

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](#).

Before calling RDS APIs, ensure that you have fully understood relevant concepts. For details, see "Service Overview" in *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.

1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions.

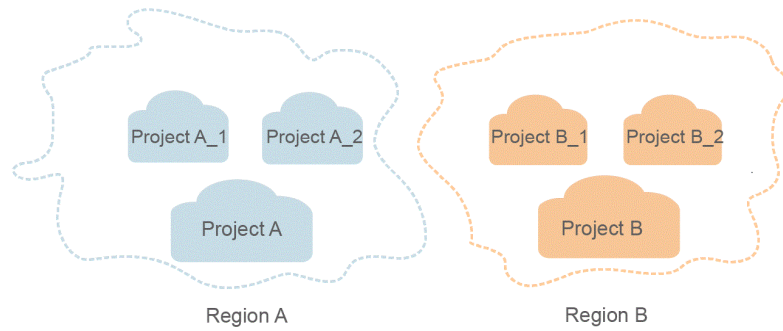
1.4 Constraints

- The number of RDS DB instances that you can create is determined by your quota.
- For more constraints, see API description.

1.5 Concepts

- Account
An account is created after your registration. The account 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 account is a payment entity and should not be used directly to perform routine management. For security purposes, create IAM users and grant them permissions for routine management.
- IAM User
An IAM user is created using an account to use cloud services. Each IAM user has its own identity credentials (password and access keys).
The account 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.
- Project
Projects group and isolate resources (including compute, storage, and network resources) across physical regions. A default project is provided for each 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



- **Enterprise Project**
Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated from each other. An enterprise project can contain resources in multiple regions, and resources can be directly transferred between enterprise projects.

1.6 API Types

Table 1-1 API type description

Version	Recommended	Description
v3	Yes	APIs for RDS with customized specifications
v3.1	Yes	APIs for RDS with customized specifications

2 API Overview

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

Type	Subtype	Description
RDS APIs (v3)	Querying Version Information About APIs	Obtain API versions, including the API version list and API version information.
RDS APIs (v3)	Querying Version Information About a DB Engine	Query the DB version information of a specified DB engine.
RDS APIs (v3)	Querying Database Specifications	Query the DB specifications of a specified DB engine version.
RDS APIs (v3)	Querying the Storage Type of a Database	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 encryption, changing database ports, modifying security groups, and changing floating IP addresses.

Type	Subtype	Description
RDS APIs (v3)	Parameter Management	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.
RDS APIs (v3)	Backup and Restoration	Back up and restore data, including creating a manual backup, and deleting a manual backup.
RDS APIs (v3)	Log Information Queries	Obtain log information, including querying database error logs and querying database slow logs.
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)	Database and Account Management (PostgreSQL)	Create and query databases, and create and query accounts.
RDS APIs (v3)	Recycling a DB Instance	Set a recycling policy.
RDS APIs (v3)	Tag Management	Manage tags, including adding tags in batches, deleting tags in batches, and querying project tags.
RDS APIs (v3)	Obtaining Task Information	Obtain information about a specified task in the task center.

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 the administrator.
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.

 **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.

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 <i>hostname[:port]</i> 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	e9993fc787d94b6c886cb aa340f9c0f4

Name	Description	Mandatory	Example
X-Auth-Token	<p>Specifies the user token.</p> <p>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.</p> <p>After the request is processed, the value of X-Subject-Token in the message header is the token value.</p>	<p>No</p> <p>This parameter is mandatory for token authentication.</p>	<p>The following is part of an example token:</p> <p>MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ</p>

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. If the request body contains full-width characters, these characters must be coded in UTF-8.

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 **xxxxxxxxxxxxxxxxxxxx** (project name) with actual values. You can obtain the values from the administrator.

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

```

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": "xxxxxxx"
    }
  }
}
}

```


In [Making an API Request](#), the process of calling the API used to obtain a user token is described.

After a token is obtained, 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

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIIVXQVJKoZlIhvcNAQcCoIITJCCGEoCAQExDTALBglghkgB8ZQMEEAgEwgharBgkqhkiG9w0BBwGgghacBIIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6ijlwMTktMDItMTNUMD
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgkklqO1wi4JlGzrpdl8LGXK5tdfdq4lqHCYb8P4NaY0NYejcAgzIVeFYtLWT1GSO0zxKZmlQHqJ82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCe9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXi1jipPEGA270g1FruooL6jggIFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuXc3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbvpvGw-oPNFYxJECKnoH3HRozv0N--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

(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.

4 API v3.1 (Recommended)

4.1 Restoring Data to an Existing DB Instance

Function

This API is used to restore a database to an existing 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.
- When data is restored to an existing DB instance, the API has the following 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 DB engine version of the target instance must be at least equal to that of the original instance. For example, an RDS for MySQL 5.7.25 instance can be restored to an RDS for MySQL 5.7.27 instance.
 - The total storage space of the target DB instance must be at least equal to that of the original DB instance.
 - Cross-region restoration is not supported.
 - For RDS for MySQL DB instances, when data is restored to an existing DB instance, the case sensitivity setting of the existing DB instance must be the same as that of the original DB instance. Otherwise, the restoration may fail.

URI

- URI format
POST /v3/{project_id}/instances/recovery
- Parameter description

Table 4-1 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 4-2 Parameter description

Name	Mandatory	Type	Description
source	Yes	Object	Specifies the restoration information. For details, see Table 4-3 .
target	Yes	Object	Specifies the restoration target. For details, see Table 4-4 .

Table 4-3 source field data structure description

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

Name	Mandatory	Type	Description
type	No	String	<p>Specifies the restoration mode. Enumerated values include:</p> <ul style="list-style-type: none"> • 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	<p>Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration.</p>
restore_time	No	Integer	<p>Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.</p>

Table 4-4 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.

Example Request

- Restoring data to a DB instance from a backup

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

- Restoring instance data to a specific point in time

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

Response

- Normal response

Table 4-5 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

200

- Abnormal

For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5 API v3 (Recommended)

5.1 Querying Version Information About APIs

5.1.1 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
- Parameter description
None

Request

- Request parameters
None

Response

- Normal response

Table 5-1 Parameter description

Name	Type	Description
versions	Array of objects	Indicates the list of detailed API version information. For details, see Table 5-2 .

Table 5-2 versions field data structure description

Name	Type	Description
id	String	Indicates the API version. <ul style="list-style-type: none"> 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 5-3 .
status	String	Indicates the version status. <ul style="list-style-type: none"> CURRENT: indicates that the version is recommended.
updated	String	Indicates the version update time in the "yyyy-mm-dd Thh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the Coordinated Universal Time (UTC).

Table 5-3 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](#).

5.1.2 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*}
- Parameter description

Table 5-4 Parameter description

Name	Mandatory	Description
version	Yes	Specifies the API version. It is case-sensitive. For details, see id in Table 5-2 in section Querying API Versions .

Request

- Request parameters
None

Response

- Normal response

Table 5-5 Parameter description

Name	Type	Description
versions	Object	Indicates the list of detailed API version information. For details, see Table 5-6 .
version	Object	Indicates the list of detailed API version information. For details, see Table 5-6 .

Table 5-6 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 5-7 .
status	String	Indicates the version status.

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

Table 5-7 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](#).

5.2 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}`
- Parameter description

Table 5-8 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: <ul style="list-style-type: none"> • MySQL • PostgreSQL

Request

- Request parameters
None

Response

- Normal response

Table 5-9 Parameter description

Name	Type	Description
dataStores	Array of objects	Indicates the list of database versions. For details, see Table 5-10 .

Table 5-10 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 5.7.X, only 5.7 is returned.

- Example normal response

```
{
  "dataStores": [{
    "id": "87620726-6802-46c0-9028-a8785e1f1921",
    "name": "8.0"
  }, {
    "id": "87620726-6802-46c0-9028-a8785e1f1922",
    "name": "5.7"
  }]
}
```

- 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](#).

5.3 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}

- Parameter description

Table 5-11 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: <ul style="list-style-type: none"> 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

- Request parameters
None

Response

- Normal response

Table 5-12 Parameter description

Name	Type	Description
flavors	Array of objects	Indicates the DB instance specifications information list. For details, see Table 5-13 .

Table 5-13 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.

Name	Type	Description
id	String	Indicates the specification ID, which is unique.
spec_code	String	Indicates the resource specification code. Use rds.mysql.m1.xlarge.rr as an example. <ul style="list-style-type: none"> • 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).
version_name	Array	Indicates the database version.
instance_mode	String	Indicates the DB instance type. Its value can be any of the following: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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.
az_desc	Map<String, String>	Indicates the description of the AZ to which the specifications belong.
group_type	String	Indicates the performance specifications. Its value can be any of the following: <ul style="list-style-type: none"> • normal2: general-enhanced II • highPerformancePrivilegeEdition: ultra-high I/O (advanced)

- Example normal response

```
{
  "flavors": [{
    "vcpus": "1",
    "ram": 2,
    "id": "2988b9cc-2aac-3a94-898c-14666702f129",
    "spec_code": "rds.mysql.c2.medium.ha",
    "version_name": ["5.7", "8.0"],
    "instance_mode": "ha",
    "az_status": {
      "az1": "normal"
    }
  }],
}
```



```

    "az_desc": {
      "az1": "az1"
    },
    "group_type": "normal2"
  },
  {
    "vcpus": "1",
    "ram": 2,
    "id": "2988b9cc-2aac-3a94-898c-14666702f130",
    "spec_code": "rds.mysql.c2.medium.rr",
    "version_name": ["5.7", "8.0"],
    "instance_mode": "replica",
    "az_status": {
      "az1": "normal"
    },
    "az_desc": {
      "az1": "az1"
    },
    "group_type": "normal2"
  }
]
}

```

- 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](#).

5.4 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}
- Parameter description

Table 5-14 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: <ul style="list-style-type: none"> MySQL PostgreSQL
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: <ul style="list-style-type: none"> single ha replica

Request

- Request parameters
- None

Response

- Normal response

Table 5-15 Parameter description

Name	Type	Description
storage_type	Array of objects	Indicates the DB instance specifications information list. For details, see Table 5-16 .
dsspool_info	Array of objects	Indicates the dsspool specifications information list. For details, see Table 5-17 . NOTE Only Dedicated Cloud (DeC) users are supported.

Table 5-16 storage_type field data structure description

Name	Type	Description
name	String	Indicates the storage type. Its value can be any of the following: <ul style="list-style-type: none"> ● ULTRAHIGH: ultra-high I/O storage.
az_status	Map<String, String>	Indicates the specification status in an AZ. Its value can be any of the following: <ul style="list-style-type: none"> ● 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.
support_compute_group_type	List<String>	Indicates the performance specifications. Its value can be any of the following: <ul style="list-style-type: none"> ● normal2: general-enhanced II

Table 5-17 dsspool_info field data structure description

Name	Type	Description
az_name	String	Indicates the name of the AZ where dsspool is located.
free_capacity_gb	String	Indicates the available capacity of dsspool.
dsspool_volume_type	String	Indicates the dsspool volume type.
dsspool_id	String	Indicates the dsspool ID.
dsspool_status	String	Indicates the dsspool status. Its value can be any of the following: <ul style="list-style-type: none"> ● available ● deploying ● enlarging ● frozen ● sellout

- Example normal response

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

```

    {
      "name": "ULTRAHIGH",
      "az_status": {
        "az1": "normal",
        "az2": "normal"
      }
    }
  ],
  "dsspool_info": []
}
{
  "storage_type": [{
    "name": "ULTRAHIGH",
    "az_status": {
      "az1": "normal"
    }
  },
  "support_compute_group_type": [
    "normal2"
  ]
}
],
"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](#).

5.5 DB Instance Management

5.5.1 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
- Parameter description

Table 5-18 Parameters

Parameter	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 5-19 Parameters (creating single, primary/standby, and cluster instances)

Parameter	Mandatory	Type	Description
name	Yes	String	Specifies the DB instance name. Instances of the same type can have the same name under the same tenant. <ul style="list-style-type: none"> RDS for MySQL: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_). RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 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 5-21 .

Parameter	Mandatory	Type	Description
flavor_ref	Yes	String	Specifies the specification code. The value cannot be empty. For details, see spec_code in Table 5-13 in Querying Database Specifications .
volume	Yes	Object	Specifies the volume information. For details, see Table 5-24 .
region	Yes	String	Specifies the region ID.
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.
vpc_id	Yes	String	Specifies the VPC ID. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"> 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 <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
subnet_id	Yes	String	<p>Specifies the network ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> Method 1: Log in to the 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 <i>Virtual Private Cloud API Reference</i>.
security_group_id	Yes	String	<p>Specifies the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> 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 <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
ha	No	Object	Specifies the HA configuration, which is used when you create primary/standby instances. For details, see Table 5-22 .
configuration_id	No	String	Specifies the parameter template ID. For details, see id in Table 5-202 in section Obtaining a Parameter Template List .
port	No	String	Specifies the database port information. <ul style="list-style-type: none"> RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use. RDS for PostgreSQL instances can use database ports 2100 to 9500. <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"> RDS for MySQL: 3306 RDS for PostgreSQL: 5432

Parameter	Mandatory	Type	Description
password	No	String	<p>Specifies the database password.</p> <p>Valid value:</p> <p>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.</p> <p>Different DB engines support different special characters.</p> <ul style="list-style-type: none"> • RDS for MySQL: ~!@#%&^*_-=+?,()& • RDS for PostgreSQL: ~!@#%&^*_-=+?, <p>You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking. If the password you provide is regarded as a weak password by the system, you will be prompted to enter a stronger password.</p>
backup_strategy	No	Object	<p>Specifies the advanced backup policy.</p> <p>For details, see Table 5-23.</p>
disk_encryption_id	No	String	<p>Specifies the key ID for disk encryption. The default value is empty.</p>

Parameter	Mandatory	Type	Description
data_vip	No	String	<p>Specifies the floating IP address of a DB instance. You can use the following methods to obtain the floating IP address:</p> <ul style="list-style-type: none"> • 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 <i>Virtual Private Cloud API Reference</i>.
time_zone	No	String	<p>Specifies the UTC time zone.</p> <ul style="list-style-type: none"> • If this parameter is not specified, the time zone of each engine is as follows: <ul style="list-style-type: none"> – MySQL: uses UTC by default. – PostgreSQL: uses UTC by default. • If this parameter is specified, 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.

Parameter	Mandatory	Type	Description
tags	No	Array of objects	<p>Specifies the tag list. DB instances are created based on tag keys and values.</p> <ul style="list-style-type: none"> • <i>{key}</i> indicates the tag key. It must be unique and cannot be empty. • <i>{value}</i> indicates the tag value, which can be empty. <p>If you want to create DB instances with multiple tag key-value pairs, separate them with commas (.). A maximum of 20 key-value pairs can be added.</p> <p>For details, see Table 5-26.</p>
count	No	Integer	<p>Specifies the number of DB instances to be created in a batch.</p> <p>Value range: 1 to 50</p> <p>This parameter is unavailable when you create read replicas.</p>

Table 5-20 Parameters (creating read replicas)

Parameter	Mandatory	Type	Description
name	Yes	String	<p>Specifies the DB instance name.</p> <p>The DB instance name of the same type must be unique for the same tenant.</p> <p>Valid value:</p> <ul style="list-style-type: none"> • RDS for MySQL: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_). • RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
flavor_ref	Yes	String	<p>Specifies the specification code. The value cannot be empty.</p> <p>For details, see spec_code in Table 5-13 in section Querying Database Specifications.</p>
volume	Yes	Object	<p>Specifies the volume information.</p> <p>For details, see Table 5-24.</p>
availability_zone	Yes	String	Specifies the AZ ID.
disk_encryption_id	No	String	Specifies the key ID for disk encryption. The default value is empty.
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.

Parameter	Mandatory	Type	Description
charge_info	No	Object	<p>Specifies the billing information.</p> <p>For details, see Table 5-25.</p> <p>NOTE</p> <p>To create RDS for MySQL and RDS for PostgreSQL read replicas billed on a yearly/monthly basis, contact customer service to apply for the required permissions.</p> <p>In the EU-Dublin region, both yearly/monthly and pay-per-use billing modes are available. In other regions, only pay-per-use billing is available.</p>

Table 5-21 datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Specifies the DB engine. Value:</p> <ul style="list-style-type: none"> MySQL PostgreSQL
version	Yes	String	<p>Specifies the database version.</p> <ul style="list-style-type: none"> For RDS for MySQL, 5.7 and 8.0 are supported. Example value: 5.7 For RDS for PostgreSQL, 9.5, 9.6, 10, 11, 12, 13, 14, and 15 are supported. Example value: 9.6 <p>For details about supported database versions, see section Querying Version Information About a DB Engine.</p>

Table 5-22 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Specifies the primary/standby instance type. The value is Ha (case-insensitive).
replication_mode	Yes	String	<p>Specifies the replication mode for the standby DB instance.</p> <p>Value:</p> <ul style="list-style-type: none"> For RDS for MySQL, the value is async or semisync. For RDS for PostgreSQL, the value is async or sync. <p>NOTE</p> <ul style="list-style-type: none"> async indicates the asynchronous replication mode. semisync indicates the semi-synchronous replication mode. sync indicates the synchronous replication mode.

Table 5-23 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	<p>Specifies the backup time window. Automated backups will be triggered during the backup time window.</p> <p>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.</p> <ul style="list-style-type: none"> 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. <p>Example value:</p> <ul style="list-style-type: none"> 08:15-09:15 23:00-00:00
keep_days	No	Integer	<p>Specifies the retention days for specific backup files.</p> <p>The value range is from 0 to 732. If this parameter is not specified or set to 0, the automated backup policy is disabled.</p>

Table 5-24 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p>Specifies the volume type. Its value can be any of the following and is case-sensitive:</p> <ul style="list-style-type: none"> ULTRAHIGH: ultra-high I/O storage.

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

Table 5-25 charge_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	<p>Specifies the billing mode. Valid value:</p> <ul style="list-style-type: none"> • prePaid: indicates the yearly/monthly billing mode. • postPaid: indicates the pay-per-use billing mode.
period_type	No	String	<p>Specifies the subscription period. Valid value:</p> <ul style="list-style-type: none"> • month: indicates that the subscription unit is month. • year: indicates that the subscription unit is year. <p>NOTE This parameter is valid and mandatory if charge_mode is set to prePaid.</p>

Parameter	Mandatory	Type	Description
period_num	No	Integer	<p>This parameter is valid and mandatory if charge_mode is set to prePaid.</p> <p>Valid value:</p> <ul style="list-style-type: none"> When period_type is set to month, the parameter value ranges from 1 to 9. When period_type is set to year, the parameter value is 1.

Table 5-26 tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the tag key. It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_.:=-@</code> . However, it cannot start or end with a space, or start with <code>_sys_</code> .
value	Yes	String	Specifies the tag value. It can be left blank or contain a maximum of 255 Unicode characters, including letters, digits, spaces, and the following special characters: <code>_.:=-@</code>

Example Request

- Creating an RDS for MySQL single instance

```
{
  "name": "rds-instance-rep2",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "flavor_ref": "rds.mysql.s1.large",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 100
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "region": "aaa",
  "availability_zone": "bbb",
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
```

```

"data_vip": "192.168.0.1",
"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": "*****",
"configuration_id": "452408-ef4b-44c5-94be-305145fg"
}

```

- Creating a primary/standby instance

```

{
  "name": "rds-instance-rep2",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "ha": {
    "mode": "ha",
    "replication_mode": "semisync"
  },
  "flavor_ref": "rds.mysql.s1.large.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 100
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "region": "aaa",
  "availability_zone": "bbb,ccc",
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
  "data_vip": "192.168.0.1",
  "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": "*****",
  "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",
    "size": 100
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "region": "aaa",
  "availability_zone": "bbb"
}

```

Response

- Normal response

Table 5-27 Parameter description

Parameter	Type	Description
instance	Object	Indicates the DB instance information. For details, see Table 5-28 .
job_id	String	Indicates the ID of the DB instance creation task.

Table 5-28 instance field data structure description

Parameter	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the DB instance name. DB instances of the same type can have same names under the same tenant.
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 5-29 .
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see Table 5-30 .

Parameter	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 5-31 .
disk_encryption_id	String	Indicates the key ID for disk encryption. By default, this parameter is empty and is returned only when it is specified during the DB instance creation.
flavor_ref	String	Indicates the specification code. The value cannot be empty. For details, see spec_code in Table 5-13 in section Querying Database Specifications .
volume	Object	Indicates the volume information. For details, see Table 5-32 .
region	String	Indicates the region ID.
availability_zone	String	Indicates the AZ ID.

Parameter	Type	Description
vpc_id	String	<p>Indicates the VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> 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 <i>Virtual Private Cloud API Reference</i>.
subnet_id	String	<p>Indicates the network ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> Method 1: Log in to the 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 <i>Virtual Private Cloud API Reference</i>.

Parameter	Type	Description
security_group_id	String	<p>Indicates the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • 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 <i>Virtual Private Cloud API Reference</i>.
charge_info	Object	<p>Indicates the billing information.</p> <p>For details, see Table 5-33.</p>

Table 5-29 datastore field data structure description

Parameter	Type	Description
type	String	<p>Indicates the DB engine. Value:</p> <ul style="list-style-type: none"> • MySQL • PostgreSQL
version	String	<p>Indicates the database version.</p> <p>For details about supported database versions, see section Querying Version Information About a DB Engine.</p>

Table 5-30 ha field data structure description

Parameter	Type	Description
mode	String	Indicates the primary/standby instance type. The value is Ha .
replication_mode	String	<p>Indicates the replication mode for the standby DB instance. This parameter is valid only when the instance is an HA instance.</p> <p>Value:</p> <ul style="list-style-type: none"> For RDS for MySQL, the value is async or semisync. For RDS for PostgreSQL, the value is async or sync. <p>NOTE</p> <ul style="list-style-type: none"> async indicates the asynchronous replication mode. semisync indicates the semi-synchronous replication mode. sync indicates the synchronous replication mode.

Table 5-31 backupStrategy field data structure description

Parameter	Type	Description
start_time	String	<p>Indicates the backup time window. Automated backups will be triggered during the backup time window.</p> <p>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.</p> <ul style="list-style-type: none"> 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. <p>Example value:</p> <ul style="list-style-type: none"> 08:15-09:15 23:00-00:00 <p>If backup_strategy in the request body is empty, 02:00-03:00 is returned for start_time by default.</p>

Parameter	Type	Description
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 5-32 volume field data structure description

Parameter	Type	Description
type	String	Indicates the volume type. Its value can be any of the following and is case-sensitive: <ul style="list-style-type: none"> • ULTRAHIGH: ultra-high I/O 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.

Table 5-33 chargeInfo field data structure description

Parameter	Type	Description
charge_mode	String	Indicates the billing information.
period_num	Integer	Indicates the subscription period, which is calculated by month. This parameter is valid when charge_mode is set to prePaid (creating yearly/monthly DB instances).

- Example normal response

Creating an RDS for MySQL single instance:

```
{
  "instance": {
    "id": "dsfae23fsfdsae3435in01",
    "name": "trove-instance-rep2",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    }
  },
}
```



```

"flavor_ref": "rds.mysql.s1.large",
"volume": {
  "type": "ULTRAHIGH",
  "size": 100
},
"disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "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 instance:

```

{
  "instance": {
    "id": "dsfae23fsfdsae3435in01",
    "name": "trove-instance-rep2",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "ha": {
      "mode": "ha",
      "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.s1.large.ha",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 100
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "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
    }
  }
}

```

```

    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "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](#).

5.5.2 Stopping an Instance

Function

This API is used to stop a pay-per-use DB instance.

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

- If you stop a primary instance, read replicas (if there are any) will also be stopped. 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.
- 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 5-34 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 Request

Stopping an instance

```
{}
```

Response

- Normal response

Table 5-35 Parameter description

Name	Type	Description
job_id	String	Task 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](#).

5.5.3 Changing a DB Instance Name

Function

This API is used to change a DB instance name.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
PUT /v3/{project_id}/instances/{instance_id}/name
- Parameter description

Table 5-36 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 5-37 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the DB instance name. DB instances of the same type can have same names under the same tenant. Valid value: <ul style="list-style-type: none"> • RDS for MySQL: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_). • RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).

Example Request

Changing the name of a DB instance

```
{  
  "name": "Test_2345674"  
}
```

Response

- Normal response
None
- Example 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](#).

5.5.4 Changing the Description of a DB Instance

Function

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

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
PUT /v3/{project_id}/instances/{instance_id}/alias
- Parameter description

Table 5-38 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 5-39 Parameter description

Name	Mandatory	Type	Description
alias	No	String	The value consists of 0 to 64 characters, including letters, digits, periods (.), underscores (_), and hyphens (-). If this parameter is not specified or is set to null, the original description of the instance will be deleted.

Example Request

Changing the description of a DB instance

```
{
  "alias": "alias-test"
}
```

Response

- Normal response

Table 5-40 Parameter description

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

- 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](#).

5.5.5 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
- Parameter description

Table 5-41 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 5-42 Parameter description

Name	Mandatory	Type	Description
resize_flavor	Yes	Object	For details, see Table 5-43 .

Table 5-43 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.

Example Request

- Changing the specifications of an RDS for MySQL DB instance to rds.mysql.m1.xlarge

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

- Changing the specifications of an RDS for PostgreSQL DB instance to rds.pg.c2.medium.ha

```
{
  "resize_flavor": {
    "spec_code": "rds.pg.c2.medium.ha"
  }
}
```

Response

- Normal response

Table 5-44 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
202
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.5.6 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 storage space can be scaled up only when your instance status is **Available** or **Storage full**.

URI

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

Table 5-45 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 5-46 Parameter description

Name	Mandatory	Type	Description
enlarge_volume	Yes	Object	Specifies the target storage space after scaling up. For details, see Table 5-47 .

Table 5-47 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

Example Request

Scaling up storage space of a DB instance to 400 GB

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

Response

- Normal response

Table 5-48 Parameter description

Name	Type	Description
job_id	String	Task ID.

- Example normal response


```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```
- 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](#).

5.5.7 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
- Parameter description

Table 5-49 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 5-50 Parameter description

Name	Mandatory	Type	Description
single_to_ha	Yes	Object	For details, see Table 5-51 .

Table 5-51 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.

Example Request

- Changing a pay-per-use RDS for MySQL or RDS for PostgreSQL DB instance from single to primary/standby

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

Response

- Pay-per-use DB instances**
 - Normal response

Table 5-52 Parameter description

Name	Type	Description
job_id	String	Task ID.

- Example normal response

```
{  
  "job_id": "2b414788a6004883a02390e2eb0ea227"  
}
```
- 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](#).

5.5.8 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
- Parameter description

Table 5-53 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 5-54 Parameter description

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

Example Request

Rebooting a DB instance

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

Response

- Normal response

Table 5-55 Parameter description

Name	Type	Description
job_id	String	Task ID.

- Example normal response


```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```
- 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](#).

5.5.9 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}
- Parameter description

Table 5-56 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

- Request parameters
None

Response

- Normal response

Table 5-57 Parameter description

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

- Example normal response


```
{
  "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](#).

5.5.10 Querying 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}&tags={key}={value}
- Parameter description

Table 5-58 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 .

Name	Type	Mandatory	Description
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: <ul style="list-style-type: none"> MySQL PostgreSQL
vpc_id	String	No	Specifies the VPC ID. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"> 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 <i>Virtual Private Cloud API Reference</i>.

Name	Type	Mandatory	Description
subnet_id	String	No	<p>Specifies the subnet ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> Method 1: Log in to the 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 <i>Virtual Private Cloud API Reference</i>.
offset	Integer	No	<p>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.</p>
limit	Integer	No	<p>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.</p>
tags	Array of objects	No	<p>Specifies queries based on the instance tag keys and values.</p> <ul style="list-style-type: none"> {key} indicates the tag key. It must be unique and cannot be empty. {value} indicates the tag value, which can be left empty. <p>To query instances with multiple tag keys and values, separate key-value pairs with commas (,). A maximum of 10 key-value pairs are supported.</p> <p>For details, see Table 5-59.</p>

Table 5-59 tags field data structure description

Name	Type	Mandatory	Description
key	String	Yes	Tag key. It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_.:=+@</code> . However, it cannot start or end with a space, or start with <code>_sys_</code> .
value	String	No	Tag value. It can be left blank or contain a maximum of 255 Unicode characters, including letters, digits, spaces, and special characters <code>_.:=+@</code>

Request

- Request parameters
None

Response

- Normal response

Table 5-60 Parameter description

Name	Type	Description
instances	Array of objects	Indicates the DB instance information. For details, see Table 5-61 .
total_count	Integer	Indicates the total number of records.

Table 5-61 instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the created DB instance name.

Name	Type	Description
status	String	<p>Indicates the DB instance status. Valid value:</p> <ul style="list-style-type: none"> • BUILD: The instance is being created. • ACTIVE: The instance is normal. • FAILED: The instance is abnormal. • MODIFYING: The instance is being scaled out. • REBOOTING: The instance is being rebooted. • RESTORING: The instance is being restored. • MODIFYING INSTANCE TYPE: The instance is changing from single to primary/standby. • SWITCHOVER: The instance is performing a primary/standby switchover. • MIGRATING: The instance is being migrated. • BACKING UP: The instance is being backed up. • MODIFYING DATABASE PORT: The database port is being changed.
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, or the private domain name is left blank.
public_ips	List<String>	Indicates the public IP address list.

Name	Type	Description
port	Integer	<p>Indicates the database port number.</p> <ul style="list-style-type: none"> RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use. RDS for PostgreSQL instances can use database ports 2100 to 9500. <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"> RDS for MySQL: 3306 RDS for PostgreSQL: 5432
type	String	<p>The value is Single, Ha, Replica, or Enterprise, which corresponds to single instance, primary/standby instance, read replica, and distributed instance (enterprise), respectively.</p>
ha	Object	<p>Indicates the primary/standby DB instance information. Returned only when you obtain a primary/standby DB instance list.</p> <p>For details, see Table 5-62.</p>
region	String	<p>Indicates the region where the DB instance is deployed.</p>
datastore	Object	<p>Indicates the database information.</p> <p>For details, see Table 5-63.</p>
created	String	<p>Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format.</p> <p>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.</p> <p>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.</p>
updated	String	<p>Indicates the update time. The format is the same as that of the created field.</p> <p>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.</p>

Name	Type	Description
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 5-64 .
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 5-65 .
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 5-66 .
related_instance	Array of objects	Indicates all associated DB instances. For details, see Table 5-67 .
disk_encryption_id	String	Indicates the disk encryption key ID.
time_zone	String	Indicates the time zone.
tags	Array of objects	Indicates the tag list. If there is no tag in the list, an empty array is returned. For details, see Table 5-68 .

Table 5-62 ha field data structure description

Name	Type	Description
replication_mode	String	<p>Indicates the replication mode for the standby DB instance.</p> <p>The value cannot be empty.</p> <ul style="list-style-type: none"> For RDS for MySQL, the value is async or semisync. For RDS for PostgreSQL, the value is async or sync. <p>NOTE</p> <ul style="list-style-type: none"> async indicates the asynchronous replication mode. semisync indicates the semi-synchronous replication mode. sync indicates the synchronous replication mode.

Table 5-63 datastore field data structure description

Name	Type	Description
type	String	<p>Indicates the DB engine. Its value can be any of the following and is case-insensitive:</p> <ul style="list-style-type: none"> MySQL PostgreSQL
version	String	Indicates the database version.

Table 5-64 volume field data structure description

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

Table 5-65 backup_strategy field data structure description

Name	Type	Description
start_time	String	<p>Indicates the backup time window. Automated backups will be triggered during the backup time window.</p> <p>The time is in the UTC format.</p>

Name	Type	Description
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 5-66 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.
status	String	Indicates the node status.
availability_zone	String	Indicates the AZ.

Table 5-67 related_instance field data structure description

Name	Type	Description
id	String	ID of the associated DB instance.
type	String	Type of the associated DB instance. <ul style="list-style-type: none"> replica_of: indicates a primary DB instance. replica: indicates a read replica.

Table 5-68 tags field data structure description

Name	Type	Description
key	String	Indicates the tag key.
value	String	Indicates the tag value.

- 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": ["192.168.0.1"],
    "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.xxx.com"],
    "public_ips": [],
    "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": "",
    "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": ["192.168.0.1"],

    "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.xxx.com"],
    "public_ips": [],
    "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": "",
    "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": ["192.168.0.1"],
    "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.xxx.com"],
    "public_ips": [],

    "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": [],
    "disk_encryption_id": "",

```

```

    "time_zone": ""
  },
  "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](#).

5.5.11 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
- Parameter description

Table 5-69 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 5-70 Parameter description

Name	Mandatory	Type	Description
public_ip	No	String	<p>NOTICE When is_bind is true, public_ip is mandatory.</p> <p>Specifies the EIP to be bound. The value must be in the standard IP address format.</p>
public_ip_id	No	String	<p>NOTICE When is_bind is true, public_ip_id is mandatory.</p> <p>Specifies the EIP ID. The value must be in the standard UUID format.</p>
is_bind	Yes	Boolean	<ul style="list-style-type: none"> ● true: Bind an EIP. ● false: Unbind an EIP.

Example Request

- Binding an EIP to a DB instance

```
{
  "public_ip":"10.10.10.1",
  "public_ip_id":"8403e9cd-a7fa-4288-8b15-c7ceac1etest",
  "is_bind":true
}
```

- Unbinding an EIP from a DB instance

```
{
  "is_bind":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](#).

5.5.12 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** or **availability**.

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

- This API is available to RDS 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`
- Parameter description

Table 5-71 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 5-72 Parameter description

Name	Mandatory	Type	Description
repairStrategy	Yes	String	<p>Specifies the failover priority. Valid value:</p> <ul style="list-style-type: none"> • 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.

Example Request

Changing the failover priority of a DB instance to availability

```
{
  "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](#).

5.5.13 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 primary/standby DB instances only.
- This operation cannot be performed if the DB instance is in any of the following statuses: creating, rebooting, upgrading, changing instance class, restoring, changing port, deleting database account, or creating database account.
- The primary/standby switchover does not change the floating IP address of your instance.

URI

- URI format
PUT /v3/{*project_id*}/instances/{*instance_id*}/failover
- Parameter description

Table 5-73 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 5-74 Parameter description

Name	Mandatory	Type	Description
force	No	Boolean	<p>Whether to perform a forcible primary/standby switchover. By default, this parameter is left blank, indicating that the switchover is not performed forcibly.</p> <ul style="list-style-type: none"> true: A forcible switchover is performed. false: No forcible switchover is performed. <p>NOTE This parameter is valid only for the PostgreSQL DB engine.</p>

Example Request

- Performing no forcible primary/standby switchover

```
{}
```

- Performing a forcible primary/standby switchover

```
{
  "force":true
}
```

Response

- Normal response

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](#).

5.5.14 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 available to RDS 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.

URI

- URI format
PUT /v3/{*project_id*}/instances/{*instance_id*}/failover/mode
- Parameter description

Table 5-75 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 5-76 Parameter description

Name	Mandatory	Type	Description
mode	Yes	String	<p>Specifies the replication mode.</p> <p>For RDS for MySQL, the value can be any of the following:</p> <ul style="list-style-type: none"> • async: asynchronous • semisync: semi-synchronous <p>For RDS for PostgreSQL, the value can be any of the following:</p> <ul style="list-style-type: none"> • async: asynchronous • sync: synchronous

Example Request

Changing the replication mode of a primary/standby DB instance to asynchronous

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

Response

- Normal response

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](#).

5.5.15 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
- Parameter description

Table 5-77 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

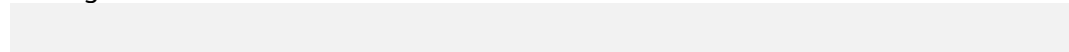
Parameter description

Table 5-78 Parameter description

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

Example Request

Setting the maintenance window of a DB instance to 22:00-02:00



```
{  
  "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](#).

5.6 Database Security

5.6.1 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
`PUT /v3/{project_id}/instances/{instance_id}/ssl`
- Parameter description

Table 5-79 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 5-80 Parameter description

Name	Mandatory	Type	Description
ssl_option	Yes	boolean	Specifies whether to enable SSL. <ul style="list-style-type: none"> true: Enable SSL. false: Disable SSL.

Example Request

- Enabling SSL for a DB instance

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

- Disabling SSL for a DB instance

```
{
  "ssl_option": false
}
```

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](#).

5.6.2 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
- Parameter description

Table 5-81 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 5-82 Parameter description

Name	Mandatory	Type	Description
port	Yes	Integer	<p>Specifies the port number.</p> <ul style="list-style-type: none"> 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.

Example Request

Changing the database port of a DB instance to 8836

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

Response

- Normal response

Name	Description
workflowId	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](#).

5.6.3 Changing a Security Group

Function

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

- 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
- Parameter description

Table 5-83 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 .
instance_id	Yes	Specifies the DB instance ID.

Request

Parameter description

Table 5-84 Parameter description

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

Example Request

Changing the security group of a DB instance

```
{
```

```
"security_group_id": "23423klj432lk0sdf0234eaa"  
}
```

Response

- Normal response

Name	Description
workflowId	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](#).

5.6.4 Changing a Floating IP Address

Function

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

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

The floating IP address cannot be changed 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
`PUT /v3/{project_id}/instances/{instance_id}/ip`
- Parameter description

Table 5-85 Parameters

Parameter	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 5-86 Parameters

Parameter	Mandatory	Type	Description
new_ip	Yes	String	Indicates the floating IP address.

Example Request

Changing the floating IP address of a DB instance

```
{
  "new_ip": "192.168.0.1"
}
```

Response

- Normal response

Parameter	Description
workflowId	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](#).

5.7 Backup and Restoration

5.7.1 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
- Parameter description

Table 5-87 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 5-88 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: >!<"&'='

Example Request

- Creating a manual backup **mybackup** for an RDS for MySQL DB instance

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

- Creating a manual backup **mybackup** for an RDS for PostgreSQL DB instance

```
{
  "instance_id": "a8a5fc65b1a04ceb9d72212891ad73f8in03",
  "name": "mybackup",
  "description": "manual backup"
}
```

Response

- Normal response

Table 5-89 Parameter description

Name	Type	Description
backup	Object	Indicates the backup information. For details, see Table 5-90 .

Table 5-90 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: <ul style="list-style-type: none"> ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed ● DELETING: Backup being deleted

Name	Type	Description
type	String	Indicates the backup type. Value: <ul style="list-style-type: none"> • 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": "cb211c0075104151a748a854bc8bd87dbr01",
    "name": "mybackup",
    "description": "manual backup",
    "begin_time": "2022-08-23T07:41:50Z",
    "status": "BUILDING",
    "type": "manual",
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
  }
}
```

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

```
{
  "backup": {
    "id": "104b59afd83d4fc7b2c03ad14c4be080br03",
    "name": "mybackup",
    "description": "manual backup",
    "begin_time": "2022-08-23T07:20:36Z",
    "status": "BUILDING",
    "type": "manual",
    "instance_id": "a8a5fc65b1a04ceb9d72212891ad73f8in03"
  }
}
```

- 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](#).

5.7.2 Obtaining Backups

Function

This API is used to obtain backups of a DB instance.

- 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}
```

- Parameter description

Table 5-91 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: <ul style="list-style-type: none"> • auto: automated full backup • manual: manual full backup • fragment: differential full backup • incremental: automated incremental backup
offset	No	Specifies the index position. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +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.

Name	Mandatory	Description
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". T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . NOTE When end_time is not empty, begin_time is mandatory.

Request

- Request parameters
None

Response

- Normal response

Table 5-92 Parameter description

Name	Type	Description
backups	Array of objects	Indicates the backup list. For details, see Table 5-93 .
total_count	Integer	Indicates the total number of records.

Table 5-93 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: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • BUILDING: Backup in progress • COMPLETED: Backup completed • FAILED: Backup failed • DELETING: Backup being deleted

Name	Type	Description
begin_time	String	<p>Indicates the backup start time.</p> <ul style="list-style-type: none"> For a full backup, it indicates the full backup start time. For an RDS for MySQL incremental backup, it indicates the time when the last transaction of the last incremental backup task is committed. <p>The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset.</p>
end_time	String	<p>Indicates the backup end time.</p> <ul style="list-style-type: none"> For a full backup, it indicates the full backup end time. For an RDS for MySQL incremental backup, it indicates the time when the last transaction is committed. <p>The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset.</p>
datastore	Object	<p>Indicates the database version.</p> <p>For details, see Table 5-94.</p>
instance_id	String	<p>Indicates the ID of the DB instance for which the backup is created.</p>
associated_with_ddm	Boolean	<p>Indicates whether this instance is associated with a DDM instance.</p>

Table 5-94 datastore field data structure description

Parameter	Type	Description
type	String	<p>Indicates the DB engine. Its value can be any of the following and is case-insensitive:</p> <ul style="list-style-type: none"> MySQL PostgreSQL

Parameter	Type	Description
version	String	Indicates the database version.

- Example normal response

Obtaining all backups of an RDS for MySQL 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": "5.7"
    },
    "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin01",
    "associated_with_ddm": false
  }],
  "total_count": 1
}
```

Obtaining all backups of an RDS for PostgreSQL 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"
    },
    "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](#).

5.7.3 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 obtain the link for downloading a full or incremental backup of an instance.

URI

- URI format
GET /v3/{project_id}/backup-files?backup_id={backup_id}
- Parameter description

Table 5-95 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.

Request

- Request parameters
None

Response

- Normal response

Table 5-96 Parameter description

Name	Type	Description
files	Array of objects	Indicates the list of backup files. For details, see Table 5-97 .
bucket	String	Indicates the name of the bucket where the file is located.

Table 5-97 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". T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

- 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+0800"
    }
  ],
  "bucket": "rdsbucket.bucketname"
}
```

- 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](#).

5.7.4 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}
- Parameter description

Table 5-98 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

- Request parameters
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](#).

5.7.5 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
- Parameter description

Table 5-99 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 .

Request

Parameter description

Table 5-100 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the DB instance name.</p> <p>The DB instance name of the same type must be unique for the same tenant.</p> <p>Valid value:</p> <ul style="list-style-type: none"> • RDS for MySQL: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_). • RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).

Name	Mandatory	Type	Description
password	Yes	String	<p>Specifies the database password.</p> <p>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.</p> <p>You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.</p>
flavor_ref	Yes	String	<p>Specifies the specification code. The value cannot be empty.</p> <p>For details, see spec_code in section Querying Database Specifications.</p>
volume	Yes	Object	<p>Specifies the volume information.</p> <p>For details, see Table 5-103.</p>

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.
restore_point	Yes	Object	Specifies the restoration information. For details, see Table 5-104 .
ha	No	Object	Specifies the HA configuration parameters, which are used when creating primary/standby DB instances. For details, see Table 5-101 .
configuration_id	No	String	Specifies the parameter template ID.

Name	Mandatory	Type	Description
port	No	String	<p>Specifies the database port information.</p> <ul style="list-style-type: none"> • RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use. • RDS for PostgreSQL instances can use database ports 2100 to 9500. <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"> • RDS for MySQL: 3306 • RDS for PostgreSQL: 5432
backup_strategy	No	Object	<p>Specifies the advanced backup policy.</p> <p>For details, see Table 5-102.</p>
disk_encryption_id	No	String	<p>Specifies the key ID for disk encryption. The default value is empty.</p>

Name	Mandatory	Type	Description
vpc_id	No	String	<p>Specifies the VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • 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 <i>Virtual Private Cloud API Reference</i>.
subnet_id	No	String	<p>Specifies the subnet ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • Method 1: Log in to the 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 <i>Virtual Private Cloud API Reference</i>.

Name	Mandatory	Type	Description
data_vip	No	String	<p>Specifies the floating IP address of a DB instance. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • Method 1: Log in to VPC console and click the target subnet on the Subnets page. You can view the subnet CIDR block on the displayed page. • Method 2: See the "Querying Subnets" section in the <i>Virtual Private Cloud API Reference</i>.

Name	Mandatory	Type	Description
security_group_id	No	String	<p>Specifies the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • 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 <i>Virtual Private Cloud API Reference</i>.

Table 5-101 ha field data structure description

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

Name	Mandatory	Type	Description
replication_mode	Yes	String	<p>Specifies the replication mode for the standby DB instance.</p> <p>The value cannot be empty.</p> <ul style="list-style-type: none"> • RDS for MySQL: The value is async or semisync. • RDS for PostgreSQL: The value is async or sync. <p>NOTE</p> <ul style="list-style-type: none"> • async indicates the asynchronous replication mode. • semisync indicates the semi-synchronous replication mode. • sync indicates the synchronous replication mode.

Table 5-102 backup_strategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	<p>Specifies the backup time window. Automated backups will be triggered during the backup time window.</p> <p>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.</p> <ul style="list-style-type: none"> • 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. <p>Example value:</p> <ul style="list-style-type: none"> • 08:15-09:15 • 23:00-00:00
keep_days	No	Integer	<p>Specifies the retention days for specific backup files.</p> <p>The value range is from 0 to 732. If this parameter is not specified or set to 0, the automated backup policy is disabled.</p>

Table 5-103 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: <ul style="list-style-type: none"> • ULTRAHIGH: ultra-high I/O 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 5-104 restore_point field data structure description

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

Name	Mandatory	Type	Description
type	Yes	String	<p>Specifies the restoration mode. Enumerated values include:</p> <ul style="list-style-type: none"> • 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	<p>Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration.</p> <p>NOTICE When type is not mandatory, backup_id is mandatory.</p>
restore_time	No	Integer	<p>Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.</p> <p>NOTICE When type is mandatory, restore_time is mandatory.</p>

Example Request

- Restoring an RDS for MySQL backup to a new DB instance

```
{
  "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",
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "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"
  }
}
```

- Restoring data of an RDS for MySQL DB instance to a specific point in time

Response

- Normal response

Table 5-105 Parameter description

Name	Type	Description
instance	Object	Indicates the DB instance information. For details, see Table 5-106 .
job_id	String	Indicates the ID of the DB instance creation task. This parameter is returned only for the restoration to a new DB instance billed on the pay-per-use basis.

Table 5-106 instance description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the DB instance name. The DB instance name of the same type must be unique for the same tenant.
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 5-107 .
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see Table 5-108 .
configuration_id	String	Indicates the parameter template ID. This parameter is returned only when a custom parameter template is used during DB instance creation.

Name	Type	Description
port	String	<p>Indicates the database port information.</p> <ul style="list-style-type: none"> • RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use. • RDS for PostgreSQL instances can use database ports 2100 to 9500. <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"> • RDS for MySQL: 3306 • RDS for PostgreSQL: 5432
backup_strategy	Object	<p>Indicates the automated backup policy.</p> <p>For details, see Table 5-109.</p>
flavor_ref	String	<p>Indicates the specification ID.</p> <p>For details, see spec_code in Table 5-13 in section Querying Database Specifications.</p>
volume	Object	<p>Indicates the volume information.</p> <p>For details, see Table 5-110.</p>
region	String	<p>Indicates the region ID.</p>
availability_zone	String	<p>Indicates the AZ ID.</p>

Name	Type	Description
vpc_id	String	<p>Specifies the VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> 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 <i>Virtual Private Cloud API Reference</i>.
subnet_id	String	<p>Specifies the network ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> Method 1: Log in to the 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 <i>Virtual Private Cloud API Reference</i>.

Name	Type	Description
security_group_id	String	<p>Indicates the security group which the RDS DB instance belongs to. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> • 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 <i>Virtual Private Cloud API Reference</i>.

Table 5-107 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	<p>Indicates the DB engine. Its value can be any of the following and is case-insensitive:</p> <ul style="list-style-type: none"> • MySQL • PostgreSQL
version	Yes	String	<p>Indicates the database version. For details about supported database versions, see section Querying Version Information About a DB Engine.</p>

Table 5-108 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	<p>Indicates the replication mode for the standby DB instance. The value cannot be empty.</p> <ul style="list-style-type: none"> • RDS for MySQL: The value is async or semisync. • RDS for PostgreSQL: The value is async or sync. <p>NOTE</p> <ul style="list-style-type: none"> • async indicates the asynchronous replication mode. • semisync indicates the semi-synchronous replication mode. • sync indicates the synchronous replication mode.

Table 5-109 backupStrategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	<p>Indicates the backup time window. Automated backups will be triggered during the backup time window.</p> <p>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.</p> <ul style="list-style-type: none"> • 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. <p>Example value:</p> <ul style="list-style-type: none"> • 08:15-09:15 • 23:00-00:00
keep_days	No	Integer	<p>Indicates the retention days for specific backup files.</p> <p>The value range is from 0 to 732. If this parameter is not specified or set to 0, the automated backup policy is disabled.</p>

Table 5-110 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: <ul style="list-style-type: none"> ULTRAHIGH: ultra-high I/O 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

RDS for MySQL

```
{
  "instance": {
    "id": "f5ffdd8b1c98434385eb001904209eacin01",
    "name": "demoname",
    "status": "BUILD",
    "datastore": {
      "type": "MySQL",
      "version": "5.7.31"
    },
    "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"
  },
  "job_id": "bf003379-afea-4aa5-aa83-4543542070bc"
}
```

RDS for 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](#).

5.8 Log Information Queries

5.8.1 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}
- Parameter description

Table 5-111 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset.
end_date	Yes	Specifies the end 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. 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: <ul style="list-style-type: none"> • ALL • INFO • LOG • WARNING • ERROR • FATAL • PANIC • NOTE

Request

- Request parameters
None

Response

- Normal response

Table 5-112 Parameter description

Name	Type	Description
error_log_list	Array of objects	Indicates detailed information. For details, see Table 5-113 .
total_record	Integer	Indicates the total number of records.

Table 5-113 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": "WARNING",
    "content": "Occur error when reading bytes from a network handler. Client actively closes the connection."
  }, {
    "time": "2018-12-04T14:24:42",
    "level": "WARNING",
    "content": "Occur error when reading bytes from a network handler. Client actively closes the connection."
  }
],
  "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](#).

5.8.2 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}
- Parameter description

Table 5-114 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 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.
end_date	Yes	Specifies the end 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. You can only query slow logs generated within a month.

Name	Mandatory	Description
offset	No	Specifies the page offset, for example, 1 , 2 , 3 , or 4 . If this parameter is not specified, the default value is 1 , indicating that data on the first page is queried. The latest 2,000 slow query logs can be queried. The value of offset multiplied by the value of limit must be no more than 2,000. For example, if the value of offset is set to 200 , and the value of limit cannot be greater than 10 .
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.
type	No	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: <ul style="list-style-type: none"> • INSERT • UPDATE • SELECT • DELETE • CREATE

Request

- Request parameters
None

Response

- Normal response

Table 5-115 Parameter description

Name	Type	Description
slow_log_list	Array of objects	Indicates detailed information. For details, see Table 5-116 .
total_record	Integer	Indicates the total number of records.

Table 5-116 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.
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](#).

5.8.3 Obtaining Slow Query Log Statistics (RDS for MySQL)

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](#).

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}
- Parameter description

Table 5-117 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

Name	Mandatory	Description
end_date	Yes	Specifies the end 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, in the Beijing time zone, the time zone offset is shown as +0800 .
type	Yes	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: <ul style="list-style-type: none"> • INSERT • UPDATE • SELECT • DELETE • CREATE • ALL

Request

- Request parameters
None

Response

- Normal response

Table 5-118 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 5-119 .
totalRecord	Integer	Indicates the total number of records.
startTime	Long	Indicates the start time.
endTime	Long	Indicates the end time.

Table 5-119 slowLogList 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,
  "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](#).

5.8.4 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
- Parameter description

Table 5-120 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

Table 5-121 Parameter description

Name	Mandatory	Type	Description
file_name	No	String	Name of the file to be downloaded. To obtain the file name, click the instance name on the console and choose Logs > Slow Query Logs .

Example Request

Obtaining the link for downloading the slow query log **Database_slowlog_name**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/slowlog-download
{
  "file_name":"Database_slowlog_name"
}
```

Response

- Normal response

Table 5-122 Parameter description

Name	Type	Description
list	List	Indicates the links for downloading slow query logs. For details, see Table 5-123 .
status	String	Indicates the status of generating links for downloading slow query logs. <ul style="list-style-type: none"> ● 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 5-123 linkInfo field data structure description

Name	Type	Description
workflow_id	String	Indicates the workflow ID. For the MySQL DB engine, the value is always "".
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. <ul style="list-style-type: none"> ● EXPORTING: indicates that the download link is being generated. ● SUCCESS: indicates that the download link is successfully generated. ● FAILED: indicates that the download link failed to be generated.

Name	Type	Description
file_size	String	Indicates the file size in KB.
file_link	String	Indicates the download link. The link is valid for 5 minutes.
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",
  "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](#).

5.8.5 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

This API is available only to RDS for MySQL and RDS for PostgreSQL.

URI

- URI format
PUT /v3/{project_id}/instances/{instance_id}/auditlog-policy
- Parameter description

Table 5-124 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 5-125 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. <ul style="list-style-type: none"> • 0: indicates that SQL audit is disabled. • 1 to 732: indicates the retention days for audit logs after SQL audit is enabled.

Name	Mandatory	Type	Description
reserve_auditlogs	No	Boolean	<p>This parameter is valid only when SQL audit is disabled.</p> <ul style="list-style-type: none"> • true (default): indicates that historical audit logs will be reserved for some time when SQL audit is disabled. • false: indicates that historical audit logs will be deleted immediately when SQL audit is disabled.

Example Request

- Enabling SQL Audit, with audit log retention period set to 5 days

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

- Disabling SQL Audit and deleting existing historical 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](#).

5.8.6 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
- Parameter description

Table 5-126 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

- Request parameters
None

Response

- Normal response

Table 5-127 Parameter description

Name	Type	Description
keep_days	Integer	Number of days for storing audit logs. The value is 0 when SQL audit is disabled.
audit_types	Array of strings	Actual operation types recorded in audit logs. If this parameter is left blank, no operation types are filtered out.

- 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](#).

5.8.7 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}
- Parameter description

Table 5-128 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". T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

Name	Mandatory	Description
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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
offset	Yes	Specifies the index position. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +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.

Request

- Request parameters
None

Response

- Normal response

Table 5-129 Parameter description

Name	Type	Description
auditlogs	Array of objects	Indicates detailed information. For details, see Table 5-130 .
total_record	Integer	Indicates the total number of records.

Table 5-130 auditlogs field data structure description

Name	Type	Description
id	String	Indicates the audit log ID.
name	String	Indicates the audit log file name.

Name	Type	Description
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". T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
end_time	String	Indicates the end time of the audit log. The format is "yyyy-mm-ddThh:mm:ssZ". T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

- Example normal response

```
{
  "auditlogs": [{
    "id": "fa163ea0e2bet11e9d832166a2cf894c5br01",
    "name":
"2943db4292ee4d4abb1ae2df4870fedf_528f6b03c71c4d559ca4f60b6e20795fin01/39779175_20220825
/Audit/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":
"2943db4292ee4d4abb1ae2df4870fedf_528f6b03c71c4d559ca4f60b6e20795fin01/39779175_20220825
/Audit/317162_20190916032838_eb8fe5d181ec44a2850302691541f760in01_Audit_136a6680-
d832-11e9-94c5-fa163ea0e2be",
    "size": 20481.835938,
    "begin_time": "2019-11-07T09:04:35+0800",
    "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](#).

5.8.8 Obtaining the Links for Downloading Audit Logs

Function

This API is used to obtain the links for downloading audit logs.

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

This API is available only to RDS for MySQL and RDS for PostgreSQL.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/auditlog-links
- Parameter description

Table 5-131 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 .
instance_id	Yes	Specifies the ID of the queried DB instance.

Request

Parameter description

Table 5-132 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.

Example Request

Obtaining the links for downloading audit logs

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

Response

- Normal response

Table 5-133 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](#).

5.9 Database and Account Management (MySQL)

5.9.1 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
- Parameter description

Table 5-134 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 .
instance_id	Yes	Specifies the DB instance ID.

Request

Parameter description

Table 5-135 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the database name. The database name can contain 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.

Example Request

Creating a database named **rds-test**

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

Response

- Normal response

Table 5-136 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

202

- Abnormal

For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.9.2 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
- Parameter description

Table 5-137 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

- Request parameters
None

Response

- Normal response

Table 5-138 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-139 .

Table 5-139 databases element structure description

Name	Type	Description
name	String	Indicates the database name.

Name	Type	Description
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 5-140 .

Table 5-140 users element structure description

Name	Type	Description
name	String	Account name.
readonly	Boolean	Whether the permission is read-only. <ul style="list-style-type: none"> • true: read-only • false: read/write

- Example normal response

```
{
  "databases": [
    {
      "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](#).

5.9.3 Querying Databases

Function

This API is used to query databases in 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}
- Parameter description

Table 5-141 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 .
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

- Request parameters
None

Response

- Normal response

Table 5-142 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-143 .
total_count	Integer	Indicates the total number of databases.

Table 5-143 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.

- 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](#).

5.9.4 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 instance is in the abnormal state.

URI

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

Table 5-144 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

- Request parameters
None

Response

- Normal response

Table 5-145 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-146 .
total_count	Integer	Indicates the total number of databases.

Table 5-146 databases element structure description

Name	Type	Description
name	String	Indicates the database name.
readonly	Boolean	Indicates the read-only permission. <ul style="list-style-type: none"> 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](#).

5.9.5 Deleting a Database

Function

This API is used to delete a database 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}/database/{db_name}
- Parameter description

Table 5-147 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

Empty request body.

Example Request

```
{}
```

Response

- Normal response

Table 5-148 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
202
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.9.6 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.
- If you want to call this API repeatedly to create database accounts for your DB instance, call it in serial.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/db_user
- Parameter description

Table 5-149 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 5-150 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. <ul style="list-style-type: none"> • 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.

Name	Mandatory	Type	Description
password	Yes	String	<p>Specifies the password of the database account.</p> <p>Valid value: The value 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 the account name or account name spelled backwards.</p> <p>You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.</p>

Example Request

Creating a database account named **rds**

```
{
  "name": "rds",
  "password": "*****"
}
```

Response

- Normal response

Table 5-151 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
202
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.9.7 Querying Database Users

Function

This API is used to query database users of 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.
- 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}
- Parameter description

Table 5-152 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.

Name	Mandatory	Description
limit	Yes	Specifies the number of records on each page. The value ranges from 1 (inclusive) to 100 (inclusive).

Request

- Request parameters
None

Response

- Normal response

Table 5-153 Parameter description

Name	Type	Description
users	Array of objects	Database account information. For details, see Table 5-154 .
total_count	Integer	Total number of database accounts.

Table 5-154 users element structure description

Name	Type	Description
name	String	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](#).

5.9.8 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}
- Parameter description

Table 5-155 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

- Request parameters
None

Response

- Normal response

Table 5-156 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-157 .
total_count	Integer	Indicates the total number of database users.

Table 5-157 users element structure description

Name	Type	Description
name	String	Account name.
readonly	Boolean	Whether the permission is read-only. <ul style="list-style-type: none"> true: read-only false: read/write

- Example normal response

```
{
  "users": [
    {
      "name": "rds",
      "readonly": false
    },
    {
      "name": "rds001",
      "readonly": false
    }
  ],
  "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](#).

5.9.9 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}
- Parameter description

Table 5-158 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.
user_name	Yes	Specifies the username of the account to be deleted.

Request

- Parameter description
Empty request body.
- Request example


```
{
```

Response

- Normal response

Table 5-159 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

202

- Abnormal

For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.9.10 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

- Parameter description

Table 5-160 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 5-161 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 value 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 the account name or account name spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

Example Request

Setting a password for user **rds**

```
{
  "name": "rds",
  "password": "*****"
}
```

Response

- Normal response

Table 5-162 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](#).

5.9.11 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

- Parameter description

Table 5-163 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 5-164 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Database name.
users	Yes	Array of objects	Database accounts. Each element is a database account. A single request supports a maximum of 50 elements. For details on the element structure, see Table 5-165 .

Table 5-165 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the username of the database account.</p> <p>The username consists of 1 to 32 characters. Only lowercase letters, digits, hyphens (-), and underscores (_) are allowed.</p> <ul style="list-style-type: none"> • 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	<p>Specifies the read-only permission.</p> <ul style="list-style-type: none"> • true: indicates the read-only permission. • false: indicates the read and write permission.

Example Request

Granting read and write permissions to **rds** and read-only permissions to **rds001**

```

{
  "db_name": "rds-test",
  "users": [
    {
      "name": "rds",
      "readonly": false
    },
    {
      "name": "rds001",
      "readonly": true
    }
  ]
}

```

Response

- Normal response

Table 5-166 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](#).

5.9.12 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

- Parameter description

Table 5-167 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 5-168 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Database name.
users	Yes	Array of objects	Database accounts. Each element is a database account. A single request supports a maximum of 50 elements. For more information about the element structure, see Table 5-169 .

Table 5-169 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the username of the database account.</p> <p>The username consists of 1 to 32 characters. Only lowercase letters, digits, hyphens (-), and underscores (_) are allowed.</p> <ul style="list-style-type: none"> • 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.

Example Request

```
{
  "db_name": "rds-test",
  "users": [
    {
      "name": "rds"
    },
    {
      "name": "rds001"
    }
  ]
}
```

Response

- Normal response

Table 5-170 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](#).

5.9.13 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 there is a problem with the **root** account, for example, if your **root** account credentials are lost or deleted, you can reset the **root** password to restore access.

- 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
- Parameter description

Table 5-171 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 5-172 Parameter description

Name	Mandatory	Type	Description
db_user_pwd	Yes	String	<p>Specifies the database password.</p> <p>Valid value:</p> <p>The value 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 (~!@#\$\$%^*_-=+?,()&).</p> <p>You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.</p>

Example Request

Resetting the password for user **root**

```
{
  "db_user_pwd": "*****"
}
```

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](#).

5.10 Database and Account Management (PostgreSQL)

5.10.1 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.
- If you create a database using other methods instead of invoking a v3 API, for example, logging in to a node or using a client tool, the database name verification rule is inconsistent with that of the v3 API. As a result, the v3 API may fail to be invoked to perform operations on the database.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/database
- Parameter description

Table 5-173 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 5-174 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the database name.</p> <p>The value contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from RDS for PostgreSQL template library names.</p> <p>RDS for PostgreSQL template libraries include postgres, template0, and template1.</p>
owner	No	String	<p>Specifies the database user. The default value is root. The value must be an existing username and must be different from system usernames.</p> <p>System users include rdsAdmin, rdsMetric, rdsBackup, rdsRepl, rdsProxy, and rdsDdm.</p>
template	No	String	<p>Specifies the name of the database template. The value can be template0 or template1 (default value).</p>
character_set	No	String	<p>Specifies the database character set. The default value is UTF8.</p>

Name	Mandatory	Type	Description
lc_collate	No	String	<p>Specifies the database collocation. The default value is en_US.UTF-8.</p> <p>NOTICE For different collation rules, the execution result of a statement may be different.</p> <p>For example, the execution result of select 'a'>'A'; is false when this parameter is set to en_US.utf8 and is true when this parameter is set to 'C'. If a database is migrated from "O" to PostgreSQL, this parameter needs to be set to 'C' to meet your expectations. You can query the supported collation rules from the pg_collation table.</p>
lc_ctype	No	String	<p>Specifies the database classification. The default value is en_US.UTF-8.</p>

Example Request

Creating a database named **rds_test**

```
{
  "name": "rds_test",
  "owner": "test",
  "template": "template0",
  "character_set": "UTF8",
  "lc_collate": "en_US.UTF-8",
  "lc_ctype": "en_US.UTF-8"
}
```

Response

- Normal response

Table 5-175 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](#).

5.10.2 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.
- If you want to call this API repeatedly to create database accounts for your DB instance, call it in serial.

URI

- URI format

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

- Parameter description

Table 5-176 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 5-177 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The username contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit and must be different from system usernames. System users include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , rdsProxy , and rdsDdm .
password	Yes	String	Specifies the password of the database account. The value 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 cannot contain the username or the username spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

Example Request

Creating a database account named **rds**

```
{  
  "name": "rds",  
  "password": "*****"  
}
```

Response

- Normal response

Table 5-178 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
202
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.10.3 Creating a Database Schema

Function

This API is used to create a database schema 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}/schema

- Parameter description

Table 5-179 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 DB instance ID.

Request

Parameter description

Table 5-180 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Specifies the database name. The value contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from RDS for PostgreSQL template library names. RDS for PostgreSQL template libraries include postgres, template0, and template1.
schemas	Yes	Array of objects	Each element is the schema information associated with the database. A single request supports a maximum of 20 elements. For details on the element structure, see Table 5-181 .

Table 5-181 schemas field data structure description

Name	Mandatory	Type	Description
schema_name	Yes	String	<p>Specifies the schema name.</p> <p>The value contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from RDS for PostgreSQL template library names and existing schema names.</p> <p>RDS for PostgreSQL template libraries include postgres, template0, and template1.</p> <p>Existing schemas include public and information_schema.</p>
owner	Yes	String	<p>Specifies the database owner.</p> <p>The value contains 1 to 63 characters. It cannot start with pg or a digit, and must be different from system usernames.</p> <p>System users include rdsAdmin, rdsMetric, rdsBackup, rdsRepl, rdsProxy, and rdsDdm.</p>

Example Request

Creating a database schema

```
{
  "db_name": "rds_test",
  "schemas": [
    {
      "schema_name": "teste123",
      "owner": "teste123"
    }
  ]
}
```

```
]
}
```

Response

- Normal response

Table 5-182 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](#).

5.10.4 Granting Read or Write Permissions to a Database Account

Function

This API is used to grant read or write permissions to 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.
- By default, read-only users have the **create** and **usage** permissions on the public schema.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/db_privilege
- Parameter description

Table 5-183 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 5-184 Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Database name. The database name contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from RDS for PostgreSQL template library names. RDS for PostgreSQL template libraries include postgres, template0, and template1.

Name	Mandatory	Type	Description
users	Yes	Array of objects	Database accounts. Each element is a database account. A single request supports a maximum of 50 elements. For details on the element structure, see Table 5-185 .

Table 5-185 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The database account name contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit and must be different from system user names. System users include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , rdsProxy , and rdsDdm .
readonly	Yes	Boolean	Specifies the database account permissions. <ul style="list-style-type: none"> • true: read-only • false: read and write

Name	Mandatory	Type	Description
schema_name	Yes	String	<p>Specifies the schema name.</p> <p>The value cannot be empty and contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from RDS for PostgreSQL template library names and existing schema names. This parameter is mandatory.</p> <p>RDS for PostgreSQL template libraries include postgres, template0, and template1.</p>

Example Request

Granting read and write permissions to **rds** and **rds002**, and read-only permissions to **rds001**

```
{
  "db_name": "rds_test",
  "users": [
    {
      "name": "rds",
      "readonly": false,
      "schema_name": "teste123"
    },
    {
      "name": "rds001",
      "readonly": true,
      "schema_name": "teste123"
    },
    {
      "name": "rds002",
      "readonly": false,
      "schema_name": "teste123"
    }
  ]
}
```

Response

- Normal response

Table 5-186 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](#).

5.10.5 Resetting a Password for a Database Account

Function

This API is used to reset a password for a database account.

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

The password of a database account cannot be reset if the DB instance is in any of the following statuses: creating, changing instance class, changing port, rebooting, or abnormal.

URI

- URI format

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

- Parameter description

Table 5-187 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 5-188 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 cannot contain the username or the username spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

Example Request

Resetting the password of **rds**

```
{
  "name": "rds",
  "password": "*****"
}
```


Response

- Normal response

Table 5-189 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](#).

5.10.6 Querying Databases

Function

This API is used to query databases of 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.
- The details about databases of read replicas cannot be queried.

URI

- URI format

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

- Parameter description

Table 5-190 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

- Request parameters
None

Response

- Normal response

Table 5-191 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-192 .
total_count	Integer	Indicates the total number of databases.

Table 5-192 databases element structure description

Name	Type	Description
name	String	Indicates the database name.
owner	String	Indicates the database owner.

Name	Type	Description
character_set	String	Indicates the character set used by the database, such as UTF8 .
collate_set	String	Indicates the database collation, such as en_US.UTF-8 .
size	Integer	Indicates the database size, in bytes.

- Example normal response

```
{
  "databases": [
    {
      "name": "rds_test",
      "owner": "root",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "size": 10777247
    },
    {
      "name": "rds_test2",
      "owner": "root",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "size": 1055623
    },
    {
      "name": "rds_test3",
      "owner": "root",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "size": 107772488
    }
  ],
  "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](#).

5.10.7 Querying Database Users

Function

This API is used to query database users 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
GET /v3/{project_id}/instances/{instance_id}/db_user/detail?
page={page}&limit={limit}
- Parameter description

Table 5-193 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 range is from 1 (inclusive) to 100 (inclusive).

Request

- Request parameters
None

Response

- Normal response

Table 5-194 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-195 .
total_count	Integer	Indicates the total number of database users.

Table 5-195 users element structure description

Name	Type	Description
name	String	Indicates the account name.
attributes	Object	Indicates permission attributes of a user. For details, see Table 5-196 .
memberof	Array of strings	Indicates default rights of a user.

Table 5-196 attributes element structure description

Name	Type	Description
rolsuper	Boolean	Indicates whether a user has the super user permission. The value is false .
rolinherit	Boolean	Indicates whether a user automatically inherits the permissions of the role to which the user belongs. The value can be true or false .
rolcreatorole	Boolean	Indicates whether a user can create other sub-users. The value can be true or false .

Name	Type	Description
rolcreatedb	Boolean	Indicates whether a user can create a database. The value can be true or false .
rolcanlogin	Boolean	Indicates whether a user can log in to the database. The value can be true or false .
rolconlimit	Integer	Indicates the maximum number of concurrent connections to a DB instance. The value -1 indicates that there are no limitations on the number of concurrent connections.
rolreplication	Boolean	Indicates whether the user is a replication role. The value can be true or false .
rolbypassrls	Boolean	Indicates whether a user bypasses each row-level security policy. The value can be true or false .

- Example normal response

```
{
  "users": [
    {
      "name": "rdsuser",
      "attributes": {
        "rolsuper": false,
        "rolinherit": true,
        "rolcreatorole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconlimit": -1,
        "rolreplication": true,
        "rolbypassrls": false
      },
      "memberof": ["pg_monitor", "pg_read_all_stats", "pg_stat_scan_tables", "pg_signal_backend"]
    },
    {
      "name": "rdsuser1",
      "attributes": {
        "rolsuper": false,
        "rolinherit": true,
        "rolcreatorole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconlimit": -1,
        "rolreplication": true,
        "rolbypassrls": false
      }
    }
  ]
}
```

```

},
"memberof": []
}],
"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](#).

5.10.8 Querying Database Schemas

Function

This API is used to query database schemas of 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.
- The database schemas of read replicas cannot be queried.

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/schema/detail?
db_name={name}&page={page}&limit={limit}
- Parameter description

Table 5-197 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.

Name	Mandatory	Description
db_name	Yes	Specifies the database name. Database names must be different from RDS for PostgreSQL template libraries. RDS for PostgreSQL template libraries include postgres, template0, and template1.
page	Yes	Specifies the page number. The value starts from 1.
limit	Yes	Specifies the number of records on each page. The value range is from 1 (inclusive) to 100 (inclusive).

Request

- Request parameters
None

Response

- Normal response

Table 5-198 Parameter description

Name	Type	Description
database_schemas	Array of objects	Each element in the list indicates a database schema. For details, see Table 5-199 .
total_count	Integer	Indicates the total number of database schemas.

Table 5-199 users element structure description

Name	Type	Description
schema_name	String	Indicates a schema name.
owner	String	Indicates a schema owner.

- Example normal response

```
{
  "database_schemas": [{
    "schema_name": "rds_user1",
    "owner": "root"
  }],
  "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](#).

5.11 Parameter Management

5.11.1 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](#).

URI

- URI format
GET `/v3/{project_id}/configurations`
- Parameter description

Table 5-200 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 .

Request

- Request parameters
None

Response

- Normal response

Table 5-201 Parameter description

Name	Type	Description
configurations	Array of objects	Indicates the parameter template list. For details, see Table 5-202 .

Table 5-202 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

Name	Type	Description
user_defined	Boolean	Indicates whether the parameter template is created by users. <ul style="list-style-type: none"> 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": "8.0",
      "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",
      "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](#).

5.11.2 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

- The new parameter template cannot have the same name as any existing parameter template.

URI

- URI format
POST /v3/{project_id}/configurations
- Parameter description

Table 5-203 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 .

Request

Parameter description

Table 5-204 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 (.).
datastore	Yes	Object	Specifies the database object. For details, see Table 5-205 .
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.

Name	Mandatory	Type	Description
values	No	Map<String,String>	<p>Specifies the parameter values defined by users based on the default parameter templates. By default, the parameter values are not changed.</p> <ul style="list-style-type: none"> • key: parameter name, for example, div_precision_increment or connect_timeout. If this parameter is not specified, no parameter value is to be changed. • value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either.

Table 5-205 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	<p>Specifies the DB engine. Its value can be any of the following and is case-insensitive:</p> <ul style="list-style-type: none"> • MySQL • PostgreSQL
version	Yes	String	<p>Specifies the database version. For details, see Constraints. Example values:</p> <ul style="list-style-type: none"> • MySQL: 5.7 • PostgreSQL: 9.5

Example Request

Creating a parameter template named **configuration_test**

```
{
  "name": "configuration_test",
  "description": "configuration_test",
  "values": {
    "div_precision_increment": "6",
    "connect_timeout": "20"
  },
  "datastore": {
```

```

    "type": "mysql",
    "version": "5.7"
  }
}

```

Response

- Normal response

Table 5-206 Parameter description

Name	Type	Description
configuration	Object	Indicates the parameter template information. For details, see Table 5-207 .

Table 5-207 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

Name	Type	Description
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .

- Example normal response

```
{
  "configuration": {
    "id": "463b4b58-d0e8-4e2b-9560-5dea4552fde9",
    "name": "configuration_test",
    "datastore_version_name": "5.7",
    "datastore_name": "mysql",
    "description": "configuration_test",
    "created": "2017-04-09T08:27:56+0800",
    "updated": "2017-04-09T08:27:56+0800"
  }
}
```

- 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](#).

5.11.3 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

- The new parameter template name must be different from the name of an existing or a default parameter template. Default parameter templates cannot be modified.

- The new parameter values must be within the default ranges for specified DB engine versions. For details, see "Modifying Instance Parameters" 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}
- Parameter description

Table 5-208 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 5-209 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 (.).

Name	Mandatory	Type	Description
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.
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. <ul style="list-style-type: none"> • key: parameter name, for example, div_precision_increment or connect_timeout. If this parameter is not specified, no parameter value is to be changed. • value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either.

Example Request

Modifying parameters in a parameter template

```
{
  "name": "configuration_test",
  "description": "configuration_test",
  "values": {
    "div_precision_increment": "6",
    "connect_timeout": "20"
  }
}
```

Response

- Normal response

Table 5-210 Parameters

Parameter	Type	Description
configuration	Object	Parameter template information. For details, see Table 5-211 .

Table 5-211 configuration field data structure description

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
ignored_params	List	All parameters that are ignored and fail to be modified in the request parameter values . If a parameter does not exist, the modification will fail. The names of all ignored parameters are returned by ignored_params .

- Example normal response

```
{
  "configuration": {
    "id": "463b4b58-d0e8-4e2b-9560-5dea4552fde9",
    "name": "configuration_test",
    "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](#).

5.11.4 Applying a Parameter Template

Function

This API is used to apply a parameter template to one or more DB instances.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

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

Table 5-212 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 .
config_id	Yes	Parameter template ID.

Request

Parameter description

Table 5-213 Parameter description

Name	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Instance IDs.

Example Request

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

Response

- Normal response

Table 5-214 Parameter description

Name	Type	Description
configuration_id	String	Parameter template ID.
configuration_name	String	Parameter template name.
apply_results	Array of objects	Result of applying the parameter template. For details, see Table 5-215 .
success	Boolean	Whether the parameter template is applied to all requested DB instances successfully. <ul style="list-style-type: none"> • 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	Task ID.

Table 5-215 apply_results field data structure description

Name	Type	Description
instance_id	String	Instance ID.
instance_name	String	Instance name.
restart_required	Boolean	Whether a reboot is required. <ul style="list-style-type: none"> • true: A reboot is required. • false: A reboot is not required.

Name	Type	Description
success	Boolean	Whether the parameter template is applied to the DB instance successfully. <ul style="list-style-type: none"> true: The application was successful. false: The application failed.

- Example normal response

```
{
  "configuration_id": "cf49bbd7d2384878bc3808733c9e9d8bpr01",
  "configuration_name": "paramsGroup-bcf9",
  "job_id": "e4942c94-9d66-458e-beb7-90601664641e",
  "apply_results": [
    {
      "instance_id": "fe5f5a07539c431181fc78220713aebein01",
      "instance_name": "zyy1",
      "restart_required": false,
      "success": false
    },
    {
      "instance_id": "73ea2bf70c73497f89ee0ad4ee008aa2in01",
      "instance_name": "zyy2",
      "restart_required": false,
      "success": false
    }
  ],
  "success": 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](#).

5.11.5 Modifying Parameters of a Specified DB Instance

Function

This API is used to modify parameters in the parameter template of a specified DB instance.

- Before calling an API, you need to understand the API in [Authentication](#).

Constraints

- The new parameter values must be within the default ranges for specified DB engine versions. For details, see "Modifying Instance Parameters" in the *Relational Database Service User Guide*.

URI

- URI format
PUT /v3/{project_id}/instances/{instance_id}/configurations
- Parameter description

Table 5-216 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 5-217 Parameter description

Name	Mandatory	Type	Description
values	Yes	Map<String, String>	Specifies the parameter values defined by users based on the default parameter templates. <ul style="list-style-type: none"> key: parameter name, for example, div_precision_increment or connect_timeout. If this parameter is not specified, no parameter value is to be changed. value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either.

Request example

- RDS for MySQL

```
{
  "values" : {
    "max_connections" : "10",
    "autocommit" : "OFF",
    "binlog_checksum" : "CRC32",
    "innodb_purge_threads" : "4"
  }
}
```

- RDS for PostgreSQL

```
{
  "values" : {
    "max_connections" : "10",
    "autovacuum" : "on",
    "bytea_output" : "escape",
    "client_encoding" : "UTF8",
    "cpu_tuple_cost" : "0.01"
  }
}
```

Response

- Normal response

Table 5-218 Parameter description

Name	Type	Description
job_id	String	Task ID.
restart_required	Boolean	Indicates whether a reboot is required. <ul style="list-style-type: none"> true: A reboot is required. false: A reboot is not required.
ignored_params	List	All parameters that are ignored and fail to be modified in the request parameter values . If a parameter does not exist, the modification will fail. The names of all ignored parameters are returned by ignored_params .

- 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](#).

5.11.6 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](#).

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/configurations
- Parameter description

Table 5-219 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

- Request parameters
None

Response

- Normal response

Table 5-220 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
configuration_parameters	Array of objects	Indicates the parameters defined by users based on the default parameter templates. For details, see Table 5-221 .

Table 5-221 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. <ul style="list-style-type: none"> • false: A reboot is not required. • true: A reboot is required.

Name	Type	Description
readonly	Boolean	Indicates whether the parameter is read-only. <ul style="list-style-type: none"> • 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": "5.7",
  "datastore_name": "mysql",
  "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
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

5.11.7 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](#).

URI

- URI format
GET /v3/{project_id}/configurations/{config_id}
- Parameter description

Table 5-222 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 .
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

- Request parameters
None

Response

- Normal response

Table 5-223 Parameter description

Name	Type	Description
id	String	Indicates the parameter template ID.
name	String	Indicates the parameter template name.

Name	Type	Description
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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
updated	String	Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
configuration_parameters	Array of objects	Indicates the parameters defined by users based on the default parameter templates. For details, see Table 5-224 .

Table 5-224 configuration_parameters field data structure description

Name	Type	Description
name	String	Indicates the parameter name.
value	String	Indicates the parameter value.

Name	Type	Description
restart_required	Boolean	Indicates whether a restart is required. <ul style="list-style-type: none"> • false: indicates that a restart is not required. • true: indicates that a restart is required.
readonly	Boolean	Indicates whether the parameter is read-only. <ul style="list-style-type: none"> • 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. 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

```
{
  "id": "07fc12a8e0e94df7a3fcf53d0b5e1605pr01",
  "name": "default-mysql-5.7",
  "datastore_version_name": "5.7",
  "datastore_name": "mysql",
  "description": "Default parameter group for mysql 5.7",
  "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 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](#).

5.11.8 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

- Default parameter templates cannot be deleted.

URI

- URI format
DELETE /v3/{project_id}/configurations/{config_id}
- Parameter description

Table 5-225 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

- Request parameters
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](#).

5.12 Recycling a DB Instance

5.12.1 Modifying Recycling Policy

Function

This API is used to modify the recycling policy for the recycle bin.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
PUT /v3/{project_id}/instances/recycle-policy
- Parameter description

Table 5-226 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 .

Request

Parameter description

Table 5-227 Parameter description

Name	Mandatory	Type	Description
recycle_policy	Yes	Object	Each element is associated with the recycle bin. For details on the element structure, see Table 5-228 .

Table 5-228 recycle_policy elements

Name	Mandatory	Type	Description
retention_period_in_days	No	String	Period of retaining deleted DB instances from 1 day to 7 days. If this parameter is left blank, the retention period is 7 days by default.

Example Request

Setting the retention period of instances in the recycle bin to one day

```
{
  "recycle_policy":{
    "retention_period_in_days":"1"
  }
}
```

Response

- Normal response

Table 5-229 Parameter description

Name	Type	Description
result	String	Returns success if the invoking is successful.

- Example normal response

```
{
  "result": "success"
}
```

- 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](#).

5.13 Tag Management

5.13.1 Adding Tags in Batches

Function

This API is used to add tags in batches.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/tags/action
- Parameter description

Table 5-230 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 5-231 Parameter description

Name	Mandatory	Type	Description
action	Yes	String	Specifies the operation identifier (case sensitive), which is create during the creation operation.
tags	Yes	Array of objects	Specifies the tag list. A maximum of 20 tags can be added for each instance. For details, see Table 5-232 .

Table 5-232 tags field data structure description

Name	Mandatory	Type	Description
key	Yes	String	Tag key. It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_.:+=-@</code> . However, it cannot start or end with a space, or start with <code>_sys_</code> .
value	Yes	String	Tag value. It can be left blank or contain a maximum of 255 Unicode characters, including letters, digits, spaces, and special characters <code>_.:+=-@</code> .

Example Request

Adding tags **key1** and **key2** for a DB instance

```
{
  "action": "create",
  "tags": [{
    "key": "key1",
    "value": "value1"
  }, {
    "key": "key2",
    "value": "value2"
  }]
}
```

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](#).

5.13.2 Deleting Tags in Batches

Function

This API is used to delete tags in batches.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/tags/action
- Parameter description

Table 5-233 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 5-234 Parameter description

Name	Mandatory	Type	Description
action	Yes	String	Specifies the operation identifier (case sensitive), which is delete during the deletion operation.
tags	Yes	Array of objects	Specifies the tag list. For details, see Table 5-235 .

Table 5-235 tags field data structure description

Name	Mandatory	Type	Description
key	Yes	String	Tag key. It must consist of 1 to 128 Unicode characters, including letters, digits, spaces, and special characters <code>_:=+@</code> . However, it cannot start or end with a space, or start with <code>_sys_</code> .
value	No	String	Tag value. It can be left blank or contain a maximum of 255 Unicode characters, including letters, digits, spaces, and special characters <code>_:=+@</code> .

Example Request

Deleting tags **key1** and **key2** from a DB instance

```
{
  "action": "delete",
  "tags": [
    {
      "key": "key1"
    },
    {
      "key": "key2",
      "value": "value2"
    }
  ]
}
```

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](#).

5.13.3 Querying Project Tags

Function

This API is used to query project tags.

- Before calling an API, you need to understand the API in [Authentication](#).

URI

- URI format
GET /v3/{project_id}/tags
- Parameter description

Table 5-236 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

- Request parameters
None

Response

- Normal response

Table 5-237 Parameter description

Name	Type	Description
tags	Array of objects	Specifies the tag list. If there is no tag in the list, an empty array is returned. For details, see Table 5-238 .

Table 5-238 tags field data structure description

Name	Type	Description
key	String	Specifies the tag key.
values	List<String>	Specifies the lists the tag values.

- Example normal response

```
{
  "tags": [{
    "key": "key1",
    "values": ["value1"]
  }, {
    "key": "key2",
    "values": ["value2"]
  }]
}
```

- 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](#).

5.14 Obtaining Task Information

5.14.1 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 a single or primary/standby DB instance, creating a read replica, deleting a DB instance, changing a single DB instance to primary/standby DB instance, switching a primary/standby DB instance, scaling up storage space, binding or unbinding an EIP, and changing an instance class.

URI

- URI format
GET /v3/{project_id}/jobs?id={id}
- Parameter description

Table 5-239 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.

Request

- Request parameters
None

Response

- Normal response

Table 5-240 Parameter description

Name	Type	Description
job	Object	Indicates the task information. For details, see Table 5-241 .

Table 5-241 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: <ul style="list-style-type: none"> ● 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. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
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 5-242 .
entities	Object	The displayed information varies depending on the tasks. For details, see the following: <ul style="list-style-type: none"> ● Table 5-243 ● Table 5-246 ● Table 5-248 ● Table 5-249 NOTE For asynchronous tasks without the entities field description, {} is returned.

Name	Type	Description
fail_reason	String	Indicates the error information displayed when a task failed.

Table 5-242 instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the DB instance name.

Table 5-243 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 5-244 .
resource_ids	List<String>	Indicates the queried resource ID.

Table 5-244 entities.instance field data structure description

Name	Type	Description
endpoint	String	Indicates the DB instance connection address.
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 5-245 .
replica_of	String	Indicates the primary DB instance ID. This parameter is returned only when a read replica is created.

Table 5-245 datastore field data structure description

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

Table 5-246 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 5-247 .
resource_ids	List<String>	Indicates the queried resource ID.

Table 5-247 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.

Table 5-248 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 5-249 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_ids": ["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": "",
    "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": "10.10.10.1"
    }
}
}

```

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",
      "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
For details, see [Abnormal Request Results](#).

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

For details, see [Error Codes](#).

6 Appendix

6.1 Abnormal Request Results

v3 APIs

Abnormal response description

Table 6-1 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."  
}
```

6.2 Status Codes

[Table 6-2](#) describes status codes.

Table 6-2 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.

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.

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 exists, 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.

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.

6.3 Error Codes

The following table describes error codes.

Table 6-3 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.

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.

Status Code	Error Code	Description
400	DBS.200076	The DB instance and node must be in the Available state.
400	DBS.200086	This operation is not allowed by the DB instance status.
400	DBS.200087	The number of tags added for the DB instance has reached the quota.
400	DBS.200098	The tag already exists.
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.200506	Invalid KMS.
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.

Status Code	Error Code	Description
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.
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.

Status Code	Error Code	Description
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
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.280262	Invalid synchronize model.
400	DBS.280270	The parameter does not exist.

Status Code	Error Code	Description
400	DBS.280271	The parameter value is out of range.
400	DBS.280272	The tag key must be unique.
400	DBS.280277	Invalid object name.
400	DBS.280285	Invalid AZ.
400	DBS.280404	Invalid DB instance ID or node ID format.
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.
400	DBS.301132	This operation cannot be performed because instance has been stopped.
400	DBS.301133	This operation cannot be performed because instance has been started.

6.4 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 the administrator. 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",
      "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

6.5 Replication Mode

Replication mode

Replication Mode	Description	Remarks
async	Asynchronous	N/A
semisync	Semi-synchronous	N/A
sync	Synchronous	N/A

6.6 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 over the Cloud Eye API.

Namespace

SYS.RDS

Monitoring Metrics

Table 6-4 RDS performance metrics

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds001_cpu_util	CPU Usage	CPU usage of the monitored object	0%–100%	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> MySQL PostgreSQL
rds002_memory_util	Memory Usage	Memory usage of the monitored object	0-100%	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> MySQL PostgreSQL
rds004_bytes_in	Network Input Throughput	Incoming traffic in bytes per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> MySQL PostgreSQL

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds005_bytes_out	Network Output Throughput	Outgoing traffic in bytes per second	≥ 0 bytes/s	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> 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
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_buffer_usage	Buffer Pool Usage	Ratio of idle pages to the total number of buffer pool pages in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds011_innodb_buffer_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_buffer_dirty	Buffer Pool Dirty Block Rate	Ratio of dirty data to used pages in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds013_innodb_read	InnoDB Read Throughput	Number of read bytes per second in the InnoDB buffer	≥ 0 bytes/s	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
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_physical_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
rds020_temp_tbl_rate	Temporary Tables Created per Second	Number of temporary tables created on hard disks per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds021_myisam_buffer_usage	Key Buffer Usage	MyISAM key buffer usage	0-1	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds022_myisam_buffer_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_buffer_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
rds026_myisam_buffer_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_buffer_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_command_delete_count	DELETE Statements per Second	Number of DELETE statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds029_c mdml_ins _count	INSERT Statem ents per Second	Number of INSERT statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds030_c mdml_ins _sel_count	INSERT _SELEC T Statem ents per Second	Number of INSERT_SELECT statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds031_c mdml_rep _count	REPLAC E Statem ents per Second	Number of REPLACE statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds032_c mdml_rep _sel_count	REPLAC E_SELE CTION Statem ents per Second	Number of REPLACE_SELECTION statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds033_c mdml_sel _count	SELECT Statem ents per Second	Number of SELECT statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds034_c mdml_up d_count	UPDAT E Statem ents per Second	Number of UPDATE statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds035_in nodb_del _row_coun t	Row Delete Freque ncy	Number of rows deleted from the InnoDB table per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
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_update_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: <ul style="list-style-type: none"> MySQL PostgreSQL
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

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
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
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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> MySQL PostgreSQL

Dimension

Key	Value
rds_cluster_id	RDS for MySQL DB instance ID
postgresql_cluster_id	RDS for PostgreSQL DB instance ID

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"
  }
}
```


A Change History

Release Date	Description
2022-09-15	This issue is the first official release.