Relational Database Service

API Reference

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1 Before You Start

1.1 Overview

Welcome to *Relational Database Service API Reference*. RDS is an online relational database service based on a cloud computing platform. RDS is reliable, scalable, and easy to manage. It provides a comprehensive performance monitoring system, multiple levels of security, and a professional database management platform, allowing you to easily set up and scale a relational database.

This document describes how to use application programming interfaces (APIs) to perform operations on RDS DB instances, such as DB instance creation, backup and restoration, query, parameter modifications, and deletions. For details about all supported operations, see **API Overview**.

If you plan to access RDS through an API, ensure that you are familiar with RDS concepts. For details, see "Service Overview" in the *Relational Database Service User Guide*.

1.2 API Calling

RDS supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

NOTE

A request throttling policy is used to limit the number of times that an API can be called within a specific time period. If there are too many API requests within a specific time period, the requests may fail.

Standard request throttling policy: 60 calls per minute for a single user and 8,000 calls per minute for an API.

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1.3 Endpoints

Table 1-1 RDS Regions and Endpoints

Region Name	Region	Endpoint	Protocol Type
TR-Ankara-PUR	tr-central-201	rds.tr-central-201.myhuaweicloud.com	HTTPS

1.4 Constraints

- The number of RDS DB instances that you can create is determined by your quota. To view or increase the quota, see section "Managing Quotas" in *Relational Database Service User Guide*.
- For more constraints, see API description.

1.5 Concepts

- Domain

  A domain is created after your registration. The domain has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The domain is a payment entity and should not be used directly to perform routine management. For security purposes, create users and grant them permissions for routine management.
- IAM User

  An IAM user is created using a domain to use cloud services. Each IAM user has its own identity credentials (password and access keys).

  The domain name, username, and password will be required for API authentication.
- Region

  A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.
- AZ

  An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.
- Project

  Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each

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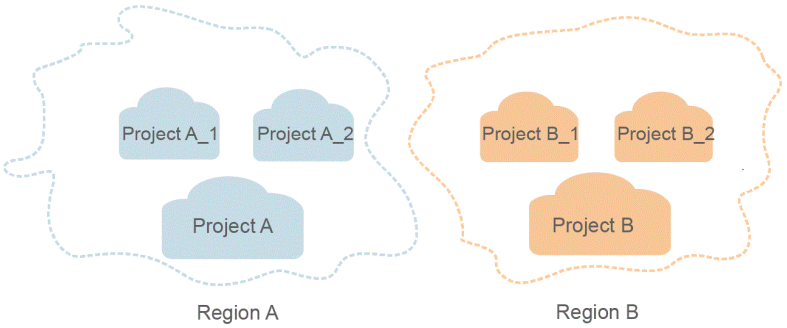
region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

Figure 1-1 Project isolating model



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2 API Overview

RDS APIs enable you to use all RDS functions, including creating DB instances and backing up and restoring data.

Type	Subtype	Description
RDS APIs (v3)	API Version Queries	Obtain API versions, including the API version list and API version information.
RDS APIs (v3)	DB Engine Version Queries	Query the DB version information of a specified DB engine.
RDS APIs (v3)	DB Specifications Queries	Query the DB specifications of a specified DB engine version.
RDS APIs (v3)	DB Storage Type Queries	Query the storage type of a specified DB engine version.
RDS APIs (v3)	DB Instance Management	Manage DB instances, including creating a DB instance, adjusting instance storage space, rebooting a DB instance, deleting a DB instance, obtaining a DB instance list, and obtaining detailed information of a specified DB instance.
RDS APIs (v3)	Database Security	Improve database security, including configuring SSL data encryption, changing database ports, modifying security groups, and changing floating IP addresses.
RDS APIs (v3)	Parameter Configuration	Configure parameters, including obtaining a parameter list, obtaining configuration parameter information, obtaining default parameters of a DB instance, setting configuration parameters, restoring parameters to their default values, obtaining a parameter template list, and obtaining a parameter template.

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Type	Subtype	Description
RDS APIs (v3)	Backup and Restoration	Back up and restore data, including setting an automated backup policy, obtaining an automated backup policy, creating a manual backup, and deleting a manual backup.
RDS APIs (v3)	Database and Account Management (MySQL)	Create and query databases, create, query, and delete accounts, and grant and revoke permissions of accounts.
RDS APIs (v3)	Task Information Queries	Obtain information about a specified task in the task center.

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3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for obtaining a user token as an example to demonstrate how to call an API. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI consists of the following:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in a request header, most programming languages or frameworks require the request URI to be separately transmitted, rather than being conveyed in a request message.

Table 3-1 Parameters in a URI

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from **Regions and Endpoints**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the **resource-path** of the API used to obtain a user token is **/v3/auth/tokens**.
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, **?limit=10** indicates that a maximum of 10 data records will be displayed.

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NOTE

To simplify the URI display in this document, each API is provided only with a resource-path and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server:

Table 3-2 HTTP methods

Method	Description
GET	Requests the server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete specified resources, for example, an object.

For example, in the case of the API used to obtain a user token, the request method is POST. The request is as follows:

```
POST https://{{Endpoint}}/v3/auth/tokens
```

Request Header

You can also add additional fields to a request, such as the fields required by a specified URI or an HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Table 3-3 lists common request header fields.

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Table 3-3 Common request headers

Name	Description	Mandatory	Example
Host	Specifies the requested server information, which can be obtained from the URL of the service API. The value is in the *hostname[:port]* format. If the port number is not specified, the default port is used. The default port number for **https** is **443**.	No This parameter is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the MIME type of the request body. You are advised to use the default value **application/json**. For APIs used to upload objects or images, the value can vary depending on the flow type.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in **Obtaining a Project ID**.	No	e9993fc787d94b6c886cbaa340f9c0f4

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Name	Description	Mandatory	Example
X-Auth-Token	Specifies the user token. The user token is a response to the API used to obtain a user token. This API is the only one that does not require authentication. After the request is processed, the value of **X-Subject-Token** in the message header is the token value.	No This parameter is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ

The API used to obtain a user token does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

```
POST https://{{Endpoint}}/v3/auth/tokens
Content-Type: application/json
```

Request Body (Optional)

This part is optional. The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field.

The request body varies depending on APIs. Certain APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to obtain a user token, the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace ***username***, ***domainname***, ************* (login password), and ***xxxxxxxxxxxxxxxxx*** (project name) with actual values. You can obtain the values from **Regions and Endpoints**.

NOTE

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see Obtaining a User Token.

```
POST https://{{Endpoint}}/v3/auth/tokens
Content-Type: application/json

{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
```

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```
                "name": "username",
                "password": "********",
                "domain": {
                    "name": "domainname"
                }
            }
        }
    },
    "scope": {
        "project": {
            "name": "xxxxxxxxxxxxxxxxxx"
        }
    }
  }
}
```

If all data required for the API request is available, you can send the request to call the API through **curl**, **Postman**, or coding. In the response to the API used to obtain a user token, **x-subject-token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

Token authentication must be performed to call APIs.

Authentication using tokens: General requests are authenticated using tokens.

Token-based Authentication

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxx"
            }
        }
    }
}
```

In **Making an API Request**, the process of calling the API used to obtain a user token is described.

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After a token is obtained, add the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
POST https://{{Endpoint}}/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

3.3 Response

Status Code

After sending a request, you will receive a response, including the status code, response header, and response body.

A status code is a group of digits ranging from 1xx to 5xx. It indicates the status of a response. For more information, see **Status Codes**.

For example, if status code **201** is returned for calling the API used to obtain a user token, the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

Figure 3-1 shows the response header for the API used to obtain a user token. The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-1 Header fields of the response to the request for obtaining a user token

(Optional) Response Body

This part is optional. The body of a response is often returned in structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to obtain a user token.

```
{
    "token": {
        "expires_at": "2019-02-13T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "az-01",
.....
```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
    "error_code": "AS.0001",
    "error_msg": "The format of message is error"
}
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

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4 API v3 (Recommended)

4.1 Querying Version Information About APIs

4.1.1 Querying API Versions

Function

This API is used to query the supported RDS API versions.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format
  GET /rds
- Example
  https://{*Endpoint*}/rds
- Parameter description
  None

Request

None

Response

- Normal response

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Table 4-1 Parameter description

Name	Type	Description
versions	Array of objects	Indicates the list of detailed API version information. For details, see **Table 4-2**.

Table 4-2 versions field data structure description

Name	Type	Description
id	String	Indicates the API version. • **v3**: indicates the API v3 version.
links	Array of objects	Indicates the API link information. The value is empty when the version is v3. For details, see **Table 4-3**.
status	String	Indicates the version status. The value **CURRENT** indicates that the version has been released.
updated	String	Indicates the version update time. The format is yyyy-mm-dd Thh:mm:ssZ. **T** is the separator between the calendar and the hourly notation of time. **Z** indicates the Coordinated Universal Time (UTC).

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Table 4-3 links field data structure description

Name	Type	Description
href	String	Indicates the API URL and the value is "".
rel	String	Its value is **self**, indicating that **href** is a local link.

- Example normal response

```
{
   "versions": [{
         "id": "v3",
         "links": [],
         "status": "CURRENT",
         "updated": "2017-02-07T17:34:02Z"
   }
   ]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.1.2 Querying a Specified API Version

Function

This API is used to query the specified API version.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /rds/{*version*}

- Example

  https://{*Endpoint*}/rds/

- Parameter description

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Table 4-4 Parameter description

Name	Mandatory	Description
version	Yes	Specifies the API version. It is case-sensitive. For details, see **id** in **Table 4-2** in section **Querying API Versions**.

Request

None

Response

- Normal response

Table 4-5 Parameter description

Name	Type	Description
versions	Object	Indicates the list of detailed API version information. For details, see **Table 4-6**.
version	Object	Indicates the list of detailed API version information. For details, see **Table 4-6**.

Table 4-6 versions field data structure description

Name	Type	Description
id	String	Indicates the API version.
links	Array	Indicates the API version link information. Its value is empty. For details, see **Table 4-7**.
status	String	Indicates the version status.

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Name	Type	Description
updated	String	Indicates the version update time. The format is yyyy-mm-dd Thh:mm:ssZ. **T** is the separator between the calendar and the hourly notation of time. **Z** indicates the UTC.

Table 4-7 links field data structure description

Name	Type	Description
href	String	Indicates the API URL and the value is **""**.
rel	String	Its value is **self**, indicating that **href** is a local link.

- Example normal response

```
{
  "version": {
    "id": "v3",
    "links": [],
    "status": "CURRENT",
    "updated": "2017-02-07T17:34:02Z"
  },
  "versions": {
    "id": "v3",
    "links": [],
    "status": "CURRENT",
    "updated": "2017-02-07T17:34:02Z"
  }
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.2 Querying Version Information About a DB Engine

Function

This API is used to query the database version information of a specified DB engine.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{*project_id*}/datastores/{*database_name*}
- Example

  https://{*Endpoint*}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/datastores/mysql
- Parameter description

  Table 4-8 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
database_name	Yes	Specifies the DB engine. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL

Request

None

Response

- Normal response

  Table 4-9 Parameter description

Name	Type	Description
dataStores	Array of objects	Indicates the list of database versions. For details, see **Table 4-10**.

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Table 4-10 dataStores field data structure description

Name	Type	Description
id	String	Indicates the database version ID. Its value is unique.
name	String	Indicates the database version number. Only the major version number (two digits) is returned. For example, if the version number is MySQL 5.6.X, only 5.6 is returned.

- Example normal response

```
{
   "dataStores": [{
      "id": "87620726-6802-46c0-9028-a8785e1f1922",
      "name": "5.7"
   }, {
      "id": "e8a8b8cc-63f8-4fb5-8d4a-24c502317a62",
      "name": "5.6"
   }]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.3 Querying Database Specifications

Function

This API is used to query the database specifications of a specified DB engine version.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/flavors/{database_name}?version_name={version_name}

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- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/flavors/mysql?version_name=5.7

- Parameter description

  Table 4-11 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
database_name	Yes	Specifies the DB engine name. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL
version_name	No	Specifies the database version. For details about how to obtain the database version, see section **Querying Version Information About a DB Engine**.
spec_code	No	Specifies the specification code.

Request

None

Response

- Normal response

  Table 4-12 Parameter description

Name	Type	Description
flavors	Array of objects	Indicates the DB instance specifications information list. For details, see **Table 4-13**.

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Table 4-13 flavors field data structure description

Name	Type	Description
vcpus	String	Indicates the CPU size. For example, the value **1** indicates 1 vCPU.
ram	Integer	Indicates the memory size in GB.
spec_code	String	Indicates the resource specification code. Use **rds.mysql.m1.xlarge.rr** as an example. • **rds**: indicates the RDS product. • **mysql**: indicates the DB engine. • **m1.xlarge**: indicates the high memory performance specifications. • **rr**: indicates read replicas (**.ha** indicates primary/standby DB instances).
instance_mode	String	Indicates the DB instance type. Its value can be any of the following: • **ha**: indicates primary/standby instances. • **replica**: indicates read replicas. • **single**: indicates single DB instances.
az_status	Map<String, String>	Indicates the specification status in an AZ. Its value can be any of the following: • **normal**: indicates that the specifications in the AZ are available. • **unsupported**: indicates that the specifications are not supported by the AZ. • **sellout**: indicates that the specifications in the AZ are sold out.

- Example normal response

```
{
   "flavors": [{
      "vcpus": "1",
      "ram": 2,
      "spec_code": "rds.mysql.c2.medium.ha",
      "instance_mode": "ha",
      "az_status": {
         "az1": "normal",
         "az2": "normal"
      }
   }, {
      "vcpus": "1",
      "ram": 2,
      "spec_code": "rds.mysql.c2.medium.rr",
      "instance_mode": "replica",
      "az_status": {
         "az1": "normal",
         "az2": "normal"
      }
```

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```
    }]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.4 Querying the Storage Type of a Database

Function

This API is used to query the storage type of a specified DB engine version.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/storage-type/{database_name}?version_name={version_name}&ha_mode={ha_mode}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/storage-type/mysql?version_name=5.7&ha_mode=ha

- Parameter description

  Table 4-14 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
database_name	Yes	Specifies the DB engine name. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL

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Name	Mandatory	Description
version_name	Yes	Specifies the database version. For details about how to obtain the database version, see section **Querying Version Information About a DB Engine**.
ha_mode	No	Specifies the HA mode. The value options are as follows: • single • ha • replica

Request

None

Response

- Normal response

Table 4-15 Parameter description

Name	Type	Description
storage_type	Array of objects	Indicates the DB instance specifications information list. For details, see **Table 4-16**.

Table 4-16 storage_type field data structure description

Name	Type	Description
name	String	Indicates the storage type. Its value can be any of the following: • **ULTRAHIGH**: SSD storage (ultra-high I/O). • **CLOUDSSD**: cloud SSD storage.
az_status	Map<String, String>	Indicates the specification status in an AZ. Its value can be any of the following: • **normal**: indicates that the specifications in the AZ are available. • **unsupported**: indicates that the specifications are not supported by the AZ. • **sellout**: indicates that the specifications in the AZ are sold out.

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- Example normal response

```
{
   "storage_type": [{
         "name": "CLOUDSSD",
         "az_status": {
            "az1": "normal",
            "az2": "normal",
         }
      }
   ]
      "dsspool_info": []
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5 DB Instance Management

4.5.1 Creating a DB Instance

Function

This API is used to create a single RDS DB instance, primary/standby DB instance, or read replica.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  POST /v3/{project_id}/instances

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances

- Parameter description

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Table 4-17 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request

Table 4-18 Parameter description (creating single, primary/standby, and cluster instances)

Name	Mandatory	Type	Description
name	Yes	String	Specifies the DB instance name. Instances of the same type can have same names under the same tenant. The DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
datastore	Yes	Object	Specifies the database information. For details, see **Table 4-20**.
ha	No	Object	Specifies the HA configuration, which is used when you create primary/standby instances. For details, see **Table 4-21**.

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Name	Mandatory	Type	Description
configuration_id	No	String	Specifies the parameter template ID. For details, see **id** in **Table 4-82** in section **Obtaining a Parameter Template List**.
port	No	String	Specifies the database port information. • The RDS for MySQL database port ranges from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used). • The RDS for PostgreSQL database port ranges from 2100 to 9500. If this parameter is not set, the default value is as follows: • RDS for MySQL: **3306**. • RDS for PostgreSQL: **5432**

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Name	Mandatory	Type	Description
password	No	String	Specifies the database password. Valid value: A database password must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters. Different DB engines support different special characters. • RDS for MySQL: ~!@#$%^*-_=+?, • RDS for PostgreSQL: ~!@#%^*-_=+?, You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.
backup_strategy	No	Object	Specifies the advanced backup policy. For details, see **Table 4-22**.
flavor_ref	Yes	String	Specifies the specification code. The value cannot be empty. For details, see **spec_code** in **Table 4-13** in section **Querying Database Specifications**.
volume	Yes	Object	Specifies the volume information. For details, see **Table 4-23**.

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Name	Mandatory	Type	Description
region	Yes	String	Specifies the region ID. The value cannot be empty. For details about how to obtain this parameter value, see **Regions and Endpoints**.
availability_zone	Yes	String	Specifies the AZ ID. If the DB instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). For details, see the example. The value cannot be empty. For details about how to obtain this parameter value, see **Regions and Endpoints**.
vpc_id	Yes	String	Specifies the VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and view the VPC ID in the VPC details. • Method 2: See the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.

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Name	Mandatory	Type	Description
subnet_id	Yes	String	Specifies the network ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.
data_vip	No	String	Specifies the private IP address of a DB instance. You can use the following methods to obtain the private IP address: • Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. View the subnet CIDR block and select an IP address that is not in use. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.

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Name	Mandatory	Type	Description
security_group_id	Yes	String	Specifies the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: See the "Querying Security Groups" section in the *Virtual Private Cloud API Reference*.
time_zone	No	String	Specifies the UTC time zone. • If this parameter is not specified, the time zone of each engine is as follows: – MySQL: uses UTC by default. – PostgreSQL: uses UTC by default. • If this parameter is specified for MySQL or PostgreSQL, the value range is from UTC-12:00 to UTC +12:00 on the hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30.

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Table 4-19 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the DB instance name. The DB instance name of the same type must be unique for the same tenant. Valid value: • For RDS for MySQL databases, the DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_). • For RDS for PostgreSQL databases, the DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
flavor_ref	Yes	String	Specifies the specification code. The value cannot be empty. For details, see **spec_code** in **Table 4-13** in section **Querying Database Specifications**.
volume	Yes	Object	Specifies the volume information. For details, see **Table 4-23**.
region	No	String	Specifies the region ID. Currently, read replicas can be created only in the same region as that of the primary DB instance. The value cannot be empty. For details about how to obtain this parameter value, see **Regions and Endpoints**.

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Name	Mandatory	Type	Description
availability_zone	Yes	String	Specifies the AZ ID. The value cannot be empty. For details about how to obtain this parameter value, see **Regions and Endpoints**.

Table 4-20 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Specifies the DB engine. Value: • MySQL • PostgreSQL
version	Yes	String	Specifies the database version. • MySQL databases support 5.6, 5.7, and 8.0. Example value: 5.7 • PostgreSQL databases support 9.5, 9.6, 10, 11, 12, 13, and 14. Example value: 9.6 For details about supported database versions, see section **Querying Version Information About a DB Engine**.

Table 4-21 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Specifies the primary/standby instance type. The value is **Ha** (case-insensitive).

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Name	Mandatory	Type	Description
replication_mode	Yes	String	Specifies the replication mode for the standby DB instance. Value: • For RDS for MySQL, the value is **async** or **semisync**. • For RDS for PostgreSQL, the value is **async** or **sync**. **NOTE** • **async** indicates the asynchronous replication mode. • **semisync** indicates the semi-synchronous replication mode. • **sync** indicates the synchronous replication mode.

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Table 4-22 backup_strategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	Specifies the backup time window. Automated backups will be triggered during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The **HH** value must be 1 greater than the **hh** value. • The values of **mm** and **MM** must be the same and must be set to any of the following: **00**, **15**, **30**, or **45**. Example value: • 08:15-09:15 • 23:00-00:00
keep_days	No	Integer	Specifies the retention days for specific backup files. The value range is from 0 to 732. If this parameter is not specified or set to **0**, the automated backup policy is disabled.

Table 4-23 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Specifies the volume type. Its value can be any of the following and is case-sensitive: • **ULTRAHIGH**: SSD storage (ultra-high I/O). • **CLOUDSSD**: cloud SSD storage.

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Name	Mandatory	Type	Description
size	Yes	Integer	Specifies the volume size. Its value must be a multiple of 10 and the value range is from 40 GB to 4,000 GB. **NOTE** For read replicas, this parameter is invalid. The volume size is the same as that of the primary DB instance by default.

NOTE

The values of **region** and **availability_zone** are used as examples.

- Request example

  Creating a single DB instance:

```
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "MySQL",
        "version": "5.6"
    },
    "flavor_ref": "rds.mysql.s1.large",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 100
    },
    "region": "aaa",
    "availability_zone": "bbb",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "data_vip": "192.168.0.147",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "port": 8635,
    "backup_strategy": {
        "start_time": "08:15-09:15",
        "keep_days": 12
    },
    "charge_info": {
        "charge_mode": "postPaid"
    },
    "password": "Test@12345678",
    "configuration_id": "452408-ef4b-44c5-94be-305145fg"
}
```

  Creating a primary/standby instance:

```
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "MySQL",
        "version": "5.6"
    },
    "ha": {
```

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```
        "mode": "ha",
        "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.s1.large.ha",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 100
    },
    "region": "aaa",
    "availability_zone": "bbb,ccc",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "data_vip": "192.168.0.147",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "port": 8635,
    "backup_strategy": {
        "start_time": "08:15-09:15",
        "keep_days": 12
    },
    "charge_info": {
        "charge_mode": "postPaid"
    },
    "password": "Test@12345678",
    "configuration_id": "452408-ef4b-44c5-94be-305145fg"
}
```

Creating a read replica:

```
{
    "name": "rds-instance-rep2",
    "replica_of_id": "afdsad-fds-fdsagin01",
    "flavor_ref": "rds.mysql.s1.large.rr",
    "volume": {
        "type": "ULTRAHIGH"
    },
    "region": "aaa",
    "availability_zone": "bbb"
}
```

Response

- Normal response

Table 4-24 Parameter description

Name	Type	Description
instance	Object	Indicates the DB instance information. For details, see **Table 4-25**.
job_id	String	Indicates the ID of the DB instance creation task.

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Table 4-25 instance field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID. **NOTE** The v3 DB instance ID is incompatible with the v1 DB instance ID.
name	String	Indicates the DB instance name. DB instances of the same type can have same names under the same tenant. Valid value: The DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
status	String	Indicates the DB instance status. For example, **BUILD** indicates that the DB instance is being created.
datastore	Object	Indicates the database information. For details, see **Table 4-26**.
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see **Table 4-27**.

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Name	Type	Description
configuration_id	String	Indicates the parameter template ID. This parameter is returned only when a custom parameter template is used during DB instance creation.
port	String	Indicates the database port, which is the same as the request parameter.
backup_strategy	Object	Indicates the automated backup policy. For details, see **Table 4-28**.
flavor_ref	String	Indicates the specification code. The value cannot be empty. For details, see **spec_code** in **Table 4-13** in section **Querying Database Specifications**.
volume	Object	Indicates the volume information. For details, see **Table 4-29**.
region	String	Indicates the region ID.
availability_zone	String	Indicates the AZ ID.
vpc_id	String	Indicates the VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and view the VPC ID in the VPC details. • Method 2: See the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.

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Name	Type	Description
subnet_id	String	Indicates the network ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.
security_group_id	String	Indicates the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: See the "Querying Security Groups" section in the *Virtual Private Cloud API Reference*.
charge_info	Object	Indicates the billing information. For details, see **Table 4-30**.

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Table 4-26 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine. Value: • MySQL • PostgreSQL
version	String	Indicates the database version. For details about supported database versions, see section **Querying Version Information About a DB Engine**.

Table 4-27 ha field data structure description

Name	Type	Description
mode	String	Indicates the primary/standby instance type. The value is **Ha**.
replication_mode	String	Indicates the replication mode for the standby DB instance. This parameter is valid only when the instance is an HA instance. Value: • For RDS for MySQL, the value is **async** or **semisync**. • For RDS for PostgreSQL, the value is **async** or **sync**. **NOTE** • **async** indicates the asynchronous replication mode. • **semisync** indicates the semi-synchronous replication mode. • **sync** indicates the synchronous replication mode.

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Table 4-28 backupStrategy field data structure description

Name	Type	Description
start_time	String	Indicates the backup time window. Automated backups will be triggered during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The **HH** value must be 1 greater than the **hh** value. • The values of **mm** and **MM** must be the same and must be set to any of the following: **00**, **15**, **30**, or **45**. Example value: • 08:15-09:15 • 23:00-00:00 If **backup_strategy** in the request body is empty, **02:00-03:00** is returned for **start_time** by default.
keep_days	Integer	Indicates the retention days for specific backup files. The value range is from 0 to 732. If this parameter is not specified or set to **0**, the automated backup policy is disabled. If **backup_strategy** in the request body is empty, **7** is returned for **keep_days** by default.

Table 4-29 volume field data structure description

Name	Type	Description
type	String	Indicates the volume type. Its value can be any of the following and is case-sensitive: • **ULTRAHIGH**: SSD storage (ultra-high I/O). • **CLOUDSSD**: cloud SSD storage.
size	Integer	Indicates the volume size. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.

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Table 4-30 chargeInfo field data structure description

Name	Type	Description
charge_mode	String	Indicates the billing information.

NOTE

The values of **region** and **availability_zone** are used as examples.

- Example normal response

  Creating a single MySQL DB instance:

```
{
    "instance": {
        "id": "dsfae23fsfdsae3435in01",
        "name": "trove-instance-rep2",
        "datastore": {
            "type": "MySQL",
            "version": "5.6"
        },
        "flavor_ref": "rds.mysql.s1.large",
        "volume": {
            "type": "ULTRAHIGH",
            "size": 100
        },
                "region": "aaa",
        "availability_zone": "bbb",
        "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
        "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
        "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
        "port": "8635",
        "backup_strategy": {
            "start_time": "08:15-09:15",
            "keep_days": 3
        },
        "configuration_id": "452408-44c5-94be-305145fg",
        "charge_info": {
            "charge_mode": "postPaid"
        }
    },
    "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

  Creating a primary/standby DB instance:

```
{
  "instance":{
          "id": "dsfae23fsfdsae3435in01",
          "name": "trove-instance-rep2",
          "datastore": {
            "type": "MySQL",
            "version": "5.6"
           },
          "ha": {
            "mode": "ha",
            "replication_mode": "semisync"
          },
          "flavor_ref": "rds.mysql.s1.large.ha",
          "volume": {
              "type": "ULTRAHIGH",
              "size": 100
```

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```
        },
        "region": "aaa",
        "availability_zone": "bbb,ccc",
        "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
        "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
        "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
        "port": "8635",
        "backup_strategy": {
          "start_time": "08:15-09:15",
          "keep_days": 3
        },
        "configuration_id": "452408-44c5-94be-305145fg",
        "charge_info": {
              "charge_mode": "postPaid"
                    },
      },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Creating a read replica:

```
{
  "instance":{
          "id": "dsfae23fsfdsae3435in01",
          "name": "trove-instance-rep2",
          "flavor_ref": "rds.mysql.s1.large.rr",
          "volume": {
            "type": "ULTRAHIGH",
            "size": 100
          },
        "region": "aaa",
        "availability_zone": "bbb",
        "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
        "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
        "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
        "port": "8635",
        "configuration_id": "452408-44c5-94be-305145fg"
      },
 "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  202

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.5.2 Stopping an Instance

Function

This API is used to stop a pay-per-use DB instance. The instance can be stopped for up to seven days.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for the MySQL DB engine only.
- If you stop a primary instance, read replicas (if there are any) will also be stopped. They are stopped for up to seven days. You cannot stop a read replica without stopping the primary instance.
- A stopped instance will not be moved to the recycle bin after being deleted.
- If you do not manually start your stopped DB instance after seven days, your DB instance is automatically started during the next maintenance window.
- After an instance is stopped, the ECS is no longer billed. Other resources, including EIPs, storage resources, and backups, are still billed.
- An instance cannot be stopped if it is in any of the following statuses:

  Creating, rebooting, scaling up, changing instance class, restoring, and changing port.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/action/shutdown
- Parameter description

  Table 4-31 Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Instance ID.

Request

- Parameter description

  None
- Example

  POST https://{*Endpoint*}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/action/shutdown

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- Request example
  ```
  {}
  ```

Response

- Normal response

  Table 4-32 Parameter description

Name	Type	Description
job_id	String	Job ID.

- Example normal response
  ```
  {
    "job_id": "2b414788a6004883a02390e2eb0ea227"
  }
  ```
- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.3 Starting an Instance

Function

This API is used to start a DB instance. You can stop your instance temporarily to save money. After stopping your instance, you can restart it to begin using it again.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for the MySQL DB engine only.
- If you start a primary instance, read replicas (if there are any) will also be started.
- Only instances in **Stopped** state can be started.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/action/startup

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- Parameter description

  Table 4-33 Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Instance ID.

Request

- Parameter description

  None
- Example

  POST https://{*Endpoint*}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/action/startup
- Request example

```
{}
```

Response

- Normal response

  Table 4-34 Parameter description

Name	Type	Description
job_id	String	Job ID.

- Example normal response

```
{
    "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.5.4 Changing DB Instance Specifications

Function

This API is used to change DB instance specifications.

- Before calling an API, you need to understand the API in **Authentication**.

NOTE

Services will be interrupted for 5 to 10 minutes when you change DB instance specifications. Exercise caution when performing this operation.

Constraints

- The new DB instance specifications must be different from the original DB instance specifications.
- The instance specifications can be modified only for DB instances in the **Available** status.
- The specifications of a DB instance can be changed only to the specifications of the same DB instance type. (For example, the specifications of a single DB instance cannot be changed to those of primary/standby DB instances.)

URI

- URI format

  POST /v3/{*project_id*}/instances/{*instance_id*}/action

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action

- Parameter description

  Table 4-35 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

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Table 4-36 Parameter description

Name	Mandatory	Type	Description
resize_flavor	Yes	Object	For details, see **Table 4-37**.

Table 4-37 resize_flavor field data structure description

Name	Mandatory	Type	Description
spec_code	Yes	String	Specifies the resource specification code. Use **rds.mysql.m1.xlarge** as an example. **rds** indicates the RDS product, **mysql** indicates the DB engine, and **m1.xlarge** indicates the high memory performance specifications. The parameter containing **rr** indicates the read replica specifications. The parameter not containing **rr** indicates the single or primary/standby DB instance specifications.

– Request example

MySQL:

```
{
    "resize_flavor": {
        "spec_code": "rds.mysql.m1.xlarge"

    }
}
```

PostgreSQL:

```
{
    "resize_flavor": {
```

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```
        "spec_code": "rds.pg.c2.medium.ha"

    }
}
```

Response

- Normal response

  Table 4-38 Parameter description

Name	Type	Description
job_id	String	Indicates the job ID.

- Example normal response

```
{
    "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.5 Scaling Up Storage Space of a DB Instance

Function

This API is used to scale up storage space of a DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- The sizes of the primary and standby DB instances are the same. When you scale the primary DB instance, its standby DB instance is also scaled.
- The DB instances can be scaled when they are in the **Available** state.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/action

- Example

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https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action

- Parameter description

Table 4-39 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

Table 4-40 Parameter description

Name	Mandatory	Type	Description
enlarge_volume	Yes	Object	Specifies the target storage space after scaling up. For details, see **Table 4-41**.

Table 4-41 enlarge_volume field data structure description

Name	Mandatory	Type	Description
size	Yes	Integer	A DB instance can be scaled up only by a multiple of 10 GB. Value range: 40 GB to 4,000 GB

- Request example

```
{
   "enlarge_volume": {
      "size": 400

   }
}
```

Response

- Normal response

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Table 4-42 Parameter description

Name	Type	Description
job_id	String	Indicates the job ID.

- Example normal response

```
{
    "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.6 Changing a Single DB Instance to Primary/Standby DB Instances

Function

This API is used to change a single DB instance to primary/standby DB instances.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- Single DB instances with certain specifications cannot be changed to primary/standby DB instances.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/action

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action

- Parameter description

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Table 4-43 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-44 Parameter description

Name	Mandatory	Type	Description
single_to_ha	Yes	Object	For details, see **Table 4-45**.

  Table 4-45 single_to_ha field data structure description

Name	Mandatory	Type	Description
az_code_new_node	Yes	String	Specifies the AZ code of the DB instance node.

- Request example

  Changing the instance type from single to primary/standby for MySQL or PostgreSQL DB instances:

```
{
    "single_to_ha": {
        "az_code_new_node": "az2xahz"
    }
}
```

Response

- Normal response

  Table 4-46 Parameter description

Name	Type	Description
job_id	String	Indicates the job ID.

- Example normal response

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```
{
    "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.7 Rebooting a DB Instance

Function

This API is used to reboot a DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

NOTICE

The RDS DB instance will be unavailable during the reboot process. Exercise caution when performing this operation.

Constraints

The DB instance cannot reboot when it is being created, scaled, backed up, restored, or its instance class or port is being changed.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/action

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action

- Parameter description

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Table 4-47 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-48 Parameter description

Name	Mandatory	Type	Description
restart	Yes	None	This parameter is left blank.

- Request example

```
{
    "restart": {}
}
```

Response

- Normal response

  Table 4-49 Parameter description

Name	Type	Description
job_id	String	Indicates the job ID.

- Example normal response

```
{
   "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

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Error Code

For details, see **Error Codes**.

4.5.8 Deleting a DB Instance

Function

This API is used to delete a DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  DELETE /v3/{project_id}/instances/{instance_id}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01

- Parameter description

  Table 4-50 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID compliant with the UUID format.

Request

None

Response

- Normal response

  Table 4-51 Parameter description

Name	Type	Description
job_id	String	Indicates the ID of the instance deletion task.

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- Example normal response

```
{
    "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.9 Querying Details About DB Instances

Function

This API is used to query DB instances according to search criteria.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances?id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vpc_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}

- Example
  - Querying all DB instances

    https://{*Endpoint*}/v3/97b026aa9cc4417888c14c84a1ad9860/instances

  - Querying DB instances based on search criteria

    https://{*Endpoint*}/v3/97b026aa9cc4417888c14c84a1ad9860/instances?id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=MySQL&vpc_id=19e5d45d-70fd-4a91-87e9-b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10

- Parameter description

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Table 4-52 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
id	String	No	Specifies the DB instance ID. The asterisk (*) is reserved for the system. If the instance ID starts with *, it indicates that fuzzy match is performed based on the value following * Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*).
name	String	No	Specifies the DB instance name. The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following * Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*).
type	String	No	Specifies the instance type-based query. The value is **Single**, **Ha**, **Replica**, or **Enterprise**, which corresponds to single instance, primary/standby instance, read replica, and distributed instance (enterprise), respectively.
datastore_type	String	No	Specifies the database type. Its value can be any of the following and is case-sensitive: • MySQL • PostgreSQL

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Name	Type	Mandatory	Description
vpc_id	String	No	Specifies the VPC ID. • Method 1: Log in to VPC console and view the VPC ID in the VPC details. • Method 2: See the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.
subnet_id	String	No	Specifies the network ID of the subnet. • Method 1: Log in to VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.
offset	Integer	No	Specifies the index position. If **offset** is set to *N*, the resource query starts from the *N*+1 piece of data. The value is **0** by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	Integer	No	Specifies the number of records to be queried. The default value is **100**. The value cannot be a negative number. The minimum value is **1** and the maximum value is **100**.

Request

None

Response

- Normal response

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Table 4-53 Parameter description

Name	Type	Description
instances	Array of objects	Indicates the DB instance information. For details, see **Table 4-54**.
total_count	Integer	Indicates the total number of records.

Table 4-54 instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the created DB instance name.
status	String	Indicates the DB instance status. Value: If the value is **BUILD**, the DB instance is being created. If the value is **ACTIVE**, the DB instance is normal. If the value is **FAILED**, the DB instance is abnormal. If the value is **MODIFYING**, the DB instance is being scaled up. If the value is **REBOOTING**, the DB instance is being rebooted. If the value is **RESTORING**, the DB instance is being restored. If the value is **MODIFYING INSTANCE TYPE**, the DB instance is changing from primary to standby. If the value is **SWITCHOVER**, the primary/standby switchover is being performed. If the value is **MIGRATING**, the DB instance is being migrated. If the value is **BACKING UP**, the DB instance is being backed up. If the value is **MODIFYING DATABASE PORT**, the database port is being changed.

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Name	Type	Description
alias	String	Indicates the DB instance alias.
private_ips	List<String>	Indicates the private IP address list. It is a blank string until an ECS is created.
private_dns_names	List<String>	Indicates the private domain name list of the DB instance. After a DB instance is created, you need to manually apply for a private domain name.
public_ips	List<String>	Indicates the public IP address list.
port	Integer	Indicates the database port number. • The RDS for MySQL database port ranges from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used). • The RDS for PostgreSQL database port ranges from 2100 to 9500. If this parameter is not set, the default value is as follows: • RDS for MySQL: **3306**. • RDS for PostgreSQL: **5432**
type	String	The value is **Single**, **Ha**, **Replica**, or **Enterprise**, which corresponds to single instance, primary/standby instance, read replica, and distributed instance (enterprise), respectively.
ha	Object	Indicates the primary/standby DB instance information. Returned only when you obtain a primary/standby DB instance list. For details, see **Table 4-55**.
region	String	Indicates the region where the DB instance is deployed.
datastore	Object	Indicates the database information. For details, see **Table 4-56**.

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Name	Type	Description
created	String	Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format. **T** is the separator between the calendar and the hourly notation of time. **Z** indicates the time zone offset. For example, if the time zone offset is one hour, the value of **Z** is **+0100**. The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.
updated	String	Indicates the update time. The format is the same as that of the **created** field. The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.
db_user_name	String	Indicates the default username.
vpc_id	String	Indicates the VPC ID.
subnet_id	String	Indicates the network ID of the subnet.
security_group_id	String	Indicates the security group ID.
flavor_ref	String	Indicates the specification code.
volume	Object	Indicates the volume information. For details, see **Table 4-57**.
switch_strategy	String	Indicates the database switchover policy. The value can be **reliability** or **availability**, indicating the reliability first and availability first, respectively.
backup_strategy	Object	Indicates the backup policy. For details, see **Table 4-58**.
maintenance_window	String	Indicates the start time of the maintenance time window in the UTC format.
nodes	Array of objects	Indicates the primary/standby DB instance information. For details, see **Table 4-59**.

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Name	Type	Description
related_instance	Array of objects	Indicates the list of associated DB instances. For details, see **Table 4-60**.
time_zone	String	Indicates the time zone.
backup_used_space	Double	Indicates the backup space usage in GB. This field is returned only when you query information about a specified RDS for SQL Server DB instance.
storage_used_space	Double	Indicates the storage space usage in GB. This field is returned only when you query information about a specified RDS for SQL Server DB instance.

Table 4-55 ha field data structure description

Name	Type	Description
replication_mode	String	Indicates the replication mode for the standby DB instance. The value cannot be empty. • For RDS for MySQL, the value is **async** or **semisync**. • For RDS for PostgreSQL, the value is **async** or **sync**. **NOTE** • **async** indicates the asynchronous replication mode. • **semisync** indicates the semi-synchronous replication mode. • **sync** indicates the synchronous replication mode.

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Table 4-56 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL
version	String	Indicates the database version.

Table 4-57 volume field data structure description

Name	Type	Description
type	String	Indicates the volume type.
size	Integer	Indicates the volume size.

Table 4-58 backup_strategy field data structure description

Name	Type	Description
start_time	String	Indicates the backup time window. Automated backups will be triggered during the backup time window. The time is in the UTC format.
keep_days	Integer	Indicates the number of days to retain the generated backup files. The value ranges from 0 to 732. If the value is **0**, the automated backup policy is not configured or has been disabled.

Table 4-59 nodes field data structure description

Name	Type	Description
id	String	Indicates the node ID.
name	String	Indicates the node name.
role	String	Indicates the node type. The value can be **master**, **slave**, or **readreplica**, indicating the primary node, standby node, and read replica node, respectively.

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Name	Type	Description
status	String	Indicates the node status.
availability_zone	String	Indicates the AZ.

Table 4-60 related_instance field data structure description

Name	Type	Description
id	String	Indicates the associated DB instance ID.
type	String	Indicates the associated DB instance type. • **replica_of**: indicates the primary DB instance. • **replica**: indicates read replicas.

NOTE

The values of **region** and **availability_zone** are used as examples.

- Example normal response

  Query DB instances based on search criteria.

```
{
   "instances": [{
   "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
   "status": "ACTIVE",
   "name": "mysql-0820-022709-01",
   "port": 3306,
   "type": "Single",
   "region": "aaa",
   "datastore": {
      "type": "MySQL",
      "version": "5.7"

   },
   "created": "2018-08-20T02:33:49+0800",
   "updated": "2018-08-20T02:33:50+0800",
   "volume": {
      "type": "ULTRAHIGH",
      "size": 100
   },
   "nodes": [{
      "id": "06f1c2ad57604ae89e153e4d27f4e4b8no01",
      "name": "mysql-0820-022709-01_node0",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "bbb"
   }],
      "alias": "description",
   "private_ips": ["192.168.0.142"],
   "public_ips": ["10.154.219.187", "10.154.219.186"],
```

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```
    "db_user_name": "root",
    "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
    "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
    "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
    "flavor_ref": "rds.mysql.s1.large",


    "switch_strategy": "",
    "backup_strategy": {
        "start_time": "19:00-20:00",
        "keep_days": 7
    },
    "maintenance_window": "02:00-06:00",
    "related_instance": [],
    "time_zone": ""
}], "total_count": 1
}
```


- Query all DB instances.


```
{
    "instances": [{
        "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
        "status": "ACTIVE",
        "name": "mysql-0820-022709-01",
        "port": 3306,
        "type": "Single",
        "region": "aaa",
        "datastore": {
            "type": "MySQL",
            "version": "5.7"

        },
        "created": "2018-08-20T02:33:49+0800",
        "updated": "2018-08-20T02:33:50+0800",
        "volume": {
            "type": "ULTRAHIGH",
            "size": 100
        },
        "nodes": [{
            "id": "06f1c2ad57604ae89e153e4d27f4e4b8no01",
            "name": "mysql-0820-022709-01_node0",
            "role": "master",
            "status": "ACTIVE",
            "availability_zone": "bbb"
        }],
                "alias": "description",
        "private_ips": ["192.168.0.142"],

        "public_ips": ["10.154.219.187", "10.154.219.186"],
        "db_user_name": "root",
        "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
        "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
        "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
        "flavor_ref": "rds.mysql.s1.large",
        "switch_strategy": "",
        "backup_strategy": {
            "start_time": "19:00-20:00",
            "keep_days": 7
        },
        "maintenance_window": "02:00-06:00",
        "related_instance": [],
        "disk_encryption_id": "",
```


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```
        "time_zone": ""
    }, {
        "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in02",
        "status": "ACTIVE",
        "name": "mysql-0820-022709-02",
        "port": 3306,
        "type": "Single",
        "region": "aaa",
        "datastore": {
            "type": "MySQL",
            "version": "5.7"
        },
        "created": "2018-08-20T02:33:49+0800",
        "updated": "2018-08-20T02:33:50+0800",
        "volume": {
            "type": "ULTRAHIGH",
            "size": 100
        },
        "nodes": [{
            "id": "06f1c2ad57604ae89e153e4d27f4e4b8no01",
            "name": "mysql-0820-022709-01_node0",
            "role": "master",
            "status": "ACTIVE",
            "availability_zone": "bbb"
        }],
                "alias": "description",
        "private_ips": ["192.168.0.142"],
        "public_ips": ["10.154.219.187", "10.154.219.186"],

        "db_user_name": "root",
        "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
        "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
        "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
        "flavor_ref": "rds.mysql.s1.large",
                "cpu": "2",
                "mem": "4",
        "switch_strategy": "",
        "backup_strategy": {
            "start_time": "19:00-20:00",
            "keep_days": 7
        },
        "maintenance_window": "02:00-06:00",
        "related_instance": [],
        "time_zone": ""
    }],
    "total_count": 2
}
```


- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

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Error Code

For details, see **Error Codes**.

4.5.10 Binding and Unbinding an EIP

Function

This API is used to bind an EIP to a DB instance for public access or unbind an EIP from the DB instance as required.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

An EIP cannot be bound to or unbound from a DB instance that is being created, modified, restored, or rebooted.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/public-ip
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/public-ip
- Parameter description

  Table 4-61 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

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Table 4-62 Parameter description

Name	Mandatory	Type	Description
public_ip	No	String	**NOTICE** When **is_bind** is **true**, **public_ip** is mandatory. Specifies the EIP to be bound. The value must be in the standard IP address format.
public_ip_id	No	String	**NOTICE** When **is_bind** is **true**, **public_ip_id** is mandatory. Specifies the EIP ID. The value must be in the standard UUID format.
is_bind	Yes	Boolean	• **true**: Bind an EIP. • **false**: Unbind an EIP.

- Request example

```
{
    "public_ip":"10.145.51.214",
    "public_ip_id":"8403e9cd-a7fa-4288-8b15-c7ceac1etest",
    "is_bind":true
}
```

Response

- Normal response

  None
- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.5.11 Changing the Failover Priority

Function

This API is used to change the failover priority for primary/standby DB instances to meet different service requirements. You can select **Reliability First** or **Availability First**.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL only.
- This API is supported for primary/standby DB instances only.
- The failover priority cannot be changed if the DB instance is in any of the following statuses: creating, upgrading, creating users, or deleting users.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/failover/strategy

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/failover/strategy

- Parameter description

  Table 4-63 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

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Table 4-64 Parameter description

Name	Mandatory	Type	Description
repairStrategy	Yes	String	Specifies the failover priority. Valid value: • **reliability**: Data reliability is preferentially ensured during the failover to minimize the amount of lost data. It is recommended for services that require high data consistency. • **availability**: Data availability is preferentially ensured during the failover to recover services quickly. It is recommended for services that have high requirements on the database online duration.

- Request example

```
{
    "repairStrategy": "availability"
}
```

Response

- Normal response

  None

- Example normal response

```
{}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.5.12 Manually Switching Primary/Standby DB Instances

Function

This API is used to manually switch primary/standby DB instances as required.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL.
- This API is supported for primary/standby DB instances only.
- Primary/standby DB instances cannot be manually switched if they are in any of the following statuses:
  - For MySQL and PostgreSQL: creating, rebooting, upgrading, changing instance class, restoring, changing port, or creating database account
  - For MySQL: deleting database account

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/failover
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/failover
- Parameter description

  Table 4-65 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  None
- Request example

```
{}
```

Response

- Normal response

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Name	Description
workflowId	Indicates the workflow ID.
instanceId	Indicates the DB instance ID.
nodeId	Indicates the node ID.

- Example normal response

```
{
    "workflowId":"072beb09-0573-40bf-bfe8-4be5cec9e85a",
    "instanceId":"794c38e5309344818f4b33b86ebce9b4in03",
    "nodeId":"b94ba815747040f1b0d641cd13364a06no03"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.13 Changing the Data Replication Mode of Primary/Standby DB Instances

Function

This API is used to change the data replication mode of primary/standby DB instances based on service requirements.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL only.
- This API is supported for primary/standby DB instances only.
- The replication mode cannot be changed if the DB instance is in any of the following statuses: creating, upgrading, changing instance class, creating users, or deleting users.
- The replication mode in the request must be different from that of the DB instance. You can log in to the management console to view the replication mode of the DB instance.

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URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/failover/mode

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/failover/mode

- Parameter description

  Table 4-66 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-67 Parameter description

Name	Mandatory	Type	Description
mode	Yes	String	Specifies the replication mode. For MySQL, the value can be any of the following: • **async**: asynchronous • **semisync**: semi-synchronous For PostgreSQL, the value can be any of the following: • **async**: asynchronous • **sync**: synchronous

- Request example

```
{
   "mode": "async"
}
```

Response

- Normal response

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Name	Description
workflowId	Indicates the workflow ID.
instanceId	Indicates the DB instance ID.
replicationMode	Indicates the replication mode.

- Example normal response

```
{
    "instanceId": "c8a7d0abe94840dda99bc437e9442982in01",
    "replicationMode": "async",
    "workflowId": "7b55d6ca-dc8e-4844-a9da-6c53a1506db3"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.14 Migrating a Standby DB Instance

Function

This API is used to migrate a standby DB instance to another AZ based on service requirements.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL.
- Only primary/standby DB instances running MySQL 5.6 or 5.7 support standby DB instance migration to another AZ.
- This API is supported for primary/standby DB instances only.
- The standby DB instance cannot be migrated if the primary DB instance is in any of the following statuses: creating, rebooting, upgrading, changing instance class, changing port, creating users, or deleting users.

URI

- URI format

  POST /v3/{*project_id*}/instances/{*instance_id*}/migrateslave

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- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/migrateslave

- Parameter description

  Table 4-68 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-69 Parameter description

Name	Mandatory	Type	Description
nodeId	Yes	String	Specifies the ID of the standby DB instance.
azCode	Yes	String	Specifies the code of the AZ to which the standby DB instance is to be migrated.

- Request example

```
{
   "nodeId": "0119b1068b874cb4a5202989a06b6094no01",
   "azCode": "az2xahz"
}
```

Response

- Normal response

Name	Description
workflowId	Indicates the workflow ID.

- Example normal response

```
{
   "workflowId":"7b55d6ca-dc8e-4844-a9da-6c53a1506db3"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.5.15 Configuring the Maintenance Window

Function

This API is used to change the maintenance window as required. To prevent service interruption, the maintenance window should fall within the off-peak hours.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/ops-window
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/ops-window
- Parameter description

  Table 4-70 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-71 Parameter description

Name	Mandatory	Type	Description
start_time	Yes	String	Specifies the start time (UTC).

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Name	Mandatory	Type	Description
end_time	Yes	String	Specifies the end time (UTC). **NOTE** The interval between the start time and end time must be four hours.

- Request example

```
{
    "start_time": "22:00",
    "end_time":"02:00"
}
```

Response

- Example normal response

```
{}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.6 Database Security

4.6.1 Configuring SSL

Function

This API is used to configure SSL to encrypt connections.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

SSL cannot be configured when a DB instance is being created, rebooted, or upgraded, its specifications are being modified, or database users are being created or deleted.

URI

- URI format

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PUT /v3/{*project_id*}/instances/{*instance_id*}/ssl

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/ssl

- Parameter description

  Table 4-72 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-73 Parameter description

Name	Mandatory	Type	Description
ssl_option	Yes	boolean	Specifies whether to enable SSL. • **true**: SSL is enabled. • **false**: SSL is disabled.

- Request example

```
{
    "ssl_option": true
}
```

Response

- Example normal response

```
{}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

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Error Code

For details, see **Error Codes**.

4.6.2 Changing a Database Port

Function

This API is used to change a database port.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

The database port cannot be changed when a DB instance is being created or rebooted, its specifications are being modified, database users are being created or deleted, or backups are being created for the DB instance.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/port
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/port
- Parameter description

  Table 4-74 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

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Table 4-75 Parameter description

Name	Mandatory	Type	Description
port	Yes	Integer	Specifies the port number. The RDS for MySQL port number ranges from 1024 to 65535, excluding 12017 and 33071. The RDS for PostgreSQL port number ranges from 2100 to 9500.

- Request example

```
{
    "port": 8836
}
```

Response

- Normal response

Name	Description
workflowId	Indicates the workflow ID.

- Example normal response

```
{
    "workflowId":"83abc7bc-2c70-4534-8565-351187b37715"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.6.3 Changing a Security Group

Function

This API is used to change the security group of a DB instance.

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- Before calling an API, you need to understand the API in **Authentication**.

Constraints

The security group cannot be changed if the DB instance is in any of the following statuses: creating, upgrading, changing instance class, creating users, or deleting users.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/security-group

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/security-group

- Parameter description

  Table 4-76 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-77 Parameter description

Name	Mandatory	Type	Description
security_group_id	Yes	String	Specifies the security group ID.

- Request example

```
{
    "security_group_id": "23423kljlj432lk0sdf0234eaa"
}
```

Response

- Normal response

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Name	Description
workflowId	Indicates the workflow ID.

- Example normal response

```
{
   "workflowId":"83abc7bc-2c70-4534-8565-351187b37715"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.6.4 Changing a Private IP Address

Function

This API is used to change the private IP address of a DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

The private IP address of a DB instance cannot be changed when the instance is being created, rebooted, or upgraded, its specifications are being modified, or database users are being created or deleted.

URI

- URI format

  PUT /v3/{*project_id*}/instances/{*instance_id*}/ip

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/ip

- Parameter description

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Table 4-78 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-79 Parameter description

Name	Mandatory	Type	Description
new_ip	Yes	String	Indicates the private IP address.

- Request example

```
{
    "new_ip": "192.168.0.213"
}
```

Response

- Normal response

Name	Description
workflowId	Indicates the workflow ID.

- Example normal response

```
{
    "workflowId":"83abc7bc-2c70-4534-8565-351187b37715"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.7 Parameter Configuration

4.7.1 Obtaining a Parameter Template List

Function

This API is used to obtain the parameter template list, including default parameter templates of all databases and those created by users.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.

URI

- URI format

  GET /v3/{*project_id*}/configurations
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/configurations
- Parameter description

  Table 4-80 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request

None

Response

- Normal response

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Table 4-81 Parameter description

Name	Type	Description
configurations	Array of objects	Indicates the parameter template list. For details, see **Table 4-82**.

Table 4-82 configurations field data structure description

Name	Type	Description
id	String	Indicates the parameter template ID.
name	String	Indicates the parameter template name.
description	String	Indicates the parameter template description.
datastore_version_name	String	Indicates the database version name.
datastore_name	String	Indicates the database name.
created	String	Indicates the creation time in the following format: yyyy-MM-ddTHH:mm:ssZ.
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.
user_defined	Boolean	Indicates whether the parameter template is created by users. • **false**: The parameter template is a default parameter template. • **true**: The parameter template is a custom template.

- Example normal response

```
{
   "configurations": [{
         "id": "887ea0d1bb0843c49e8d8e5a09a95652pr01",
         "name": "configuration_test",
         "description": "configuration_test",
         "datastore_version_name": "5.6",
         "datastore_name": "mysql",
         "created": "2019-05-15T11:53:34+0000",
         "updated": "2019-05-15T11:53:34+0000",
         "user_defined": true
      },
      {
         "id": "3bc1e9cc0d34404b9225ed7a58fb284epr01",
         "name": "Default-MySQL-5.7",
         "description": "Default parameter group for MySQL 5.7",
```

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```
            "datastore_version_name": "5.7",
            "datastore_name": "mysql",
            "created": "2019-05-27T03:38:51+0000",
            "updated": "2019-05-27T03:38:51+0000",
            "user_defined": false
        }
    ]
}
```


- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.2 Creating a Parameter Template

Function

This API is used to create a parameter template and configure the name, description, DB engine, and parameter values in the parameter template.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.
- The name of the created parameter template cannot be the same as that of the default or an existing parameter template.

URI

- URI format

  POST /v3/{project_id}/configurations

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/configurations

- Parameter description

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Table 4-83 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request

- Parameter description

Table 4-84 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the parameter template name. It contains a maximum of 64 characters and can contain only uppercase letters, lowercase letters, digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Specifies the parameter template description. It contains a maximum of 256 characters and cannot contain the following special characters: >!<"&'= Its value is left blank by default.

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Name	Mandatory	Type	Description
values	No	Map<String,String>	Specifies the parameter values defined by users based on the default parameter templates. By default, the parameter values are not changed. • **key**: parameter name. For example, in **"max_connections": "10"**, the key is **max_connections**. If **key** is left blank, the parameter value is not changed. If **key** is not empty, the parameter **value** cannot be empty, either. • **value**: parameter value. For example, in **"max_connections": "10"**, the value is **10**.
datastore	Yes	Object	Specifies the database object. For details, see **Table 4-85**.

Table 4-85 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Specifies the DB engine. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL
version	Yes	String	Specifies the database version. For details, see **Constraints**. Example values: • MySQL: **5.7** • PostgreSQL: **9.5**

- Request example

```
{
    "name": "configuration_test",
    "description": "configuration_test",
    "values": {
        "max_connections": "10",
        "autocommit": "OFF"
```

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```
    },
    "datastore": {
        "type": "mysqlpostgresql",
        "version": "5.69.5"
    }
}
```

Response

- Normal response

Table 4-86 Parameter description

Name	Type	Description
configuration	Object	Indicates the parameter template information. For details, see **Table 4-87**.

Table 4-87 configuration field data structure description

Name	Type	Description
id	String	Indicates the parameter template ID.
name	String	Indicates the parameter template name.
datastore_version_name	String	Indicates the database version name.
datastore_name	String	Indicates the database name.
description	String	Indicates the parameter template description.
created	String	Indicates the creation time in the following format: yyyy-MM-ddTHH:mm:ssZ.
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.

- Example normal response

```
{
    "configuration": {
        "id": "463b4b58-d0e8-4e2b-9560-5dea4552fde9",
        "name": "configuration_test",
        "datastore_version_name": "5.69.5",
        "datastore_name": "mysqlpostgresql",
        "description": "configuration_test",
        "created": "2017-04-09T08:27:56+0800",
        "updated": "2017-04-09T08:27:56+0800"
```

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```
    }
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.3 Modifying a Parameter Template

Function

This API is used to modify a specified parameter template, including the name, description, and values of specified parameters in the parameter template.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.
- The modified parameter template name must be different from the name of an existing or a default parameter template. Default parameter templates cannot be modified.
- The values of the edited parameters must be within the default value range of the specified database version. For details about the range of parameter values, see "Modifying Parameters in a Parameter Template" in the *Relational Database Service User Guide*.
- The parameter values to be changed cannot be left blank at the same time.

URI

- URI format

  PUT /v3/{*project_id*}/configurations/{config_id}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9

- Parameter description

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Table 4-88 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
config_id	Yes	Specifies the parameter template ID.

Request

- Parameter description

NOTICE

At least one parameter in the request body must be specified. Otherwise, the request fails to be delivered.

Table 4-89 Parameter description

Name	Mandatory	Type	Description
name	No	String	Specifies the parameter template name. It contains a maximum of 64 characters and can contain only uppercase letters, lowercase letters, digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Specifies the parameter template description. It contains a maximum of 256 characters and does not support the following special characters: !<>='&" Its value is left blank by default.

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Name	Mandatory	Type	Description
values	No	Map<String,String>	Specifies the parameter values defined by users based on the default parameter templates. If this parameter is not specified, no parameter value is to be changed. • **key**: parameter name. For example, in **"max_connections": "10"**, the key is **max_connections**. If **key** is left blank, the parameter value is not to be changed. If **key** is not empty, the parameter **value** cannot be empty, either. • **value**: parameter value. For example, in **"max_connections": "10"**, the value is **10**.

- Request example

```
{
   "name": "configuration_test",
   "description": "configuration_test",
   "values": {
      "max_connections": "10",
      "autocommit": "OFF"
   }
}
```

Response

- Normal response

  None

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

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Error Code

For details, see **Error Codes**.

4.7.4 Applying a Parameter Template

Function

This API is used to apply a parameter template to one or more DB instances. This task will be executed asynchronously. You can query the execution status and result of applying a parameter template to DB instances based on **job_id** in the returned result. For details, see **Obtaining Information About a Task with a Specified ID**.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.

URI

- URI format
  PUT /v3.1/{*project_id*}/configurations/{config_id}/apply
- Parameter description

Table 4-90 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
config_id	Yes	Specifies the parameter template ID.

Request

- Parameter description

Table 4-91 Parameter description

Name	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Specifies the DB instance ID list object.

- Example

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PUT https://{*Endpoint*}/v3.1/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9/apply

- Request example

```
{
   "instance_ids": ["73ea2bf70c73497f89ee0ad4ee008aa2in01",
"fe5f5a07539c431181fc78220713aebein01"]
}
```

Response

- Normal response

Table 4-92 Parameter description

Name	Type	Description
configuration_id	String	Parameter template ID.
configuration_name	String	Parameter template name.
success	Boolean	Whether the parameter template is applied to all requested DB instances successfully. • **true**: The parameter template was successfully applied to all requested DB instances. • **false**: The parameter template failed to be applied to one or more requested DB instances.
job_id	String	Taskflow ID. You can query the task execution status by referring to **Obtaining Information About a Task with a Specified ID**.

- Example normal response

```
{
   "configuration_id": "cf49bbd7d2384878bc3808733c9e9d8bpr01",
   "configuration_name": "paramsGroup-bcf9",
      "job_id":"e4942c94-9d66-458e-beb7-90601664641e",
      "success":true
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.5 Modifying Parameters of a Specified Instance

Function

This API is used to modify parameters of a specified instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- The following DB engines are supported: MySQL and PostgreSQL.
- The values of the edited parameters must be within the default value range of the specified database version. For details about the range of parameter values, see "Modifying Parameters" in the *Relational Database Service User Guide*.

URI

- URI format

  PUT https://{*Endpoint*}/v3.1/{project_id}/instances/{instance_id}/configurations
- Parameter description

  Table 4-93 Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Instance ID.

Request

- Request parameters

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Table 4-94 Request body parameter description

Name	Mandatory	Type	Description
values	Yes	Map<String,String>	Parameter values defined by users based on the default parameter template. • **key**: parameter name. For example, in **"max_connections": "10"**, the key is **max_connections**. If **key** is left blank, the parameter value is not changed. If **key** is not empty, the parameter **value** cannot be empty, either. • **value**: parameter value. For example, in **"max_connections": "10"**, the value is **10**.

- Example

  PUT https://{*Endpoint*}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/configurations

- Request example

```
{
  "values" : {
    "max_connections" : "10",
    "autocommit" : "OFF"
  }
}
```

Response

- Normal response

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Table 4-95 Parameter description

Name	Type	Description
job_id	String	Job ID.
restart_required	Boolean	Whether a reboot is required. • **true**: A reboot is required. • **false**: A reboot is not required.

- Example normal response

```
{
  "job_id" : "e7a7535b-eb9b-45ac-a83a-020dc5016d94",
  "restart_required" : false,
  "ignored_params": []
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.6 Obtaining the Parameter Template of a Specified DB Instance

Function

This API is used to obtain information about the parameter template of a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/configurations

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- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/configurations

- Parameter description

  Table 4-96 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID compliant with the UUID format.

Request

None

Response

- Normal response

  Table 4-97 Parameter description

Name	Type	Description
datastore_version_name	String	Indicates the database version name.
datastore_name	String	Indicates the database name.
created	String	Indicates the creation time in the following format: yyyy-MM-ddTHH:mm:ssZ.
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.
configuration_parameters	Array of objects	Indicates the parameters defined by users based on the default parameter templates. For details, see **Table 4-98**.

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Table 4-98 configuration_parameters field data structure description

Name	Type	Description
name	String	Indicates the parameter name.
value	String	Indicates the parameter value.
restart_required	Boolean	Indicates whether a reboot is required. • **false**: A reboot is not required. • **true**: A reboot is required.
readonly	Boolean	Indicates whether the parameter is read-only. • **false**: The parameter is not read-only. • **true**: The parameter is read-only.
value_range	String	Indicates the parameter value range. If the type is Integer, the value is **0** or **1**. If the type is Boolean, the value is **true** or **false**.
type	String	Indicates the parameter type, which can be **integer**, **string**, **boolean**, **list**, or **float**.
description	String	Indicates the parameter description.

- Example normal response

```
{
    "datastore_version_name": "5.79.6",
    "datastore_name": "mysqlpostgresql",
    "created": "2018-10-11 11:40:44",
    "updated": "2018-10-11 11:40:44",
    "configuration_parameters": [{
        "name": "auto_increment_increment",
        "value": "1",
        "restart_required": false,
        "readonly": false,
        "value_range": "1-65535",
        "type": "integer",
        "description": auto_increment_increment and auto_increment_offset are used for master-to-master replication and to control the operations of the AUTO_INCREMENT column.
    }]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

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- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.7 Obtaining Parameters in a Specified Parameter Template

Function

This API is used to obtain parameters of a specified parameter template.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.

URI

- URI format

  GET /v3/{project_id}/configurations/{config_id}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9

- Parameter description

  Table 4-99 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
config_id	Yes	Specifies the parameter template ID. When this parameter is empty (not space), the URL of the parameter template list is obtained. For details, see **Obtaining a Parameter Template List**.

Request

None

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Response

- Normal response

Table 4-100 Parameter description

Name	Type	Description
id	String	Indicates the parameter template ID.
name	String	Indicates the parameter template name.
datastore_version_name	String	Indicates the database version name.
datastore_name	String	Indicates the database name.
description	String	Indicates the parameter template description.
created	String	Indicates the creation time in the following format: yyyy-MM-ddTHH:mm:ssZ.
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.
configuration_parameters	Array of objects	Indicates the parameters defined by users based on the default parameter templates. For details, see **Table 4-101**.

Table 4-101 configuration_parameters field data structure description

Name	Type	Description
name	String	Indicates the parameter name.
value	String	Indicates the parameter value.
restart_required	Boolean	Indicates whether a restart is required. • **false**: indicates that a restart is not required. • **true**: indicates that a restart is required.

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Name	Type	Description
readonly	Boolean	Indicates whether the parameter is read-only. • **false**: indicates that the parameter is not read-only. • **true**: indicates that the parameter is read-only.
value_range	String	Indicates the parameter value range. For example, the value of **integer** is 0–1, and the value of **boolean** is **true** or **false**.
type	String	Indicates the parameter type, which can be **integer**, **string**, **boolean**, **list**, or **float**.
description	String	Indicates the parameter description.

- Example normal response


```
{
   "id": "07fc12a8e0e94df7a3fcf53d0b5e1605pr01",
   "name": "default-mysql-5.6default-postgresql-9.6",
   "datastore_version_name": "5.69.6",
   "datastore_name": "mysqlpostgresql",
   "description": "Default parameter group for mysql 5.6Default parameter group for
postgresql 9.6",
   "created": "2017-05-05T04:40:51+0800",
   "updated": "2017-05-05T04:40:51+0800",
   "configuration_parameters": [
     {
       "name": "auto_increment_increment",
       "value": "1",
       "restart_required": false,
       "readonly": true,
       "value_range": "1-65535",
       "type": "integer",
       "description": "auto_increment_increment and auto_increment_offset are intended
for use with master-to-master replication, and can be used to control the operation of
AUTO_INCREMENT columns."
     },
     {
       "name": "autocommit",
       "value": "ON",
       "restart_required": false,
       "readonly": true,
       "value_range": "ON|OFF",
       "type": "boolean",
       "description": "The autocommit mode. If set to ON, all changes to a table take effect
immediately. If set to OFF, you must use COMMIT to accept a transaction or ROLLBACK to
```


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```
cancel it. "
      }
    ]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.7.8 Deleting a Parameter Template

Function

This API is used to delete a specified parameter template.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for MySQL and PostgreSQL databases.
- Default parameter templates cannot be deleted.

URI

- URI format

  DELETE /v3/{project_id}/configurations/{config_id}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9

- Parameter description

  Table 4-102 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
config_id	Yes	Specifies the parameter template ID.

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Request

None

Response

- Normal response
  None
- Abnormal response
  For details, see **Abnormal Request Results**.

Status Code

- Normal
  200
- Abnormal
  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8 Backup and Restoration

4.8.1 Setting an Automated Backup Policy

Function

This API is used to set an automated backup policy.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format
  PUT /v3/{project_id}/instances/{instance_id}/backups/policy
- Example
  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/policy
- Parameter description

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Table 4-103 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

Table 4-104 Parameter description

Name	Mandatory	Type	Description
backup_policy	Yes	Object	Specifies the backup policy objects, including the backup retention period (days) and backup start time. For details, see **Table 4-105**.

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Table 4-105 backup_policy field data structure description

Name	Mandatory	Type	Description
keep_days	Yes	Integer	Specifies the number of days to retain the generated backup files. The value range is from 0 to 732. The value **0** indicates that the automated backup policy is disabled. **NOTICE** Once the automated backup policy is disabled, automated backups are no longer created and all incremental backups are deleted immediately. Operations related to the incremental backups, including downloads, replications, restorations, and rebuilds, may fail.

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Name	Mandatory	Type	Description
start_time	No	String	Specifies the backup time window. Automated backups will be triggered during the backup time window. This parameter is mandatory except that the automated backup policy is disabled. The value must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. ● The **HH** value must be 1 greater than the **hh** value. ● The values of **mm** and **MM** must be the same and must be set to any of the following: **00**, **15**, **30**, or **45**. Example value: ● 08:15-09:15 ● 23:00-00:00

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Name	Mandatory	Type	Description
period	No	String	Specifies the backup cycle configuration. Data will be automatically backed up on the selected days every week. This parameter is mandatory except that the automated backup policy is disabled. Value range: The value is a number separated by commas (,), indicating the days of the week. For example, the value **1,2,3,4** indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday.

- Request example

  Modifying the automated backup policy:

```
{
    "backup_policy": {
        "keep_days": 7,
        "start_time": "19:00-20:00",
        "period": "1,2"
    }
}
```

  Disabling the automated backup policy:

```
{
    "backup_policy": {
        "keep_days": 0
    }
}
```

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Response

- Normal response

  None
- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.2 Setting a Cross-Region Backup Policy

Function

This API is used to set a cross-region backup policy in the source backup region.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- If the cross-region backup policy has been enabled, call the API to set the cross-region backup policy. Only the retention period can be changed.
- For RDS for MySQL and RDS for PostgreSQL DB instances, the retention period of automated full backup files must be the same as that for the automated incremental backup files.
- For RDS for MySQL and RDS for PostgreSQL DB instances, automated incremental backup cannot be enabled unless automated full backup is enabled first.
- For RDS for MySQL and RDS for PostgreSQL DB instances, if you want to disable automated full backup and automated incremental backup, disable automated incremental backup first.

URI

- URI format

  PUT /v3/{project_id}/instances/{instance_id}/backups/offsite-policy
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/offsite-policy
- Parameter description

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Table 4-106 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

Table 4-107 Parameter description

Name	Mandatory	Type	Description
policy_para	Yes	Array of objects	Specifies the backup policy object, including the backup type, backup retention days, target region ID, and target project ID. For details, see **Table 4-108**.

Table 4-108 policy_para field data structure description

Name	Mandatory	Type	Description
backup_type	Yes	String	Specifies the backup type. Its value can be any of the following: • **auto**: automated full backup • **incremental**: automated incremental backup • **all**: all backup types – RDS for MySQL: Enable automated full backup and automated incremental backup. – RDS for PostgreSQL: Enable automated full backup and automated incremental backup.

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Name	Mandatory	Type	Description
keep_days	Yes	Integer	Specifies the number of days to retain the generated backup files. Value range: 0-1825 The value **0** indicates that the cross-region backup policy is disabled. **NOTICE** Once the automated backup policy is disabled, automated backups are no longer created and all incremental backups, if any, are deleted immediately. Operations related to the incremental backups, including downloads, replications, restorations, and rebuilds, may fail.
destination_region	Yes	String	Specifies the target region ID for the cross-region backup policy.
destination_project_id	Yes	String	Specifies the target project ID for the cross-region backup policy.

- Request example

  MySQL and PostgreSQL:

  Updating a cross-region automated full backup policy:

```
{
   "policy_para": {
            "backup_type": "auto",
      "keep_days": 7,
      "destination_region": "eu-de",
      "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"
   }
}
```

  Disabling a cross-region automated full backup policy:

```
{
   "policy_para": {
            "backup_type": "auto",
      "keep_days": 0,
      "destination_region": "eu-de",
      "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"
   }
}
```

Response

- Normal Response

  None

- Abnormal Response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.3 Obtaining an Automated Backup Policy

Function

This API is used to obtain an automated backup policy.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/backups/policy
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/policy
- Parameter description

  Table 4-109 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

None

Response

- Normal response

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Table 4-110 Parameter description

Name	Type	Description
backup_policy	Object	Indicates the backup policy objects, including the backup retention period (days) and backup start time. For details, see **Table 4-111**.

Table 4-111 backup_policy field data structure description

Name	Type	Description
keep_days	Integer	Indicates the number of days to retain the backup files.
start_time	String	Indicates the backup time window. Automated backups will be triggered during the backup time window. The current time is the UTC time.
period	String	Indicates the backup cycle configuration. Data will be automatically backed up on the selected days every week.

- Example normal response

  When the automated backup policy is disabled:

```
{
    "backup_policy": {
        "keep_days": 0
    }
}
```

  When the automated backup policy is enabled:

```
{
    "backup_policy": {
        "keep_days": 7,
        "start_time": "19:00-20:00",
        "period": "1,2"
    }
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.4 Querying Information About a Cross-Region Backup Policy

Function

This API is used to query information about a cross-region backup policy in the source backup region.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/backups/offsite-policy
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/offsite-policy
- Parameter description

  Table 4-112 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

None

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Response

- Normal response

  Table 4-113 Parameter description

Name	Type	Description
policy_para	Array of objects	Indicates the backup policy object, including the backup type, backup retention days, target region ID, and target project ID. For details, see **Table 4-114**.

  Table 4-114 policy_para field data structure description

Name	Type	Description
backup_type	String	Indicates the backup type. Its value can be any of the following: • **auto**: automated full backup • **incremental**: automated incremental backup
keep_days	Integer	Indicates the number of days to retain the backup files.
destination_region	String	Indicates the target region ID for the cross-region backup policy.
destination_project_id	String	Indicates the target project ID for the cross-region backup policy.

- Example normal response

  When the backup policy is disabled:

```
{
   "policy_para": {
      "keep_days": 0
   }
}
```

  When both the automated backup policy and incremental backup policy are enabled for RDS for MySQL and RDS for PostgreSQL DB instances:

```
{
   "policy_para": [
         {
      "keep_days": 7,
      "backup_type": "auto",
      "destination_region": "aaa",
            "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9"
         },
         {
            "keep_days": 7,
      "backup_type": "incremental",
```

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```
        "destination_region": "aaa",
            "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9"
        }
    ]
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.5 Creating a Manual Backup

Function

This API is used to create a manual backup.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- Read replicas do not support manual backup creation.
- The backup name must be unique.

URI

- URI format

  POST /v3/{project_id}/backups
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/backups
- Parameter description

Table 4-115 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

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Request

- Parameter description

  Table 4-116 Parameter description

Name	Mandatory	Type	Description
instance_id	Yes	String	Specifies the DB instance ID.
name	Yes	String	Specifies the backup name. It must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_). The backup name must be unique.
description	No	String	Specifies the backup description. It contains a maximum of 256 characters and cannot contain the following special characters: >! <"&'=

- Request example

  Creating a manual backup for an RDS for MySQL DB instance:

```
{
   "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
   "name": "backup",
   "description": "manual backup"
}
```

  Creating a manual backup for an RDS for PostgreSQL DB instance:

```
{
   "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
   "name": "backup",
   "description": "manual backup"
}
```

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Response

- Normal response

Table 4-117 Parameter description

Name	Type	Description
backup	Object	Indicates the backup information. For details, see **Table 4-118**.

Table 4-118 backup field data structure description

Name	Type	Description
id	String	Indicates the backup ID.
instance_id	String	Indicates the DB instance ID.
name	String	Indicates the backup name.
description	String	Indicates the backup description.
begin_time	String	Indicates the backup start time in the "yyyy-mm-ddThh:mm:ssZ" format, where "T" indicates the start time of the time field, and "Z" indicates the time zone offset.
status	String	Indicates the backup status. Value: • BUILDING: Backup in progress • COMPLETED: Backup completed • FAILED: Backup failed • DELETING: Backup being deleted

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Name	Type	Description
type	String	Indicates the backup type. Value: • auto: automated full backup • manual: manual full backup • fragment: differential full backup • incremental: automated incremental backup

- Example normal response

  Creating a manual backup for an RDS for MySQL DB instance:

```
{
    "backup": {
        "id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe",
        "name": "backupDemo",
        "description": "This is a description",
        "begin_time": "2016-09-12T01:17:05",
        "status": "BUILDING",
        "type": "manual",
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
    }
}
```

  Creating a manual backup for an RDS for PostgreSQL DB instance:

```
{
    "backup": {
        "id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe",
        "name": "backupDemo",
        "description": "This is a description",
        "begin_time": "2016-09-12T01:17:05",
        "status": "BUILDING",
        "type": "manual",
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
    }
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.8.6 Obtaining Details About Backups

Function

This API is used to obtain details about backups.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This API is used to query full and incremental backups of DB instances.

URI

- URI format

  GET /v3/{project_id}/backups?instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=43e4feaab48f11e89039fa163ebaa7e4in01&backup_id=c0c9f155c7b7423a9d30f0175998b63bbr01&backup_type=auto&offset=0&limit=10&begin_time=2018-08-06T10:41:14+0800&end_time=2018-08-16T10:41:14+0800

- Parameter description

  Table 4-119 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
backup_id	No	Specifies the backup ID.
backup_type	No	Specifies the backup type. Value: • **auto**: automated full backup • **manual**: manual full backup • **fragment**: differential full backup • **incremental**: automated incremental backup

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Name	Mandatory	Description
offset	No	Specifies the index position. If **offset** is set to *N*, the resource query starts from the *N*+1 piece of data. The value is **0** by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	No	Specifies the number of records to be queried. The default value is **100**. The value cannot be a negative number. The minimum value is **1** and the maximum value is **100**.
begin_time	No	Specifies the start time for obtaining the backup list. The format of the start time is "yyyy-mm-ddThh:mm:ssZ". **NOTE** When **begin_time** is not empty, **end_time** is mandatory.
end_time	No	Specifies the end time for obtaining the backup list. The format of the end time is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. **NOTE** When **end_time** is not empty, **begin_time** is mandatory.

Request

None

Response

- Normal response

Table 4-120 Parameter description

Name	Type	Description
backups	Array of objects	Indicates the backup list. For details, see **Table 4-121**.

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Name	Type	Description
total_count	Integer	Indicates the total number of records.

Table 4-121 backups field data structure description

Name	Type	Description
id	String	Indicates the backup ID.
name	String	Indicates the backup name.
type	String	Indicates the backup type. Value: • **auto**: automated full backup • **manual**: manual full backup • **fragment**: differential full backup • **incremental**: automated incremental backup
size	Long	Indicates the backup size in KB.
status	String	Indicates the backup status. Value: • BUILDING: Backup in progress • COMPLETED: Backup completed • FAILED: Backup failed • DELETING: Backup being deleted
begin_time	String	Indicates the backup start time in the "yyyy-mm-ddThh:mm:ssZ" format.
end_time	String	Indicates the backup end time. • For a full backup, it indicates the full backup end time. • For a MySQL incremental backup, it indicates the time when the last transaction in the backup file is submitted. The format is yyyy-mm-ddThh:mm:ssZ.
datastore	Object	Indicates the database version. For details, see **Table 4-122**.

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Name	Type	Description
instance_id	String	Indicates the ID of the DB instance for which the backup is created.
associated_with_ddm	Boolean	Indicates whether a DDM instance has been associated.

Table 4-122 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL
version	String	Indicates the database version.

- Example normal response

  Obtaining a backup list of an RDS for MySQL DB instance:

```
{
   "backups": [{
      "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
      "name": "xxxx.xxx",
      "type": "auto",
      "size": 2803,
      "status": "COMPLETED",
      "begin_time": "2018-08-06T12:41:14+0800",
      "end_time": "2018-08-06T12:43:14+0800",
      "datastore": {
         "type": "MySQL",
         "version": "5.6"
      },
      "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "associated_with_ddm": false
   }],
   "total_count": 1
}
```

  Obtaining a backup list of an RDS for PostgreSQL DB instance:

```
{
   "backups": [{
      "id": "43e4feaab48f11e89039fa163ebaa7e4br03",
      "name": "xxxx.xxx",
      "type": "incremental",
      "size": 2803,
      "status": "COMPLETED",
      "begin_time": "2018-08-06T12:41:14+0800",
      "end_time": "2018-08-06T12:43:14+0800",
      "datastore": {
         "type": "PostgreSQL",
         "version": "9.6"
```

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```
        },
        "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin03 ",
        "associated_with_ddm": false
    }],
    "total_count": 1
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.7 Querying Details About Cross-Region Backups

Function

This API is used to query details about cross-region backups in the target backup region.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/offsite-backups?instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/offsite-backups?instance_id=43e4feaab48f11e89039fa163ebaa7e4br01&backup_id=c0c9f155c7b7423a9d30f0175998b63bbr01&backup_type=auto&offset=0&limit=10&begin_time=2018-08-06T10:41:14+0800&end_time=2018-08-16T10:41:14+0800

- Parameter description

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Table 4-123 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
backup_id	No	Specifies the backup ID.
backup_type	Yes	Specifies the backup type. Its value can be any of the following: • **auto**: automated full backup and manual backup. • **incremental**: automated incremental backup
offset	No	Specifies the index position. If **offset** is set to *N*, the resource query starts from the *N*+1 piece of data. The value is **0** by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	No	Specifies the number of records to be queried. The default value is **100**. The value cannot be a negative number. The minimum value is **1** and the maximum value is **100**.
begin_time	No	Specifies the start time for obtaining the cross-region backup list. The format of the start time is "yyyy-mm-ddThh:mm:ssZ". **NOTE** When **begin_time** is not empty, **end_time** is mandatory.
end_time	No	Specifies the end time for obtaining the cross-region backup list. The format of the end time is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. **NOTE** When **end_time** is not empty, **begin_time** is mandatory.

Request

None

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Response

- Normal response

Table 4-124 Parameter description

Name	Type	Description
backups	Array of objects	Indicates the backup list. For details, see **Table 4-125**.
total_count	Integer	Indicates the total number of records.

Table 4-125 backups field data structure description

Name	Type	Description
id	String	Indicates the backup ID.
name	String	Indicates the backup name.
type	String	Indicates the backup type. This parameter is returned only for RDS for MySQL and RDS for PostgreSQL DB instances. Its value can be any of the following: • **auto**: automated full backup • **incremental**: automated incremental backup
size	Long	Indicates the backup size in KB.
status	String	Indicates the backup status. Its value can be any of the following: • **BUILDING**: Backup in progress • **COMPLETED**: Backup completed • **FAILED**: Backup failed • **DELETING**: Backup being deleted
begin_time	String	Indicates the backup start time in the "yyyy-mm-ddThh:mm:ssZ" format.

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Name	Type	Description
end_time	String	Indicates the backup end time. • For a full backup, it indicates the full backup end time. • For an incremental backup, it indicates the time when the last transaction in the backup file was submitted. The format is yyyy-mm-ddThh:mm:ssZ.
datastore	Object	Indicates the database version. For details, see **Table 4-126**.
instance_id	String	Indicates the ID of the DB instance for which the backup is created.
associated_with_ddm	Boolean	Indicates whether to associate with DDM. This parameter is returned only for RDS for MySQL DB instances.

Table 4-126 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine. Currently, only MySQL is supported.
version	String	Indicates the database version.

- Example normal response

  MySQL:

```
{
   "backups": [{
      "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
      "name": "xxxx.xxx",
      "type": "auto",
      "size": 2803,
      "status": "COMPLETED",
      "begin_time": "2018-08-06T12:41:14+0800",
      "end_time": "2018-08-06T12:43:14+0800",
      "datastore": {
         "type": "MySQL",
         "version": "5.6"
      },
      "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "associated_with_ddm": false
   }],
```

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```
    "total_count": 1
}
```

PostgreSQL:

```
{
    "backups": [{
        "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
        "name": "xxxx.xxx",
        "type": "auto",
        "size": 2803,
        "status": "COMPLETED",
        "begin_time": "2018-08-06T12:41:14+0800",
        "end_time": "2018-08-06T12:43:14+0800",
        "datastore": {
            "type": "PostgreSQL",
            "version": "9.6"
        },
        "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin01"
    }],
    "total_count": 1
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.8 Querying Details About DB Instances for Which Cross-Region Backups Are Created

Function

This API is used to query details about DB instances for which cross-region backups are created in the target backup region.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/backups/offsite-backup-instance?offset={offset}&limit={limit}

- Example
  - Querying all DB instance lists

    https://{*Endpoint*}/v3/backups/offsite-backup-instance
  - Querying DB instance lists based on search criteria

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https://{*Endpoint*}/v3/backups/offsite-backup-instance?offset=0&limit=10

- Parameter description

Table 4-127 Parameter description

Name	Type	Mandatory	Description
offset	Integer	No	Specifies the index position. If **offset** is set to *N*, the resource query starts from the *N* +1 piece of data. The value is **0** by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	Integer	No	Specifies the number of records to be queried. The default value is **100**. The value cannot be a negative number. The minimum value is **1** and the maximum value is **100**.

Request

None

Response

- Normal response

Table 4-128 Parameter description

Name	Type	Description
offsite_backup_instances	Array of objects	Indicates information about DB instances for which cross-region backups are created. For details, see **Table 4-129**.
total_count	Integer	Indicates the total number of records.

Table 4-129 offsite_backup_instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the name of the DB instance for which cross-region backups are created.
source_region	String	Indicates the source backup region.

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Name	Type	Description
source_project_id	String	Indicates the project ID in the source backup region.
datastore	Object	Indicates the database information. For details, see **Table 4-130**.
destination_region	String	Indicates the region where the cross-region backup is located.
destination_project_id	String	Indicates the project ID in the target backup region.

Table 4-130 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine.
version	String	Indicates the database version.

- Example normal response

  Querying DB instance lists based on search criteria:

```
{
      "total_count": 1,
   "offsite_backup_instances": [{
      "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
            "name": "rds-instance-rep2",
            "source_region": "aaa",
            "source_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
            "datastore": {
         "type": "MySQL",
         "version": "5.7"
      },
      "destination_region": "bbb",
      "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9",
      "keep_days": 7
      }
          ]
}
```

- **Querying all DB instance lists:**

```
{
      "total_count": 1,
   "offsite_backup_instances": [{
      "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
            "name": "rds-instance-rep2",
            "source_region": "aaa",
            "source_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
            "datastore": {
         "type": "MySQL",
         "version": "5.7"
      },
      "destination_region": "bbb",
```

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```
        "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9",
        "keep_days": 7
        }
            ]
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.9 Obtaining the Link for Downloading a Backup File

Function

This API is used to obtain the link for downloading a backup file.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This API is used to query full and incremental backups of DB instances.

URI

- URI format

  GET /v3/{project_id}/backup-files?backup_id={backup_id}

- Example

  https://{*Endpoint*}/v3/97b026aa9cc4417888c14c84a1ad9860/backup-files?backup_id=c0c9f155c7b7423a9d30f0175998b63bbr01

- Parameter description

  Table 4-131 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
backup_id	Yes	Specifies the backup ID.

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Request

None

Response

- Normal response

  Table 4-132 Parameter description

Name	Type	Description
files	Array of objects	Indicates the list of backup files. For details, see **Table 4-133**.
bucket	String	Indicates the name of the bucket where the file is located.

  Table 4-133 files field data structure description

Name	Type	Description
name	String	Indicates the file name.
size	Long	Indicates the file size in KB.
download_link	String	Indicates the link for downloading the backup file.
link_expired_time	String	Indicates the link expiration time. The format is "yyyy-mm-ddThh:mm:ssZ".

- Example normal response

```
{
   "files": [
    {
        "name": "43e4feaab48f11e89039fa163ebaa7e4br01.xxx",
        "size": 2803,
        "download_link":"https://obs.domainname.com/rdsbucket.username.1/xxxxxx",
        "link_expired_time":"2018-08-016T10:15:14+0000"
     }
     ],
    "bucket": "rdsbucket.bucketname"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

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200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.10 Deleting a Manual Backup

Function

This API is used to delete a manual backup.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  DELETE /v3/{project_id}/backups/{backup_id}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/backups/2f4ddb93-b901-4b08-93d8-1d2e472f30fe

- Parameter description

  Table 4-134 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
backup_id	Yes	Specifies the ID of the manual backup.

Request

None

Response

- Normal response

  None

- Abnormal response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal
  200
- Abnormal
  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.11 Querying the Restoration Time Range

Function

This API is used to query the restoration time range of a DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format
  GET /v3/{project_id}/instances/{instance_id}/restore-time?date=2020-12-26
- Example
  - Querying all restoration time ranges
    https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore-time
  - Querying the restoration time range based on a specified date
    https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore-time?date=2020-12-26
- Parameter description

Table 4-135 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
date	No	Specifies the date to be queried. The value is in the yyyy-mm-dd format, and the time zone is UTC.

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Request

None

Response

- Normal response

  Table 4-136 Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see **Table 4-137**.

  Table 4-137 restore_time field data structure description

Name	Type	Description
start_time	Integer	Indicates the start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.
end_time	Integer	Indicates the end time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.

- Example normal response

```
{
   "restore_time": [
      {
         "start_time": 1532001446987,
         "end_time": 1532742139000
      }
   ]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

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200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.12 Querying the Restoration Time Range of a Cross-Region Backup

Function

This API is used to query the restoration time range of a cross-region backup in the backup target region.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/offsite-restore-time?date=2020-12-26

- Example
  - Querying all restoration time ranges of a cross-region backup

    https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/offsite-restore-time
  - Querying the restoration time range of a cross-region backup based on a specified date

    https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/offsite-restore-time?date=2020-12-26

- Parameter description

Table 4-138 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
date	No	Specifies the date to be queried. The value is in the yyyy-mm-dd format, and the time zone is UTC.

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Request

None

Response

- Normal response

  Table 4-139 Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see **Table 4-140**.

  Table 4-140 restore_time field data structure description

Name	Type	Description
start_time	Integer	Indicates the start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.
end_time	Integer	Indicates the end time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.

- Example normal response

```
{
   "restore_time": [
      {
         "start_time": 1532001446987,
         "end_time": 1532742139000
      }
   ]
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

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Error Code

For details, see **Error Codes**.

4.8.13 Restoring Data to a New DB Instance

Function

This API is used to restore data to a new DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- The DB engine of the original DB instance must be the same as that of the target DB instance. For example, if the original DB instance is running MySQL, the target DB instance must also run MySQL.
- The constraints on the original and target DB instances are as follows:
  - For RDS for MySQL and RDS for PostgreSQL, the DB engine versions of the original and target DB instances must be the same.
- The total volume size of the target DB instance must be at least equal to that of the original DB instance.

URI

- URI format

  POST /v3/{project_id}/instances
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances
- Parameter description

  Table 4-141 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request

- Parameter description

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Table 4-142 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the DB instance name. The DB instance name of the same type must be unique for the same tenant. Valid value: The DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
ha	No	Object	Specifies the HA configuration parameters, which are used when creating primary/standby DB instances. For details, see **Table 4-143**.
configuration_id	No	String	Specifies the parameter template ID.

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Name	Mandatory	Type	Description
port	No	String	Specifies the database port information. • The RDS for MySQL database port ranges from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used). • The RDS for PostgreSQL database port ranges from 2100 to 9500. If this parameter is not set, the default value is as follows: • RDS for MySQL: **3306**. • RDS for PostgreSQL: **5432**

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Name	Mandatory	Type	Description
password	Yes	String	Specifies the database password. Valid value: A database password must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.
backup_strategy	No	Object	Specifies the advanced backup policy. For details, see **Table 4-144**.
flavor_ref	Yes	String	Specifies the specification code. The value cannot be empty. For details, see **spec_code** in section **Querying Database Specifications**.
volume	Yes	Object	Specifies the volume information. For details, see **Table 4-145**.

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Name	Mandatory	Type	Description
availability_zone	Yes	String	Specifies the AZ ID. If the DB instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). For details, see the example. The value cannot be empty. For details about how to obtain this parameter value, see **Regions and Endpoints**.
vpc_id	No	String	Specifies the VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and view the VPC ID in the VPC details. • Method 2: See the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.

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Name	Mandatory	Type	Description
subnet_id	No	String	Specifies the network ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.

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Name	Mandatory	Type	Description
security_group_id	No	String	Specifies the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: See the "Querying Security Groups" section in the *Virtual Private Cloud API Reference*.
restore_point	Yes	Object	Specifies the restoration information. For details, see **Table 4-146**.

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Table 4-143 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Specifies the primary/standby instance type. The value is **Ha** (case-insensitive).
replication_mode	Yes	String	Specifies the replication mode for the standby DB instance. The value cannot be empty. • For MySQL, the value is **async** or **semisync**. • For PostgreSQL, the value is **async** or **sync**. **NOTE** • **async** indicates the asynchronous replication mode. • **semisync** indicates the semi-synchronous replication mode. • **sync** indicates the synchronous replication mode.

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Table 4-144 backup_strategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	Specifies the backup time window. Automated backups will be triggered during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. ● The **HH** value must be 1 greater than the **hh** value. ● The values of **mm** and **MM** must be the same and must be set to any of the following: **00**, **15**, **30**, or **45**. Example value: ● 08:15-09:15 ● 23:00-00:00
keep_days	No	Integer	Specifies the retention days for specific backup files. The value range is from 0 to 732. If this parameter is not specified or set to **0**, the automated backup policy is disabled.

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Table 4-145 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Specifies the volume type. Its value can be any of the following and is case-sensitive: • **ULTRAHIGH**: SSD storage (ultra-high I/O). • **CLOUDSSD**: indicates the cloud SSD type.
size	Yes	Integer	Specifies the volume size. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10. **NOTICE** The volume size of the new DB instance must be at least equal to that of the original DB instance.

Table 4-146 restore_point field data structure description

Name	Mandatory	Type	Description
instance_id	Yes	String	Specifies the DB instance ID.

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Name	Mandatory	Type	Description
type	Yes	String	Specifies the restoration mode. Enumerated values include: • **backup**: indicates restoration from backup files. In this mode, **backup_id** is mandatory when **type** is not mandatory. • **timestamp**: indicates point-in-time restoration. In this mode, **restore_time** is mandatory when **type** is mandatory.
backup_id	No	String	Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration. **NOTICE** When **type** is not mandatory, **backup_id** is mandatory.

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Name	Mandatory	Type	Description
restore_time	No	Integer	Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC. **NOTICE** When **type** is mandatory, **restore_time** is mandatory.

- Request example

  Use backup files for restoration:

```
{
   "name": "targetInst",
   "availability_zone": "bbb,ccc",
   "ha": {
      "mode": "ha",
      "replication_mode": "async"
   },
   "flavor_ref": "rds.mysql.s1.large",
   "volume": {
      "type": "ULTRAHIGH",
      "size": 40
   },
      "region": "aaa",
   "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
   "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
   "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
   "backup_strategy": {
      "keep_days": 2,
      "start_time": "19:00-20:00"
   },
   "password": "Demo@12345678",
   "configuration_id": "52e86e87445847a79bf807ceda213165pr01",
   "time_zone": "UTC+04:00",
   "restore_point": {
      "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
      "type": "backup",
      "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
   }
}
```

  Use PITR for restoration:

```
{
   "name": "targetInst",
   "availability_zone": "bbb,ccc",
   "ha": {
      "mode": "ha",
      "replication_mode": "async"
```

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```
    },
    "flavor_ref": "rds.mysql.s1.large",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 40
    },
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "backup_strategy": {
        "keep_days": 2,
        "start_time": "19:00-20:00"
    },
    "password": "Demo@12345678",
    "configuration_id": "52e86e87445847a79bf807ceda213165pr01",
    "restore_point": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
        "type": "timestamp",
        "restore_time": 1532001446987
    }
}
```

Response

- Normal response

Table 4-147 Parameter description

Name	Type	Description
instance	Object	Indicates the DB instance information. For details, see **Table 4-148**.
job_id	String	Indicates the ID of the DB instance creation task.

Table 4-148 instance description

Name	Type	Description
id	String	Indicates the DB instance ID.

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Name	Type	Description
name	String	Indicates the DB instance name. The DB instance name of the same type must be unique for the same tenant. Valid value: The DB instance name must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
status	String	Indicates the DB instance status. For example, **BUILD** indicates that the DB instance is being created.
datastore	Object	Indicates the database information. For details, see **Table 4-149**.
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see **Table 4-150**.
configuration_id	String	Indicates the parameter template ID. This parameter is returned only when a custom parameter template is used during DB instance creation.

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Name	Type	Description
port	String	Indicates the database port information. • The RDS for MySQL database port ranges from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used). • The RDS for PostgreSQL database port ranges from 2100 to 9500. If this parameter is not set, the default value is as follows: • RDS for MySQL: **3306**. • RDS for PostgreSQL: **5432**
backup_strategy	Object	Indicates the automated backup policy. For details, see **Table 4-151**.
flavor_ref	String	Indicates the specification ID. For details, see **spec_code** in **Table 4-13** in section **Querying Database Specifications**.
volume	Object	Indicates the volume information. For details, see **Table 4-152**.
region	String	Indicates the region ID.
availability_zone	String	Indicates the AZ ID.

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Name	Type	Description
vpc_id	String	Indicates the VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and view the VPC ID in the VPC details. • Method 2: See the "Querying VPCs" section in the *Virtual Private Cloud API Reference*.
subnet_id	String	Indicates the network ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: See the "Querying Subnets" section in the *Virtual Private Cloud API Reference*.

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Name	Type	Description
security_group_id	String	Indicates the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods: • Method 1: Log in to VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: See the "Querying Security Groups" section in the *Virtual Private Cloud API Reference*.

Table 4-149 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Indicates the DB engine. Its value can be any of the following and is case-insensitive: • MySQL • PostgreSQL
version	Yes	String	Indicates the database version. For details about supported database versions, see section **Querying Version Information About a DB Engine**.

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Table 4-150 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Indicates the primary/standby instance type. The value is **Ha**.
replication_mode	Yes	String	Indicates the replication mode for the standby DB instance. The value cannot be empty. • For MySQL, the value is **async** or **semisync**. • For PostgreSQL, the value is **async** or **sync**. **NOTE** • **async** indicates the asynchronous replication mode. • **semisync** indicates the semi-synchronous replication mode. • **sync** indicates the synchronous replication mode.

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Table 4-151 backupStrategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	Indicates the backup time window. Automated backups will be triggered during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. ● The **HH** value must be 1 greater than the **hh** value. ● The values of **mm** and **MM** must be the same and must be set to any of the following: **00**, **15**, **30**, or **45**. Example value: ● 08:15-09:15 ● 23:00-00:00
keep_days	No	Integer	Indicates the retention days for specific backup files. The value range is from 0 to 732. If this parameter is not specified or set to **0**, the automated backup policy is disabled.

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Table 4-152 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Indicates the volume type. Its value can be any of the following and is case-sensitive: • **ULTRAHIGH**: SSD storage (ultra-high I/O). • **CLOUDSSD**: indicates the cloud SSD type.
size	Yes	Integer	Indicates the volume size. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.

- Example normal response

  MySQL

```
{
    "instance": {
        "id": "f5ffdd8b1c98434385eb001904209eacin01",
        "name": "demoname",
        "status": "BUILD",
        "datastore": {
            "type": "MySQL",
            "version": "5.6.41"
        },
        "port": "3306",
        "volume": {
            "type": "ULTRAHIGH",
            "size": "40"
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "02:00-03:00",
            "keep_days": "7"
        },
        "flavor_ref": "rds.mysql.s1.large",
        "availability_zone": "bbb",
        "vpc_id": "19e5d45d-70fd-4a91-87e9-b27e71c9891f",
        "subnet_id": "bd51fb45-2dcb-4296-8783-8623bfe89bb7",
        "security_group_id": "23fd0cd4-15dc-4d65-bdb3-8844cc291be0"
    },
```

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```
    "job_id": "bf003379-afea-4aa5-aa83-4543542070bc"
}
```

PostgreSQL

```
{
    "instance": {
        "id": "f5ffdd8b1c98434385eb001904209eacin01",
        "name": "demoname",
        "status": "BUILD",
        "datastore": {
            "type": "PostgreSQL",
            "version": "9.6.13"
        },
        "port": "5432",
        "volume": {
            "type": "ULTRAHIGH",
            "size": "40"
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "02:00-03:00",
            "keep_days": "7"
        },
        "flavor_ref": "rds.pg.s1.large",
        "availability_zone": "bbb",
        "vpc_id": "19e5d45d-70fd-4a91-87e9-b27e71c9891f",
        "subnet_id": "bd51fb45-2dcb-4296-8783-8623bfe89bb7",
        "security_group_id": "23fd0cd4-15dc-4d65-bdb3-8844cc291be0"
    },
    "job_id": "bf003379-afea-4aa5-aa83-4543542070bc"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  202

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.14 Restoring Data to an Existing or Original DB Instance

Function

This API is used to restore a database to an existing or the original DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API does not support RDS for PostgreSQL instance restoration.

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URI

- URI format

  POST /v3/{project_id}/instances/recovery

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/recovery

- Parameter description

Table 4-153 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.

Request

- Parameter description

Table 4-154 Parameter description

Name	Mandatory	Type	Description
source	Yes	Object	Specifies the restoration information. For details, see **Table 4-155**.
target	Yes	Object	Specifies the restoration target. For details, see **Table 4-156**.

Table 4-155 source field data structure description

Name	Mandatory	Type	Description
instance_id	Yes	String	Specifies the DB instance ID.

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Name	Mandatory	Type	Description
type	No	String	Specifies the restoration mode. Enumerated values include: • **backup**: indicates using backup files for restoration. In this mode, **type** is not mandatory and **backup_id** is mandatory. • **timestamp**: indicates the point-in-time restoration mode. In this mode, **type** and **restore_time** are mandatory.
backup_id	No	String	Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration.
restore_time	No	Integer	Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.

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Table 4-156 target field data structure description

Name	Mandatory	Type	Description
instance_id	Yes	String	Specifies the ID of the DB instance where the backup will be restored to.

- Request example

  Use backup files for restoration:

```
{
   "source": {
      "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
      "type": "backup",
      "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
   },
   "target": {
      "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
   }
}
```

  Use PITR for restoration:

```
{
   "source": {
      "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
      "type": "timestamp",
      "restore_time": 1532001446987
   },
   "target": {
      "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
   }
}
```

Response

- Normal response

  Table 4-157 Parameter description

Name	Type	Description
job_id	String	Indicates the job ID.

- Example normal response

```
{
   "job_id": "ff80808157127d9301571bf8160c001d"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

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200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.8.15 Restoring Tables to a Specified Point in Time (MySQL)

Function

To ensure data integrity and reduce impact on the original instance performance, the system restores the full and incremental data at the selected time point to a temporary DB instance, automatically exports the tables to be restored, and then restores the tables to the original DB instance.

NOTICE

This operation will generate restored tables on the original DB instance. Ensure that the original DB instance has sufficient storage capacity.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This API is supported for RDS for MySQL only.
- This API is not supported for RDS for MySQL 8.0 DB instances.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/restore/tables

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore/tables

- Parameter description

  Table 4-158 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

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Request

- Parameter description

Table 4-159 Parameter description

Name	Mandatory	Type	Description
restoreTime	Yes	Long	Backup time point.
restoreTables	Yes	Array of objects	Database information. For details, see **Table 4-160**.

Table 4-160 restoreTables field data structure description

Name	Mandatory	Type	Description
database	Yes	String	Specifies the database name.
tables	Yes	Array of objects	Specifies the table information. For details, see **Table 4-161**.

Table 4-161 tables field data structure description

Name	Mandatory	Type	Description
oldName	Yes	String	Specifies the original table name before the restoration.
newName	Yes	String	Specifies the table name after the restoration.

- Request example

```
{
   "restoreTime": 1583720991838,
   "restoreTables": [
      {
         "database": "restoretest",
         "tables": [
            {
               "oldName": "test",
               "newName": "test_1583720991838"
            }
         ]
      }
   ]
}
```

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Response

- Normal response

Name	Type	Description
jobId	String	Indicates the task ID.

- Example normal response

```
{
    "jobId":"7b55d6ca-dc8e-4844-a9da-6c53a1506db3"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9 Log Information Queries

4.9.1 Querying Database Error Logs

Function

This API is used to query the latest 2,000 database error logs.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/errorlog?start_date={start_date}&end_date={end_date}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/errorlog?offset=1&limit=10&start_date=2018-08-06T10:41:14+0800&end_date=2018-08-07T10:41:14+0800&level=ALL

- Parameter description

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Table 4-162 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the ID of the queried DB instance.
start_date	Yes	Specifies the start time in the "yyyy-mm-ddThh:mm:ssZ" format.
end_date	Yes	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format. You can only query error logs generated within a month.
offset	No	Specifies the page offset, such as 1, 2, 3, or 4. The parameter value is **1** by default if it is not specified.
limit	No	Specifies the number of records on each page. Its value range is from 1 to 100. The parameter value is **10** by default if it is not specified.
level	No	Specifies the log level. The default value is **ALL**. Valid value: • ALL • INFO • LOG • WARNING • ERROR • FATAL • PANIC • NOTE

Request

None

Response

- Normal response

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Table 4-163 Parameter description

Name	Type	Description
error_log_list	Array of objects	Indicates detailed information. For details, see **Table 4-164**.
total_record	Integer	Indicates the total number of records.

Table 4-164 error_log_list field data structure description

Name	Type	Description
time	String	Indicates the time in the UTC format.
level	String	Indicates the log level.
content	String	Indicates the log content.

- Example normal response

```
{
    "error_log_list": [{
        "time": "2018-12-04T14:24:42",
        "level": "ERROR",
        "content": "Slave I/O for channel '': error connecting to master
'rdsRepl@172.16.30.111:3306' - retry-time: 60  retries: 1, Error_code: 203"
    }, {
        "time": "2018-12-04T14:24:42",
        "level": "ERROR",
        "content": "Slave I/O for channel '': error connecting to master
'rdsRepl@172.11.11.111:8081' - retry-time: 60  retries: 1, Error_code: 203"
    }],
    "total_record": 2
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.9.2 Querying Database Slow Logs

Function

This API is used to query the latest 2,000 database slow query logs.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

Only the MySQL DB instances are supported.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/slowlog?start_date={start_date}&end_date={end_date}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog?offset=1&limit=10&start_date=2018-08-06T10:41:14+0800&end_date=2018-08-07T10:41:14+0800&type=INSERT

- Parameter description

  Table 4-165 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the ID of the instance to be queried.
start_date	Yes	Specifies the start date in the "yyyy-mm-ddThh:mm:ssZ" format.
end_date	Yes	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format. You can only query slow logs generated within a month.
offset	No	Specifies the page offset, such as 1, 2, 3, or 4. The parameter value is **1** by default if it is not specified.
limit	No	Specifies the number of records on each page. Its value range is from 1 to 100. The parameter value is **10** by default if it is not specified.

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Name	Mandatory	Description
type	No	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: • INSERT • UPDATE • SELECT • DELETE • CREATE

Request

None

Response

- Normal response

Table 4-166 Parameter description

Name	Type	Description
slow_log_list	Array of objects	Indicates detailed information. For details, see **Table 4-167**.
total_record	Integer	Indicates the total number of records.

Table 4-167 slow_log_list field data structure description

Name	Type	Description
count	String	Indicates the number of executions.
time	String	Indicates the execution time.
lock_time	String	Indicates the lock wait time.
rows_sent	String	Indicates the number of sent rows.
rows_examined	String	Indicates the number of scanned rows.
database	String	Indicates the database which the slow log belongs to.
users	String	Indicates the account.

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Name	Type	Description
query_sample	String	Indicates the execution syntax.
type	String	Indicates the statement type.
start_time	String	Indicates the start time in the UTC format.
client_ip	String	Indicates the IP address.

- Example normal response

```
{
   "total_record": 1,
   "slow_log_list": [
      {
         "count": "1",
         "time": "1.04899 s",
         "lock_time": "0.00003 s",
         "rows_sent": "0",
         "rows_examined": "0",
         "database": "mysql",
         "users": "root",
         "query_sample": "INSERT INTO time_zone_name (Name, Time_zone_id) VALUES
(N, @time_zone_id);",
         "type": "INSERT",
         "start_time": "2018-08-06T10:41:14",
         "client_ip": "192.*.*.1"
      }
   ]
}
```

- Abnormal Response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9.3 Obtaining Slow Query Log Statistics

Function

This API is used to query and collect statistics on slow query logs based on service requirements.

- Before calling an API, you need to understand the API in **Authentication**.

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Constraints

This API is supported for MySQL only.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/slowlog/statistics?cur_page={cur_page}&per_page={per_page}&type={type}&start_date={start_date}&end_date={end_date}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog/statistics?cur_page=1&per_page=2&type=INSERT&start_date=2020-02-06T10:41:14+0800&end_date=2020-02-07T10:41:14+0800

- Parameter description

  Table 4-168 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the ID of the DB instance to be queried.
cur_page	Yes	Specifies the page offset (the current page number, such as 1, 2, 3, or 4.)
per_page	Yes	Specifies the number of records on each page. The value ranges from 0 to 100.
start_date	Yes	Specifies the start date in the "yyyy-mm-ddThh:mm:ssZ" format.
end_date	Yes	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format.
type	Yes	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: • INSERT • UPDATE • SELECT • DELETE • CREATE • ALL

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Request

None

Response

- Normal response

Table 4-169 Description

Name	Type	Description
pageNumber	Integer	Indicates the current page number.
pageRecord	Integer	Indicates the number of records on each page.
slowLogList	List	See **Table 4-170**.
totalRecord	Integer	Indicates the total number of records.
startTime	Long	Indicates the start time.
endTime	Long	Indicates the end time.

Table 4-170 slow_log_list field data structure description

Name	Type	Description
count	String	Indicates the number of executions.
time	String	Indicates the execution time.
lockTime	String	Indicates the lock wait time.
rowsSent	Long	Indicates the number of sent rows.
rowsExamined	Long	Indicates the number of scanned rows.
database	String	Indicates the database which the slow log belongs to.
users	String	Indicates the account.
querySample	String	Indicates the execution syntax.
type	String	Indicates the statement type.
clientIP	String	Indicates the IP address.

- Example normal response

```
{
  "pageNumber": 1,
  "pageRecord": 10,
```

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```
    "slowLogList": [],
    "totalRecord": 0,
        "startTime": null,
        "endTime":null
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9.4 Obtaining Links for Downloading Slow Query Logs

Function

This API is used to obtain links for downloading slow query logs.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/slowlog-download

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog-download

- Parameter description

  Table 4-171 Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	ID of the DB instance to be queried.

Request

- Parameter description

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Table 4-172 Parameter description

Name	Mandatory	Type	Description
request_id	Yes	String	Request ID. Enter any request ID in the UUID format (xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx) and use the request ID to call the API to obtain the workflow ID for generating the slow query log download link. For details, see **Table 4-174**. Use the obtained workflow ID as the request ID and call the API again to obtain the link for downloading the slow query logs of the instance.
file_name	No	String	Name of the file to be downloaded.

- Request example

  Obtain the workflow ID for generating the slow query log download link:

```
{
    "request_id":"6e0e7ee2-a3b5-4bc1-a5a8-cb2987ac4771"
}
```

  Obtain the link for downloading slow query logs:

```
{
    "request_id":"0202bf1a-4181-48b9-bdd8-27ea4cef05b2"
}
```

Response

- Normal response

Table 4-173 Parameter description

Name	Type	Description
list	List	Indicates the links for downloading slow query logs. For details, see **Table 4-174**.

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Name	Type	Description
status	String	Indicates the status of generating links for downloading slow query logs. • **FINISH**: The download link has been generated. • **CREATING**: A file is being generated and the download link is to be prepared. • **FAILED**: Log files fail to be prepared.
count	Integer	Indicates the number of links for downloading slow query logs.

Table 4-174 linkInfo field data structure description

Name	Type	Description
workflow_id	String	Indicates the workflow ID.
file_name	String	Indicates the name of the generated file for downloading slow query logs.
status	String	Indicates the generation status of the current link.
file_size	String	Indicates the file size.
file_link	String	Indicates the download link.
create_at	Long	Indicates the generation time.

- Example normal response

  Generating the link for downloading slow query logs:

```
{
   "list": [
      {
         "workflow_id": "0202bf1a-4181-48b9-bdd8-27ea4cef05b2",
         "file_name":
"054bc98b0a80d39b1faec01373f2f339_slowlog_download_20211117091141667",
         "status": "EXPORTING",
         "create_at": 1637140301659
      }
   ],
   "status": "CREATING",
```

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```
    "count": 1
}
```

Link for downloading slow query logs obtained successfully:

```
{
    "list": [
        {
            "workflow_id": "0202bf1a-4181-48b9-bdd8-27ea4cef05b2",
            "file_name":
"054bc98b0a80d39b1faec01373f2f339_slowlog_download_20211117091141667",
            "status": "SUCCESS",
            "file_size": "922",
            "file_link": "https://rdsbucket.opxxx.svc.rds.xxxxx",
            "create_at": 1637140315066
        }
    ],
    "status": "FINISH",
    "count": 1
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9.5 Setting SQL Audit

Function

This API is used to set a policy for SQL audit logs.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

SQL audit is only supported for RDS for MySQL DB instances.

URI

- URI format

  PUT /v3/{project_id}/instances/{instance_id}/auditlog-policy

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog-policy

- Parameter description

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Table 4-175 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-176 Parameter description

Name	Mandatory	Type	Description
keep_days	Yes	Integer	Specifies the number of days for storing audit logs. The value range is from 0 to 732. • **0**: indicates that SQL audit is disabled. • **1** to **732**: indicates the retention days for audit logs after SQL audit is enabled.
reserve_auditlogs	No	Boolean	This parameter is valid only when SQL audit is disabled. • **true** (default value): indicates that historical audit logs are retained when SQL audit is disabled. • **false**: indicates that existing historical audit logs are deleted when SQL audit is disabled.

- Request example

  Update the policy for SQL audit logs:

```
{
    "keep_days":5
}
```

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Disable the policy for SQL audit logs:

```
{
    "keep_days":0,
    "reserve_auditlogs":false
}
```

Response

- Normal response

  None
- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9.6 Querying the Policy for SQL Audit Logs

Function

This API is used to query the policy for SQL audit logs.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/auditlog-policy
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog-policy
- Parameter description

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Table 4-177 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

None

Response

- Normal response

  Table 4-178 Parameter description

Name	Type	Description
keep_days	Integer	Specifies the number of days for storing audit logs. The value is **0** when SQL audit is disabled.

- Example normal response

```
{
    "keep_days":7
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.9.7 Obtaining an Audit Log List

Function

This API is used to obtain an audit log list.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/auditlog?start_time={start_time}&end_time={end_time}&offset={offset}&limit={limit}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog?start_time=2019-11-06T09:00:00+0800&end_time=2019-11-07T10:40:15+0800&offset=0&limit=10

- Parameter description

  Table 4-179 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the ID of the queried DB instance.
start_time	Yes	Specifies the start time for obtaining the backup list. The format of the start time is "yyyy-mm-ddThh:mm:ssZ".
end_time	Yes	Specifies the end time for obtaining the backup list. The format of the end time is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. The time span cannot be longer than 30 days.
offset	Yes	Specifies the index position. If **offset** is set to *N*, the resource query starts from the *N*+1 piece of data. The value is **0** by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	Yes	Specifies the number of records to be queried. The value range is from 1 to 50.

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Request

None

Response

- Normal response

Table 4-180 Parameter description

Name	Type	Description
auditlogs	Array of objects	Indicates detailed information. For details, see **Table 4-181**.
total_record	Integer	Indicates the total number of records.

Table 4-181 auditlogs field data structure description

Name	Type	Description
id	String	Indicates the audit log ID.
name	String	Indicates the audit log file name.
size	Long	Indicates the size in KB of the audit log.
begin_time	String	Indicates the start time of the audit log. The format is "yyyy-mm-ddThh:mm:ssZ".
end_time	String	Indicates the end time of the audit log. The format is "yyyy-mm-ddThh:mm:ssZ".

- Example normal response

```
{
   "auditlogs": [{
      "id": "fa163ea0e2bet11e9d832166a2cf894c5br01",
      "name":
"317156_20190916032844_eb8fe5d181ec44a2850302691541f760in01_Audit_166a2cf8-
d832-11e9-94c5-fa163ea0e2be",
      "size": 20481.835938,
      "begin_time": "2019-11-06T09:03:34+0800",
      "end_time": "2019-11-06T10:39:15+0800"
   }, {
      "id": "fa163ea0e2bet11e9d832136a668094c5br01",
      "name":
"317162_20190916032838_eb8fe5d181ec44a2850302691541f760in01_Audit_136a6680-
d832-11e9-94c5-fa163ea0e2be",
      "size": 20481.835938,
      "begin_time": "2019-11-07T09:04:35+0800",
```


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```
        "end_time":"2019-11-07T10:38:16+0800"
    }],
    "total_record": 2
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.9.8 Obtaining the Link for Downloading an Audit Log

Function

This API is used to obtain the link for downloading an audit log.

- Before calling an API, you need to understand the API in **Authentication**.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/auditlog-links

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog-links

- Parameter description

  Table 4-182 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the ID of the queried DB instance.

Request

- Parameter description

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Table 4-183 Parameter description

Name	Mandatory	Type	Description
ids	Yes	Array of strings	Specifies the list of audit logs. A maximum of 50 audit log IDs are allowed in the list.

- Request example

```
{
   "ids": ["fa163e9970a3t11e9d834e122fdceb1d6br01",
"fa163ea0e2bet11e9d8364943103c94c5br01"]
}
```

Response

- Normal response

Table 4-184 Parameter description

Name	Type	Description
links	Array of strings	Indicates the list of audit log download links. The validity period is 5 minutes.

- Example normal response

```
{
   "links": ["https://obs.domainname.com/rdsbucket.username.1/xxxxxx", "https://
obs.domainname.com/rdsbucket.username.2/xxxxxx"]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10 Database and Account Management (MySQL)

4.10.1 Precautions

The **lower_case_table_names** parameter controls whether the MySQL database and table names are case sensitive. This parameter setting may affect the

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database or table configurations when the APIs in the following sections in this chapter are invoked.

For example, if you have set the table names to be case insensitive and enter a table name containing uppercase letters, the name of the created table may contain only lowercase letters because the letter cases are insensitive.

Therefore, when using the following APIs, ensure that the case of your input is the same as the actual case to avoid being affected by the case setting.

4.10.2 Creating a Database

Function

This API is used to create a database in a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/database

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database

- Parameter description

  Table 4-185 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

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Table 4-186 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the database name. The database name contains 1 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and dollar signs ($) are allowed. The total number of hyphens (-) and dollar signs ($) cannot exceed 10. RDS for MySQL 8.0 does not support dollar signs ($).
character_set	Yes	String	Specifies the character set used by the database, such as utf8, gbk, and ascii.

- Request example

```
{
    "name": "rds-test",
    "character_set": "utf8"
}
```

Response

- Normal response

Table 4-187 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

```
{
    "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

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Status Code

- Normal

  200
- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.3 Querying Details About a Database

Function

This API is used to query details about a database on a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in the abnormal state.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/database
- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database
- Parameter description

  Table 4-188 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

None

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Response

- Normal response

Table 4-189 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see **Table 4-190**.

Table 4-190 databases element structure description

Name	Type	Description
name	String	Indicates the database name.
character_set	String	Indicates the character set used by the database, such as utf8, gbk, and ascii.
users	Array of objects	Each element in the list indicates an account associated with the database. For details, see **Table 4-191**.

Table 4-191 users element structure description

Name	Type	Description
name	String	Indicates an account name.
readonly	Boolean	Indicates the read-only permission. • **true**: indicates the read-only permission. • **false**: indicates the read and write permission.

- Example normal response

```
{
  "databases": [
```

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```
    {
        "name": "rds-test",
        "character_set": "utf8",
        "users": [
            {
                "name": "rds",
                "readonly": false
            }
        ]
    },
    {
        "name": "testdb1",
        "character_set": "utf8",
        "users": []
    },
    {
        "name": "tt",
        "character_set": "utf8",
        "users": []
    }
  ]
}
```


- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.4 Querying Details About Databases

Function

This API is used to query details about databases on a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- Databases cannot be queried when the DB instance is in the abnormal state.
- The database list of read replicas cannot be queried.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/database/detail?page={page}&limit={limit}

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- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database/detail?page=1&limit=10

- Parameter description

  Table 4-192 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
page	Yes	Specifies the page number. The value starts from **1**.
limit	Yes	Specifies the number of records on each page. The value ranges from 1 (inclusive) to 100 (inclusive).

Request

None

Response

- Normal response

  Table 4-193 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see **Table 4-194**.
total_count	Integer	Indicates the total number of databases.

  Table 4-194 databases element structure description

Name	Type	Description
name	String	Indicates the database name.

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Name	Type	Description
character_set	String	Indicates the character set used by the database, such as utf8, gbk, and ascii.

- Example normal response

```
{
   "databases": [
      {
         "name": "rds-test",
         "character_set": "utf8"
      },
      {
         "name": "testdb1",
         "character_set": "utf8"
      },
      {
         "name": "tt",
         "character_set": "utf8"
      }
   ],
   "total_count": 3
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.5 Querying Authorized Databases of a Specified User

Function

This API is used to query authorized databases of a specified database user.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in the abnormal state.

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URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/db_user/database?user-name={user-name}&page={page}&limit={limit}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/database?user-name=rds&page=1&limit=10

- Parameter description

  Table 4-195 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
user-name	Yes	Specifies the database username.
page	Yes	Specifies the page number. The value starts from **1**.
limit	Yes	Specifies the number of records on each page. The value ranges from 1 (inclusive) to 100 (inclusive).

Request

None

Response

- Normal response

  Table 4-196 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see **Table 4-197**.
total_count	Integer	Indicates the total number of databases.

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Table 4-197 databases element structure description

Name	Type	Description
name	String	Indicates the database name.
readonly	Boolean	Indicates the read-only permission. • **true**: indicates the database is read-only. • **false**: indicates the database is readable and writable.

- Example normal response

```
{
   "databases": [
      {
         "name": "rds-test",
         "readonly": false
      },
      {
         "name": "testdb1",
         "readonly": true
      },
      {
         "name": "tt",
         "readonly": false
      }
   ],
   "total_count": 3
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.6 Deleting a Database

Function

This API is used to delete a database from a specified DB instance.

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- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  DELETE /v3/{project_id}/instances/{instance_id}/database/{db_name}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database/rds-test

- Parameter description

  Table 4-198 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
db_name	Yes	Specifies the name of the database to be deleted.

Request

- Parameter description

  No request body

- Request example

```
{}
```

Response

- Normal response

  Table 4-199 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

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```
{
  "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.7 Creating a Database Account

Function

This API is used to create a database account for a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/db_user

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user

- Parameter description

  Table 4-200 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

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Request

- Parameter description

Table 4-201 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The username consists of 1 to 32 characters. Only lowercase letters, digits, hyphens (-), and underscores (_) are allowed. • If the database version is MySQL 5.6, the username consists of 1 to 16 characters. • If the database version is MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.
password	Yes	String	Specifies the password of the database account. Valid value: The parameter must be 8 to 32 characters long and contain only letters (case-sensitive), digits, and special characters (~!@#%^*-_=+?,). The value must be different from **name** or **name** spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

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- Request example

```
{
   "name": "rds",
   "password": "Test@12345678"
}
```

Response

- Normal response

  Table 4-202 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

```
{
   "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.8 Querying Details About a Database User

Function

This API is used to query details about a database user of a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- Databases cannot be queried when the DB instance is in the abnormal state.
- The database list of read replicas cannot be queried.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/db_user

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- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user

- Parameter description

  Table 4-203 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

None

Response

- Normal response

  Table 4-204 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see **Table 4-205**.

  Table 4-205 users element structure description

Name	Type	Description
name	String	Indicates an account name.
databases	Array of objects	Each element in the list indicates a database associated with the account. For details, see **Table 4-206**.

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Table 4-206 databases element structure description

Name	Type	Description
name	String	Indicates a database name.
readonly	Boolean	Indicates the read-only permission. • **true**: indicates the read-only permission. • **false**: indicates the read and write permission.

- Example normal response

```
{
   "users": [
      {
         "name": "rds",
         "databases": [
            {
               "name": "rds-test",
               "readonly": false
            }
         ]
      },
      {
         "name": "rds001",
         "databases": null
      }
   ]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.9 Querying Details About Database Users

Function

This API is used to query details about database users of a specified DB instance.

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- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This operation cannot be performed when the DB instance is in the abnormal state.
- The database user list of read replicas cannot be queried.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/db_user/detail?page={page}&limit={limit}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/detail?page=1&limit=10

- Parameter description

  Table 4-207 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
page	Yes	Specifies the page number. The value starts from **1**.
limit	Yes	Specifies the number of records on each page. The value ranges from 1 (inclusive) to 100 (inclusive).

Request

None

Response

- Normal response

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Table 4-208 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see **Table 4-209**.
total_count	Integer	Indicates the total number of database users.

Table 4-209 users element structure description

Name	Type	Description
name	String	Indicates the account name.

- Example normal response

```
{
 "users": [
   {
    "name": "rdsuser"
   },
  {
   "name": "login001"
   }
 ],
 "total_count": 2
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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4.10.10 Querying Authorized Users of a Specified Database

Function

This API is used to query authorized users of a specified database.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- This operation cannot be performed when the DB instance is in the abnormal state.
- The accounts of read replicas cannot be queried.

URI

- URI format

  GET /v3/{project_id}/instances/{instance_id}/database/db_user?db-name={db-name}&page={page}&limit={limit}

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database/db_user?db-name=rds&page=1&limit=10

- Parameter description

  Table 4-210 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
db-name	Yes	Specifies the database name.
page	Yes	Specifies the page number. The value starts from **1**.
limit	Yes	Specifies the number of records on each page. The value ranges from 1 (inclusive) to 100 (inclusive).

Request

None

Response

- Normal response

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Table 4-211 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see **Table 4-212**.
total_count	Integer	Indicates the total number of database users.

Table 4-212 users element structure description

Name	Type	Description
name	String	Indicates the account name.
readonly	Boolean	Indicates the read-only permission. • **true**: indicates the database is read-only. • **false**: indicates the database is readable and writable.

- Example normal response

```
{
   "users": [
      {
         "name": "rds",
         "readonly": false
      },
      {
         "name": "rds001",
         "readonly": false
      }
   ],
   "total_count": 3
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

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- Abnormal
  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.11 Deleting a Database Account

Function

This API is used to delete a database account from a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format
  DELETE /v3/{project_id}/instances/{instance_id}/db_user/{user_name}
- Example
  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/rds
- Parameter description

  Table 4-213 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.
user_name	Yes	Specifies the username of the account to be deleted.

Request

- Parameter description
  No request body
- Request example
  ```
  {}
  ```

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Response

- Normal response

  Table 4-214 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

```
{
   "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.12 Configuring a Password for a Database Account

Function

This API is used to configure a password for a database account.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/db_user/resetpwd

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/resetpwd

- Parameter description

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Table 4-215 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-216 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account.
password	Yes	String	Specifies the password of the database account. Valid value: The parameter must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!@#$%^*-_=+?,). The value must be different from **name** or **name** spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

- Request example

```
{
    "name": "rds",
    "password": "Test@12345678"
}
```

Response

- Normal response

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Table 4-217 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

```
{
   "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.13 Authorizing a Database Account

Function

This API is used to set permissions of a database account in a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  POST /v3/{project_id}/instances/{instance_id}/db_privilege

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_privilege

- Parameter description

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Table 4-218 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

Table 4-219 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Specifies the database name.
users	Yes	Array of objects	Specifies the account that associated with the database. A single request supports a maximum of 50 elements. For details on the element structure, see **Table 4-220**.

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Table 4-220 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The username consists of 1 to 32 characters. Only lowercase letters, digits, hyphens (-), and underscores (_) are allowed. ● If the database version is MySQL 5.6, the username consists of 1 to 16 characters. ● If the database version is MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.
readonly	Yes	Boolean	Specifies the read-only permission. ● **true**: indicates the read-only permission. ● **false**: indicates the read and write permission.

- Request example

```
{
   "db_name": "rds-test",
   "users": [
      {
         "name": "rds",
         "readonly": false
      },
      {
         "name": "rds001",
         "readonly": true
      }
   ]
}
```

Response

- Normal response

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Table 4-221 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

```
{
   "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.14 Revoking Permissions of a Database Account

Function

This API is used to revoke permissions of a database account in a specified DB instance.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, or abnormal.

URI

- URI format

  DELETE /v3/{project_id}/instances/{instance_id}/db_privilege

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_privilege

- Parameter description

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Table 4-222 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

Table 4-223 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Specifies the database name.
users	Yes	Array of objects	Specifies the account that associated with the database. A single request supports a maximum of 50 elements. For more information about the element structure, see **Table 4-224**.

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Table 4-224 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The username consists of 1 to 32 characters. Only lowercase letters, digits, hyphens (-), and underscores (_) are allowed. • If the database version is RDS for MySQL 5.6, the username consists of 1 to 16 characters. • If the database version is RDS for MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.

- Request example

```
{
   "db_name": "rds-test",
   "users": [
      {
         "name": "rds"
      },
      {
         "name": "rds001"
      }
   ]
}
```

Response

- Normal response

Table 4-225 Parameter description

Name	Type	Description
resp	String	Returns **successful** if the invoking is successful.

- Example normal response

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```
{
  "resp": "successful"
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

- Abnormal

  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.10.15 Resetting the Password for User Root

Function

This API is used to reset the password if you forget the password of your database account when using RDS. If an error occurs on the root account, for example, the root account is lost or deleted, you can restore the root account rights through resetting the password.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

The password cannot be reset if the DB instance is in any of the following statuses: creating, rebooting, upgrading, changing instance class, creating users, or deleting users.

URI

- URI format

  POST /v3/{*project_id*}/instances/{*instance_id*}/password

- Example

  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/password

- Parameter description

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Table 4-226 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
instance_id	Yes	Specifies the DB instance ID.

Request

- Parameter description

  Table 4-227 Parameter description

Name	Mandatory	Type	Description
db_user_pwd	Yes	String	Specifies the database password. Valid value: The parameter must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*-_=+?,). You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

- Request example

```
{
    "db_user_pwd": "Test_2345674"
}
```

Response

- Normal response

  None

- Example normal response

```
{}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Code

- Normal

  200

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- Abnormal
  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

4.11 Obtaining Task Information

4.11.1 Obtaining Information About a Task with a Specified ID

Function

This API is used to obtain information about a task with a specified ID in the task center.

- Before calling an API, you need to understand the API in **Authentication**.

Constraints

- RDS jobs are asynchronous. After a job is generated, it takes several seconds to query the job ID.
- This API is used to query only asynchronous tasks of the last one month in the task center.
- Information of the following asynchronous tasks can be obtained: creating single or primary/standby DB instances, creating read replicas, deleting DB instances, changing single DB instances to primary/standby instances, switching primary/standby DB instances, scaling up storage space, and binding or unbinding EIPs.

URI

- URI format
  GET /v3/{project_id}/jobs?id={id}
- Example
  https://{*Endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/jobs?id=a9767ede-fe0f-4888-9003-e843a4c90514
- Parameter description

Table 4-228 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see **Obtaining a Project ID**.
id	Yes	Specifies the task ID.

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Request

None

Response

- Normal response

Table 4-229 Parameter description

Name	Type	Description
job	Object	Indicates the task information. For details, see **Table 4-230**.

Table 4-230 job field data structure description

Name	Type	Description
id	String	Indicates the job ID.
name	String	Indicates the task name.
status	String	Indicates the task execution status. Value: • **Running**: The task is being executed. • **Completed**: The task is successfully executed. • **Failed**: The task fails to be executed.
created	String	Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format.
process	String	Indicates the task execution progress. **NOTE** The execution progress (such as **"60%"**) is displayed only when the task is being executed. Otherwise, **""** is returned.
instance	Object	Indicates information of the DB instance on which the task is executed. For details, see **Table 4-231**.

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Name	Type	Description
entities	Object	The displayed information varies depending on the tasks. For details, see the following: • **Table 4-232** • **Table 4-235** • **Table 4-237** • **Table 4-238** **NOTE** For asynchronous tasks without the **entities** field description, **{}** is returned.
fail_reason	String	Indicates the error information displayed when a task failed.

Table 4-231 instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the DB instance name.

Table 4-232 entities field data structure description (creating DB instances, changing single DB instances to primary/standby, or creating read replicas)

Name	Type	Description
instance	Object	Indicates the information about the queried DB instance. For details, see **Table 4-233**.
resource_ids	List<String>	Indicates the queried resource ID.

Table 4-233 entities.instance field data structure description

Name	Type	Description
endpoint	String	Indicates the DB instance connection address.

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Name	Type	Description
type	String	The value is **Single**, **Ha**, or **Replica**, indicating the single DB instance, primary/standby DB instances, and read replica, respectively.
datastore	Object	Indicates the database information. For details, see **Table 4-234**.
replica_of	String	Indicates the primary DB instance ID. This parameter is returned only when a read replica is created.

Table 4-234 datastore field data structure description

Name	Type	Description
type	String	Indicates the DB engine.
version	String	Indicates the database version.

Table 4-235 entities field data structure description (resizing a DB instance)

Name	Type	Description
volume	Object	Indicates the information about the resized disk. For details, see **Table 4-236**.
resource_ids	List<String>	Indicates the queried resource ID.

Table 4-236 volume field data structure description

Name	Type	Description
type	String	Indicates the volume type.
original_size	String	Indicates the original volume size in GB.
target_size	String	Indicates the target volume size in GB.

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Table 4-237 entities field data structure description (binding/unbinding EIPs or enabling/disabling remote access)

Name	Type	Description
public_ip	String	Indicates the EIP bound to the DB instance.

Table 4-238 entities field data structure description (primary/standby switchover)

Name	Type	Description
switch_strategy	String	Indicates the primary/standby switchover policy.

NOTE

In the response example, some tasks in the task center are used as examples.

- Example normal response

  Creating a DB instance:

```
{
    "job": {
        "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
        "name": "CreateMysqlSingleHAInstance",
        "status": "Completed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "name": "DO-NOT-TOUCH-mgr2-mysql-single"
        },
        "entities": {
            "instance": {
                "endpoint": "192.168.1.203:3306",
                "type": "Single",
                "datastore": {
                    "type": "mysql",
                    "version": "5.7"
                }
            },
            "resource_id": ["a48e43ff268f4c0e879652d65e63d0fbin01.vm",
"a48e43ff268f4c0e879652d65e63d0fbin01.volume"]
        }
    }
}
```

  Creating a read replica:

```
{
    "job": {
        "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
        "name": " CreateMysqlReplicaInstance",
        "status": "Completed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
```

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```
        "instance": {
            "id": "288caaa9d05f4ec1a1f58de2e0945685in01",
            "name": "mysql-replica"
        },
        "entities": {
            "instance": {
                "endpoint": "192.168.1.203:3306",
                "type": "replica",
                "datastore": {
                    "type": "mysql",
                    "version": "5.7"
                },
                "replica_of": "a48e43ff268f4c0e879652d65e63d0fbin01"
            },
            "resource_ids": ["288caaa9d05f4ec1a1f58de2e0945685in01.vm",
"288caaa9d05f4ec1a1f58de2e0945685in01.volume"]
        }
    }
}
```

Binding an EIP:

```
{
    "job": {
        "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
        "name": "MysqlBindEIP",
        "status": "Completed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "name": "DO-NOT-TOUCH-mgr2-mysql-single"
        },
        "entities": {
            "public_ip": "10.154.218.254"
        }
    }
}
```

Rebooting a DB instance:

```
{
    "job": {
        "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
        "name": " RestartMysqlInstance",
        "status": "Completed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "name": "DO-NOT-TOUCH-mgr2-mysql-single"
        },
        "entities": {}
    }
}
```

Task being executed:

```
{
    "job": {
        "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
        "name": "CreateMysqlSingleHAInstance"," status": "Running",
        "created": "2018-08-06T10:41:14+0000",
        "process": "60% ",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
```

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```
            "name": "DO-NOT-TOUCH-mgr2-mysql-single"
        },
        "entities": {
            "instance": {
                "type": "Single",
                "datastore": {
                    "type": "mysql",
                    "version": "5.7"
                }
            }
        }
    }
}
```

Task fails to be executed:

```
{
    "job": {
        "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
        "name": "CreateMysqlSingleHAInstance",
        "status": "Failed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "name": "DO-NOT-TOUCH-mgr2-mysql-single"
        },
        "entities": {
            "instance": {
                "type": "Single",
                "datastore": {
                    "type": "mysql",
                    "version": "5.7"
                }
            }
        },
        "fail_reason": "createVM failed."
    }
}
{
    "job": {
        "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
        "name": "CreatePostgresqlSingleHAInstance",
        "status": "Failed",
        "created": "2018-08-06T10:41:14+0000",
        "process": "",
        "instance": {
            "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
            "name": "DO-NOT-TOUCH-mgr2-postgresql-single"
        },
        "entities": {
            "instance": {
                "type": "Single",
                "datastore": {
                    "type": "postgresql",
                    "version": "9.6"
                }
            }
        },
        "fail_reason": "createVM failed."
    }
}
```

- Abnormal response

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For details, see **Abnormal Request Results**.

Status Code

- Normal
  200
- Abnormal
  For details, see **Status Codes**.

Error Code

For details, see **Error Codes**.

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5 Appendix

5.1 Abnormal Request Results

v3 APIs

Abnormal response description

Table 5-1 Abnormal response description

Name	Type	Description
error_code	String	Specifies the error returned when a task submission exception occurs.
error_msg	String	Specifies the description of the error returned when a task submission exception occurs.

Response example

```
{
   "error_code": "DBS.200022",
   "error_msg": "The DB instance name already exists."
}
```

5.2 Status Codes

Table 5-2 describes status codes.

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Table 5-2 Status codes

Status Code	Message	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that the initial part of the request has been received and has not yet been rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a more advanced protocol. For example, the current HTTP protocol is switched to a later version.
200	OK	Request succeeded.
201	Created	The request for creating a resource or task has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Unauthorized information. The request is successful.
204	NoContent	The server has successfully processed the request, but has not returned any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.
302	Found	The requested resource was temporarily moved.
303	See Other	The response to the request can be found under a different URI and should be retrieved using a GET or POST method.

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Status Code	Message	Description
304	Not Modified	The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.
305	Use Proxy	The requested resource must be accessed through a proxy.
306	Unused	The HTTP status code is no longer used.
400	BadRequest	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may repeat the request without modifications at any later time.

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Status Code	Message	Description
409	Conflict	The request could not be processed due to a conflict. This status code indicates that the resource that the client attempts to create already exits, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource is no longer available. The requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server temporarily cannot process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfied	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.

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Status Code	Message	Description
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. The response will reach the client only if the request carries a timeout parameter.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

5.3 Error Codes

The following table describes error codes.

Table 5-3 V3 error codes

Status Code	Error Code	Description
500	DBS.108000	Server failure.
500	DBS.108002	Server failure.
500	DBS.108005	Server failure.
400	DBS.200001	Parameter error.
404	DBS.200002	The DB instance does not exist.
400	DBS.200004	Parameter error.
500	DBS.200005	Server failure.
400	DBS.200006	The request is null. Enter a request parameter.
404	DBS.200008	The ECS information of the DB instance cannot be found.
403	DBS.200010	The DB instance ID or user ID may be null, or the operation is not authorized.
409	DBS.200011	Another operation is being performed on the DB instance or the DB instance is faulty.

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Status Code	Error Code	Description
404	DBS.200013	The original DB instance does not exist.
409	DBS.200019	Another operation is being performed on the DB instance or the DB instance is faulty.
400	DBS.200021	Invalid DB instance name.
409	DBS.200022	The DB instance name already exists.
400	DBS.200023	Storage space is out of range.
400	DBS.200024	Invalid region.
400	DBS.200025	Invalid AZ.
400	DBS.200026	Invalid storage type.
400	DBS.200027	Storage space must be a multiple of 10.
400	DBS.200040	The DB engine or version is not supported.
400	DBS.200041	Invalid database version.
400	DBS.200042	The DB engine does not exist.
400	DBS.200043	Invalid synchronize model.
403	DBS.200044	Resource not found or permission denied.
404	DBS.200045	The DB instance does not exist.
413	DBS.200046	The number of DB instances has reached the quota.
409	DBS.200047	Another operation is being performed on the DB instance or the DB instance is faulty.
400	DBS.200048	Invalid VPC ID.
400	DBS.200049	Invalid network ID.
404	DBS.200050	The security group does not exist or does not belong to the VPC.
400	DBS.200051	Invalid HA mode.
400	DBS.200052	Invalid database root password.
400	DBS.200053	The selected specifications do not exist.
400	DBS.200054	Invalid specifications.
400	DBS.200055	Invalid replica_of_id.
400	DBS.200056	The maximum number of nodes has been reached.

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Status Code	Error Code	Description
400	DBS.200086	This operation is not allowed by the DB instance status.
400	DBS.200121	Select an AZ different from that of the standby node.
400	DBS.200203	Failed to query the DB instance.
400	DBS.200303	The scale-up times have reached the maximum value.
400	DBS.200306	The new storage space must be greater than or equal to the original storage space.
400	DBS.200308	The new storage space after scaling up cannot be greater than that of the primary DB instance.
409	DBS.200316	This operation cannot be performed because the DB instance status is Storage full.
409	DBS.200402	Invalid operation.
400	DBS.200405	Parameter error.
404	DBS.200408	Incorrect node information.
400	DBS.200461	The parameter value is out of range.
404	DBS.200470	The region or AZ does not exist.
404	DBS.200501	The subnet does not exist or does not belong to the VPC.
404	DBS.200503	The VPC does not exist or does not belong to the user.
400	DBS.200504	Invalid database version.
400	DBS.200543	The job does not exist.
404	DBS.200602	The DB instance does not exist.
403	DBS.200604	The DB instance ID or user ID may be null, or the operation is not authorized.
500	DBS.200811	Failed to create the database.
403	DBS.201003	Resource not found or permission denied.
400	DBS.201006	Invalid parameters.
404	DBS.201010	The backup information does not exist.
400	DBS.201014	This operation is not allowed by the DB instance status.

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Status Code	Error Code	Description
404	DBS.201028	The DB instance does not exist.
400	DBS.201035	The database name must be different from the original and target database names.
400	DBS.201041	The operation is not allowed for tables with foreign keys.
400	DBS.201101	Invalid backup cycle.
400	DBS.201103	Invalid backup start time.
400	DBS.201106	Invalid retention days.
409	DBS.201201	The object already exists.
409	DBS.201202	Another operation is being performed on the DB instance or the DB instance is faulty.
400	DBS.201203	The backup file does not exist.
409	DBS.201205	Backup is in progress, please wait.
400	DBS.201207	The DB engine or version is not supported.
404	DBS.212001	The parameter template does not exist.
400	DBS.212002	Incorrect parameter template quota.
400	DBS.212003	Operation not allowed.
400	DBS.212004	Parameter template update error.
400	DBS.212005	The node does not belong to the group.
409	DBS.212006	Another operation is being performed on the DB instance or the DB instance is faulty.
400	DBS.212007	The DB engine does not exist.
400	DBS.212008	The DB engine is not supported.
400	DBS.212009	Task processing failed.
400	DBS.212010	The parameter template is being applied.
400	DBS.212011	Application failed.
400	DBS.212012	The parameter does not exist.
404	DBS.212013	The object does not exist.
400	DBS.212014	The node does not have a default parameter template.
400	DBS.212015	Partial success

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Status Code	Error Code	Description
400	DBS.212016	Parameter update failed.
400	DBS.212017	Invalid parameter.
422	DBS.212019	The parameter cannot be processed.
400	DBS.212025	Update failed.
400	DBS.212030	Parameter error
400	DBS.212032	The parameter template has been applied.
400	DBS.212037	Parameters are incorrectly set.
500	DBS.213004	Failed to process the request.
400	DBS.216028	Insufficient internal resource quota.
400	DBS.280001	Parameter error.
403	DBS.280015	Resource not found or permission denied.
403	DBS.280056	Invalid token.
404	DBS.280110	Selected DB instance does not exist.
400	DBS.280127	Invalid backup description.
400	DBS.280128	The database name does not exist.
400	DBS.280204	Invalid parameter.
400	DBS.280214	The backup does not exist.
400	DBS.280235	Invalid database type.
400	DBS.280238	The DB engine or version is not supported.
400	DBS.280239	Invalid specifications.
400	DBS.280241	Invalid storage type.
400	DBS.280246	Invalid database root password.
400	DBS.280250	Invalid backup retention days.
400	DBS.280253	Invalid backup start time.
400	DBS.280270	The parameter does not exist.
400	DBS.280271	The parameter value is out of range.
400	DBS.280277	Invalid object name.
400	DBS.280285	Invalid AZ.
400	DBS.280404	Invalid DB instance ID or node ID format.

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Status Code	Error Code	Description
400	DBS.280449	Operation not allowed on frozen objects.
400	DBS.280450	The DB instance specifications are sold out.
400	DBS.280649	Invalid DB instance name length.
400	DBS.290000	Parameter error.
400	DBS.290001	Invalid parameter letter case.
404	DBS.290002	The selected specifications do not exist.
413	DBS.290003	The number of DB instances has reached the quota.
404	DBS.290005	The DB instance does not exist.
500	DBS.290006	Failed to process the request.
404	DBS.290011	The DB instance does not exist.
404	DBS.290013	Resource not found.
500	DBS.290015	Failed to process the request.

5.4 Obtaining a Project ID

Scenarios

When calling APIs, you need to specify the project ID in some URLs. To do so, you need to obtain the project ID first. Two methods are available:

- **Obtaining the Project ID by Calling an API**
- **Obtaining a Project ID from the Console**

Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the IAM API used to query project information based on the specified criteria.

The API used to obtain a project ID is GET https://*{Endpoint}*/v3/projects. *{Endpoint}* is the IAM endpoint and can be obtained from **Regions and Endpoints**. For details about API authentication, see **Authentication**.

The following is an example response. The value of **id** is the project ID.

```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "project_name",
```

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```
            "description": "",
            "links": {
                "next": null,
                "previous": null,
                "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
            },
            "id": "a4a5d4098fb4474fa22cd05f897d6b99",
            "enabled": true
        }
    ],
    "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects"
    }
}
```


Obtaining a Project ID from the Console

Step 1 Register yourself on the management console and log in to it.

Step 2 Move your pointer over the username and select My Credentials in the displayed drop-down list.

On the **My Credentials** page, view project IDs in the project list.

----End

5.5 Replication Mode

Replication mode

Replication Mode	Description	Remarks
async	Asynchronous	N/A
semisync	Semi-synchronous	N/A
sync	Synchronous	N/A

5.6 RDS Monitoring Metrics Description

Function Description

This section describes namespaces, descriptions, and dimensions of monitoring metrics reported to Cloud Eye. You can query monitoring metrics and alarm information reported to Cloud Eye over its API.

Namespace

SYS.RDS

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Monitoring Metrics

Table 5-4 RDS performance metrics

Metric	Name	Description	Value Range	Remarks
rds001_cpu_util	CPU Usage	CPU usage of the monitored object	0%–100%	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds002_mem_util	Memory Usage	Memory usage of the monitored object	0%–100%	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds003_iops	IOPS	Average number of I/O requests processed by the system in a specified period	≥ 0 counts/s	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds004_bytes_in	Network Input Throughput	Incoming traffic in bytes per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds005_bytes_out	Network Output Throughput	Outgoing traffic in bytes per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds006_conn_count	Total Connections	Total number of connections that attempt to connect to the MySQL server	≥ 0 counts	Monitored object: database Monitored instance type: MySQL instances

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Metric	Name	Description	Value Range	Remarks
rds007_conn_active_count	Current Active Connections	Number of current active connections	≥ 0 counts	Monitored object: database Monitored instance type: MySQL instances
rds008_qps	QPS	Query times of SQL statements (including storage procedures) per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds009_tps	TPS	Execution times of submitted and rollback transactions per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds010_innodb_buf_usage	Buffer Pool Usage	Ratio of dirty data to all data in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds011_innodb_buf_hit	Buffer Pool Hit Rate	Ratio of read hits to read requests in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds012_innodb_buf_dirty	Buffer Pool Dirty Block Rate	Ratio of used pages to total pages in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds013_innodb_reads	InnoDB Read Throughput	Number of read bytes per second in the InnoDB buffer	≥ 0 bytes/s	Monitored object: database Monitored instance type: MySQL instances

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Metric	Name	Description	Value Range	Remarks
rds014_innodb_writes	InnoDB Write Throughput	Number of write bytes per second in the InnoDB buffer	≥ 0 bytes/s	Monitored object: database Monitored instance type: MySQL instances
rds015_innodb_read_count	InnoDB File Read Frequency	Number of times that InnoDB reads data from files per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds016_innodb_write_count	InnoDB File Write Frequency	Number of times that InnoDB writes data to files per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds017_innodb_log_write_req_count	InnoDB Log Write Requests per Second	Number of InnoDB log write requests per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds018_innodb_log_write_count	InnoDB Log Physical Write Frequency	Number of InnoDB physical write times to log files per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds019_innodb_log_fsync_count	InnoDB Log fsync() Write Frequency	Number of completed fsync() write times to InnoDB log files per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances

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Metric	Name	Description	Value Range	Remarks
rds020_temp_tbl_count	Temporary Tables	Number of temporary tables automatically created on hard disks when MySQL statements are executed	≥ 0 counts	Monitored object: database Monitored instance type: MySQL instances
rds021_myisam_buf_usage	Key Buffer Usage	MyISAM key buffer usage	0-1	Monitored object: database Monitored instance type: MySQL instances
rds022_myisam_buf_write_hit	Key Buffer Write Hit Ratio	MyISAM key buffer write hit ratio	0-1	Monitored object: database Monitored instance type: MySQL instances
rds023_myisam_buf_read_hit	Key Buffer Read Hit Ratio	MyISAM key buffer read hit ratio	0-1	Monitored object: database Monitored instance type: MySQL instances
rds024_myisam_disk_write_count	MyISAM Disk Write Frequency	Number of times that indexes are written to disks per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds025_myisam_disk_read_count	MyISAM Disk Read Frequency	Number of times that indexes are read from disks per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances

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Metric	Name	Description	Value Range	Remarks
rds026_myisam_buf_write_count	MyISAM Buffer Pool Write Requests per Second	Number of requests for writing indexes into the MyISAM buffer pool per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds027_myisam_buf_read_count	MyISAM Buffer Pool Read Requests per Second	Number of requests for reading indexes from the MyISAM buffer pool per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds028_comdml_del_count	DELETE Statements per Second	Number of DELETE statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds029_comdml_ins_count	INSERT Statements per Second	Number of INSERT statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds030_comdml_ins_sel_count	INSERT_SELECT Statements per Second	Number of INSERT_SELECT statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds031_comdml_rep_count	REPLACE Statements per Second	Number of REPLACE statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds032_comdml_rep_sel_count	REPLACE_SELECTION Statements per Second	Number of REPLACE_SELECTION statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances

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Metric	Name	Description	Value Range	Remarks
rds033_comdml_sel_count	SELECT Statements per Second	Number of SELECT statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds034_comdml_upd_count	UPDATE Statements per Second	Number of UPDATE statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds035_innodb_del_row_count	Row Delete Frequency	Number of rows deleted from the InnoDB table per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds036_innodb_ins_row_count	Row Insert Frequency	Number of rows inserted into the InnoDB table per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds037_innodb_read_row_count	Row Read Frequency	Number of rows read from the InnoDB table per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds038_innodb_upd_row_count	Row Update Frequency	Number of rows updated into the InnoDB table per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds039_disk_util	Storage Space Usage	Storage space usage of the monitored object	0%–100%	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL

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Metric	Name	Description	Value Range	Remarks
rds040_transaction_logs_usage	Transaction Logs Usage	Storage space usage of transaction logs	≥ 0 MB	Monitored object: database Monitored instance type: PostgreSQL instances
rds041_replication_slot_usage	Replication Slot Usage	Storage space usage of replication slot files	≥ 0 MB	Monitored object: database Monitored instance type: PostgreSQL instances
rds042_database_connections	Database Connections in Use	Number of database connections in use	≥ 0 counts	Monitored object: database Monitored instance type: PostgreSQL instances
rds043_maximum_used_transaction_ids	Maximum Used Transaction IDs	Maximum number of transaction IDs that have been used	≥ 0 counts	Monitored object: database Monitored instance type: PostgreSQL instances
rds044_transaction_logs_generations	Transaction Logs Generation	Size of transaction logs generated per second	≥ 0 MB/s	Monitored object: database Monitored instance type: PostgreSQL instances
rds045_oldest_replication_slot_lag	Oldest Replication Slot Lag	Lagging size of the most lagging replica in terms of WAL data received	≥ 0 MB	Monitored object: database Monitored instance type: PostgreSQL instances
rds046_replication_lag	Replication Lag	Replication lag delay	≥ 0 ms	Monitored object: database Monitored instance type: PostgreSQL instances

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Metric	Name	Description	Value Range	Remarks
rds047_disk_total_size	Total Storage Space	Total storage space of the monitored object	40–4,000 GB	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds048_disk_used_size	Used Storage Space	Used storage space of the monitored object	0–4,000 GB	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds049_disk_read_throughput	Disk Read Throughput	Number of bytes read from the disk per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds050_disk_write_throughput	Disk Write Throughput	Number of bytes written into the disk per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: • MySQL • PostgreSQL
rds053_avg_disk_queue_length	Average Disk Queue Length	Number of processes to be written into the monitored object	≥ 0	Monitored object: ECS. Monitored DB instance type: • MySQL

Dimension

Key	Value
rds_cluster_id	RDS for MySQL DB instance ID
postgresql_cluster_id	RDS for PostgreSQL DB instance ID

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API Calling

Use APIs to search for RDS monitoring metrics. For details about calling methods and parameter description, see "Querying Monitoring Data" in the *Cloud Eye API Reference*.

Examples:

- Request

```
/V1.0/{project_id}/metric-data?
namespace=SYS.RDS&metric_name=rds001_cpu_util&dim.0=rds_cluster_id,5ea170ad-
cc6b-49cd-9020-
e94fdbeea391&from=1484123686000&to=1568188853000&period=300&filter=average
```

- Response:

```
{
   "datapoints": [
      {
         "average": 0.35,
         "timestamp": 1484123400000,
         "unit": "Ratio"
      },
      {
         "average": 0.11,
         "timestamp": 1484123700000,
         "unit": "Ratio"
      }
   ],
   "metric_name": "rds001_cpu_util",
   "httpcode" : 200,
   "header" : {
   "Transfer-Encoding" : "chunked",
   "Server" : "Web Server",
   "X-Request-Id" : "te-I-CES-
APISVR25.id-0418d62a-1e76-46ff-9a5f-9ce40b336e29.ts-1484123744291.c-15046",
   "X-Content-Type-Options" : "nosniff",
   "Connection" : "keep-alive",
   "X-Download-Options" : "noopen",
   "Date" : "Wed, 11 Jan 2017 08:35:44 GMT",
   "X-Frame-Options" : "DENY",
   "Strict-Transport-Security" : "max-age=31536000; includeSubdomains;",
   "Cache-Control" : "no-cache",
   "X-XSS-Protection" : "1; mode=block;",
   "Content-Length" : "165",
   "Content-Type" : "application/json"
}
}
```

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A Change History

Release Date	Description
2024-04-15	This issue is the first official release.

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