name of the DB security group.

Type: String

Required: No

EC2SecurityGroups

Contains a list of EC2SecurityGroup (p. 223) elements.

Type: EC2SecurityGroup (p. 223) list

Required: No

IPRanges

Contains a list of IPRange (p. 228) elements.

Type: IPRange (p. 228) list

Required: No

OwnerId

Provides the AWS ID of the owner of a specific DB security group.

Type: String

Required: No

VpcId

Provides the VpcId of the DB security group.

Type: String

Required: No

DBSecurityGroupMembership

Description

This data type is used as a response element in the following actions:

- ModifyDBInstance (p. 136)
- RebootDBInstance (p. 168)
- RestoreDBInstanceFromDBSnapshot (p. 181)
- RestoreDBInstanceToPointInTime (p. 189)

Contents

DBSecurityGroupName
The name of the DB security group.

Type: String

Required: No

Status
The status of the DB security group.

Type: String

Required: No

DBSnapshot

Description

Contains the result of a successful invocation of the following actions:

This data type is used as a response element in the DescribeDBSnapshots (p. 97) action.

Contents

AllocatedStorage
Specifies the allocated storage size in gigabytes (GB).

Type: Integer

Required: No

AvailabilityZone
Specifies the name of the Availability Zone the DB instance was located in at the time of the DB snapshot.

Type: String

Required: No

DBInstanceIdentifier
Specifies the DB instance identifier of the DB instance this DB snapshot was created from.

Type: String

Required: No

DBSnapshotIdentifier
Specifies the identifier for the DB snapshot.

Type: String

Required: No

Engine
Specifies the name of the database engine.

Type: String

Required: No

EngineVersion
Specifies the version of the database engine.

Type: String

Required: No

InstanceCreateTime
Specifies the time (UTC) when the snapshot was taken.

Type: DateTime

Required: No

Iops
Specifies the Provisioned IOPS (I/O operations per second) value of the DB instance at the time of the snapshot.

Type: Integer

Required: No

LicenseModel
License model information for the restored DB instance.

Type: String

Required: No

MasterUsername
Provides the master username for the DB snapshot.

Type: String

Required: No

OptionGroupName
Provides the option group name for the DB snapshot.

Type: String

Required: No

PercentProgress
The percentage of the estimated data that has been transferred.

Type: Integer

Required: No

Port
Specifies the port that the database engine was listening on at the time of the snapshot.

Type: Integer

Required: No

SnapshotCreateTime
Provides the time (UTC) when the snapshot was taken.

Type: DateTime

Required: No

SnapshotType
Provides the type of the DB snapshot.

Type: String

Required: No

SourceRegion
The region that the DB snapshot was created in or copied from.

Type: String

Required: No

Status
Specifies the status of this DB snapshot.

Type: String

Required: No

VpcId
Provides the Vpc Id associated with the DB snapshot.

Type: String

Required: No

DBSubnetGroup

Description

Contains the result of a successful invocation of the following actions:

This data type is used as a response element in the action.

Contents

DBSubnetGroupDescription
Provides the description of the DB subnet group.

Type: String

Required: No

DBSubnetGroupName
Specifies the name of the DB subnet group.

Type: String

Required: No

SubnetGroupStatus
Provides the status of the DB subnet group.

Type: String

Required: No

Subnets
Contains a list of Subnet (p. 243) elements.

Type: Subnet (p. 243) list

Required: No

VpcId
Provides the VpcId of the DB subnet group.

Type: String

Required: No

DescribeDBEngineVersionsResult

Description

Contains the result of a successful invocation of the DescribeDBEngineVersions (p. 76) action.

Contents

DBEngineVersions
A list of `DBEngineVersion` elements.

Type: DBEngineVersion (p. 203) list

Required: No

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

DescribeDBInstancesResult

Description

Contains the result of a successful invocation of the DescribeDBInstances (p. 82) action.

Contents

DBInstances
A list of DBInstance (p. 204) instances.

Type: DBInstance (p. 204) list

Required: No

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Required: No

DescribeDBLogFilesDetails

Description

This data type is used as a response element to DescribeDBLogFiles (p. 85).

Contents

LastWritten
A POSIX timestamp when the last log entry was written.

Type: Long

Required: No

LogFileName
The name of the log file for the specified DB instance.

Type: String

Required: No

Size
The size, in bytes, of the log file for the specified DB instance.

Type: Long

Required: No

DescribeDBLogFilesResult

Description

The response from a call to DescribeDBLogFiles (p. 85).

Contents

DescribeDBLogFiles
> The DB log files returned.

> Type: DescribeDBLogFilesDetails (p. 216) list

> Required: No

Marker
> An optional paging token.

> Type: String

> Required: No

DescribeDBParameterGroupsResult

Description

Contains the result of a successful invocation of the DescribeDBParameterGroups (p. 88) action.

Contents

DBParameterGroups
> A list of DBParameterGroup (p. 209) instances.

> Type: DBParameterGroup (p. 209) list

> Required: No

Marker
> An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

> Type: String

> Required: No

DescribeDBParametersResult

Description

Contains the result of a successful invocation of the DescribeDBParameters (p. 91) action.

Contents

Marker
> An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

> Type: String

Required: No

Parameters

A list of Parameter (p. 237) values.

Type: Parameter (p. 237) list

Required: No

DescribeDBSecurityGroupsResult

Description

Contains the result of a successful invocation of the DescribeDBSecurityGroups (p. 94) action.

Contents

DBSecurityGroups

A list of DBSecurityGroup (p. 210) instances.

Type: DBSecurityGroup (p. 210) list

Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

DescribeDBSnapshotsResult

Description

Contains the result of a successful invocation of the DescribeDBSnapshots (p. 97) action.

Contents

DBSnapshots

A list of DBSnapshot (p. 212) instances.

Type: DBSnapshot (p. 212) list

Required: No

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

DescribeDBSubnetGroupsResult

Description

Contains the result of a successful invocation of the DescribeDBSubnetGroups (p. 101) action.

Contents

DBSubnetGroups
> A list of DBSubnetGroup (p. 214) instances.
>
> Type: DBSubnetGroup (p. 214) list
>
> Required: No

Marker
> An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.
>
> Type: String
>
> Required: No

DescribeEventCategoriesResult

Description

Data returned from the **DescribeEventCategories** action.

Contents

EventCategoriesMapList
> A list of EventCategoriesMap data types.
>
> Type: EventCategoriesMap (p. 226) list
>
> Required: No

DescribeEventSubscriptionsResult

Description

Data returned by the **DescribeEventSubscriptions** action.

Contents

EventSubscriptionsList
> A list of EventSubscriptions data types.
>
> Type: EventSubscription (p. 226) list

Required: No

Marker

An optional pagination token provided by a previous DescribeOrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

DescribeEventsResult

Description

Contains the result of a successful invocation of the action.

Contents

Events

A list of instances.

Type: list

Required: No

Marker

An optional pagination token provided by a previous Events request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Required: No

DescribeOptionGroupOptionsResult

Description

Contents

Marker

An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

OptionGroupOptions

List of available option group options.

Type: list

Required: No

DescribeOptionGroupsResult

Description

List of option groups.

Contents

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

OptionGroupsList
List of option groups.

Type: OptionGroup (p. 231) list

Required: No

DescribeOrderableDBInstanceOptionsResult

Description

Contains the result of a successful invocation of the DescribeOrderableDBInstanceOptions (p. 121) action.

Contents

Marker
An optional pagination token provided by a previous OrderableDBInstanceOptions request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Required: No

OrderableDBInstanceOptions
An OrderableDBInstanceOption (p. 235) structure containing information about orderable options for the DB instance.

Type: OrderableDBInstanceOption (p. 235) list

Required: No

DescribeReservedDBInstancesOfferingsResult

Description

Contains the result of a successful invocation of the DescribeReservedDBInstancesOfferings (p. 128) action.

Contents

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

ReservedDBInstancesOfferings
A list of reserved DB instance offerings.

Type: ReservedDBInstancesOffering (p. 241) list

Required: No

DescribeReservedDBInstancesResult

Description

Contains the result of a successful invocation of the DescribeReservedDBInstances (p. 125) action.

Contents

Marker
An optional pagination token provided by a previous request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords`.

Type: String

Required: No

ReservedDBInstances
A list of reserved DB instances.

Type: ReservedDBInstance (p. 240) list

Required: No

DownloadDBLogFilePortionResult

Description

This data type is used as a response element to DownloadDBLogFilePortion (p. 131).

Contents

AdditionalDataPending
Boolean value that if true, indicates there is more data to be downloaded.

Type: Boolean

Required: No

LogFileData
Entries from the specified log file.

Type: String

Required: No

Marker
A pagination token that can be used in a subsequent DownloadDBLogFilePortion request.

Type: String

Required: No

EC2SecurityGroup

Description

This data type is used as a response element in the following actions:

Contents

EC2SecurityGroupId
Specifies the id of the EC2 security group.

Type: String

Required: No

EC2SecurityGroupName
Specifies the name of the EC2 security group.

Type: String

Required: No

EC2SecurityGroupOwnerId
Specifies the AWS ID of the owner of the EC2 security group specified in the `EC2SecurityGroupName`
field.

Type: String

Required: No

Status

Provides the status of the EC2 security group. Status can be "authorizing", "authorized", "revoking", and "revoked".

Type: String

Required: No

Endpoint

Description

This data type is used as a response element in the following actions:

- CreateDBInstance (p. 15)
- DescribeDBInstances (p. 82)
- DeleteDBInstance (p. 57)

Contents

Address

Specifies the DNS address of the DB instance.

Type: String

Required: No

Port

Specifies the port that the database engine is listening on.

Type: Integer

Required: No

EngineDefaults

Description

Contains the result of a successful invocation of the DescribeEngineDefaultParameters (p. 104) action.

Contents

DBParameterGroupFamily

Specifies the name of the DB parameter group family which the engine default parameters apply to.

Type: String

Required: No

Marker

An optional pagination token provided by a previous EngineDefaults request. If this parameter is specified, the response includes only records beyond the marker, up to the value specified by `MaxRecords` .

Type: String

Required: No

Parameters

Contains a list of engine default parameters.

Type: Parameter (p. 237) list

Required: No

Event

Description

This data type is used as a response element in the DescribeEvents (p. 112) action.

Contents

Date

Specifies the date and time of the event.

Type: DateTime

Required: No

EventCategories

Specifies the category for the event.

Type: String list

Required: No

Message

Provides the text of this event.

Type: String

Required: No

SourceIdentifier

Provides the identifier for the source of the event.

Type: String

Required: No

SourceType

Specifies the source type for this event.

Type: String

Valid Values: `db-instance | db-parameter-group | db-security-group | db-snapshot`

Required: No

EventCategoriesMap

Description

Contains the results of a successful invocation of the DescribeEventCategories (p. 107) action.

Contents

EventCategories
The event categories for the specified source type

Type: String list

Required: No

SourceType
The source type that the returned categories belong to

Type: String

Required: No

EventSubscription

Description

Contains the results of a successful invocation of the DescribeEventSubscriptions (p. 109) action.

Contents

CustSubscriptionId
The RDS event notification subscription Id.

Type: String

Required: No

CustomerAwsId
The AWS customer account associated with the RDS event notification subscription.

Type: String

Required: No

Enabled
A Boolean value indicating if the subscription is enabled. True indicates the subscription is enabled.

Type: Boolean

Required: No

EventCategoriesList
A list of event categories for the RDS event notification subscription.

Type: String list

Required: No

SnsTopicArn

The topic ARN of the RDS event notification subscription.

Type: String

Required: No

SourceIdsList

A list of source Ids for the RDS event notification subscription.

Type: String list

Required: No

SourceType

The source type for the RDS event notification subscription.

Type: String

Required: No

Status

The status of the RDS event notification subscription.

Constraints:

Can be one of the following: creating | modifying | deleting | active | no-permission | topic-not-exist

The status "no-permission" indicates that RDS no longer has permission to post to the SNS topic. The status "topic-not-exist" indicates that the topic was deleted after the subscription was created.

Type: String

Required: No

SubscriptionCreationTime

The time the RDS event notification subscription was created.

Type: String

Required: No

Filter

Description

Contents

Name

This parameter is not currently supported.

Type: String

Required: Yes

Values

This parameter is not currently supported.

Type: String list

Required: Yes

IPRange

Description

This data type is used as a response element in the DescribeDBSecurityGroups (p. 94) action.

Contents

CIDRIP
Specifies the IP range.

Type: String

Required: No

Status
Specifies the status of the IP range. Status can be "authorizing", "authorized", "revoking", and "revoked".

Type: String

Required: No

ListTagsForResourceResult

Description

Contents

TagList
List of tags returned by the ListTagsForResource operation.

Type: Tag (p. 244) list

Required: No

ModifyDBParameterGroupResult

Description

Contains the result of a successful invocation of the ModifyDBParameterGroup (p. 147) or ResetDBParameterGroup (p. 178) action.

Contents

DBParameterGroupName
The name of the DB parameter group.

Type: String

Required: No

Option

Description

Option details.

Contents

DBSecurityGroupMemberships
If the option requires access to a port, then this DB security group allows access to the port.

Type: DBSecurityGroupMembership (p. 211) list

Required: No

OptionDescription
The description of the option.

Type: String

Required: No

OptionName
The name of the option.

Type: String

Required: No

OptionSettings
The option settings for this option.

Type: OptionSetting (p. 234) list

Required: No

Permanent
Indicate if this option is permanent.

Type: Boolean

Required: No

Persistent
Indicate if this option is persistent.

Type: Boolean

Required: No

Port
If required, the port configured for this option to use.

Type: Integer

Required: No

VpcSecurityGroupMemberships
If the option requires access to a port, then this VPC security group allows access to the port.

Type: VpcSecurityGroupMembership (p. 244) list

Required: No

OptionConfiguration

Description

A list of all available options

Contents

DBSecurityGroupMemberships
A list of DBSecurityGroupMemebrship name strings used for this option.

Type: String list

Required: No

OptionName
The configuration of options to include in a group.

Type: String

Required: Yes

OptionSettings
The option settings to include in an option group.

Type: OptionSetting (p. 234) list

Required: No

Port
The optional port for the option.

Type: Integer

Required: No

VpcSecurityGroupMemberships
A list of VpcSecurityGroupMemebrship name strings used for this option.

Type: String list

Required: No

OptionGroup

Description

Contents

AllowsVpcAndNonVpcInstanceMemberships
Indicates whether this option group can be applied to both VPC and non-VPC instances. The value 'true' indicates the option group can be applied to both VPC and non-VPC instances.

Type: Boolean

Required: No

EngineName
Engine name that this option group can be applied to.

Type: String

Required: No

MajorEngineVersion
Indicates the major engine version associated with this option group.

Type: String

Required: No

OptionGroupDescription
Provides the description of the option group.

Type: String

Required: No

OptionGroupName
Specifies the name of the option group.

Type: String

Required: No

Options
Indicates what options are available in the option group.

Type: Option (p. 229) list

Required: No

VpcId
If AllowsVpcAndNonVpcInstanceMemberships is 'false', this field is blank. If AllowsVpcAndNonVpcInstanceMemberships is 'true' and this field is blank, then this option group can be applied to both VPC and non-VPC instances. If this field contains a value, then this option group can only be applied to instances that are in the VPC indicated by this field.

Type: String

Required: No

OptionGroupMembership

Description

Provides information on the option groups the DB instance is a member of.

Contents

OptionGroupName
The name of the option group that the instance belongs to.

Type: String

Required: No

Status
The status of the DB instance's option group membership (e.g. in-sync, pending, pending-maintenance, applying).

Type: String

Required: No

OptionGroupOption

Description

Available option.

Contents

DefaultPort
If the option requires a port, specifies the default port for the option.

Type: Integer

Required: No

Description
The description of the option.

Type: String

Required: No

EngineName
Engine name that this option can be applied to.

Type: String

Required: No

MajorEngineVersion
Indicates the major engine version that the option is available for.

Type: String

Required: No

MinimumRequiredMinorEngineVersion
The minimum required engine version for the option to be applied.

Type: String

Required: No

Name
The name of the option.

Type: String

Required: No

OptionGroupOptionSettings
Specifies the option settings that are available (and the default value) for each option in an option group.

Type: list

Required: No

OptionsDependedOn
List of all options that are prerequisites for this option.

Type: String list

Required: No

Permanent
A permanent option cannot be removed from the option group once the option group is used, and it cannot be removed from the db instance after assigning an option group with this permanent option.

Type: Boolean

Required: No

Persistent
A persistent option cannot be removed from the option group once the option group is used, but this option can be removed from the db instance while modifying the related data and assigning another option group without this option.

Type: Boolean

Required: No

PortRequired
Specifies whether the option requires a port.

Type: Boolean

Required: No

OptionGroupOptionSetting

Description

option group option settings are used to display settings available for each option with their default values and other information. These values are used with the DescribeOptionGroupOptions action.

Contents

AllowedValues
Indicates the acceptable values for the option group option.

Type: String

Required: No

ApplyType
The DB engine specific parameter type for the option group option.

Type: String

Required: No

DefaultValue
The default value for the option group option.

Type: String

Required: No

IsModifiable
Boolean value where true indicates that this option group option can be changed from the default value.

Type: Boolean

Required: No

SettingDescription
The description of the option group option.

Type: String

Required: No

SettingName
The name of the option group option.

Type: String

Required: No

OptionSetting

Description

Option settings are the actual settings being applied or configured for that option. It is used when you modify an option group or describe option groups. For example, the NATIVE_NETWORK_ENCRYPTION option has a setting called SQLNET.ENCRYPTION_SERVER that can have several different values.

Contents

AllowedValues
The allowed values of the option setting.

Type: String

Required: No

ApplyType

The DB engine specific parameter type.

Type: String

Required: No

DataType

The data type of the option setting.

Type: String

Required: No

DefaultValue

The default value of the option setting.

Type: String

Required: No

Description

The description of the option setting.

Type: String

Required: No

IsCollection

Indicates if the option setting is part of a collection.

Type: Boolean

Required: No

IsModifiable

A Boolean value that, when true, indicates the option setting can be modified from the default.

Type: Boolean

Required: No

Name

The name of the option that has settings that you can set.

Type: String

Required: No

Value

The current value of the option setting.

Type: String

Required: No

OrderableDBInstanceOption

Description

Contains a list of available options for a DB instance

This data type is used as a response element in the DescribeOrderableDBInstanceOptions (p. 121) action.

Contents

AvailabilityZones
>   A list of availability zones for the orderable DB instance.
>
>   Type: AvailabilityZone (p. 202) list
>
>   Required: No

DBInstanceClass
>   The DB instance Class for the orderable DB instance
>
>   Type: String
>
>   Required: No

Engine
>   The engine type of the orderable DB instance.
>
>   Type: String
>
>   Required: No

EngineVersion
>   The engine version of the orderable DB instance.
>
>   Type: String
>
>   Required: No

LicenseModel
>   The license model for the orderable DB instance.
>
>   Type: String
>
>   Required: No

MultiAZCapable
>   Indicates whether this orderable DB instance is multi-AZ capable.
>
>   Type: Boolean
>
>   Required: No

ReadReplicaCapable
>   Indicates whether this orderable DB instance can have a read replica.
>
>   Type: Boolean
>
>   Required: No

Vpc
>   Indicates whether this is a VPC orderable DB instance.
>
>   Type: Boolean
>
>   Required: No

Parameter

Description

This data type is used as a request parameter in the ModifyDBParameterGroup (p. 147) and ResetDBParameterGroup (p. 178) actions.

This data type is used as a response element in the DescribeEngineDefaultParameters (p. 104) and DescribeDBParameters (p. 91) actions.

Contents

AllowedValues
Specifies the valid range of values for the parameter.

Type: String

Required: No

ApplyMethod
Indicates when to apply parameter updates.

Type: String

Valid Values: `immediate` | `pending-reboot`

Required: No

ApplyType
Specifies the engine specific parameters type.

Type: String

Required: No

DataType
Specifies the valid data type for the parameter.

Type: String

Required: No

Description
Provides a description of the parameter.

Type: String

Required: No

IsModifiable
Indicates whether (`true`) or not (`false`) the parameter can be modified. Some parameters have security or operational implications that prevent them from being changed.

Type: Boolean

Required: No

MinimumEngineVersion
The earliest engine version to which the parameter can apply.

Type: String

Required: No

ParameterName

Specifies the name of the parameter.

Type: String

Required: No

ParameterValue

Specifies the value of the parameter.

Type: String

Required: No

Source

Indicates the source of the parameter value.

Type: String

Required: No

PendingModifiedValues

Description

This data type is used as a response element in the ModifyDBInstance (p. 136) action.

Contents

AllocatedStorage

Contains the new `AllocatedStorage` size for the DB instance that will be applied or is in progress.

Type: Integer

Required: No

BackupRetentionPeriod

Specifies the pending number of days for which automated backups are retained.

Type: Integer

Required: No

DBInstanceClass

Contains the new `DBInstanceClass` for the DB instance that will be applied or is in progress.

Type: String

Required: No

DBInstanceIdentifier

Contains the new `DBInstanceIdentifier` for the DB instance that will be applied or is in progress.

Type: String

Required: No

EngineVersion

Indicates the database engine version.

Type: String

Required: No

Iops

Specifies the new Provisioned IOPS value for the DB instance that will be applied or is being applied.

Type: Integer

Required: No

MasterUserPassword

Contains the pending or in-progress change of the master credentials for the DB instance.

Type: String

Required: No

MultiAZ

Indicates that the Single-AZ DB instance is to change to a Multi-AZ deployment.

Type: Boolean

Required: No

Port

Specifies the pending port for the DB instance.

Type: Integer

Required: No

RecurringCharge

Description

This data type is used as a response element in the DescribeReservedDBInstances (p. 125) and DescribeReservedDBInstancesOfferings (p. 128) actions.

Contents

RecurringChargeAmount

The amount of the recurring charge.

Type: Double

Required: No

RecurringChargeFrequency

The frequency of the recurring charge.

Type: String

Required: No

ReservedDBInstance

Description

This data type is used as a response element in the DescribeReservedDBInstances (p. 125) and PurchaseReservedDBInstancesOffering (p. 165) actions.

Contents

CurrencyCode
 The currency code for the reserved DB instance.

 Type: String

 Required: No

DBInstanceClass
 The DB instance class for the reserved DB instance.

 Type: String

 Required: No

DBInstanceCount
 The number of reserved DB instances.

 Type: Integer

 Required: No

Duration
 The duration of the reservation in seconds.

 Type: Integer

 Required: No

FixedPrice
 The fixed price charged for this reserved DB instance.

 Type: Double

 Required: No

MultiAZ
 Indicates if the reservation applies to Multi-AZ deployments.

 Type: Boolean

 Required: No

OfferingType
 The offering type of this reserved DB instance.

 Type: String

 Required: No

ProductDescription
 The description of the reserved DB instance.

 Type: String

Required: No

RecurringCharges

The recurring price charged to run this reserved DB instance.

Type: RecurringCharge (p. 239) list

Required: No

ReservedDBInstanceId

The unique identifier for the reservation.

Type: String

Required: No

ReservedDBInstancesOfferingId

The offering identifier.

Type: String

Required: No

StartTime

The time the reservation started.

Type: DateTime

Required: No

State

The state of the reserved DB instance.

Type: String

Required: No

UsagePrice

The hourly price charged for this reserved DB instance.

Type: Double

Required: No

ReservedDBInstancesOffering

Description

This data type is used as a response element in the DescribeReservedDBInstancesOfferings (p. 128) action.

Contents

CurrencyCode

The currency code for the reserved DB instance offering.

Type: String

Required: No

DBInstanceClass

The DB instance class for the reserved DB instance.

Type: String

Required: No

Duration

The duration of the offering in seconds.

Type: Integer

Required: No

FixedPrice

The fixed price charged for this offering.

Type: Double

Required: No

MultiAZ

Indicates if the offering applies to Multi-AZ deployments.

Type: Boolean

Required: No

OfferingType

The offering type.

Type: String

Required: No

ProductDescription

The database engine used by the offering.

Type: String

Required: No

RecurringCharges

The recurring price charged to run this reserved DB instance.

Type: RecurringCharge (p. 239) list

Required: No

ReservedDBInstancesOfferingId

The offering identifier.

Type: String

Required: No

UsagePrice

The hourly price charged for this offering.

Type: Double

Required: No

ResetDBParameterGroupResult

Description

Contains the result of a successful invocation of the ModifyDBParameterGroup (p. 147) or ResetDBParameterGroup (p. 178) action.

Contents

DBParameterGroupName
The name of the DB parameter group.

Type: String

Required: No

Subnet

Description

This data type is used as a response element in the DescribeDBSubnetGroups (p. 101) action.

Contents

SubnetAvailabilityZone
Contains Availability Zone information.

This data type is used as an element in the following data type:

- OrderableDBInstanceOption (p. 235)

Type: AvailabilityZone (p. 202)

Required: No
SubnetIdentifier
Specifies the identifier of the subnet.

Type: String

Required: No

SubnetStatus
Specifies the status of the subnet.

Type: String

Required: No

Tag

Description

Metadata assigned to an Amazon RDS resource consisting of a key-value pair.

Contents

Key

A key is the required name of the tag. The string value can be from 1 to 128 Unicode characters in length and cannot be prefixed with "aws:" or "rds:". The string may only contain only the set of Unicode letters, digits, white-space, '_', '.', '/', '=', '+', '-' (Java regex: "^([\\p{L}\\p{Z}\\p{N}_.:/=+\\-]*)$").

Type: String

Required: No

Value

A value is the optional value of the tag. The string value can be from 1 to 256 Unicode characters in length and cannot be prefixed with "aws:" or "rds:". The string may only contain only the set of Unicode letters, digits, white-space, '_', '.', '/', '=', '+', '-' (Java regex: "^([\\p{L}\\p{Z}\\p{N}_.:/=+\\-]*)$").

Type: String

Required: No

VpcSecurityGroupMembership

Description

This data type is used as a response element for queries on VPC security group membership.

Contents

Status

The status of the VPC security group.

Type: String

Required: No

VpcSecurityGroupId

The name of the VPC security group.

Type: String

Required: No

Common Parameters

This section lists the request parameters that all actions use. Any action-specific parameters are listed in the topic for the action.

Action
The action to be performed.

Default: None

Type: string

Required: Yes

AuthParams
The parameters that are required to authenticate a Conditional request. Contains:

- AWSAccessKeyID
- SignatureVersion
- Timestamp
- Signature

Default: None

Required: Conditional

AWSAccessKeyId
The access key ID that corresponds to the secret access key that you used to sign the request.

Default: None

Type: string

Required: Yes

Expires
The date and time when the request signature expires, expressed in the format YYYY-MM-DDThh:mm:ssZ, as specified in the ISO 8601 standard.

Condition: Requests must include either *Timestamp* or *Expires*, but not both.

Default: None

Type: string

Required: Conditional

SecurityToken

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to Using Temporary Security Credentials to Access AWS in **Using Temporary Security Credentials**.

Default: None

Type: string

Required: No

Signature

The digital signature that you created for the request. For information about generating a signature, go to the service's developer documentation.

Default: None

Type: string

Required: Yes

SignatureMethod

The hash algorithm that you used to create the request signature.

Default: None

Type: string

Valid Values: `HmacSHA256 | HmacSHA1`

Required: Yes

SignatureVersion

The signature version you use to sign the request. Set this to the value that is recommended for your service.

Default: None

Type: string

Required: Yes

Timestamp

The date and time when the request was signed, expressed in the format YYYY-MM-DDThh:mm:ssZ, as specified in the ISO 8601 standard.

Condition: Requests must include either *Timestamp* or *Expires*, but not both.

Default: None

Type: string

Required: Conditional

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Default: None

Type: string

Required: Yes

Common Parameters for Signature V4 Signing

The following table lists the parameters that all actions use for signing Signature Version 4 requests. Any action-specific parameters are listed in the topic for that action. To view sample requests, see Examples of Signed Signature Version 4 Requests or Signature Version 4 Test Suite in the *Amazon Web Services General Reference* .

Action

The action to be performed.

Type: string

Required: Yes

Version

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

X-Amz-Algorithm

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: `AWS4-HMAC-SHA256`

Required: Conditional

X-Amz-Credential

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: *access_key*/*YYYYMMDD*/*region*/*service*/aws4_request.

For more information, see Task 2: Create a String to Sign for Signature Version 4 in the *Amazon Web Services General Reference*.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-Date

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: `20120325T120000Z`.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Handling Dates in Signature Version 4 in the *Amazon Web Services General Reference*.

Type: string

Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service. For a list of services that support AWS Security Token Service, go to Using Temporary Security Credentials to Access AWS in *Using Temporary Security Credentials*.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string

Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Task 1: Create a Canonical Request For Signature Version 4 in the *Amazon Web Services General Reference* .

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

Common Errors

This section lists the common errors that all actions return. Any action-specific errors are listed in the topic for the action.

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

Throttling

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