

Relational Database Service

API Reference

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Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
 Bantian, Longgang
 Shenzhen 518129
 People's Republic of China

Website: <https://www.huawei.com>

Email: support@huawei.com

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1 Before You Start

1.1 Overview

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

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

If you plan to access RDS through an API, ensure that you are familiar with RDS concepts. For details, see [Service Overview](#) in *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. For the endpoints of all services, see [Regions and Endpoints](#).

1.4 Constraints

- The numbers of RDS DB instances that you can create are determined by your quota. To view or increase the quota, see [Managing Quotas](#).
- 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.

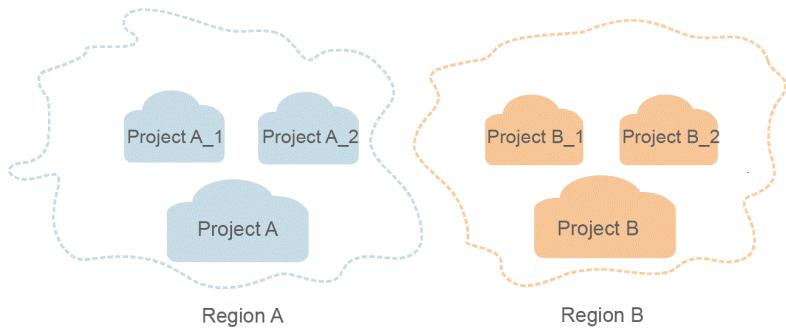
- AZ

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. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.

- Project

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

For more information about enterprise projects and how to obtain enterprise project IDs, see [**Enterprise Management User Guide**](#).

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 setting an automated backup policy, obtaining an automated backup policy, 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)	Instance Diagnosis	Obtain the number of instances after diagnosis and obtain the result of a specific diagnosis item.
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)	Database and Account Management (Microsoft SQL Server)	Create and query databases, create, query, and delete accounts, and grant and revoke permissions to 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)	Quota Management	Query resource quotas.
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 Regions and Endpoints . For example, the endpoint of IAM in the CN-Hong Kong region is iam.ap-southeast-1.myhuaweicloud.com .
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 .

Parameter	Description
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.

For example, to obtain an IAM token in the **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

`https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens`

 **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://iam.ap-southeast-1.myhuaweicloud.com/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 This parameter is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	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>	No This parameter is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ

NOTE

In addition to supporting token-based authentication, APIs support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature information) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.

For more information, see [AK/SK-based Authentication](#) in [Authentication](#).

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://iam.ap-southeast-1.myhuaweicloud.com/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 **xxxxxxxxxxxxxx** (project name, such as ap-southeast-1) with actual values. You can obtain the values from [Regions and Endpoints](#).

 NOTE

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

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

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

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

Requests for calling an API can be authenticated using either of the following methods:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair. Authentication using AK/SK is recommended because it is more secure than authentication 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.

When **calling an API to obtain a user token**, you must set **auth.scope** in the request body to **project**.

```
{  
    "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://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens  
Content-Type: application/json  
X-Auth-Token: ABCDEFJ....
```

AK/SK-based Authentication



NOTE

AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token-based authentication is recommended.

In AK/SK-based authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier associated with a secret access key and is used in conjunction with a secret access key to sign requests cryptographically.
- SK: secret access key used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK-based authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests. For details about how to sign requests or use the signing SDK, see [API Request Signing Guide](#).

NOTICE

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

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 → noopener
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token
→ MIIYXQJKoZhvcNAQcCoIYTjCCGEoCAQExDTALBgIghkgBZOMEAgEwgharBqkqhkiG9w0BBwGgg hacBIIWmHsidG9rZW4jOnsiZXhwaXJlc19hdCI6ljlwMTktMDItMTNUMC
fj3Kls6YgKnpVNrbW2eZ5eb78SZOkqjACgklqQ1wi4JlGzrpdi8LGXK5bldfq4lqHCYb8P4NaY0NYejcAgzJVeFIYtLWT1GSO0zxKZmlQHQj82HBqHdgIZO9fuEbL5dMhdavj+33wEl
xHRCe9187o+k9-
j+CMZSEB7uGd5Uj6eRASX1jipPEGA270g1FruloL6jqglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUvHvpxk8pxiX1wTEboX-
RzT6MUUbpvGw-oPNFYxJECKn0H3Rozv0vN--n5d6Nbvg==
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 Applying a Parameter Template

Function

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

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

Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

URI

- URI format
`PUT /v3.1/{project_id}/configurations/{config_id}/apply`
- 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 .
config_id	Yes	Specifies the parameter template ID.

Request

Parameter description

Table 4-2 Parameter description

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

Example Request

Applying a parameter template to multiple DB instances

```
PUT https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9/apply
{
  "instance_ids": ["73ea2bf70c73497f89ee0ad4ee008aa2in01", "fe5f5a07539c431181fc78220713aebein01"]
}
```

Response

- Normal response

Table 4-3 Parameter description

Name	Type	Description
configuration_id	String	Parameter template ID.
configuration_name	String	Parameter template name.
success	Boolean	Whether the parameter template is applied to all requested DB instances successfully. <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.

- Example normal response

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

- Abnormal response

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

Status Code

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

Error Code

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

4.2 Modifying Parameters of a Specified Instance

Function

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

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

Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.
- The new parameter values must be within the default ranges for specified DB engine versions. For details, see [Modifying Parameters of an RDS for MySQL Instance](#) in *Relational Database Service User Guide*.
- Modifying sensitive parameters, for example, `lower_case_table_names`, is risky. For details, see "[Suggestions on RDS for MySQL Parameter Tuning](#)" in *Relational Database Service User Guide*.

URI

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

Table 4-4 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

Table 4-5 Request body parameters

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

Example Request

- Changing parameter values of an RDS for MySQL instance

```
PUT https://[endpoint]/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in01/configurations
```

```
{
  "values" : {
    "div_precision_increment": "6",
    "connect_timeout": "20",
    "binlog_checksum" : "CRC32",
    "innodb_purge_threads" : "4"
  }
}
```

- Changing parameter values of an RDS for PostgreSQL instance

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

- Changing parameter values of an RDS for SQL Server instance

```
{
  "values":{
    "max server memory (MB)": "26317",
    "max degree of parallelism": "4"
  }
}
```

Response

- Normal response

Table 4-6 Parameter description

Name	Type	Description
job_id	String	Job ID.
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.

- Example normal response

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

- Abnormal response

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

Status Code

- Normal

200

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

Error Code

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

4.3 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

- RDS for SQL Server supports batch calling of this API to restore one database to an existing DB instance.
- 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. For version constraints of RDS for SQL Server, see [Table 4-7](#).
 - The total storage space of the target DB instance must be at least equal to that of the original DB instance for RDS for MySQL.
 - 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.
- When data is restored to an original DB instance:
This API is supported only for the Microsoft SQL Server DB engine.

Table 4-7 Restoring to the DB engine versions supported by RDS for SQL Server

Original DB Engine Version	Restore To
2008 R2 Standard Edition	2008 R2 Standard Edition 2008 R2 Enterprise Edition 2012 Standard Edition 2012 Enterprise Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2012 Web Edition	2012 Web Edition 2012 Standard Edition 2012 Enterprise Edition 2014 Web Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Web Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Web Edition 2017 Standard Edition 2017 Enterprise Edition
2012 Standard Edition	2012 Standard Edition 2012 Enterprise Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2012 Enterprise Edition	2012 Enterprise Edition 2014 Enterprise Edition 2016 Enterprise Edition 2017 Enterprise Edition

Original DB Engine Version	Restore To
2014 Standard Edition	2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2014 Enterprise Edition	2014 Enterprise Edition 2016 Enterprise Edition 2017 Enterprise Edition
2016 Standard Edition	2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2016 Enterprise Edition	2016 Enterprise Edition 2017 Enterprise Edition
2017 Web Edition	2017 Web Edition 2017 Standard Edition 2017 Enterprise Edition
2017 Standard Edition	2017 Standard Edition 2017 Enterprise Edition
2017 Enterprise Edition	2017 Enterprise Edition

URI

- URI format
POST /v3.1/{project_id}/instances/recovery
- Parameter description

Table 4-8 Parameter description

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

Request

Parameter description

Table 4-9 Parameter description

Name	Mandatory	Type	Description
source	Yes	Object	Specifies the restoration information. For details, see Table 4-10 .
target	Yes	Object	Specifies the restoration target. For details, see Table 4-11 .

Table 4-10 source field data structure description

Name	Mandatory	Type	Description
instance_id	Yes	String	Specifies the DB instance ID.
type	No	String	Specifies the restoration mode. Enumerated values include: <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.

Name	Mandatory	Type	Description
backup_id	No	String	Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration.
restore_time	No	Integer	Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.

Name	Mandatory	Type	Description
database_name	No	Map<String, String>	<p>This parameter applies only to the Microsoft SQL Server DB engine.</p> <ul style="list-style-type: none"> ● If this parameter is specified, you can restore all or specific databases and rename new databases. ● If this parameter is not specified, all databases are restored by default. ● You can enter multiple new database names and separate them with commas (,). The new database names can contain but cannot be the same as the original database names. ● Note the following when you are specifying new database names: <ul style="list-style-type: none"> – New database names must be different from the original database names. If they are left

Name	Mandatory	Type	Description
			<p>blank, the original database names will be used for restoration by default.</p> <ul style="list-style-type: none">- The case-sensitivity settings of the new databases are the same as those of the original databases. Make sure the new database names are unique.- The total number of new and existing databases on the existing or original DB instances where data is restored cannot exceed the database quota specified by rds_databases_quota.- New database names cannot contain the following fields (case-insensitive): rdsadmin,

Name	Mandatory	Type	Description
			<p>master, msdb, tempdb, model, and resource.</p> <ul style="list-style-type: none">- New database names must consist of 1 to 64 characters, including only letters, digits, underscores (_), and hyphens (-). If you want to restore data to multiple new databases, separate them with commas (,).- New database names must be different from any database names on the original DB instance.- New database names must be different from any database names on the existing or original DB instances where data is restored. <p>Example:</p>

Name	Mandatory	Type	Description
			<p>"database_name": {"Original database name":"New database name"}</p> <p>Correct example: "database_name": {"A":"A,A1,A2","B":"B1,B2","C":""}</p> <p>Wrong example: "database_name": {"A":"A","B":"B1,B2","C":"B1,C1","D":"D1,d1"},</p> <p>Error causes are as follows:</p> <ul style="list-style-type: none"> 1. The new database name (A) is the same as the original database name (A). 2. The new database name (B1) is not unique. 3. When the database name is case insensitive, the database names D1 and d1 conflict. ● Exercise caution when restoring data to an existing or original DB instance. <p>NOTICE Before the restoration, make sure that the size of the restored data does not exceed the purchased disk capacity. Expand disk capacity, if necessary.</p>

Name	Mandatory	Type	Description
restore_all_database	No	Boolean	<p>Specifies whether to restore all databases. The default value is false, indicating that not all databases are to be restored to the target instance.</p> <p>This field is available only for Microsoft SQL Server.</p> <p>NOTICE If you want to restore all databases to an existing instance, set restore_all_database to true.</p>

Table 4-11 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

```
POST https://[endpoint]/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/recovery

{
    "source": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
        "type": "backup",
        "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
    },
    "target": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01"
    }
}
```

- Restoring all databases to a DB instance from an RDS for SQL Server backup

```
{
    "source": {
        "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
```

- ```
"type": "backup",
"backup_id": "b021670e69ba4538b7b2ed07257306aebr04",
"restore_all_database":true
},
"target": {
"instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04"
}
}
```
- Restoring instance data to a specific point in time

```
{
"source": {
"instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
"type": "timestamp",
"restore_time": 1532001446987
},
"target": {
"instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01"
}
}
```
  - Restoring some databases of an RDS for SQL Server instance to a specific point in time

```
{
"source": {
"instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
"type": "timestamp",
"restore_time": 1532001446987,
"database_name": {
"db1": "dbtest1,dbtest2",
"db2": "db2,db02",
"db3": ""
}
},
"target": {
"instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04"
}
}
```

## Response

- Normal response

**Table 4-12** 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](#).

# 4.4 Restoring Tables to a Specified Point in Time (RDS for MySQL)

## Function

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

### NOTICE

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

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

## Constraints

- This API is available to RDS for MySQL only.

## URI

- URI format  
POST /v3.1/{project\_id}/instances/{instance\_id}/restore/tables
- Parameter description

**Table 4-13** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 4-14** Parameters

| Parameter       | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restore_time    | Yes       | Long             | Restoration timestamp.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| restore_tables  | Yes       | Array of objects | Table information. For details, see <a href="#">Table 4-15</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| is_fast_restore | No        | Boolean          | <p>Whether to use fast restoration. The value can be <b>true</b> or <b>false</b>.</p> <ul style="list-style-type: none"> <li>To set this parameter, check whether fast restoration is supported by referring to <a href="#">Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)</a>. If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to <b>false</b> to prevent data loss.</li> <li>If this parameter is not specified, the system determines whether to use fast restoration based on the query result of <a href="#">Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)</a>. If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to <b>false</b>.</li> </ul> |

**Table 4-15** restore\_tables field data structure description

| Parameter | Mandatory | Type             | Description                                                      |
|-----------|-----------|------------------|------------------------------------------------------------------|
| database  | Yes       | String           | Database name.                                                   |
| tables    | Yes       | Array of objects | Table information. For details, see <a href="#">Table 4-16</a> . |

**Table 4-16** tables field data structure description

| Parameter | Mandatory | Type   | Description                                 |
|-----------|-----------|--------|---------------------------------------------|
| old_name  | Yes       | String | Original table name before the restoration. |
| new_name  | Yes       | String | Table name after the restoration.           |

## Example Request

Restoring table data to a specific point in time

```
POST https://[endpoint]/v3.1/054e292c9880d4992f02c0196d3ea468/instances/
d8e6ca5a624745bcb546a227aa3ae1cf01/restore/tables

{
 "restore_time" : 1689859468000,
 "restore_tables" : [{
 "database" : "database",
 "tables" : [{
 "old_name" : "oldTable",
 "new_name" : "newTable"
 }]
 }]
}
```

## Response

- Normal response

**Table 4-17** Response body parameters

| Parameter | Type   | Description |
|-----------|--------|-------------|
| job_id    | String | Task ID.    |

- Example normal response

```
{
 "job_id" : "04efe8e2-9255-44ae-a98b-d87cae411890"
}
```

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

# 4.5 Querying Database Error Logs (MySQL)

## Function

This API is used to query the latest error logs of a DB instance. A maximum of 2,000 log records can be queried.

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

## Constraints

This API is supported for MySQL only.

## URI

- URI format  
GET /v3.1/{project\_id}/instances/{instance\_id}/errorlog?  
start\_date={start\_date}&end\_date={end\_date}
- Parameter description

**Table 4-18** Parameter description

| Name        | Mandatory | Description                                                                                                                                                                                                                                                         |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                 |
| instance_id | Yes       | ID of the instance to be queried.                                                                                                                                                                                                                                   |
| start_date  | Yes       | Start time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |

| Name     | Mandatory | Description                                                                                                                                                                                                                                                                                                                  |
|----------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| end_date | Yes       | <p>End 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, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>.</p> <p>You can only query error logs generated within a month.</p> |
| offset   | No        | <p>Index offset.</p> <p>If <b>offset</b> is set to <i>N</i>, the resource query starts from the <i>N+1</i> piece of data. The value is <b>0</b> by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.</p>                                                        |
| limit    | No        | <p>Number of records (query results) displayed on each page. The number ranges from 1 to 100. The default value is <b>10</b>.</p>                                                                                                                                                                                            |
| level    | No        | <p>Log level. The default value is <b>ALL</b>. Valid value:</p> <ul style="list-style-type: none"> <li>• ALL</li> <li>• INFO</li> <li>• LOG</li> <li>• WARNING</li> <li>• ERROR</li> <li>• FATAL</li> <li>• PANIC</li> <li>• NOTE</li> </ul>                                                                                 |

## Request

- Request parameters

None

- URI example

```
GET https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/errorlog?
offset=1&limit=10&start_date=2022-08-23T07:41:50+0800&end_date=2022-08
-24T07:41:50+0800&level=ALL
```

## Response

- Normal response

**Table 4-19** Parameter description

| Name           | Type             | Description                                                            |
|----------------|------------------|------------------------------------------------------------------------|
| error_log_list | Array of objects | Detailed information.<br>For details, see <a href="#">Table 4-20</a> . |
| total_record   | Integer          | Total number of records.                                               |

**Table 4-20** error\_log\_list field data structure description

| Name    | Type   | Description             |
|---------|--------|-------------------------|
| time    | String | Time in the UTC format. |
| level   | String | Log level.              |
| content | String | Error log content.      |

- Example normal response

```
{
 "error_log_list": [
 {
 "time": "2022-08-23T22:59:17Z",
 "level": "WARNING",
 "content": "Occur error when reading bytes from a network handler. Client actively closes the connection."
 },
 {
 "time": "2022-08-23T22:54:17Z",
 "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](#).

## 4.6 Querying Database Slow Logs (MySQL)

### Function

This API is used to query the latest slow logs of a DB instance. A maximum of 2,000 log records can be queried.

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

### Constraints

This API is supported only for MySQL.

### URI

- URI format  
`GET /v3.1/{project_id}/instances/{instance_id}/slowlog?  
start_date={start_date}&end_date={end_date}`
- Parameter description

**Table 4-21** Parameter description

| Name        | Mandatory | Description                                                                                                                                                                                                                                                                                                              |
|-------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                                                      |
| instance_id | Yes       | ID of the instance to be queried.                                                                                                                                                                                                                                                                                        |
| start_date  | Yes       | Start time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> .                                                      |
| end_date    | Yes       | End time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . You can only query slow logs generated within a month. |

| Name   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset | No        | <p>Index offset.</p> <p>If <b>offset</b> is set to <math>N</math>, the resource query starts from the <math>N+1</math> piece of data. The value is <b>0</b> by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.</p> <p>The latest 2,000 slow query logs can be queried. The value of <b>offset</b> plus the value of <b>limit</b> must be no more than 2,000. For example, if the value of <b>offset</b> is set to <b>1900</b>, and the value of <b>limit</b> cannot be greater than <b>100</b>.</p> |
| limit  | No        | <p>Number of records (query results) displayed on each page. The number ranges from 1 to 100. The default value is <b>10</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| type   | No        | <p>Statement type. If it is left blank, all statement types are queried. Valid value:</p> <ul style="list-style-type: none"> <li>• INSERT</li> <li>• UPDATE</li> <li>• SELECT</li> <li>• DELETE</li> <li>• CREATE</li> </ul>                                                                                                                                                                                                                                                                                                                                       |

## Request

- Request parameters
- None

## Response

- Normal response

**Table 4-22** Parameter description

| Name          | Type             | Description                                                                      |
|---------------|------------------|----------------------------------------------------------------------------------|
| slow_log_list | Array of objects | <p>Detailed information.</p> <p>For details, see <a href="#">Table 4-23</a>.</p> |
| total_record  | Integer          | Total number of records.                                                         |

**Table 4-23 slow\_log\_list field data structure description**

| Name          | Type   | Description                                                                                                           |
|---------------|--------|-----------------------------------------------------------------------------------------------------------------------|
| count         | String | Number of executions.                                                                                                 |
| time          | String | Execution time.                                                                                                       |
| lock_time     | String | Lock wait time.                                                                                                       |
| rows_sent     | String | Number of sent rows.                                                                                                  |
| rows_examined | String | Number of scanned rows.                                                                                               |
| database      | String | Database which slow logs belong to.                                                                                   |
| users         | String | Account.                                                                                                              |
| query_sample  | String | Execution syntax. By default, slow query logs are anonymized. To display them in plaintext, contact customer service. |
| type          | String | Statement type.                                                                                                       |
| start_time    | String | Start time in the UTC format.                                                                                         |
| client_ip     | String | IP address.                                                                                                           |

- Example normal response

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

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

# 4.7 Deleting a Database (RDS for SQL Server)

## 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, frozen, or abnormal.

## URI

- URI format  
`DELETE /v3.1/{project_id}/instances/{instance_id}/database/{db_name}`
- Parameter description

**Table 4-24** Parameter description

| Name        | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |
| db_name     | Yes       | Name of the database to be deleted.                                                                                                 |

## Request

Parameter description

**Table 4-25** Parameter description

| Name            | Mandatory | Type    | Description                                                                |
|-----------------|-----------|---------|----------------------------------------------------------------------------|
| is_force_delete | No        | Boolean | Whether to forcibly delete a database. The default value is <b>false</b> . |

## Example Request

```
DELETE https://[endpoint]/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/database/rds-test

{
 "is_force_delete" : false
}
```

## Response

- Normal response

**Table 4-26** Parameter description

| Name   | Type   | Description |
|--------|--------|-------------|
| job_id | String | Job ID.     |

- Example normal response

```
{
 "job_id" : "e7a7535b-eb9b-45ac-a83a-020dc5016d94"
}
```

- Abnormal response

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

## Status Code

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

## Error Code

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

## 4.8 Shrinking Database Logs

### Function

This API is used to shrink database logs of an RDS for SQL Server instance.

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

### URI

- URI format  
POST /v3.1/{project\_id}/instances/{instance\_id}/db-shrink
- Parameter description

**Table 4-27** Parameter description

| Name        | Mandatory | Description                                                                                            |
|-------------|-----------|--------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>To obtain it, refer to <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                           |

## Request

**Table 4-28** Parameter description

| Name    | Mandatory | Type   | Description    |
|---------|-----------|--------|----------------|
| db_name | Yes       | String | Database name. |

## Example Request

Shrinking database logs

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/161e33e453954e21acfff65bfa3dbfebin04/db-shrink
{
 "db_name": "test1"
}
```

## Response

- Normal response

**Table 4-29** Parameter description

| Parameter | Type   | Description                                                                                              |
|-----------|--------|----------------------------------------------------------------------------------------------------------|
| resp      | String | Returns <b>successful</b> if the invoking is successful, or returns <b>failed</b> if the invoking fails. |

- 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 API v3 (Recommended)

---

## 5.1 Querying Version Information About APIs

### 5.1.1 Querying API Versions

#### Function

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

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

#### URI

- URI format  
GET /
- Parameter description  
None

#### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/

#### Response

- Normal response

**Table 5-1** Parameter description

| Name     | Type             | Description                                                                               |
|----------|------------------|-------------------------------------------------------------------------------------------|
| versions | Array of objects | List of detailed API version information.<br>For details, see <a href="#">Table 5-2</a> . |

**Table 5-2** versions field data structure description

| Name    | Type             | Description                                                                                                                                                                                            |
|---------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id      | String           | API version.<br>Its value can be: <ul style="list-style-type: none"><li>• <b>v1</b>: API v1 version</li><li>• <b>v3</b>: API v3 version</li></ul>                                                      |
| links   | Array of objects | API links. The value is empty when the version is v1 or v3.<br>For details, see <a href="#">Table 5-3</a> .                                                                                            |
| status  | String           | Version status. <ul style="list-style-type: none"><li>• <b>CURRENT</b>: recommended version</li><li>• <b>DEPRECATED</b>: deprecated version which may be deleted later</li></ul>                       |
| updated | String           | Version update time in the "yyyy-mm-dd Thh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the Coordinated Universal Time (UTC). |

**Table 5-3** links field data structure description

| Name | Type   | Description                                                      |
|------|--------|------------------------------------------------------------------|
| href | String | API URL. The value is "".                                        |
| rel  | String | Its value is <b>self</b> , indicating that href is a local link. |

- Example normal response

```
{
 "versions": [
 {
 "id": "v3",
 "links": [],
 "status": "CURRENT",
 "updated": "2019-01-15T12:00:00Z"
 },
 {
 "id": "v1",
 "links": [],
 "status": "DEPRECATED",
 "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       | <p>Specifies the API version. It is case-sensitive.</p> <p>For details, see <a href="#">id</a> in <a href="#">Table 5-2</a> in section <a href="#">Querying API Versions</a>.</p> |

## Request

- Request parameters  
None
- URI example  
GET https://[endpoint]/rds/v1

## Response

- Normal response

**Table 5-5** Parameter description

| Name     | Type   | Description                                                                                                       |
|----------|--------|-------------------------------------------------------------------------------------------------------------------|
| versions | Object | <p>Indicates the list of detailed API version information.</p> <p>For details, see <a href="#">Table 5-6</a>.</p> |
| version  | Object | <p>Indicates the list of detailed API version information.</p> <p>For details, see <a href="#">Table 5-6</a>.</p> |

**Table 5-6** versions field data structure description

| Name  | Type   | Description                                                                                                               |
|-------|--------|---------------------------------------------------------------------------------------------------------------------------|
| id    | String | Indicates the API version.                                                                                                |
| links | Array  | <p>Indicates the API version link information. Its value is empty.</p> <p>For details, see <a href="#">Table 5-7</a>.</p> |

| Name    | Type   | Description                                                                                                                                                               |
|---------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status  | String | Indicates the version status.                                                                                                                                             |
| updated | String | Indicates the version update time in the "yyyy-mm-dd Thh:mm:ssZ" format.<br>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 <b>self</b> , indicating that <b>href</b> is a local link. |

- Example normal response

```
{
 "version": {
 "id": "v1",
 "links": [],
 "status": "DEPRECATED",
 "updated": "2017-02-07T17:34:02Z"
 },
 "versions": {
 "id": "v1",
 "links": [],
 "status": "DEPRECATED",
 "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.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                  |
| 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"><li>MySQL</li><li>PostgreSQL</li><li>SQLServer</li></ul> |

## Request

- Request parameters  
None
- URI example  
`GET https://[endpoint]/v3/619d3e78f61b4be68bc5aa0b59edcf7b/datastores/mysql`

## Response

- Normal response

**Table 5-9** Parameter description

| Name       | Type             | Description                                                                               |
|------------|------------------|-------------------------------------------------------------------------------------------|
| dataStores | Array of objects | Indicates the list of database versions.<br>For details, see <a href="#">Table 5-10</a> . |

**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. <ul style="list-style-type: none"> <li>For MySQL, the minor version number can be returned. For example, if the DB engine version is MySQL 5.6.51, 5.6.51 is returned.</li> <li>For PostgreSQL and Microsoft SQL Server, only the major version number (two digits) is returned. For example, if the DB engine version is PostgreSQL 9.6.X, only 9.6 is returned.</li> </ul> |

- Example normal response

```
{
 "dataStores": [
 {
 "id": "87620726-6802-46c0-9028-a8785e1f1921",
 "name": "8.0.21"
 },
 {
 "id": "87620726-6802-46c0-9028-a8785e1f1922",
 "name": "5.7.33"
 },
 {
 "id": "e8a8b8cc-63f8-4fb5-8d4a-24c502317a62",
 "name": "5.6.51"
 }
]
}
```

- 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}&spec\_code={spec\_code}&is\_serverless={is\_serverless}

- Parameter description

**Table 5-11** Parameter description

| Name          | Mandatory | Description                                                                                                                                                                                                                                                                                        |
|---------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                  |
| 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"><li>MySQL</li><li>PostgreSQL</li><li>SQLServer</li></ul>                                                                                                            |
| version_name  | No        | Specifies the database version. For details about how to obtain the database version, see section <a href="#">Querying Version Information About a DB Engine</a> . (The minor version is supported.)                                                                                               |
| is_serverless | No        | Specifies whether to query serverless specifications. The value can be any of the following (case-sensitive): <ul style="list-style-type: none"><li><b>true</b>: Serverless specifications are queried.</li><li><b>false</b> (default value): Non-serverless specifications are queried.</li></ul> |

| Name      | Mandatory | Description                       |
|-----------|-----------|-----------------------------------|
| spec_code | No        | Specifies the specification code. |

## Request

- Request parameters  
None
- URI example  
GET `https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/flavors/mysql?version_name=5.7&spec_code=rds.mysql.m1.xlarge.rr`

## Response

- Normal response

**Table 5-12** Parameter description

| Name    | Type             | Description                                                                                                 |
|---------|------------------|-------------------------------------------------------------------------------------------------------------|
| flavors | Array of objects | Indicates the DB instance specifications information list.<br>For details, see <a href="#">Table 5-13</a> . |

**Table 5-13** flavors field data structure description

| Name  | Type    | Description                                                               |
|-------|---------|---------------------------------------------------------------------------|
| vcpus | String  | Indicates the CPU size. For example, the value <b>1</b> indicates 1 vCPU. |
| ram   | Integer | Indicates the memory size in GB.                                          |
| id    | String  | Indicates the specification ID, which is unique.                          |

| Name          | Type                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spec_code     | String              | <p>Indicates the resource specification code. Use <b>rds.mysql.m1.xlarge.rr</b> as an example.</p> <p>For more information, see <a href="#">Instance Class</a>.</p> <ul style="list-style-type: none"> <li>• <b>rds</b>: indicates the RDS product.</li> <li>• <b>mysql</b>: indicates the DB engine.</li> <li>• <b>m1.xlarge</b>: indicates the high memory performance specifications.</li> <li>• <b>rr</b>: indicates read replicas (<b>.ha</b> indicates primary/standby DB instances).</li> <li>• <b>rha.rr</b> indicates HA read replicas. Example specification code: rds.mysql.n1.large.4.rha.rr. <ul style="list-style-type: none"> <li>– HA read replicas are available only for users with the open beta test (OBT) permission. You can contact customer service to apply for the permission.</li> <li>– For details about HA read replicas, see <a href="#">Introducing HA Read Replicas</a>.</li> </ul> </li> </ul> |
| version_name  | Array               | <p>Indicates the database version.</p> <p>Example value for the MySQL DB engine: ["5.6", "5.7", "8.0"]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| instance_mode | String              | <p>Indicates the DB instance type. Its value can be any of the following:</p> <ul style="list-style-type: none"> <li>• <b>ha</b>: indicates primary/standby instances.</li> <li>• <b>replica</b>: indicates read replicas.</li> <li>• <b>single</b>: indicates single DB instances.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| az_status     | Map<String, String> | <p>Indicates the specification status in an AZ. Its value can be any of the following:</p> <ul style="list-style-type: none"> <li>• <b>normal</b>: indicates that the specifications in the AZ are available.</li> <li>• <b>unsupported</b>: indicates that the specifications are not supported by the AZ.</li> <li>• <b>sellout</b>: indicates that the specifications in the AZ are sold out.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| az_desc       | Map<String, String> | <p>Indicates the description of the AZ to which the specifications belong.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Name       | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group_type | String | <p>Indicates the performance specifications. Its value can be any of the following:</p> <ul style="list-style-type: none"> <li>• <b>normal</b>: general-enhanced</li> <li>• <b>normal2</b>: general-enhanced II</li> <li>• <b>armFlavors</b>: Kunpeng general-enhanced</li> <li>• <b>dedicateNormal (dedicatedNormalLocalssd)</b>: exclusive x86</li> <li>• <b>armLocalssd</b>: standard Kunpeng</li> <li>• <b>normalLocalssd</b>: standard x86</li> <li>• <b>general</b>: general-purpose</li> <li>• <b>dedicated</b>: <ul style="list-style-type: none"> <li>– For the MySQL DB engine: dedicated</li> <li>– For PostgreSQL and SQL Server DB engines: dedicated, which is only supported for cloud SSDs</li> </ul> </li> <li>• <b>rapid</b>: <ul style="list-style-type: none"> <li>– For the MySQL DB engine: dedicated (offline)</li> <li>– For PostgreSQL and SQL Server DB engines: dedicated, which is only supported for extreme SSDs</li> </ul> </li> <li>• <b>bigmem</b>: large-memory</li> <li>• <b>highPerformancePrivilegeEdition</b>: ultra-high I/O (advanced)</li> </ul> |

- Example normal response

```
{
 "flavors": [
 {
 "vcpus": "1",
 "ram": 2,
 "id": "2988b9cc-2aac-3a94-898c-14666702f129",
 "spec_code": "rds.mysql.c2.medium.rrrds.pg.c2.medium.rr",
 "version_name": ["5.6", "5.7", "8.0"],
 "instance_mode": "ha",
 "az_status": {
 "az1": "normal",
 "az2": "normal"
 },
 "az_desc": {
 "az1": "az1",
 "az2": "az2"
 },
 "group_type": "normal"
 },
 {
 "vcpus": "1",
 "ram": 2,
 "id": "2988b9cc-2aac-3a94-898c-14666702f130",
 "spec_code": "rds.mysql.c2.medium.rrrds.pg.c2.medium.rr",
 "version_name": ["5.6", "5.7", "8.0"],
 "instance_mode": "replica",
 "az_status": {
 "az1": "normal",
 "az2": "normal"
 }
 }
]
}
```

```
 "az2": "normal"
 },
 "az_desc": {
 "az1": "az1",
 "az2": "az2"
 },
 "group_type": "normal"
]
}
```

- 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.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

| Name          | Mandatory | Description                                                                                                                                                                                        |
|---------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_name | Yes       | <p>Specifies the DB engine name. Its value can be any of the following and is case-insensitive:</p> <ul style="list-style-type: none"> <li>MySQL</li> <li>PostgreSQL</li> <li>SQLServer</li> </ul> |
| version_name  | Yes       | <p>Specifies the database version. For details about how to obtain the database version, see section <a href="#">Querying Version Information About a DB Engine</a>.</p>                           |
| ha_mode       | No        | <p>Specifies the HA mode. The value options are as follows:</p> <ul style="list-style-type: none"> <li>single</li> <li>ha</li> <li>replica</li> </ul>                                              |

## Request

- Request parameters  
None
- URI example  
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/storage-type/mysql?version_name=5.7&ha_mode=ha`

## Response

- Normal response

**Table 5-15** Parameter description

| Name         | Type             | Description                                                                                                                                                                              |
|--------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| storage_type | Array of objects | <p>Indicates the DB instance specifications information list.</p> <p>For details, see <a href="#">Table 5-16</a>.</p>                                                                    |
| dsspool_info | Array of objects | <p>Indicates the dsspool specifications information list.</p> <p>For details, see <a href="#">Table 5-17</a>.</p> <p><b>NOTE</b><br/>Only Dedicated Cloud (DeC) users are supported.</p> |

**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"><li>● <b>ULTRAHIGH</b>: ultra-high I/O storage.</li><li>● <b>LOCALSSD</b>: local SSD storage.</li><li>● <b>CLOUDSSD</b>: cloud SSD storage. This storage type is supported only with general-purpose and dedicated DB instances.</li><li>● <b>ESSD</b>: extreme SSD storage. This storage type is supported only with dedicated DB instances.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 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"><li>● <b>normal</b>: indicates that the specifications in the AZ are available.</li><li>● <b>unsupported</b>: indicates that the specifications are not supported by the AZ.</li><li>● <b>sellout</b>: indicates that the specifications in the AZ are sold out.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| support_compute_group_type | List<String>        | Indicates the performance specifications. Its value can be any of the following: <ul style="list-style-type: none"><li>● <b>normal</b>: general-enhanced</li><li>● <b>normal2</b>: general-enhanced II</li><li>● <b>armFlavors</b>: Kunpeng general-enhanced</li><li>● <b>dedicateNormal</b>: exclusive x86</li><li>● <b>armLocalssd</b>: standard Kunpeng</li><li>● <b>normalLocalssd</b>: standard x86</li><li>● <b>general</b>: general-purpose</li><li>● <b>dedicated</b>:<ul style="list-style-type: none"><li>- For the MySQL DB engine: dedicated</li><li>- For PostgreSQL and SQL Server DB engines: dedicated, which is only supported for cloud SSDs</li></ul></li><li>● <b>rapid</b>:<ul style="list-style-type: none"><li>- For the MySQL DB engine: dedicated (offline)</li><li>- For PostgreSQL and SQL Server DB engines: dedicated, which is only supported for extreme SSDs</li></ul></li><li>● <b>bigmem</b>: large-memory</li></ul> |

**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"> <li>• available</li> <li>• deploying</li> <li>• enlarging</li> <li>• frozen</li> <li>• sellout</li> </ul> |

- Example normal response

```
{
 "storage_type": [
 {
 "name": "COMMON",
 "az_status": {
 "az1": "normal",
 "az2": "normal"
 },
 "support_compute_group_type": [
 "normal",
 "normal2",
 "armFlavors"
]
 },
 {
 "name": "ULTRAHIGH",
 "az_status": {
 "az1": "normal",
 "az2": "normal"
 },
 "support_compute_group_type": [
 "normal",
 "normal2",
 "armFlavors"
]
 }
],
 "dsspool_info": []
}
```

DeC user query response example

```
{
 "storage_type": [
 {
 "name": "COMMON",
 "az_status": {
 "az1xahz": "normal",
 "az3xahz": "normal"
 },
 "support_compute_group_type": [
 "normal"
]
 }
],
 "dsspool_info": []
}
```

```
 "normal",
 "normal2"
],
},
{
 "name": "ULTRAHIGH",
 "az_status": {
 "az1xahz": "normal",
 "az3xahz": "normal"
 },
 "support_compute_group_type": [
 "normal",
 "normal2"
]
},
],
"dsspool_info": [
{
 "az_name": "az1xahz",
 "free_capacity_gb": "8656",
 "dsspool_volume_type": "ULTRAHIGH",
 "dsspool_id": "f5f84ed7-6f19-4bd4-99d7-b450ad6cc4dd",
 "dsspool_status": "available"
}
]
}
```

- 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](#).

This API allows you to set the X-Client-Token request header in the HTTP request header when you create an RDS for MySQL instance, to ensure the request idempotence. For details, see [Idempotent Requests](#).

## 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.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

**Table 5-19** Parameters (creating single, primary/standby, and cluster instances, except RDS for SQL Server instances configured with the AD domain)

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name       | Yes       | String | <p>Specifies the DB instance name.</p> <p>Instances of the same type can have the same name under the same tenant.</p> <ul style="list-style-type: none"><li>• RDS for MySQL: The DB instance name must be 4 to 64 bytes long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_).</li><li>• RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 bytes long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).</li></ul> |
| datastore  | Yes       | Object | <p>Specifies the database information.</p> <p>For details, see <a href="#">Table 5-21</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| flavor_ref | Yes       | String | <p>Specifies the specification code. The value cannot be empty.</p> <p>For details, see <a href="#">spec_code</a> in <a href="#">Table 5-13</a> in <a href="#">Querying Database Specifications</a>.</p>                                                                                                                                                                                                                                                                                                                                                                        |

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| volume            | Yes       | Object | <p>Specifies the volume information.</p> <p>For details, see <a href="#">Table 5-24</a>.</p>                                                                                                                                                                                                                                            |
| region            | Yes       | String | <p>Specifies the region ID.</p> <p>The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a>.</p>                                                                                                                                                                      |
| availability_zone | Yes       | String | <p>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.</p> <p>The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a>.</p> |
| vpc_id            | Yes       | String | <p>Specifies the VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> <li>Method 1: Log in to VPC console and view the VPC ID in the VPC details.</li> <li>Method 2: See the "Querying VPCs" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul>       |

| 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"><li>Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>Method 2: See the "Querying Subnets" section in the <i>Virtual Private Cloud API Reference</i>.</li></ul> |

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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"> <li>Method 1: Log in to VPC console. Choose <b>Access Control &gt; Security Groups</b> 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.</li> <li>Method 2: See the "Querying Security Groups" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul> <p>To use multiple security groups for an RDS for MySQL instance, choose <b>Service Tickets &gt; Create Service Ticket</b> in the upper right corner of the management console to apply for the required permissions. You can add up to 10 security group IDs for each instance and separate them with commas (,).</p> |
| ha                | No        | Object | <p>Specifies the HA configuration, which is used when you create primary/standby instances.</p> <p>For details, see <a href="#">Table 5-22</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                  |
|------------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| configuration_id | No        | String | <p>Specifies the parameter template ID.</p> <p>For details, see <b>id</b> in <a href="#">Table 5-420</a> in section <a href="#">Obtaining a Parameter Template List</a>.</p> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port      | No        | String | <p>Specifies the database port information.</p> <ul style="list-style-type: none"><li>• RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use.</li><li>• RDS for PostgreSQL instances can use database ports 2100 to 9500.</li><li>• For RDS for SQL Server 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, and 2017 Web Edition, the port number can be set to 1433 or 2100 to 9500 (excluding 5050, 5353, 5355, 5985, and 5986). For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355 and 5985).</li></ul> <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"><li>• RDS for MySQL: <b>3306</b></li><li>• RDS for PostgreSQL: <b>5432</b></li><li>• RDS for SQL Server: <b>1433</b></li></ul> |

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| password              | No        | String | <p>Specifies the database password.</p> <p>Valid value:<br/>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"> <li>• RDS for MySQL: ~!@#\$%^*-_=+?,()&amp;</li> <li>• RDS for SQL Server: ~!@#\$%^*-_=+,</li> <li>• RDS for PostgreSQL: ~!@#\$%^*-_=+?,</li> </ul> <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 <a href="#">Table 5-23</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| enterprise_project_id | No        | String | Specifies the enterprise project ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| disk_encryption_id    | No        | String | <p>Specifies the key ID for disk encryption. The default value is empty.</p> <p><b>NOTE</b><br/>Serverless instances do not support this parameter.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_vip    | No        | String | <p>Specifies the floating IP address of a DB instance. Currently, only IPv4 addresses are supported. You can use the following methods to obtain the floating IP address:</p> <ul style="list-style-type: none"> <li>Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. View the subnet CIDR block and select an IP address that is not in use.</li> <li>Method 2: See the "Querying Subnets" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul> |
| charge_info | No        | Object | <p>Specifies the billing information, which is yearly/monthly or pay-per-use (default setting).</p> <p>For details, see <a href="#">Table 5-25</a>.</p>                                                                                                                                                                                                                                                                                                                                                      |

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| time_zone     | No        | String | <p>Specifies the UTC time zone.</p> <ul style="list-style-type: none"><li>If this parameter is not specified, the time zone of each engine is as follows:<ul style="list-style-type: none"><li>MySQL: uses UTC by default.</li><li>PostgreSQL: uses UTC by default.</li><li>Microsoft SQL Server: Chinese mainland site and international site use China Standard Time and UTC, respectively.</li></ul></li><li>If this parameter is specified for MySQL or PostgreSQL, the value range is from UTC-12:00 to UTC +12:00 on the hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30.</li><li>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.</li></ul> |
| restore_point | No        | Object | <p>Specifies the restoration information. This parameter is mandatory when data is restored to a new instance.</p> <p>For details, see <a href="#">Table 5-27</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| 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"><li>• <i>{key}</i> indicates the tag key. It must be unique and cannot be empty.</li><li>• <i>{value}</i> indicates the tag value, which can be empty.</li></ul> <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 <a href="#">Table 5-26</a>.</p> |
| unchangeable_param | No        | Object           | <p>Specifies the list of unchangeable parameters. The unchangeable parameters need to be specified before database initialization and cannot be modified after being specified.</p> <p>For details, see <a href="#">Table 5-29</a>.</p>                                                                                                                                                                                                                                                                |
| collation          | No        | String           | <p>This parameter applies only to RDS for SQL Server DB instances.</p> <p>Value range: character sets queried in <a href="#">Querying the Available SQL Server Character Set</a>.</p>                                                                                                                                                                                                                                                                                                                  |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dry_run         | No        | Boolean | <p>Specifies whether DB instances will not be created after the request is checked. This parameter is supported with the MySQL DB engine only.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: DB instances will not be created after the request is checked. <ul style="list-style-type: none"> <li>- If the check is successful, status code 202 is returned.</li> <li>- If the check fails, an error code is returned. For details, see <a href="#">Error Codes</a>.</li> </ul> </li> <li>• <b>false</b>: DB instances will be created after the check is successful.</li> </ul> |
| count           | No        | Integer | <p>Specifies the number of DB instances to be created in a batch.<br/>Value range: 1 to 50<br/>This parameter is unavailable when you create read replicas.</p>                                                                                                                                                                                                                                                                                                                                                                                                                               |
| serverless_info | No        | Object  | <p>Specifies the resource scaling scope of a serverless instance. This parameter is mandatory when you create a serverless instance.<br/>For details, see <a href="#">Table 5-28</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 5-20** Parameters (creating read replicas)

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | Yes       | String | <p>Specifies the DB instance name.</p> <p>DB instances of the same type can have same names under the same tenant.</p> <p>Valid value:</p> <ul style="list-style-type: none"> <li>• RDS for MySQL: The DB instance name must be 4 to 64 bytes long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), periods (.), and underscores (_).</li> <li>• RDS for PostgreSQL and RDS for SQL Server: The DB instance name must be 4 to 64 bytes long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).</li> </ul> |
| replica_of_id | Yes       | String | Specifies the ID of the primary DB instance. This parameter is mandatory when you create a read replica and is unavailable in other scenarios.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| flavor_ref    | Yes       | String | <p>Specifies the specification code. The value cannot be empty.</p> <p>For details, see <b>spec_code</b> in <a href="#">Table 5-13</a> in section <a href="#">Querying Database Specifications</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                |
| volume        | Yes       | Object | <p>Specifies the volume information.</p> <p>For details, see <a href="#">Table 5-24</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| availability_zone     | Yes       | String | Specifies the AZ ID. The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a> .                                                                                                                                                                                                                                                                  |
| enterprise_project_id | No        | String | Specifies the project 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. The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a> .                                                                                                                                                          |
| charge_info           | No        | Object | <p>Specifies the billing information, which is yearly/monthly or pay-per-use (default setting). For details, see <a href="#">Table 5-25</a>.</p> <p><b>NOTE</b></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>RDS for SQL Server does not support yearly/monthly read replicas.</p> |

**Table 5-21** datastore field data structure description

| Parameter | Mandatory | Type   | Description                                                                                                                      |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| type      | Yes       | String | Specifies the DB engine. Value: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• SQLServer</li></ul> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| version   | Yes       | String | <p>Specifies the database version.</p> <ul style="list-style-type: none"><li>• For RDS for MySQL, the value can be <b>5.6</b>, <b>5.7</b>, or <b>8.0</b>.</li><li>• For RDS for PostgreSQL, 10, 11, 12, 13, 14, and 15 are supported. RDS for PostgreSQL 9.5 and 9.6 are only for installed base operations.</li><li>• For RDS for SQL Server, 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition (these 2022 editions require you to contact customer service), 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, 2017 Web Edition, 2014 Standard Edition, 2014 Enterprise Edition, 2016 Standard Edition, 2016 Enterprise Edition, 2012 Enterprise Edition, 2012 Standard Edition, 2012 Web Edition, 2014 Web Edition, and 2016 Web Edition are supported. Example value: 2014_SE. 2008 R2 Enterprise Edition and 2008 R2 Web Edition are</li></ul> |

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                  |
|------------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |           |        | <p>only for installed base operations.</p> <p>For details about supported database versions, see section <a href="#">Querying Version Information About a DB Engine</a>.</p> |
| complete_version | No        | String | Specifies the complete version number. This parameter is returned only when the DB engine is PostgreSQL.                                                                     |

**Table 5-22 ha field data structure description**

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode             | Yes       | String | Specifies the primary/standby instance type. The value is <b>Ha</b> (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"> <li>• For RDS for MySQL, the value is <b>async</b> or <b>semisync</b>.</li> <li>• For RDS for PostgreSQL, the value is <b>async</b> or <b>sync</b>.</li> <li>• For RDS for SQL Server, the value is <b>sync</b>.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• <b>async</b> indicates the asynchronous replication mode.</li> <li>• <b>semisync</b> indicates the semi-synchronous replication mode.</li> <li>• <b>sync</b> indicates the synchronous replication mode.</li> </ul> |

**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"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to any of the following: <b>00</b>, <b>15</b>, <b>30</b>, or <b>45</b>.</li></ul> <p>Example value:</p> <ul style="list-style-type: none"><li>• 08:15-09:15</li><li>• 23:00-00:00</li></ul> |
| 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 <b>0</b>, the automated backup policy is disabled. To extend the retention period, contact customer service. Automated backups can be retained for up to 2,562 days.</p> <p><b>NOTICE</b><br/>Primary/standby DB instances of RDS for SQL Server do not support disabling the automated backup policy.</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"> <li>• <b>ULTRAHIGH</b>: ultra-high I/O storage.</li> <li>• <b>LOCALSSD</b>: local SSD storage.</li> <li>• <b>CLOUDSSD</b>: cloud SSD storage. This storage type is supported only with general-purpose and dedicated DB instances.</li> <li>• <b>ESSD</b>: extreme SSD storage.</li> </ul> |
| 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><b>NOTE</b><br/>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"> <li>• <b>prePaid</b>: indicates the yearly/monthly billing mode.</li> <li>• <b>postPaid</b>: indicates the pay-per-use billing mode.</li> </ul> |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| period_type | No        | String | <p>Specifies the subscription period.</p> <p>Valid value:</p> <ul style="list-style-type: none"><li>• <b>month</b>: indicates that the subscription unit is month.</li><li>• <b>year</b>: indicates that the subscription unit is year.</li></ul> <p><b>NOTE</b></p> <p>This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</p> |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| period_num | No        | Integer | <p>This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</p> <p>Valid value:</p> <ul style="list-style-type: none"> <li>• When <b>period_type</b> is set to <b>month</b>, the parameter value ranges from <b>1</b> to <b>9</b>.</li> <li>• When <b>period_type</b> is set to <b>year</b>, the parameter value ranges from <b>1</b> to <b>3</b> or can be <b>5</b>.</li> </ul> <p>Only RDS for MySQL supports the 5-year subscription. The constraints are as follows:</p> <ul style="list-style-type: none"> <li>- You need to contact customer service to apply for the required permissions.</li> <li>- This setting is supported only in CN North-Beijing4, CN East-Shanghai1, CN South-Guangzhou, and CN Southwest-Guiyang1.</li> <li>- This setting is supported only with general-purpose instances.</li> </ul> |

**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 _.:=-@. 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: _.:=-@                                             |

**Table 5-27** restore\_point field data structure description

| Parameter    | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id  | Yes       | String  | Specifies the source instance ID.                                                                                                                                                                                                                                                                                                                                                                       |
| type         | Yes       | String  | Specifies the restoration mode. Enumerated values include: <ul style="list-style-type: none"> <li>• <b>backup</b>: indicates using backup files for restoration. In this mode, <b>type</b> is optional and <b>backup_id</b> is mandatory.</li> <li>• <b>timestamp</b>: indicates the point-in-time restoration. In this mode, <b>type</b> is mandatory and <b>restore_time</b> is mandatory.</li> </ul> |
| backup_id    | No        | String  | Specifies the ID of the backup to be restored. This parameter must be specified when backups are used for restoration.                                                                                                                                                                                                                                                                                  |
| restore_time | No        | Integer | Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.                                                                                                                                                                                                                                                                                   |

| Parameter     | Mandatory | Type                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------|-----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_name | No        | Map<String, String> | <p>This parameter is supported only for Microsoft SQL Server databases. If this parameter is specified, you can restore specific databases and rename new databases.</p> <ul style="list-style-type: none"><li>The new database names must be different from the original database names. If you do not customize the database names, data will be restored to the original databases by default. If this parameter is not specified, all databases are restored by default. Example value: "database_name": {"Original database name": "New database name"}</li><li>New database names cannot contain the following fields (case-insensitive): rdsadmin, master, msdb, tempdb, model, and resource.</li><li>Each database name must consist of 1 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.</li></ul> |

**Table 5-28** serverless\_info field data structure description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| min_cap   | Yes       | String | <p>Minimum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5.</p> <p><b>NOTE</b></p> <p>RCU: RDS Capacity Unit. It is the billing unit for serverless instances.</p> <p>The value of <b>max_cap</b> must be greater than that of <b>min_cap</b>.</p> |
| max_cap   | Yes       | String | Maximum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5.                                                                                                                                                                                           |

**Table 5-29 unchangeable\_param field data structure description**

| Parameter              | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lower_case_table_names | No        | String | <p>Whether table names are case sensitive. The default value is <b>1</b>.</p> <p>Value range:</p> <ul style="list-style-type: none"> <li><b>0</b>: Table names are fixed and case sensitive.</li> <li><b>1</b>: Table names are stored in lowercase and are case insensitive.</li> </ul> <p><b>NOTE</b><br/>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.<br/>Otherwise, the restoration may fail.</p> |

## Example Request

- Creating an RDS for MySQL single instance

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances
```

```
{
 "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",
 "enterprise_project_id": "fdsa-3rds",
 "time_zone": "UTC+04:00",
 "tags": [
 {
 "key": "key1",
 "value": "value1"
 }
]
}
```

- ```
        "key": "key2",
        "value": "value2"
    },
],
"dry_run": false,
"count": 12
}
● Creating an RDS for PostgreSQL single instance
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "PostgreSQL",
        "version": "10"
    },
    "flavor_ref": "rds.pg.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": "192.168.0.147",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "port": 8635,
    "backup_strategy": {
        "start_time": "08:15-09:15",
        "keep_days": 12
    },
    "charge_info": {
        "charge_mode": "postPaid"
    },
    "password": "Test@12345678",
    "configuration_id": "452408-ef4b-44c5-94be-305145fg",
    "enterprise_project_id": "fdsa-3rds",
    "time_zone": "UTC+04:00",
    "tags": [
        {
            "key": "key1",
            "value": "value1"
        },
        {
            "key": "key2",
            "value": "value2"
        }
    ]
}
```

- Creating an RDS for MySQL 8.0 single instance with initialization parameters specified

```
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "MySQL",
        "version": "8.0"
    },
    "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",
"enterprise_project_id": "fdsa-3rds",
"time_zone": "UTC+04:00",
"tags": [
    {
        "key": "key1",
        "value": "value1"
    },
    {
        "key": "key2",
        "value": "value2"
    }
],
"unchangeable_param": {
    "lower_case_table_names": "1"
},
"dry_run": false,
"count": 12
}
```

- Creating an RDS for SQL Server single instance with collation specified

```
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "SQLServer",
        "version": "2014_SE"
    },
    "flavor_ref": "rds.mssql.se.m3.large.8",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 100
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "region": "aaa",
    "availability_zone": "bbb",
    "vpc_id": "490a408-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"
    },
    "collation": "Cyrillic_General_CI_AS",
    "password": "*****",
    "configuration_id": "452408-ef4b-44c5-94be-305145fg",
    "enterprise_project_id": "fdsa-3rds",
    "time_zone": "UTC+04:00",
    "tags": [
        {
            "key": "key1",
            "value": "value1"
        },
        {

```

```
        "key": "key2",
        "value": "value2"
    },
],
}
● Creating a primary/standby instance
{
    "name": "rds-instance-rep2",
    "datastore": {
        "type": "MySQL",
        "version": "5.6"
    },
    "ha": {
        "mode": "ha",
        "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.s1.large.ha",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 100
    },
    "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",
    "enterprise_project_id": "fdsa-3rds",
    "time_zone": "UTC+04:00",
    "tags": [
        {
            "key": "key1",
            "value": "value1"
        },
        {
            "key": "key2",
            "value": "value2"
        }
    ],
    "dry_run": false,
    "count": 12
}
● Creating a read replica
{
    "name": "rds-instance-rep2",
    "replica_of_id": "afdsad-fds-fdsagin01",
    "flavor_ref": "rds.mysql.s1.large.rr",
    "volume": {
        "type": "ULTRAHIGH"
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "region": "aaa",
    "availability_zone": "bbb",
    "enterprise_project_id": "fdsa-3rds",
    "tags": [
        {
            "key": "key1",

```

```
        "value": "value1"
    },
    {
        "key": "key2",
        "value": "value2"
    }
]
```

- Creating an RDS for MySQL serverless single instance

```
{
    "name": "rds-instance-serverless1",
    "datastore": {
        "type": "MySQL",
        "version": "5.7"
    },
    "flavor_ref": "rds.mysql.serverless",
    "volume": {
        "type": "CLOUDSSD",
        "size": 40
    },
    "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": 3306,
    "backup_strategy": {
        "start_time": "08:15-09:15",
        "keep_days": 12
    },
    "password": "*****",
    "time_zone": "UTC+04:00",
    "tags": [
        {
            "key": "key1",
            "value": "value1"
        },
        {
            "key": "key2",
            "value": "value2"
        }
    ],
    "dry_run": false,
    "count": 1,
    "serverless_info": {
        "min_cap": "0.5",
        "max_cap": "1"
    }
}
```

- Creating an RDS for MySQL serverless primary/standby instance

```
{
    "name": "rds-instance-serverless2",
    "datastore": {
        "type": "MySQL",
        "version": "5.7"
    },
    "ha": {
        "mode": "ha",
        "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.serverless.ha",
    "volume": {
        "type": "CLOUDSSD",
        "size": 40
    },
    "region": "aaa",
    "availability_zone": "aaa,bbb",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
```

```
"subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
"security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
"port":3306,
"backup_strategy": {
    "start_time": "08:15-09:15",
    "keep_days": 12
},
"password": "*****",
"time_zone": "UTC+08:00",
"tags": [
    {
        "key": "key1",
        "value": "value1"
    },
    {
        "key": "key2",
        "value": "value2"
    }
],
"dry_run": false,
"count": 1,
"serverless_info": {
    "min_cap": "0.5",
    "max_cap": "1"
}
}
```

Response

- Normal response

Table 5-30 Parameter description

Parameter	Type	Description
instance	Object	Indicates the DB instance information. For details, see Table 5-31 .
job_id	String	Indicates the ID of the DB instance creation task. For details about how to query task details, see Obtaining Information About a Task with a Specified ID . This parameter is returned only when pay-per-use DB instances are created.
order_id	String	Indicates the order ID. This parameter is returned for the creation of a yearly/monthly DB instance.

Table 5-31 instance field data structure description

Parameter	Type	Description
id	String	Indicates the DB instance ID. If instances are created in batches, multiple instance IDs separated by commas (,) are returned for the MySQL DB engine. For other DB engines, this parameter is left blank.
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. This parameter is returned only when pay-per-use DB instances are created.
datastore	Object	Indicates the database information. For details, see Table 5-32 .
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see Table 5-33 .

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 5-34 .
enterprise_project_id	String	Indicates the project ID.
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. NOTE Serverless instances do not support this parameter.
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 5-35 .
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, which is yearly/monthly or pay-per-use.</p> <p>For details, see Table 5-36.</p>
collation	String	Indicates the collation set for RDS for SQL Server.
restore_point	Object	<p>Indicates the restoration information. This parameter is mandatory when data is restored to a new instance.</p> <p>For details, see Table 5-37.</p>

Table 5-32 datastore field data structure description

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

Table 5-33 ha field data structure description

Parameter	Type	Description
mode	String	Indicates the primary/standby instance type. The value is Ha .
replication_mode	String	Indicates the replication mode for the standby DB instance. This parameter is valid only when the instance is an HA instance. Value: <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.• For RDS for SQL Server, the value is sync. NOTE <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 5-34 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>
keep_days	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. To extend the retention period, contact customer service. Automated backups can be retained for up to 2,562 days.</p> <p>If backup_strategy in the request body is empty, 7 is returned for keep_days by default.</p>

Table 5-35 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.• LOCALSSD: local SSD storage.• CLOUDSSD: cloud SSD storage. This storage type is supported only with general-purpose and dedicated DB instances.• ESSD: extreme SSD storage.
size	Integer	Indicates the volume size. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.

Table 5-36 chargeInfo field data structure description

Parameter	Type	Description
charge_mode	String	Indicates the billing information, which is yearly/monthly or pay-per-use.
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).

Table 5-37 restore_point field data structure description

Parameter	Type	Description
instance_id	String	Specifies the source instance ID.
type	String	Specifies the restoration mode. <ul style="list-style-type: none">• backup: indicates using backup files for restoration.• timestamp: indicates the point-in-time restoration.

Parameter	Type	Description
backup_id	String	Specifies the ID of the backup to be restored.
restore_time	Integer	Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.
database_name	Map<String, String>	This parameter is supported only for Microsoft SQL Server databases. If this parameter is specified, you can restore specific databases and rename new databases.

NOTE

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

- 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 an RDS for SQL Server single instance:

```
{
  "instance": {
    "id": "dsfae23fsfdsae3435in01",
    "name": "trove-instance-rep2",
    "datastore": {
      "type": "sqlserver",
      "version": "2014_SE"
    },
    "flavor_ref": "rds.mssql.2014.se.s3.large.2",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 100
    }
  },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

```
"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"  
},  
    "collation": "Cyrillic_General_CI_AS"  
},  
"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"
}
```

Creating an RDS for MySQL serverless single instance:

```
{
    "instance": {
        "id": "4c57a8203dd348f3b789476165755b20in01",
        "name": "serverless_single1",
        "status": "BUILD",
        "datastore": {
            "type": "MySQL",
            "version": "5.7"
        },
        "port": "3307",
        "volume": {
            "type": "CLOUDSSD",
            "size": 40
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "08:15-09:15",
            "keep_days": 12
        },
        "flavor_ref": "rds.mysql.serverless",
        "availability_zone": "bbb",
        "vpc_id": "bd3e4c67-74da-459d-820f-9fec4ea9ca4",
        "subnet_id": "53cdf568-6f56-4944-a996-4afaffe994e",
        "security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c",
        "charge_info": {
            "charge_mode": "postPaid"
        }
    },
    "job_id": "3c1b8910-4191-4eed-9865-49bd82bac65b"
}
```

Creating an RDS for MySQL serverless primary/standby instance:

```
{
    "instance": {
        "id": "4c57a8203dd348f3b789476165755b20in01",
        "name": "serverless_ha1",
        "status": "BUILD",
        "datastore": {
            "type": "MySQL",
            "version": "5.7"
        },
        "ha": {
            "mode": "Ha",
            "replication_mode": "semisync"
        },
        "port": "3307",
        "volume": {
            "type": "CLOUDSSD",
            "size": 40
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "08:15-09:15",
            "keep_days": 12
        },
        "flavor_ref": "rds.mysql.serverless.ha",
    }
}
```

```
"availability_zone": "aaa,bbb",
"vpc_id": "bd3e4c67-74da-459d-820f-9fec4ea9ca4",
"subnet_id": "53cdf568-6f56-4944-a996-4afcaffe994e",
"security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c",
"charge_info": {
    "charge_mode": "postPaid"
},
"job_id": "3c1b8910-4191-4eed-9865-49bd82bac65b"
}
```

- 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. The instance can be stopped for up to seven days.

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

Constraints

- This API is supported for MySQL and PostgreSQL DB engines.
- This API is unavailable to serverless instances.
- Only ultra-high I/O, cloud SSD, and extreme SSD pay-per-use instances can be stopped. RDS instances in a DCC cannot be stopped.
- If you stop a primary instance, read replicas (if there are any) will also be stopped. Both the primary instance and read replicas can be stopped for up to seven days. You cannot stop a read replica without stopping the primary instance.
- A stopped instance will not be moved to the recycle bin after being deleted.
- If you do not manually start your stopped DB instance after seven days, your DB instance is automatically started during the next maintenance window.
- After an instance is stopped, the ECS is no longer billed. Other resources, including EIPs, storage resources, and backups, are still billed.
- A stopped pay-per-use DB instance may fail to be started due to insufficient resources. In this case, contact customer service.
- 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 5-38 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

```
POST https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/  
5b409baece064984a1b3eef6addae50cin01/action/shutdown  
{}
```

Response

- Normal response

Table 5-39 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 Starting an Instance

Function

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

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

Constraints

- This API is supported for MySQL and PostgreSQL DB engines.
- This API is unavailable to serverless instances.
- If you start a primary instance, read replicas (if there are any) will also be started.
- Only instances in **Stopped** state can be started.
- A stopped pay-per-use DB instance may fail to be started due to insufficient resources. In this case, contact customer service.

URI

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

Table 5-40 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

```
POST https://[endpoint]/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/  
5b409baece064984a1b3eef6addae50cin01/action/startup  
{}
```

Response

- Normal response

Table 5-41 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](#).

5.5.4 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 5-42 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 5-43 Parameter description

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

Example Request

Changing the name of a DB instance

```
PUT https://[endpoint]/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/name
```

```
{  
    "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](#).

5.5.5 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 5-44 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 5-45 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

```
PUT https://[endpoint]/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/  
5b409baece064984a1b3eef6addae50cin01/alias  
{  
    "alias": "alias-test"  
}
```

Response

- Normal response

Table 5-46 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](#).

5.5.6 Applying for a Private Domain Name

Function

This API is used to bind a private domain name to a specified DB instance.

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

Constraints

This API supports PostgreSQL only.

URI

- URI format

POST /v3/{project_id}/instances/{instance_id}/create-dns

- Parameter description

Table 5-47 Parameter description

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

Request

Parameter description

Table 5-48 Parameter description

Name	Mandatory	Type	Description
dns_type	Yes	String	Specifies the domain name type. Currently, only private is supported.

Example Request

Applying for a private domain name

```
POST https://[endpoint]/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/  
5b409baece064984a1b3eef6addae50cin01/create-dns
```

```
{  
    "dns_type": "private"  
}
```

Response

- Normal response

Table 5-49 Parameter description

Name	Type	Description
job_id	String	Indicates the ID of the task for applying for a private domain name.

- Normal response

```
{  
    "job_id": "b9e057a0-f0fb-4987-9d21-f3a7550b32e7"  
}
```
- 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](#).

5.5.7 Modifying a Private Domain Name

Function

This API is used to modify a private domain name.

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

Constraints

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

URI

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

Table 5-50 Parameter description

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

Request

Parameter description

Table 5-51 Parameter description

Name	Mandatory	Type	Description
dns_name	Yes	String	Specifies the prefix of the new domain name. The value contains 8 to 64 characters. Only uppercase letters, lowercase letters, and digits are allowed.

Example Request

Modifying the private domain name of a DB Instance

```
PUT https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/modify-dns
{
    "dns_name": "testModifyDnsNewName"
}
```

Response

- Normal response

Table 5-52 Parameter description

Name	Type	Description
job_id	String	Indicates the ID of the task for modifying a private domain name.

- Normal response

```
{  
    "job_id": "b9e057a0-f0fb-4987-9d21-f3a7550b32e7"  
}
```

- 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](#).

5.5.8 Querying the Domain Name of a DB Instance

Function

This API is used to query the domain name of a DB instance.

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

Constraints

This API is available only for RDS for PostgreSQL.

URI

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

Table 5-53 Parameters

Parameter	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.
dns_type	Yes	Domain type. Only private domains are supported.

Request

- Parameter description
None
- URI example
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/c90928717dc747e2a20099894a87c468in01/dns?dns_type=private

Response

- Normal response

Table 5-54 Parameters

Parameter	Type	Description
instance_id	String	Instance ID.
dns_name	String	Domain name of the instance.
dns_type	String	Domain type. Value: private .
ipv4_address	String	Virtual IP address bound to the instance domain name.
status	String	Domain status.

- Example normal response

```
{  
    "instance_id": "2de6315e7197418fbf2fdaed59d65da1in03",  
    "dns_name": "2de6315e7197418fbf2fdaed59d65da1in03.internal.cn-xianhz-1.mysql.rds-dev.myhuaweicloud.com",  
    "dns_type": "private",  
    "ipv4_address": "192.168.6.105",  
    "status": "normal"  
}
```

- 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](#).

5.5.9 Querying the IPv6 Domain Name of a DB Instance

Function

This API is used to query the IPv6 domain name of a DB instance.

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

Constraints

This API is available only for RDS for PostgreSQL.

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/dns-ipv6
- Parameter description

Table 5-55 Parameters

Parameter	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.
dns_type	Yes	Domain type.

Request

- Parameter description
None
- URI example
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/ instances/c90928717dc747e2a20099894a87c468in01/dns-ipv6?dns_type=private

Response

- Normal response

Table 5-56 Parameters

Parameter	Type	Description
instance_id	String	Instance ID.
dns_name	String	Domain name of the instance.

Parameter	Type	Description
dns_type	String	Domain type. Value: private
ipv6_address	String	Virtual IP address bound to the instance domain name.
status	String	Domain status.

- Example normal response

```
{  
    "instance_id": "2de6315e7197418fbf2fdaed59d65da1in03",  
    "dns_name": "2de6315e7197418fbf2fdaed59d65da1in03.ipv6.internal.***.mysql.rds-  
    dev.myhuaweicloud.com",  
    "dns_type": "private",  
    "ipv6_address": "2001:db8:a583:3:2312:c71d:6e71:c952",  
    "status": "normal"  
}
```

- 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](#).

5.5.10 Obtaining the Replication Status of a DB Instance

Function

This API is used to obtain the primary/standby replication status of a DB instance.

- 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 SQL Server.

URI

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

Table 5-57 Parameters

Parameter	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
- URI example
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/c90928717dc747e2a20099894a87c468in01/replication/status`

Response

- Normal response

Table 5-58 Parameters

Parameter	Type	Description
replication_status	String	Replication status: <ul style="list-style-type: none">• normal• abnormal
abnormal_reason	String	Reasons why the replication is abnormal.

- Example normal response

```
{  
    "replication_status": "normal",  
    "abnormal_reason": ""  
}
```
- 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 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](#).



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

Constraints

- This API is unavailable to serverless instances.
- 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.)
- When you change the instance specifications of an RDS for MySQL DB instance using local disks, the storage space after the change cannot be less than that of the original DB instance.

URI

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

Table 5-59 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 5-60 Parameter description

Name	Mandatory	Type	Description
resize_flavor	Yes	Object	For details, see Table 5-61 .

Table 5-61 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.

Name	Mandatory	Type	Description
is_auto_pay	No	Boolean	<p>Specifies whether the order will be automatically paid when the specifications of yearly/monthly DB instances are changed.</p> <ul style="list-style-type: none"> • true: indicates the order will be automatically paid. • false: indicates the order will be manually paid. The default value is false.

Example Request

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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
action

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

- 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",
    "is_auto_pay": true
  }
}
```

- Changing the specifications of an RDS for SQL Server DB instance to rds.mssql.2014.se.s3.large.2

```
{
  "resize_flavor": {
    "spec_code": "rds.mssql.2014.se.s3.large.2",
    "is_auto_pay": true
  }
}
```

Response

- **Pay-per-use**
 - Normal response

Table 5-62 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](#).

- **Yearly/Monthly**
 - Normal response

Table 5-63 Parameter description

Name	Type	Description
order_id	String	Indicates the order ID.

- Example normal response

```
{ "order_id": "CS2009151216NO2U1" }
```
- 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](#).

5.5.12 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 5-64 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 5-65 Parameter description

Name	Mandatory	Type	Description
enlarge_volume	Yes	Object	Specifies the target storage space after scaling up. For details, see Table 5-66 .

Table 5-66 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 If you want to create an RDS for PostgreSQL DB instance that supports storage from 40 GB to 15,000 GB, contact customer service to apply for the required permissions.
is_auto_pay	No	Boolean	Specifies whether the order will be automatically paid when the storage space of yearly/monthly DB instances is scaled. <ul style="list-style-type: none">• true: indicates the order will be automatically paid.• false: indicates the order will be manually paid. The default value is false.

Example Request

Scaling up storage space of a DB instance to 400 GB

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action
{
  "enlarge_volume": {
    "size": 400,
    "is_auto_pay": true
  }
}
```

Response

- **Pay-per-use**
 - Normal response

Table 5-67 Parameter description

Name	Type	Description
job_id	String	Task ID.

- Example normal response

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

For details, see [Abnormal Request Results](#).
- **Yearly/Monthly**
 - Normal response

Table 5-68 Parameter description

Name	Type	Description
order_id	String	Order ID.

- Example normal response

```
{  "order_id": "CS2009151216NO2U2"}
```
- 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](#).

5.5.13 Configuring an Autoscaling Policy

Function

This API is used to configure autoscaling for a DB instance. You will be billed for the added storage.

If available storage drops to a specified threshold or 10 GB, your storage will autoscale by 20% (in increments of 10 GB) of your allocated storage.

Autoscaling up the storage of a read replica does not affect that of the primary instance. The new storage space of the read replica after autoscaling must be no less than that of the primary instance.

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

Constraints

- This API is in OBT. To use this API, contact customer service.
- Your account balance must be greater than or equal to \$0 USD. If your account balance is insufficient, autoscaling will fail.
- This API is only available to RDS for MySQL and RDS for PostgreSQL instances whose storage type is cloud SSDs or extreme SSDs and storage space is at least 40 GB.
- Storage autoscaling is unavailable when the instance is in any of the following statuses: changing instance class, upgrading a minor version, migrating the standby instance, and rebooting.
- If a yearly/monthly instance has pending orders, it will not be autoscaled.
- The storage space can be autoscaled up only when your instance status is **Available** or **Storage full**. The maximum allowed storage is 4,000 GB.

URI

- URI format
`PUT /v3/{project_id}/instances/{instance_id}/disk-auto-expansion`
- Parameter description

Table 5-69 Parameters

Parameter	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

Table 5-70 Parameters

Parameter	Mandatory	Type	Description
switch_option	Yes	Boolean	Whether to enable autoscaling. <ul style="list-style-type: none">• true: indicates that autoscaling will be enabled.• false: indicates that autoscaling will be disabled.

Parameter	Mandatory	Type	Description
limit_size	No	Integer	<p>Upper limit for autoscaling, in GB. This parameter is mandatory when switch_option is set to true.</p> <p>The value ranges from 40 GB to 4,000 GB and must be no less than the current storage of the instance.</p>
trigger_threshold	No	Integer	<p>Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered. This parameter is mandatory when switch_option is set to true.</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • 10 • 15 • 20

Example Request

Configuring a storage autoscaling policy for a DB instance, with the trigger threshold set to 10% or 10 GB and upper limit to 4,000 GB

```
PUT https://[endpoint]/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159df1n01/disk-auto-expansion

{
  "switch_option" : true,
  "limit_size" : 4000,
  "trigger_threshold" : 10
}
```

Response

- 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](#).

5.5.14 Querying an Autoscaling Policy

Function

This API is used to query the storage autoscaling policy of a DB instance.

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

Constraints

- This API is in OBT. To use this API, contact customer service.
- This API is only available to RDS for MySQL and RDS for PostgreSQL instances using cloud SSDs or extreme SSDs.

URI

- URI format
GET /v3/{*project_id*}/instances/{*instance_id*}/disk-auto-expansion
- Parameter description

Table 5-71 Parameters

Parameter	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
- URI example
GET `https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159df1n011/disk-auto-expansion`

Response

- Normal response

Table 5-72 Parameters

Parameter	Type	Description
switch_option	Boolean	Whether autoscaling is enabled. <ul style="list-style-type: none">• true: Enabled.• false: Disabled.
limit_size	Integer	Upper limit for autoscaling, in GB.
trigger_threshold	Integer	Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered.

- Example normal response

```
{  
    "switch_option" : true,  
    "limit_size" : 4000,  
    "trigger_threshold" : 10  
}
```

- 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 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

- This API is unavailable to serverless instances.
- Single DB instances with certain specifications cannot be changed to primary/standby DB instances.
- Single SQL Server DB instances that are billed on the yearly/monthly basis and are created in a DeC cannot be changed to primary/standby DB instances.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/action
- 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
single_to_ha	Yes	Object	For details, see Table 5-75 .

Table 5-75 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.

Name	Mandatory	Type	Description
is_auto_pay	No	Boolean	<p>Specifies whether the order will be automatically paid. This parameter can be specified only when the instance type is changed from single to primary/standby.</p> <ul style="list-style-type: none">• true: indicates the order will be automatically paid.• false (default setting): indicates the order will be manually paid.
ad_domain_info	No	Object	<p>Specifies AD domain information. This parameter is mandatory only when a single instance configured with the AD domain is to be changed to a primary/standby instance.</p> <p>This parameter is available only for RDS for SQL Server.</p> <p>For details about the field structure, see Table 5-76.</p>

Table 5-76 ADDomainInfo field data structure description

Name	Mandatory	Type	Description
domain_admin_account_name	Yes	String	Name of the domain administrator account.
domain_admin_pwd	Yes	String	Password of the domain administrator.

Example Request

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

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
```

- ```

action

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

● Changing a yearly/monthly RDS for MySQL or RDS for PostgreSQL DB instance from single to primary/standby
{
 "single_to_ha": {
 "az_code_new_node": "az1xahz",
 "is_auto_pay": true
 }
}

● Changing a pay-per-use RDS for SQL Server DB instance from single to primary/standby
{
 "single_to_ha": {
 "az_code_new_node": "az2xahz",
 "ad_domain_info": {
 "dns_server_ip": "192.168.0.1",
 "domain_admin_account_name": "Administrator",
 "domain_admin_pwd": "password@123",
 "dc_domain_name": "test.com"
 }
 }
}

● Changing a yearly/monthly RDS for SQL Server DB instance from single to primary/standby
{
 "single_to_ha": {
 "az_code_new_node": "az2xahz",
 "is_auto_pay": true,
 "ad_domain_info": {
 "dns_server_ip": "192.168.0.1",
 "domain_admin_account_name": "Administrator",
 "domain_admin_pwd": "password@123",
 "dc_domain_name": "test.com"
 }
 }
}

```

## Response

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

**Table 5-77** Parameter description

| Name   | Type   | Description |
|--------|--------|-------------|
| job_id | String | Task ID.    |

- Example normal response

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

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

- **Yearly/Monthly DB instances**
  - Normal response

**Table 5-78** Parameter description

| Name     | Type   | Description             |
|----------|--------|-------------------------|
| order_id | String | Indicates the order ID. |

- Example normal response

```
{ "order_id": "CS2009151216NO2U2" }
```
- 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](#).

## 5.5.16 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, frozen, restored, or its instance class or port is being changed.

### URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/action

- Parameter description

**Table 5-79** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-80** Parameter description

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

## Example Request

Rebooting a DB instance

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action
{
 "restart": {}
}
```

## Response

- Normal response

**Table 5-81** 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](#).

### 5.5.17 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 5-82** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID compliant with the UUID format.                                                                                      |

#### Request

- Request parameters  
None
- URI example  
`DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01`

## Response

- Normal response

**Table 5-83** 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](#).

## 5.5.18 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}={v  
alue}`
- Parameter description

**Table 5-84** Parameter description

| Name           | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                     |
|----------------|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id     | String | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                               |
| id             | String | No        | Specifies the DB instance ID.<br>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.<br>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 <b>Single</b> , <b>Ha</b> , <b>Replica</b> , or <b>Enterprise</b> , 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"><li>• MySQL</li><li>• PostgreSQL</li><li>• SQLServer</li></ul>                                                                                                                      |

| Name      | Type    | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vpc_id    | String  | No        | <p>Specifies the VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> <li>Method 1: Log in to VPC console and view the VPC ID in the VPC details.</li> <li>Method 2: See the "Querying VPCs" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul>                                                                              |
| 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"> <li>Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li> <li>Method 2: See the "Querying Subnets" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul> |
| offset    | Integer | No        | <p>Specifies the index position. If <b>offset</b> is set to <i>N</i>, the resource query starts from the <i>N+1</i> piece of data. The value is <b>0</b> 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 <b>100</b>. The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b>.</p>                                                                                                                                                                                                               |

| Name | Type             | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------|------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tags | Array of objects | No        | <p>Specifies queries based on the instance tag keys and values.</p> <ul style="list-style-type: none"> <li>{key} indicates the tag key. It must be unique and cannot be empty.</li> <li>{value} indicates the tag value, which can be left empty.</li> </ul> <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 <a href="#">Table 5-85</a>.</p> |

**Table 5-85** 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 _.:=+-@. 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 _.:=+-@                                                            |

## Request

- Request parameters
  - None
- URI example
  - Querying all DB instances
    - GET `https://{{endpoint}}/v3/97b026aa9cc4417888c14c84a1ad9860/instances`
  - Querying DB instances based on search criteria
    - GET `https://{{endpoint}}/v3/97b026aa9cc4417888c14c84a1ad9860/instances?`  
`id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=MySQL&vpc_id=19e5d45d-70fd-4a91-87e9-`

b27e71c9891f&subnet\_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10&tags=rds001=001,rds002=002

## Response

- Normal response

**Table 5-86** Parameter description

| Name        | Type             | Description                                                                             |
|-------------|------------------|-----------------------------------------------------------------------------------------|
| instances   | Array of objects | Indicates the DB instance information.<br>For details, see <a href="#">Table 5-87</a> . |
| total_count | Integer          | Indicates the total number of records.                                                  |

**Table 5-87** 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"> <li>● <b>BUILD</b>: The instance is being created.</li> <li>● <b>ACTIVE</b>: The instance is normal.</li> <li>● <b>FAILED</b>: The instance is abnormal.</li> <li>● <b>FROZEN</b>: The instance is frozen.</li> <li>● <b>MODIFYING</b>: The instance is being scaled out.</li> <li>● <b>REBOOTING</b>: The instance is being rebooted.</li> <li>● <b>RESTORING</b>: The instance is being restored.</li> <li>● <b>MODIFYING INSTANCE TYPE</b>: The instance is changing from single to primary/standby.</li> <li>● <b>SWITCHOVER</b>: The instance is performing a primary/standby switchover.</li> <li>● <b>MIGRATING</b>: The instance is being migrated.</li> <li>● <b>BACKING UP</b>: The instance is being backed up.</li> <li>● <b>MODIFYING DATABASE PORT</b>: The database port is being changed.</li> <li>● <b>STORAGE FULL</b>: The instance storage space is full.</li> </ul> |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Name             | Type         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_dns_names | List<String> | Indicates the public domain name list of the DB instance. Currently, only RDS for SQL Server supports public domain names. After a DB instance is created, you need to manually apply for a public domain name, or the public domain name is left blank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| public_ips       | List<String> | Indicates the public IP address list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| port             | Integer      | <p>Indicates the database port number.</p> <ul style="list-style-type: none"><li>RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017 and 33071, which are reserved for RDS system use.</li><li>RDS for PostgreSQL instances can use database ports 2100 to 9500.</li><li>For RDS for SQL Server 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, and 2017 Web Edition, the port number can be set to 1433 or 2100 to 9500 (excluding 5050, 5353, 5355, 5985, and 5986). For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355 and 5985).</li></ul> <p>If this parameter is not set, the default value is as follows:</p> <ul style="list-style-type: none"><li>RDS for MySQL: <b>3306</b></li><li>RDS for PostgreSQL: <b>5432</b></li><li>RDS for SQL Server: <b>1433</b></li></ul> |
| enable_ssl       | Boolean      | <p>Indicates whether to enable SSL for the instance.</p> <ul style="list-style-type: none"><li>If the value is <b>true</b>, SSL has been enabled for the instance.</li><li>If the value is <b>false</b>, SSL is disabled for the instance.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| type             | String       | The value is <b>Single</b> , <b>Ha</b> , <b>Replica</b> , or <b>Enterprise</b> , which corresponds to single instance, primary/standby instance, read replica, and distributed instance (enterprise), respectively.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Name              | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha                | Object | Indicates the primary/standby DB instance information. Returned only when you obtain a primary/standby DB instance list.<br>For details, see <a href="#">Table 5-88</a> .                                                                                                                                                                                                                                      |
| region            | String | Indicates the region where the DB instance is deployed.                                                                                                                                                                                                                                                                                                                                                        |
| datastore         | Object | Indicates the database information.<br>For details, see <a href="#">Table 5-89</a> .                                                                                                                                                                                                                                                                                                                           |
| created           | String | Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, if the time zone offset is one hour, the value of <b>Z</b> is <b>+0100</b> .<br>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty. |
| updated           | String | Indicates the update time. The format is the same as that of the <b>created</b> field.<br>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.                                                                                                                                                                                                  |
| db_user_name      | String | Indicates the default username.                                                                                                                                                                                                                                                                                                                                                                                |
| vpc_id            | String | Indicates the VPC ID.                                                                                                                                                                                                                                                                                                                                                                                          |
| subnet_id         | String | Indicates the network ID of the subnet.                                                                                                                                                                                                                                                                                                                                                                        |
| security_group_id | String | Indicates the security group ID.                                                                                                                                                                                                                                                                                                                                                                               |
| flavor_ref        | String | Indicates the specification code.                                                                                                                                                                                                                                                                                                                                                                              |
| cpu               | String | Indicates the number of vCPUs. For example, the value <b>1</b> indicates 1 vCPU.                                                                                                                                                                                                                                                                                                                               |
| mem               | String | Indicates the memory size in GB.                                                                                                                                                                                                                                                                                                                                                                               |
| volume            | Object | Indicates the volume information.<br>For details, see <a href="#">Table 5-90</a> .                                                                                                                                                                                                                                                                                                                             |

| Name                  | Type             | Description                                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| switch_strategy       | String           | Indicates the database switchover policy. The value can be <b>reliability</b> or <b>availability</b> , indicating the reliability first and availability first, respectively.                                                                                                                         |
| read_only_by_user     | Boolean          | Indicates the read-only status of the DB instance. This parameter is available only to RDS for MySQL. <ul style="list-style-type: none"><li>• <b>true</b>: indicates that the DB instance is set to read-only.</li><li>• <b>false</b>: indicates that the DB instance is set to read/write.</li></ul> |
| backup_strategy       | Object           | Indicates the backup policy.<br>For details, see <a href="#">Table 5-91</a> .                                                                                                                                                                                                                         |
| 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.<br>For details, see <a href="#">Table 5-92</a> .                                                                                                                                                                                               |
| related_instance      | Array of objects | Indicates all associated DB instances.<br>For details, see <a href="#">Table 5-93</a> .                                                                                                                                                                                                               |
| disk_encryption_id    | String           | Indicates the disk encryption key ID.                                                                                                                                                                                                                                                                 |
| enterprise_project_id | String           | Indicates the enterprise project ID.                                                                                                                                                                                                                                                                  |
| time_zone             | String           | Indicates the time zone.                                                                                                                                                                                                                                                                              |
| charge_info           | Object           | Indicates the billing information, which is yearly/monthly or pay-per-use. By default, pay-per-use is used.<br>For details, see <a href="#">Table 5-94</a> .                                                                                                                                          |
| tags                  | Array of objects | Indicates the tag list. If there is no tag in the list, an empty array is returned.<br>For details, see <a href="#">Table 5-96</a> .                                                                                                                                                                  |
| backup_used_space     | Double           | Indicates the backup space usage in GB.<br><br>This field is returned only when you query information about a specified RDS for SQL Server DB instance.                                                                                                                                               |

| Name                | Type    | Description                                                                                                                                              |
|---------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| storage_used_space  | Double  | Indicates the storage space usage in GB.<br><br>This field is returned only when you query information about a specified RDS for SQL Server DB instance. |
| order_id            | String  | Indicates the order ID. This field is returned only when the DB instance is billed on a yearly/monthly basis.                                            |
| associated_with_ddm | Boolean | Indicates whether a DDM instance has been associated.                                                                                                    |
| max_iops            | Long    | Indicates the maximum disk IOPS of the instance.<br><br>This field is returned only for RDS for SQL Server instances.                                    |
| expiration_time     | String  | Indicates the time when an instance expires. The format is yyyy-mm-ddThh:mm:ssZ.<br><br>This field is returned only for yearly/monthly instances.        |
| serverless_info     | Object  | Indicates the compute power range of a serverless instance, in RCU.<br><br>For details, see <a href="#">Table 5-95</a> .                                 |

**Table 5-88** ha field data structure description

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

**Table 5-89** datastore field data structure description

| Name             | Type   | Description                                                                                                                                                                              |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type             | String | Indicates the DB engine. Its value can be any of the following and is case-insensitive: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• SQLServer</li></ul> |
| version          | String | Indicates the database version.                                                                                                                                                          |
| complete_version | String | Indicates the complete version number. This parameter is returned only when the DB engine is MySQL or PostgreSQL.                                                                        |

**Table 5-90** volume field data structure description

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

**Table 5-91** backup\_strategy field data structure description

| Name       | Type    | Description                                                                                                                                                                                                                                                                                                 |
|------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | Indicates the backup time window. Automated backups will be triggered during the backup time window. The time is in the UTC format.                                                                                                                                                                         |
| keep_days  | Integer | Indicates the number of days to retain the generated backup files. The value ranges from 0 to 732. If the value is 0, the automated backup policy is not configured or has been disabled. To extend the retention period, contact customer service. Automated backups can be retained for up to 2,562 days. |

**Table 5-92** 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 <b>master</b> , <b>slave</b> , or <b>readreplica</b> , indicating the primary node, standby node, and read replica node, respectively. |
| status            | String | Indicates the node status.                                                                                                                                                       |
| availability_zone | String | Indicates the AZ.                                                                                                                                                                |

**Table 5-93** 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"> <li>• <b>replica_of</b>: indicates a primary DB instance.</li> <li>• <b>replica</b>: indicates a read replica.</li> </ul> |

**Table 5-94** chargeInfo field data structure description

| Name        | Mandatory | Type   | Description                                                                                                                                                                                                                    |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode | Yes       | String | Indicates the billing mode.<br>Valid value: <ul style="list-style-type: none"> <li>• <b>prePaid</b>: indicates the yearly/monthly billing mode.</li> <li>• <b>postPaid</b>: indicates the pay-per-use billing mode.</li> </ul> |

**Table 5-95** serverless\_info field data structure description

| Parameter        | Man<br>dato<br>ry | Type   | Description                                                                      |
|------------------|-------------------|--------|----------------------------------------------------------------------------------|
| min_compute_unit | Yes               | String | Minimum compute power of a serverless instance, in RCU.<br>Value range: 0.5 to 8 |
| max_compute_unit | Yes               | String | Maximum compute power of a serverless instance, in RCU.<br>Value range: 0.5 to 8 |

**Table 5-96** tags field data structure description

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

 NOTE

The values of **region** and **availability\_zone** are used as examples.

- Example normal response

Query DB instances based on search criteria.

```
{
 "instances": [
 {
 "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
 "status": "ACTIVE",
 "name": "mysql-0820-022709-01",
 "port": 3306,
 "type": "Single",
 "region": "aaa",
 "datastore": {
 "type": "MySQL",
 "version": "5.7"
 },
 "created": "2018-08-20T02:33:49+0800",
 "updated": "2018-08-20T02:33:50+0800",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 100
 },
 "nodes": [
 {
 "id": "06f1c2ad57604ae89e153e4d27f4e4b8no01",
 "name": "mysql-0820-022709-01_node0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "bbb"
 }],
 "alias": "description",
 "private_ips": ["192.168.0.1"],
 "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.xxx.com"],
 "public_dns_names": []
]
 }
]
}
```

```
"public_ips": [],
 "enable_ssl": false,
 "db_user_name": "root",
 "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
 "subnet_id": "45557a98-9e17-4600-8aec-999150bc4ee7",
 "security_group_id": "38815c5c-482b-450a-80b6-0a301f2af97",
 "flavor_ref": "rds.mysql.s1.large",
 "cpu": "2",
 "mem": "4",
 "switch_strategy": "",
 "read_only_by_user": false,
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
 },
 "maintenance_window": "02:00-06:00",
 "related_instance": [],
 "disk_encryption_id": "",
 "enterprise_project_id": "0",
 "time_zone": "",
 "tags": [
 {
 "key": "rds001",
 "value": "001"
 },
 {
 "key": "rds002",
 "value": "002"
 }
],
 "associated_with_ddm": false
}], "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"],
 "enable_ssl": false,
 "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.xxx.com"],
 "public_dns_names": [],
 "public_ips": []
 }
],
 "total_count": 1
}
```

```
"db_user_name": "root",
"vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
"subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
"security_group_id": "38815c5c-482b-450a-80b6-0a301f2af97",
"flavor_ref": "rds.mysql.s1.large",
 "cpu": "2",
 "mem": "4",
"switch_strategy": "",
 "read_only_by_user": false,
 "charge_info": {
 "charge_mode": "postPaid"
 },
"backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
},
"maintenance_window": "02:00-06:00",
"related_instance": [],
"disk_encryption_id": "",
"enterprise_project_id": "0",
"time_zone": "",
 "tags": [
 {
 "key": "rds001",
 "value": "001"
 },
 {
 "key": "rds002",
 "value": "002"
 }
],
"associated_with_ddm": false
}, {
 "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_dns_names": [],
 "public_ips": [],
 "enable_ssl": false,
 "db_user_name": "root",
 "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
 "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
 "security_group_id": "38815c5c-482b-450a-80b6-0a301f2af97",
 "flavor_ref": "rds.mysql.s1.large",
 "cpu": "2",
 "mem": "4",
```

```
"switch_strategy": "",
 "read_only_by_user": false,
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
 },
 "maintenance_window": "02:00-06:00",
 "related_instance": [],
 "disk_encryption_id": "",
 "enterprise_project_id": "0",
 "time_zone": "",
 "tags": [
 {
 "key": "rds001",
 "value": "001"
 },
 {
 "key": "rds002",
 "value": "002"
 }
],
 "associated_with_ddm": false
},
"total_count": 2
}
```

- Query serverless DB instances.

```
{
 "instances": [
 {
 "id": "06f4bde8fec442d7bb122f742c9e51dein01",
 "status": "ACTIVE",

```

```
 "bpType": "Default",
 "alias": "",
 "private_ips": [],
 "private_dns_names": [
 "0aabbcc.mysql.rds.myhuaweicloud.com"
],
 "public_dns_names": [],
 "public_ips": [],
 "enable_ssl": false,
 "db_user_name": "root",
 "vpc_id": "a70b5818-a306-426d-a53e-11b6b57c31af",
 "subnet_id": "7cac9cc5-7b87-414e-9913-cbbc5051347e",
 "security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c",
 "flavor_ref": "rds.mysql.serverless.ha",
 "switch_strategy": "reliability",
 "read_only_by_user": false,
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
 },
 "maintenance_window": "18:00-22:00",
 "related_instance": [],
 "disk_encryption_id": "",
 "enterprise_project_id": "0",
 "time_zone": "UTC+08:00",
 "order_id": "",
 "associated_with_ddm": false,
 "serverless_info": {
 "max_compute_unit": "0.5",
 "min_compute_unit": "8"
 }
 }
],
"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](#).

### 5.5.19 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

This API is unavailable to serverless instances.

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

## URI

- URI format  
`PUT /v3/{project_id}/instances/{instance_id}/public-ip`
- Parameter description

**Table 5-97** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-98** Parameter description

| Name         | Mandatory | Type   | Description                                                                                                                                                                                   |
|--------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_ip    | No        | String | <b>NOTICE</b><br>When <code>is_bind</code> is <code>true</code> , <code>public_ip</code> is mandatory.<br>Specifies the EIP to be bound. The value must be in the standard IP address format. |
| public_ip_id | No        | String | <b>NOTICE</b><br>When <code>is_bind</code> is <code>true</code> , <code>public_ip_id</code> is mandatory.<br>Specifies the EIP ID. The value must be in the standard UUID format.             |

| Name    | Mandatory | Type    | Description                                                                                                        |
|---------|-----------|---------|--------------------------------------------------------------------------------------------------------------------|
| is_bind | Yes       | Boolean | <ul style="list-style-type: none"><li>• <b>true</b>: Bind an EIP.</li><li>• <b>false</b>: Unbind an EIP.</li></ul> |

## Example Request

- Binding an EIP to a DB instance

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/public-ip

{
 "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](#).

## 5.5.20 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 5-99** 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 <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                  |

## Request

Parameter description

**Table 5-100** Parameter description

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

## Example Request

Changing the failover priority of a DB instance to availability

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
failover/strategy
{
 "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](#).

## 5.5.21 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 available to RDS for MySQL and RDS for PostgreSQL only.
- 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 5-101** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-102** 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"><li>• <b>true</b>: A forcible switchover is performed.</li><li>• <b>false</b>: No forcible switchover is performed.</li></ul> <p><b>NOTE</b><br/>This parameter is valid only for the PostgreSQL DB engine.</p> |

## Example Request

- Performing no forcible primary/standby switchover

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in01/failover
```

```
{}
```

- 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](#).

## 5.5.22 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. For details about how to change the replication mode, see [Changing the Replication Mode](#).

## URI

- URI format  
PUT /v3/{*project\_id*}/instances/{*instance\_id*}/failover/mode
- Parameter description

**Table 5-103** Parameter description

| Name        | Mandatory | Description                                                                                                                                    |
|-------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                  |

## Request

Parameter description

**Table 5-104** Parameter description

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

## Example Request

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

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/failover/mode
{
 "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](#).

## 5.5.23 Changing Read/Write Permissions

### Function

This API is used to change read/write permissions of RDS for MySQL DB instances to meet your workload requirements. After a DB instance is set to read-only, data cannot be written to it.

- 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 available to only single and primary/standby DB instances.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, frozen, and abnormal.
- If your instance becomes read-only for other reasons (such as full storage and DRS migration), it cannot be changed to readable and writable through this API.
- This API is only used to configure read/write permissions for primary DB instances.
- Changing read/write permissions is in OBT in some regions. If this function is not available in your region, contact customer service to configure a whitelist.

## URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/readonly-status
- Parameter description

**Table 5-105** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 5-106** Parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                   |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| readonly  | Yes       | Boolean | Whether to set the instance to read-only. <ul style="list-style-type: none"><li>• <b>true</b>: indicates that the instance will be set to read-only.</li><li>• <b>false</b>: indicates that the instance will be set to read/write.</li></ul> |

## Example Request

Setting a DB instance to read-only

```
PUT https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/readonly-status
{
 "readonly" : true
}
```

## Response

- Normal response

**Table 5-107** Parameter description

| Parameter | 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](#).

## 5.5.24 Migrating a Standby DB Instance

### Function

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

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

### Constraints

- This API is only available to RDS for MySQL and RDS for PostgreSQL.
- Primary/standby instances running MySQL 5.6, 5.7, or 8.0 support standby instance migration to another AZ. To migrate an RDS for MySQL 8.0 standby instance, contact customer service to apply for the required permissions.
- This API is supported for primary/standby DB instances only.
- The standby DB instance cannot be migrated if the primary DB instance is in any of the following statuses: creating, rebooting, upgrading, changing instance class, changing port, creating users, or deleting users.

### URI

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

**Table 5-108** 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 <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                  |

## Request

Parameter description

**Table 5-109** Parameter description

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

## Example Request

Migrating a standby DB instance to az2

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/migrateslave
{
 "nodeId": "0119b1068b874cb4a5202989a06b6094no01",
 "azCode": "az2"
}
```

## Response

- Normal response

| Name       | Description                |
|------------|----------------------------|
| workflowId | Indicates the workflow ID. |

- Example normal response

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

- Abnormal response

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

## Status Code

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

## Error Code

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

### 5.5.25 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 5-110** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

#### Request

Parameter description

**Table 5-111** Parameter description

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

| Name     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                          |
|----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| end_time | Yes       | String | <p>Specifies the end time (UTC).</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>For RDS for MySQL and RDS for PostgreSQL databases, the start time and end time must be on the hour, and the interval between them must be one to four hours.</li><li>For RDS for SQL Server databases, the interval between the start time and end time must be four hours.</li></ul> |

## Example Request

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

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/ops-window
{
 "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](#).

## 5.5.26 Upgrading the Minor Version of a DB Instance

### Function

This API is used to upgrade minor versions of RDS for MySQL or RDS for PostgreSQL instances.

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

## Constraints

- This API is available to RDS for MySQL and RDS for PostgreSQL only.
- This API is unavailable to serverless instances.
- The minor versions of RDS for PostgreSQL instances containing abnormal nodes cannot be upgraded.
- The minor versions of RDS for PostgreSQL 11 instances earlier than 11.2 cannot be upgraded.
- Minor versions can be upgraded immediately upon request submission only, but not during the specified maintenance window.

## URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/db-upgrade
- Parameter description

**Table 5-112** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 5-113** Parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                   |
|------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_delayed | No        | Boolean | Whether to delay the upgrade until the maintenance window.<br>Valid value: <ul style="list-style-type: none"><li>• <b>true</b>: Delay the upgrade. The instance will be upgraded during the specified maintenance window.</li><li>• <b>false</b>: Upgrade the instance immediately (default value).</li></ul> |

## Example Request

Upgrading the minor version of a DB instance

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/db-upgrade
{
 "is_delayed" : false
}
```

## Response

- Normal response

**Table 5-114** Parameters

| Parameter | Type   | Description |
|-----------|--------|-------------|
| job_id    | String | Task ID.    |

- Example normal response

```
{
 "job_id" : "e7a7535b-eb9b-45ac-a83a-020dc5016d94"
}
```

- 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](#).

### 5.5.27 Configuring a Monitoring by Seconds Policy

#### Function

This API is used to configure a Monitoring by Seconds policy for a DB instance. The policy takes effect about 5 minutes after you configure it.

Monitoring by Seconds is billed on a pay-per-use basis. You are charged by the hour.

Monitoring by Seconds policies of the primary instance and read replicas are independent from each other. Monitoring by Seconds is automatically disabled for instances with fewer than 4 vCPUs.

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

## Constraints

- This API is in OBT. To use this API, contact customer service.
- This API is available to only RDS for MySQL instances with 4 vCPUs or more.
- This API is only available to serverless instances whose RDS Capacity Unit (RCU) is 4 or higher.

## URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/second-level-monitor
- Parameter description

**Table 5-115** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 5-116** Parameters

| Parameter     | Mandatory | Type    | Description                                                                                                                                                                                                                                  |
|---------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| switch_option | Yes       | Boolean | Whether to enable Monitoring by Seconds. <ul style="list-style-type: none"><li>• <b>true</b>: indicates that Monitoring by Seconds will be enabled.</li><li>• <b>false</b>: indicates that Monitoring by Seconds will be disabled.</li></ul> |
| interval      | No        | Integer | Monitoring interval, which can be 1s or 5s.<br>Enumerated values: <ul style="list-style-type: none"><li>• 1</li><li>• 5</li></ul>                                                                                                            |

## Example Request

- Enabling Monitoring by Seconds for a DB instance, with monitoring interval set to 1s

```
PUT https://[endpoint]/v3/054e292c9880d4992f02c0196d3ea468/instances/
3d39c18788b54a919bab633874c159dfin01/second-level-monitor
```

```
{
 "switch_option" : true,
 "interval" : 1
}
```

- Disabling Monitoring by Seconds

```
{
 "switch_option" : false
}
```

## Response

- 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](#).

## 5.5.28 Querying a Monitoring by Seconds Policy

### Function

This API is used to query the Monitoring by Seconds policy of a DB instance.

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

### Constraints

- This API is in OBT. To use this API, contact customer service.
- This API is available to RDS for MySQL only.

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/second-level-monitor
- Parameter description

**Table 5-117** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

- Parameter description  
None
- URI example  
GET `https://{{endpoint}}/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159df1n01/second-level-monitor`

## Response

- Normal response

**Table 5-118** Parameters

| Parameter     | Type    | Description                                                                                                                                                                                                                        |
|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| switch_option | Boolean | Whether Monitoring by Seconds is enabled. <ul style="list-style-type: none"> <li><b>true</b>: indicates that Monitoring by Seconds is enabled.</li> <li><b>false</b>: indicates that Monitoring by Seconds is disabled.</li> </ul> |
| interval      | Integer | Monitoring interval, which can be 1s or 5s.<br>Enumerated values: <ul style="list-style-type: none"> <li>1</li> <li>5</li> </ul>                                                                                                   |

- Example normal response

```
{
 "switch_option" : true,
 "interval" : 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](#).

## 5.5.29 Enabling TDE for a DB Instance (RDS for SQL Server)

### Function

This API is used to enable TDE for a DB instance.

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

### Constraints

- This API supports only RDS for SQL Server instances.
- TDE cannot be disabled after being enabled, and it cannot be enabled again.
- The DB engine of the target instance must be of the Enterprise Edition or 2019 Standard Edition.

### URI

- URI format  
`PUT /v3/{project_id}/instances/{instance_id}/tde`
- Parameters

**Table 5-119** Parameters

| Parameter   | Mandatory | Description                                                                                            |
|-------------|-----------|--------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>To obtain it, refer to <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                           |

### Request

The following parameters are required for TDE rotation. To use this function, contact customer service first.

**Table 5-120** Parameters

| Parameter      | Mandatory | Type    | Description                              |
|----------------|-----------|---------|------------------------------------------|
| rotate_day     | No        | Integer | Days of rotation. Value range: 1-100000. |
| secret_id      | No        | String  | Key ID.                                  |
| secret_name    | No        | String  | Key name.                                |
| secret_version | No        | String  | Key version.                             |

## Example Request

- Enabling TDE for a DB instance (TDE rotation is not used.)

```
PUT https://{{Endpoint}}/v3/054e292c9880d4992f02c0196d3ea468/instances/
3d39c18788b54a919bab633874c159df1n04/tde
{}
```

- Enabling TDE for a DB instance (TDE rotation is used.)

```
{
"rotate_day": 365,
"secret_id":"d0964270-2716-405b-bc3a-12a942451716",
"secret_name":"test",
"secret_version":"v10"
}
```

## Response

- Normal response

**Table 5-121** Parameters

| Parameter | Type   | Description |
|-----------|--------|-------------|
| job_id    | String | Taskflow 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](#).

## 5.5.30 Querying TDE Status of a DB Instance (RDS for SQL Server)

### Function

This API is used to query the TDE status.

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

### Constraints

This API supports only RDS for SQL Server instances.

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/tde-status
- Parameter description

**Table 5-122** Parameter description

| Name        | Mandatory | Description                                                                                            |
|-------------|-----------|--------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>To obtain it, refer to <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                           |

### Request

- Parameter description  
None
- URI example

```
GET https://{{Endpoint}}/v3/054e292c9880d4992f02c0196d3ea468/instances/
3d39c18788b54a919bab633874c159df1n04/tde-status
```

### Response

- Normal response

**Table 5-123** Parameter description

| Name        | Type   | Description  |
|-------------|--------|--------------|
| instance_id | String | Instance ID. |

| Name       | Type   | Description                                                                                                                               |
|------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| tde_status | String | TDE status.<br>Enumerated values: <ul style="list-style-type: none"><li>• <b>open</b>: Enabled</li><li>• <b>close</b>: Disabled</li></ul> |

- Example normal response

```
{ "instance_id": "3d39c18788b54a919bab633874c159df04", "tde_status": "open" }
```
- 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 DR Instances

### 5.6.1 Configuring the DR Capability for a Primary DB Instance

#### Function

This API is used to configure DR for a primary DB instance when establishing a cross-cloud or cross-region DR relationship.

---

 CAUTION

Before using this function, ensure that the network between the DB instances across clouds or regions is connected.

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

#### Constraints

- The primary DB instance and DR instance are available and are deployed in different clouds or regions. The primary DB instance is deployed in primary/standby mode and the DR instance is deployed in standalone mode.

- The specifications of the DR instance are at least equal to those of the primary DB instance.
- The underlying architecture and major version of the DR instance must be the same as those of the primary DB instance.
- After the API for configuring DR for the primary instance is called, you cannot change the instance class or perform a primary/standby switchover until the DR relationship is set up.
- Only RDS for PostgreSQL 12 supports cross-cloud or cross-region DR and this function is in OBT.
- Cross-cloud or cross-region DR relationships cannot be established across major versions.

## URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/action
- Parameter description

**Table 5-124** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-125** Parameter description

| Name                     | Mandatory | Type   | Description                                                                                                                                                       |
|--------------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| build_master_dr_relation | Yes       | Object | Specifies the DR instance information required for configuring the DR relationship for the primary DB instance.<br>For details, see <a href="#">Table 5-126</a> . |

**Table 5-126 build\_master\_dr\_relation field description**

| Name               | Mandatory | Type   | Description                                                              |
|--------------------|-----------|--------|--------------------------------------------------------------------------|
| target_instance_id | Yes       | String | Specifies the ID of the DR instance.                                     |
| target_project_id  | Yes       | String | Specifies the project ID of the tenant to which the DR instance belongs. |
| target_region      | Yes       | String | Specifies the ID of the region where the DR instance resides.            |
| target_ip          | Yes       | String | Specifies the data virtual IP address (VIP) of the DR instance.          |
| target_subnet      | Yes       | String | Specifies the subnet IP address of the DR instance.                      |

## Example Request

Configuring a DR relationship for a primary DB instance, with the DR instance deployed in region aaa

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
24c6678f474241fe89ee9c42f768022ein03/action
{
 "build_master_dr_relation": {
 "target_instance_id": "c39bd176fb0540929f6add80b91b212cin03",
 "target_project_id": "054b61972980d4552f0bc00ac8d3f5cd",
 "target_region": "aaa",
 "target_ip": "192.168.3.238",
 "target_subnet": "192.168.3.1/24"
 }
}
```

## Response

- Normal response

**Table 5-127 Parameter description**

| Name   | Type   | Description  |
|--------|--------|--------------|
| job_id | String | Workflow ID. |

- Example normal response

```
{
 "job_id": "184f29cd-be1a-43f1-5b6bc5500e73"
}
```

- 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 Configuring the DR Capability for a DR Instance

### Function

This API is used to configure DR for a DR instance when establishing a cross-cloud or cross-region DR relationship.



Before using this function, ensure that the network between the DB instances across clouds or regions is connected.

---

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

### Constraints

- The DR instance cannot be configured for DR until the primary DB instance is configured.
- The primary DB instance and DR instance are available and are deployed in different clouds or regions. The DR instance is deployed in standalone mode.
- The specifications of the DR instance are at least equal to those of the primary DB instance.
- The underlying architecture and major version of the DR instance must be the same as those of the primary DB instance.
- Only RDS for PostgreSQL 12 supports cross-cloud or cross-region DR and this function is in OBT.
- Cross-cloud or cross-region DR relationships cannot be established across major versions.
- After a DR instance is set up, a minor version upgrade cannot be performed.

### URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/action
- Parameter description

**Table 5-128** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-129** Parameter description

| Name                    | Mandatory | Type   | Description                                                                                                                                                       |
|-------------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| build_slave_dr_relation | Yes       | Object | Specifies the primary DB instance information required for configuring the DR relationship for the DR instance.<br>For details, see <a href="#">Table 5-130</a> . |

**Table 5-130** build\_slave\_dr\_relation field description

| Name               | Mandatory | Type   | Description                                                                      |
|--------------------|-----------|--------|----------------------------------------------------------------------------------|
| target_instance_id | Yes       | String | Specifies the ID of the primary DB instance.                                     |
| target_project_id  | Yes       | String | Specifies the project ID of the tenant to which the primary DB instance belongs. |
| target_region      | Yes       | String | Specifies the ID of the region where the primary DB instance resides.            |
| target_ip          | Yes       | String | Specifies the data VIP of the primary DB instance.                               |

## Example Request

Configuring a DR relationship for a DR instance, with the primary DB instance deployed in region aaa

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/
24c6678f474241fe89ee9c42f768022ein03/action
{
 "build_slave_dr_relation": {
 "target_instance_id": "c39bd176fb0540929f6add80b91b212cin03",
 "target_project_id": "054b61972980d4552f0bc00ac8d3f5cd",
 "target_region": "aaa",
 "target_ip": "192.168.3.238"
 }
}
```

## Response

- Normal response

**Table 5-131** Parameter description

| Name   | Type   | Description  |
|--------|--------|--------------|
| job_id | String | Workflow ID. |

- Example normal response

```
{
 "job_id": "184f29cd-be1a-43f1-5b6bc5500e73"
}
```

- 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 Promoting a DR Instance to Be the Primary DB Instance

### Function

This API is used to promote a DR instance to be the primary DB instance when a cross-cloud or cross-region DR relationship between DB instances has become abnormal.



Before using this function, ensure that the network between the DB instances across clouds or regions is connected.

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

## Constraints

- The primary DB instance and DR instance are available and are deployed in different clouds or regions. The DR instance is deployed in standalone mode.
- The DR relationship between the primary DB instance and DR instance has been established.
- Only RDS for PostgreSQL 12 supports DR instance promotion to the primary instance and this function is in OBT.

## URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/action
- Parameter description

**Table 5-132** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-133** Parameter description

| Name                | Mandatory | Type   | Description                                                                                                 |
|---------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------|
| drreplica_to_master | Yes       | Object | Specifies whether the DR instance is promoted to be the primary instance. No other parameters are required. |

## Example Request

Promoting a DR instance to the primary DB instance

POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/24c6678f474241fe89ee9c42f768022ein03/action

```
{
 "drreplica_to_master": {}
}
```

## Response

- Normal response

**Table 5-134** Parameter description

| Name   | Type   | Description                |
|--------|--------|----------------------------|
| job_id | String | Indicates the workflow ID. |

- Example normal response

```
{ "job_id": "04efe8e2-9255-44ae-a98b-d87cae411890"
```
- 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 Querying the DR Replication Status

### Function

This API is used to query the replication status and delay between the primary DB instance and DR instance after a cross-cloud or cross-region DR relationship is established.

---

 CAUTION

Before using this function, ensure that the network between the DB instances across clouds or regions is connected.

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

### Constraints

- A DR relationship between the primary DB instance and DR instance has been established.
- Only RDS for PostgreSQL 12 DR instances support DR replication status query, and this function is in OBT.

## URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/disaster-recovery
- Parameter description

**Table 5-135** Parameter description

| Name        | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | DR instance ID.                                                                                                                     |

## Request

- Parameter description  
None
- Example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/24c6678f474241fe89ee9c42f768022ein03/disaster-recovery
- Request example  
None

## Response

- Normal response

**Table 5-136** Parameter description

| Name                           | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| replica_state                  | String | Indicates the synchronization status. The value can be <b>0</b> or <b>-1</b> . The value <b>0</b> indicates that the synchronization status is normal, and the value <b>-1</b> indicates that the synchronization status is abnormal.<br><b>NOTE</b><br>If the primary DB instance does not exist, the synchronization status between the primary DB instance and DR instance is abnormal. |
| wal_write_receive _delay_in_mb | String | Indicates the sending delay in MB, that is, the difference between the WAL Log Sequence Number (LSN) written by the primary DB instance and the WAL LSN received by the DR instance.                                                                                                                                                                                                       |

| Name                           | Type   | Description                                                                                                                                                       |
|--------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| wal_write_replay_delay_in_mb   | String | Indicates the end-to-end delay in MB, that is, the difference between the WAL LSN written by the primary DB instance and the WAL LSN replayed by the DR instance. |
| wal_receive_replay_delay_in_ms | String | Indicates the replay delay in millisecond on the DR instance.                                                                                                     |

- Example normal response

```
{
 "replica_state": "0",
 "wal_write_receive_delay_in_mb": "10.0",
 "wal_write_replay_delay_in_mb": "10.0",
 "wal_receive_replay_delay_in_ms": "0"
}
```

- 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](#).

## 5.6.5 Querying DR Instances in Batches

### Function

This API is used to query DR instances in batches.

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

### Constraints

Only RDS for PostgreSQL 12 supports cross-cloud or cross-region DR and this function is in OBT.

### URI

- URI format  
GET /v3/{project\_id}/instances/disaster-recovery-relation
- Parameter description

**Table 5-137** Parameters

| Parameter  | Mandatory | Description                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

- Parameter description  
None
- URI example  
GET [https://\[endpoint\]/v3/0483b6b16e954cb88930a360d2c4e663/instances/disaster-recovery-relation](https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/disaster-recovery-relation)
- Request example  
None

## Response

- Normal response

**Table 5-138** Parameter description

| Parameter             | Type             | Description                                                         |
|-----------------------|------------------|---------------------------------------------------------------------|
| instance_dr_relations | Array of objects | DR instance list.<br>For details, see <a href="#">Table 5-139</a> . |

**Table 5-139** Data structure description of instance\_dr\_relations

| Parameter       | Type             | Description                                                                     |
|-----------------|------------------|---------------------------------------------------------------------------------|
| instance_id     | String           | Instance ID in the current region.                                              |
| master_instance | Object           | Primary instance information.<br>For details, see <a href="#">Table 5-140</a> . |
| slave_instances | Array of objects | DR instance information.<br>For details, see <a href="#">Table 5-141</a> .      |

**Table 5-140** Data structure description of master\_instance

| Parameter   | Type   | Description  |
|-------------|--------|--------------|
| instance_id | String | Instance ID. |

| Parameter    | Type   | Description   |
|--------------|--------|---------------|
| region       | String | Region.       |
| project_id   | String | Project ID.   |
| project_name | String | Project name. |

**Table 5-141** Data structure description of slave\_instances

| Parameter    | Type   | Description   |
|--------------|--------|---------------|
| instance_id  | String | Instance ID.  |
| region       | String | Region.       |
| project_id   | String | Project ID.   |
| project_name | String | Project name. |

- Example normal response

```
{
 "instance_dr_relations": [
 {
 "instance_id": "b5e2c7fce8b4c2f8fd8d80d73344756in03",
 "master_instance": {
 "instance_id": "fab4e3df67c24aa0a5b41bc2bcb41918in03",
 "region": "aRegion",
 "project_id": "08fd4e669e00d57d2ffec01352c7cb77",
 "project_name": "masterProjectName"
 }
 },
 {
 "instance_id": "fab4e3df67c24aa0a5b41bc2bcb41918in03",
 "slave_instances": [
 {
 "instance_id": "b5e2c7fce8b4c2f8fd8d80d73344756in03",
 "region": "bRegion",
 "project_id": "054b61972980d4552f0bc00ac8d3f5cd",
 "project_name": "slaveProjectName"
 }
]
 }
]
}
```

- 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 Database Security

## 5.7.1 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.

This API is supported only for RDS for MySQL instances.

### URI

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

**Table 5-142** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

### Request

Parameter description

**Table 5-143** Parameter description

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

## Example Request

- Enabling SSL for a DB instance

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/
dsfae23fsfdsae3435in01/ssl
```

```
{
 "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](#).

## 5.7.2 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 5-144** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-145** Parameter description

| Name | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port | Yes       | Integer | <p>Specifies the port number.</p> <ul style="list-style-type: none"><li>• The RDS for MySQL port number ranges from 1024 to 65535, excluding 12017 and 33071.</li><li>• The RDS for PostgreSQL port number ranges from 2100 to 9500.</li><li>• For RDS for SQL Server 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, and 2017 Web Edition, the port number can be set to 1433 or 2100 to 9500 (excluding 5050, 5353, 5355, 5985, and 5986). For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355 and 5985).</li></ul> |

## Example Request

Changing the database port of a DB instance to 8836

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/port
{
 "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](#).

### 5.7.3 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 5-146** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

#### Request

Parameter description

**Table 5-147** 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

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/security-group
{
 "security_group_id": "23423kljlk432lk0sdf0234eaa"
}
```

## 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](#).

## 5.7.4 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 5-148** 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 <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                  |

## Request

Parameter description

**Table 5-149** 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

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/ip
{
 "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](#).

# 5.8 Backup and Restoration

## 5.8.1 Setting an Automated Backup Policy

### Function

This API is used to set an automated backup policy.

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

### URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/backups/policy
- Parameter description

**Table 5-150** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-151** Parameter description

| Name            | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backup_policy   | Yes       | Object  | <p>Specifies the backup policy objects, including the backup retention period (days) and backup start time.</p> <p>For details, see <a href="#">Table 5-152</a>.</p>                                                                                                                                                                                                                                                                               |
| reserve_backups | No        | Boolean | <p>Specifies whether to retain automated and unsynchronized backups. This parameter is valid only when the automated backup policy is disabled. The default value is <b>true</b>.</p> <ul style="list-style-type: none"><li>• <b>true</b>: indicates that automated and unsynchronized backups are retained.</li><li>• <b>false</b>: indicates that automated and unsynchronized backups are deleted when the backup policy is disabled.</li></ul> |

**Table 5-152** backup\_policy field data structure description

| Name      | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| keep_days | Yes       | Integer | <p>Specifies the number of days to retain the generated backup files.</p> <p>The value range is from 0 to 732. The value <b>0</b> indicates that the automated backup policy is disabled. To extend the retention period, contact customer service.</p> <p>Automated backups can be retained for up to 2,562 days.</p> <p><b>NOTICE</b></p> <p>Once the automated backup policy is disabled, automated backups are no longer created and all incremental backups are deleted immediately. Operations related to the incremental backups, including downloads, replications, restorations, and rebuilds, may fail.</p> |

| Name       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | No        | String | <p>Specifies the backup time window. Automated backups will be triggered during the backup time window. This parameter is mandatory except that the automated backup policy is disabled.</p> <p>The value 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"> <li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li> <li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to any of the following: <b>00, 15, 30, or 45</b>.</li> </ul> <p>Example value:</p> <ul style="list-style-type: none"> <li>• 08:15-09:15</li> <li>• 23:00-00:00</li> </ul> |

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

## Example Request

- Configuring an automated backup policy for a DB instance, with backup cycle set to Monday and Tuesday, backup window to 19:00–20:00, and retention period to 7 days

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/policy
{
 "backup_policy": {
 "keep_days": 7,
 "start_time": "19:00-20:00",
 "period": "1,2"
 }
}
```

- Disabling an automated backup policy

```
{
 "backup_policy": {
 "keep_days": 0
 },
 "reserve_backups": 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](#).

## 5.8.2 Setting a Cross-Region Backup Policy

### Function

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

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

### Constraints

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

### URI

- URI format  
`PUT /v3/{project_id}/instances/{instance_id}/backups/offsite-policy`
- Parameter description

**Table 5-153** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-154** Parameter description

| Name        | Mandatory | Type   | Description                                                                                                                                                                      |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| policy_para | Yes       | Object | Specifies the backup policy object, including the backup type, backup retention days, target region ID, and target project ID.<br>For details, see <a href="#">Table 5-155</a> . |

**Table 5-155** policy\_para field data structure description

| Name                   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backup_type            | Yes       | String  | <p>Specifies the backup type.</p> <p>For RDS for SQL Server, this parameter can only be set to <b>all</b>.</p> <p>Its value can be any of the following:</p> <ul style="list-style-type: none"><li>• <b>auto</b>: automated full backup</li><li>• <b>incremental</b>: automated incremental backup</li><li>• <b>all</b>: all backup types<ul style="list-style-type: none"><li>– RDS for MySQL: Enable automated full backup and automated incremental backup.</li><li>– RDS for PostgreSQL: Enable automated full backup and automated incremental backup.</li><li>– RDS for SQL Server: Enable automated full backup, automated incremental backup, and manual backup.</li></ul></li></ul> |
| keep_days              | Yes       | Integer | <p>Specifies the number of days to retain the generated backup files.</p> <p>Value range: 0-1825</p> <p>The value <b>0</b> indicates that the cross-region backup policy is disabled.</p> <p><b>NOTICE</b><br/>Once the automated backup policy is disabled, automated backups are no longer created and all incremental backups, if any, are deleted immediately. Operations related to the incremental backups, including downloads, replications, restorations, and rebuilds, may fail.</p>                                                                                                                                                                                               |
| destination_region     | Yes       | String  | Specifies the target region ID for the cross-region backup policy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| destination_project_id | Yes       | String  | Specifies the target project ID for the cross-region backup policy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Example Request

- Configuring a cross-region automated full backup policy for an RDS for MySQL or RDS for PostgreSQL DB instance

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in01/backups/offsite-policy
```

- ```
{  
    "policy_para": {  
        "backup_type": "auto",  
        "keep_days": 7,  
        "destination_region": "aaa",  
        "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"  
    }  
}
```
- Disabling a cross-region automated full backup policy for an RDS for MySQL or RDS for PostgreSQL DB instance

```
{  
    "policy_para": {  
        "backup_type": "auto",  
        "keep_days": 0,  
        "destination_region": "aaa",  
        "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"  
    }  
}
```
 - Configuring a cross-region backup policy for an RDS for SQL Server DB instance

```
{  
    "policy_para": {  
        "backup_type": "all",  
        "keep_days": 7,  
        "destination_region": "aaa",  
        "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"  
    }  
}
```
 - Disabling a cross-region backup policy for an RDS for SQL Server DB instance

```
{  
    "policy_para": {  
        "backup_type": "all",  
        "keep_days": 0,  
        "destination_region": "aaa",  
        "destination_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c"  
    }  
}
```

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](#).

5.8.3 Obtaining an Automated Backup Policy

Function

This API is used to obtain an automated backup policy.

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

URI

- URI format

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

- Parameter description

Table 5-156 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
- URI example
GET `https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/policy`

Response

- Normal response

Table 5-157 Parameter description

Name	Type	Description
backup_policy	Object	Indicates the backup policy objects, including the backup retention period (days) and backup start time. For details, see Table 5-158 .

Table 5-158 backup_policy field data structure description

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

- Example normal response

When the automated backup policy is disabled:

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

When the automated backup policy is enabled:

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

- Abnormal response

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

Status Code

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

Error Code

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

5.8.4 Querying Information About a Cross-Region Backup Policy

Function

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

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

URI

- URI format
`GET /v3/{project_id}/instances/{instance_id}/backups/offsite-policy`
- Parameter description

Table 5-159 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
- URI example
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/backups/offsite-policy`

Response

- Normal response

Table 5-160 Parameter description

Name	Type	Description
policy_para	Array of objects	Indicates the backup policy object, including the backup type, backup retention days, target region ID, and target project ID. For details, see Table 5-161 .

Table 5-161 policy_para field data structure description

Name	Type	Description
backup_type	String	Indicates the backup type. Its value can be any of the following: <ul style="list-style-type: none">auto: automated full backupincremental: automated incremental backupmanual: manual backup (returned only for RDS for SQL Server DB instances)
keep_days	Integer	Indicates the number of days to retain the backup files.
destination_region	String	Indicates the target region ID for the cross-region backup policy.
destination_project_id	String	Indicates the target project ID for the cross-region backup policy.

- Example normal response

When the backup policy is disabled:

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

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

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

```
        "keep_days": 7,
        "backup_type": "incremental",
        "destination_region": "aaa",
        "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9"
    }
]
}
```

When the automated backup policy, incremental backup policy, and manual backup policy are enabled for RDS for SQL Server DB instances:

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

- Abnormal Response

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

Status Code

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

Error Code

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

5.8.5 Creating a Manual Backup

Function

This API is used to create a manual backup.

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

Constraints

- Microsoft SQL Server supports batch calling of this API to create manual backups for one database.
- 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 5-162 Parameter description

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

Request

Parameter description

Table 5-163 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.

Name	Mandatory	Type	Description
description	No	String	Specifies the backup description. It contains a maximum of 256 characters and cannot contain the following special characters: >!<"&'=
databases	No	Array of objects	Specifies a list of self-built RDS for SQL Server databases that are partially backed up. (Only RDS for SQL Server supports partial backups.) For details, see Table 5-164 .

Table 5-164 databases field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the names of self-built databases.

Example Request

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


```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/backups
{
  "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
  "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"
}
```
- Creating a manual backup **mybackup** for an RDS for SQL Server DB instance


```
{
  "instance_id": "34029da944074135a3bc24c75b3bb3edin04",
```

```
"name": "mybackup",
"description": "manual backup",
"atabases": [
    {
        "name": "db1"
    },
    {
        "name": "db2"
    }
]
```

Response

- Normal response

Table 5-165 Parameter description

Name	Type	Description
backup	Object	Indicates the backup information. For details, see Table 5-166 .

Table 5-166 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.
databases	Array of objects	Indicates a list of self-built RDS for SQL Server databases that are partially backed up. (Only RDS for SQL Server supports partial backups.) For details, see Table 5-164 .

Name	Type	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
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": "d8e6ca5a624745bcb546a227aa3ae1cf01"
  }
}
```

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

```
{
  "backup": {
    "id": "104b59af83d4fc7b2c03ad14c4be080br03",
    "name": "mybackup",
  }
}
```

```
        "description": "manual backup",
        "begin_time": "2022-08-23T07:20:36Z",
        "status": "BUILDING",
        "type": "manual",
        "instance_id": "a8a5fc65b1a04ceb9d72212891ad73f8in03"
    }
}
```

Creating a manual backup for an RDS for SQL Server DB instance:

```
{
    "backup": {
        "id": "6f7b5904b04043b38ad764e33daba810br04",
        "name": "mybackup",
        "description": "manual backup",
        "begin_time": "2022-08-23T07:15:28Z",
        "status": "BUILDING",
        "type": "manual",
        "instance_id": "34029da944074135a3bc24c75b3bb3edin04",
        "databases": [
            {
                "name": "db1"
            },
            {
                "name": "db2"
            }
        ]
    }
}
```

- 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 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 5-167 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.
backup_id	No	Specifies the backup ID.
backup_type	No	Specifies the backup type. Value: <ul style="list-style-type: none">auto: automated full backupmanual: manual full backupfragment: differential full backupincremental: 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+1</i> piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	No	Specifies the number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 .
begin_time	No	Specifies the start time for obtaining the backup list. The format of the start time is "yyyy-mm-ddThh:mm:ssZ". 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.

Name	Mandatory	Description
end_time	No	<p>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.</p> <p>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.</p> <p>NOTE When end_time is not empty, begin_time is mandatory.</p>

Request

- Request parameters
None
- URI example

```
GET https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/backups?  
instance_id=43e4feaab48f11e89039fa163ebaa7e4in01&offset=0&limit=10&be  
gin_time=2018-08-06T10:41:14+0800&end_time=2018-08-16T10:41:14+0800
```

Response

- Normal response

Table 5-168 Parameter description

Name	Type	Description
backups	Array of objects	Indicates the backup list. For details, see Table 5-169 .
total_count	Integer	Indicates the total number of records.

Table 5-169 backups field data structure description

Name	Type	Description
id	String	Indicates the backup ID.
name	String	Indicates the backup name.

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
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
begin_time	String	Indicates the backup start time. <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. For example, in the Beijing time zone, the time zone offset is shown as +0800.</p>

Name	Type	Description
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. For example, in the Beijing time zone, the time zone offset is shown as +0800.</p>
datastore	Object	<p>Indicates the database version.</p> <p>For details, see Table 5-170.</p>
databases	Array of objects	<p>Indicates a list of self-built Microsoft SQL Server databases that support partial backups.</p> <p>For details, see Table 5-171.</p>
instance_id	String	Indicates the ID of the DB instance for which the backup is created.
associated_with_ddm	Boolean	Indicates whether this instance is associated with a DDM instance.

Table 5-170 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 SQLServer
version	String	Indicates the database version.

Table 5-171 databases field data structure description

Parameter	Type	Description
name	String	Indicates the name of the self-built database.

- 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": "a48e43ff268f4c0e879652d65e63d0fb01",
      "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": "a48e43ff268f4c0e879652d65e63d0fb03",
      "associated_with_ddm": false
    }
  ],
  "total_count": 1
}
```

Obtaining all backups of an RDS for SQL Server instance:

```
{
  "backups": [
    {
      "id": "43e4feaab48f11e89039fa163ebaa7e4br04",
      "name": "xxxx.xxx",
      "type": "manual",
      "size": 2803,
      "status": "COMPLETED",
      "begin_time": "2018-08-06T12:41:14+0800",
      "end_time": "2018-08-06T12:43:14+0800",
      "datastore": {
        "type": "SQLServer",
        "version": "2014_WEB"
      },
      "databases": [
        {
          "name": "user01"
        },
        {
          "name": "user02"
        }
      ]
    }
  ],
  "total_count": 1
}
```

```
        }],
        "instance_id": "a48e43ff268f4c0e879652d65e63d0fb04",
        "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](#).

5.8.7 Querying Cross-Region Backups

Function

This API is used to obtain cross-region backups of an instance in the target backup region.

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

Constraints

Cross-region manual backups can be queried only for RDS for SQL Server.

URI

- URI format
`GET /v3/{project_id}/offsite-backups?`
`instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}`
- Parameter description

Table 5-172 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 .

Parameter	Mandatory	Description
instance_id	Yes	Specifies the DB instance ID.
backup_type	Yes	Specifies the backup type. Its value can be any of the following: <ul style="list-style-type: none"> • auto: indicates automated full backups and manual backups. Cross-region manual backups are supported only for RDS for SQL Server. • incremental: indicates automated incremental backups.
backup_id	No	Specifies the backup ID.
offset	No	Specifies the index position. If offset is set to <i>N</i> , the resource query starts from the <i>N+1</i> piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	No	Specifies the number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 .
begin_time	No	Specifies the start time for obtaining the cross-region backup list. The format of the start time is "yyyy-mm-ddThh:mm:ssZ". 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 . <p>NOTE When begin_time is not empty, end_time is mandatory.</p>
end_time	No	Specifies the end time for obtaining the cross-region backup list. The format of the end time is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. 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 . <p>NOTE When end_time is not empty, begin_time is mandatory.</p>

Request

- Request parameters
None
- URI example
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/offsite-backups?
instance_id=43e4feaab48f11e89039fa163ebaa7e4br01&offset=0&limit=10&begin_time=2018-08-06T10:41:14+0800&end_time=2018-08-16T10:41:14+0800

Response

- Normal response

Table 5-173 Parameters

Parameter	Type	Description
backups	Array of objects	Indicates the backup list. For details, see Table 5-174 .
total_count	Integer	Indicates the total number of records.

Table 5-174 backups field data structure description

Parameter	Type	Description
id	String	Indicates the backup ID.
name	String	Indicates the backup name.
type	String	Indicates the backup type. Its value can be any of the following: <ul style="list-style-type: none">• auto: indicates automated full backups and manual backups. Cross-region manual backups are supported only for RDS for SQL Server.• incremental: indicates automated incremental backups.
size	Long	Indicates the backup size in KB.

Parameter	Type	Description
status	String	Indicates the backup status. Its value can be any of the following: <ul style="list-style-type: none">• BUILDING: backup in progress• COMPLETED: backup completed• FAILED: backup failed• DELETING: backup being deleted
databases	Array of objects	Indicates the self-built database. This parameter is returned only for RDS for SQL Server DB instances. For details, see Table 5-175 .
begin_time	String	Indicates the backup 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. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
end_time	String	Indicates the backup end time. <ul style="list-style-type: none">• For a full backup, it indicates the full backup end time.• For an incremental backup, it indicates the time when the last transaction in the backup file was submitted. The format is yyyy-mm-ddThh:mm:ssZ. 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 .
datastore	Object	Indicates the database version. For details, see Table 5-176 .
instance_id	String	Indicates the ID of the DB instance for which the backup is created.

Parameter	Type	Description
associated_with_ddm	Boolean	Indicates whether to associate with DDM. This parameter is returned only for RDS for MySQL DB instances.

Table 5-175 databases field data structure description

Name	Type	Description
name	String	Indicates the name of the self-built database.

Table 5-176 datastore field data structure description

Name	Type	Description
type	String	DB engine. Currently, only MySQL and Microsoft SQL Server are supported.
version	String	DB engine version.

- Example normal response

MySQL:

```
{
    "backups": [
        {
            "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
            "name": "xxxx.xxx",
            "type": "auto",
            "size": 2803,
            "status": "COMPLETED",
            "begin_time": "2018-08-06T12:41:14+0800",
            "end_time": "2018-08-06T12:43:14+0800",
            "datastore": {
                "type": "MySQL",
                "version": "5.6"
            },
            "instance_id": "a48e43ff268f4c0e879652d65e63d0fb01",
            "associated_with_ddm": false
        }
    ],
    "total_count": 1
}
```

PostgreSQL:

```
{
    "backups": [
        {
            "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
            "name": "xxxx.xxx",
            "type": "auto",
            "size": 2803,
            "status": "COMPLETED",
            "begin_time": "2018-08-06T12:41:14+0800",
            "end_time": "2018-08-06T12:43:14+0800",
            "datastore": {

```

```
        "type": "PostgreSQL",
        "version": "9.6"
    },
    "instance_id": "a48e43ff268f4c0e879652d65e63d0fb01"
],
"total_count": 1
}
```

Microsoft SQL Server:

```
{
    "backups": [
        {
            "id": "d0ea632a5c32451dbdb157ef5c2ad3ecbr04",
            "name": "sqlserver-rds-1784-20221202062025775",
            "type": "auto",
            "size": 5956,
            "status": "COMPLETED",
            "begin_time": "2022-12-02T06:20:25+0000",
            "end_time": "2022-12-02T06:24:45+0000",
            "datastore": {
                "type": "sqlserver",
                "version": "2019_SE"
            },
            "instance_id": "ad4ee2b80adb430082d8336d7da2e14din04"
        },
        {
            "id": "07d6a8ab12304f9aa3f368a6cff21ac9br04",
            "name": "backup-81f1",
            "type": "auto",
            "size": 773,
            "status": "COMPLETED",
            "begin_time": "2022-12-02T06:12:22+0000",
            "end_time": "2022-12-02T06:16:37+0000",
            "datastore": {
                "type": "sqlserver",
                "version": "2019_SE"
            },
            "instance_id": "ad4ee2b80adb430082d8336d7da2e14din04"
        }
    ],
    "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](#).

5.8.8 Querying DB Instances for Which Cross-Region Backups Are Created

Function

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

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

URI

- URI format
`GET /v3/backups/offsite-backup-instance?offset={offset}&limit={limit}`
- Parameter description

Table 5-177 Parameter description

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

Request

- Request parameters
None
- URI example
 - Querying all DB instance lists
`GET https://{endpoint}/v3/backups/offsite-backup-instance`
 - Querying DB instance lists based on search criteria
`GET https://{endpoint}/v3/backups/offsite-backup-instance?offset=0&limit=10`

Response

- Normal response

Table 5-178 Parameter description

Name	Type	Description
offsite_backup_instances	Array of objects	Indicates information about DB instances for which cross-region backups are created. For details, see Table 5-179 .
total_count	Integer	Indicates the total number of records.

Table 5-179 offsite_backup_instances field data structure description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the name of the DB instance for which cross-region backups are created.
source_region	String	Indicates the source backup region.
source_project_id	String	Indicates the project ID in the source backup region.
datastore	Object	Indicates the database information. For details, see Table 5-180 .
destination_region	String	Indicates the region where the cross-region backup is located.
destination_project_id	String	Indicates the project ID in the target backup region.
keep_days	Integer	Indicates the number of days to retain cross-region backups.

Table 5-180 datastore field data structure description

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

- Example normal response

Querying DB instance lists based on search criteria:

```
{
    "total_count": 1,
    "offsite_backup_instances": [
        {
            "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
            "name": "rds-instance-rep2",
            ...
        }
    ]
}
```

```
        "source_region": "aaa",
        "source_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
        "datastore": {
            "type": "MySQL",
            "version": "5.7"
        },
        "destination_region": "bbb",
        "destination_project_id": "0503fd7f7580d3262fc5c001170fbab9",
        "keep_days": 7
    }
]
```

- **Querying all DB instance lists:**

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

- Abnormal Response

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

Status Code

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

Error Code

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

5.8.9 Obtaining the Link for Downloading a Backup File

Function

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

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

Constraints

This API is used to obtain the link for downloading a full or incremental backup of an RDS for MySQL, RDS for PostgreSQL or RDS for SQL Server instance.

URI

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

Table 5-181 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. For details about how to obtain the backup ID, see Obtaining Backups .

Request

- Request parameters
None
- URI example
GET https://[endpoint]/v3/97b026aa9cc4417888c14c84a1ad9860/backup-files?backup_id=c0c9f155c7b7423a9d30f0175998b63bbr01

Response

- Normal response

Table 5-182 Parameter description

Name	Type	Description
files	Array of objects	Indicates the list of backup files. For details, see Table 5-183 .
bucket	String	Indicates the name of the bucket where the file is located.

Table 5-183 files field data structure description

Name	Type	Description
name	String	Indicates the file name.

Name	Type	Description
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 .
database_name	String	Indicates the name of the database. If the backup file is not a database backup file, null is returned.

- 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",  
      "database_name": "rdsbucket"  
    }  
  ],  
  "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](#).

5.8.10 Deleting a Manual Backup

Function

This API is used to delete a manual backup.

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

URI

- URI format
`DELETE /v3/{project_id}/backups/{backup_id}`
- Parameter description

Table 5-184 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
- URI example
`DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/backups/2f4ddb93-b901-4b08-93d8-1d2e472f30fe`

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](#).

5.8.11 Querying the Restoration Time Range

Function

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

If the backup retention period has been set to a long period, you are advised to set the query date by referring to [Table 5-185](#).

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

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/restore-time?date=2020-12-26
- Parameter description

Table 5-185 Parameter description

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

Request

- Request parameters
None
- URI example
 - Querying all restoration time ranges
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore-time`
 - Querying the restoration time range based on a specified date
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore-time?date=2020-12-26`

Response

- Normal response

Table 5-186 Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see Table 5-187 .

Table 5-187 restore_time field data structure description

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

- Example normal response

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

- Abnormal response

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

Status Code

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

Error Code

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

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

Function

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

If the backup retention period has been set to a long period, you are advised to set the query date by referring to [Table 5-188](#).

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

URI

- URI format

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

- Parameter description

Table 5-188 Parameter description

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

Request

- Request parameters

None

- URI example

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

GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/
instances/dsfae23fsfdsae3435in01/offsite-restore-time

- Querying the restoration time range of a cross-region backup based on a specified date

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

Response

- Normal response

Table 5-189 Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see Table 5-190 .

Table 5-190 restore_time field data structure description

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

- Example normal response

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

- Abnormal Response

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

Status Code

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

Error Code

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

5.8.13 Restoring Data to a New DB Instance

Function

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

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

Constraints

- The DB engine of the original DB instance must be the same as that of the target DB instance. For example, if the original DB instance is running MySQL, the target DB instance must also run MySQL.
- The constraints on the original and target DB instances are as follows:
 - For RDS for MySQL and RDS for PostgreSQL, the DB engine versions of the original and target DB instances must be the same.
- For RDS for MySQL and RDS for PostgreSQL, 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 5-191 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 5-192 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the DB instance name.</p> <p>DB instances of the same type can have same names under 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 bytes 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 bytes 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> <ul style="list-style-type: none">• RDS for MySQL: ~!@#\$%^*-_=+?,(),&• RDS for SQL Server: ~!@#\$%^*-_=+?,• RDS for PostgreSQL: ~!@#%^*-_=+?, <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 5-197.</p>

Name	Mandatory	Type	Description
availability_zone	Yes	String	<p>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.</p> <p>The value cannot be empty. For details about how to obtain this parameter value, see Regions and Endpoints.</p>
restore_point	Yes	Object	<p>Specifies the restoration information.</p> <p>For details, see Table 5-198.</p>
datastore	No	Object	<p>Specifies database information. This parameter is used for RDS for SQL Server DB instances only and is mandatory for cross-version restoration to new DB instances.</p> <p>For details, see Table 5-194.</p> <p>For details about versions for RDS for SQL Server restoration, see Table 5-195.</p>

Name	Mandatory	Type	Description
ha	No	Object	Specifies the HA configuration parameters, which are used when creating primary/standby DB instances. For details, see Table 5-193 .
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.• For RDS for SQL Server 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, and 2017 Web Edition, the port number can be set to 1433 or 2100 to 9500 (excluding 5050, 5353, 5355, 5985, and 5986).

Name	Mandatory	Type	Description
			<p>For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355 and 5985).</p> <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 • RDS for SQL Server: 1433
backup_strategy	No	Object	<p>Specifies the advanced backup policy.</p> <p>For details, see Table 5-196.</p>
enterprise_project_id	No	String	Specifies the project ID.
disk_encryption_id	No	String	<p>Specifies the key ID for disk encryption. The default value is empty.</p> <p>NOTE Serverless instances do not support this parameter.</p>
region	No	String	<p>Specifies the region ID. For details, see Regions and Endpoints.</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>. <p>To use multiple security groups for an RDS for MySQL instance, choose Service Tickets > Create Service Ticket in the upper right corner of the management console to apply for the required permissions. You can add up to 10 security group IDs</p>

Name	Mandatory	Type	Description
			for each instance and separate them with commas (,).
charge_info	No	Object	Specifies the billing information, which is yearly/monthly or pay-per-use (default setting). Only RDS for SQL Server supports restoration of yearly/monthly DB instances to new instances. For details, see Table 5-200 .

Name	Mandatory	Type	Description
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: Chinese mainland site and international site use UTC by default.- PostgreSQL: Chinese mainland site and international site use UTC by default.- Microsoft SQL Server: Chinese mainland site and international site use China Standard Time and UTC, respectively.• 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.

Name	Mandatory	Type	Description
dsspool_id	No	String	<p>Specifies the DSS pool ID of DeC users. The DSS pool configured for each AZ is different. When DeC users create DB instances other than single instances or read replicas, DSS pool IDs must be specified for all nodes of the DB instances and must be separated by commas (,). To obtain the DSS pool ID, you can use either of the following methods:</p> <ul style="list-style-type: none">• Method 1: Log in to the DSS console, view the DSS pool list, and select the desired DSS ID in the AZ.• Method 2: Query the DSS pool ID using the DSS API. For details, see Obtaining Details of DSS Storage Pools.
replica_of_id	No	String	Specifies the ID of the primary DB instance. This parameter is mandatory when you create a read replica and is unavailable in other scenarios.

Name	Mandatory	Type	Description
collation	No	String	<p>This parameter applies only to RDS for SQL Server DB instances.</p> <p>Value range: character sets queried in Querying the Available SQL Server Character Set.</p>
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 keys and values, separate them with commas (,). A maximum of 20 key-value pairs can be added for a DB instance.</p> <p>For details, see Table 5-201.</p>

Name	Mandatory	Type	Description
unchangeable_param	No	Object	<p>Specifies the list of unchangeable parameters. The unchangeable parameters need to be specified before database initialization and cannot be modified after being specified.</p> <p>For details, see Table 5-202.</p>
dry_run	No	Boolean	<p>Specifies whether DB instances will not be created after the request is checked. This parameter is supported with MySQL only.</p> <ul style="list-style-type: none"> ● true: DB instances will not be created after the request is checked. <ul style="list-style-type: none"> – If the check is successful, status code 202 is returned. – If the check fails, an error code is returned. For details, see Error Codes. ● false: DB instances will be created after the check is successful.

Name	Mandatory	Type	Description
serverless_info	No	Object	<p>Specifies the resource scaling scope of a serverless instance. This parameter is mandatory when you create a serverless instance.</p> <p>For details, see Table 5-199.</p>

Table 5-193 ha field data structure description

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

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. • RDS for SQL Server: The value is 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 5-194 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Specifies the DB engine. Value: SQLServer

Name	Mandatory	Type	Description
version	Yes	String	<p>Specifies the database version.</p> <ul style="list-style-type: none">For RDS for SQL Server, only 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, 2017 Web Edition, 2014 Standard Edition, 2014 Enterprise Edition, 2016 Standard Edition, 2016 Enterprise Edition, 2012 Enterprise Edition, 2012 Standard Edition, 2012 Web Edition, 2014 Web Edition, and 2016 Web Edition are supported. <p>Example value: 2014_SE 2008 R2 Enterprise Edition and 2008 R2 Web Edition are only for installed base operations.</p> <p>For details about supported database versions, see Querying Version Information About a DB Engine.</p>

Table 5-195 Version mapping for RDS for SQL Server restoration

Original	Restore To
2008 R2 Standard Edition	2012 Standard Edition 2012 Enterprise Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition

Original	Restore To
2012 Web Edition	2012 Web Edition 2012 Standard Edition 2012 Enterprise Edition 2014 Web Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Web Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Web Edition 2017 Standard Edition 2017 Enterprise Edition
2012 Standard Edition	2012 Standard Edition 2012 Enterprise Edition 2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2012 Enterprise Edition	2012 Enterprise Edition 2014 Enterprise Edition 2016 Enterprise Edition 2017 Enterprise Edition
2014 Standard Edition	2014 Standard Edition 2014 Enterprise Edition 2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition
2014 Enterprise Edition	2014 Enterprise Edition 2016 Enterprise Edition 2017 Enterprise Edition
2016 Standard Edition	2016 Standard Edition 2016 Enterprise Edition 2017 Standard Edition 2017 Enterprise Edition

Original	Restore To
2016 Enterprise Edition	2016 Enterprise Edition 2017 Enterprise Edition
2017 Web Edition	2017 Web Edition 2017 Standard Edition 2017 Enterprise Edition
2017 Standard Edition	2017 Standard Edition 2017 Enterprise Edition
2017 Enterprise Edition	2017 Enterprise Edition

Table 5-196 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

Name	Mandatory	Type	Description
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. To extend the retention period, contact customer service.</p> <p>Automated backups can be retained for up to 2,562 days.</p>

Table 5-197 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	<p>Specifies the volume type.</p> <p>Its value can be any of the following and is case-sensitive:</p> <ul style="list-style-type: none"> • ULTRAHIGH: ultra-high I/O type. • LOCALSSD: indicates the local SSD type. • CLOUDSSD: indicates the cloud SSD type. • ESSD: indicates the extreme SSD type.

Name	Mandatory	Type	Description
size	Yes	Integer	<p>Specifies the volume size. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.</p> <p>NOTICE The volume size of the new DB instance must be at least equal to that of the original DB instance for RDS for MySQL and RDS for PostgreSQL.</p>

Table 5-198 restore_point field data structure description

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

Name	Mandatory	Type	Description
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>

Name	Mandatory	Type	Description
database_name	No	Map<String, String>	<p>This parameter applies only to Microsoft SQL Server databases.</p> <ul style="list-style-type: none"> ● If this parameter is specified, you can restore all or specific databases and rename new databases. ● If this parameter is not specified, all databases are restored by default. ● You can enter multiple new database names and separate them with commas (,). The new database names can contain but cannot be the same as the original database names. ● Note the following when you are specifying new database names: <ul style="list-style-type: none"> – New database names must be different from the original database names. If they are left

Name	Mandatory	Type	Description
			<p>blank, the original database names will be used for restoration by default.</p> <ul style="list-style-type: none">- The case-sensitivity settings of the new databases are the same as those of the original databases. Make sure the new database names are unique.- New database names must be different from any database names on the original DB instance.- The total number of new databases cannot exceed the database quota specified by <code>rds_databases_quota</code>.- New database names cannot contain the following

Name	Mandatory	Type	Description
			<p>fields (case-insensitive): rdsadmin, master, msdb, tempdb, model, and resource.</p> <ul style="list-style-type: none"> - New database names must consist of 1 to 64 characters, including only letters, digits, underscores (_), and hyphens (-). If you want to restore data to multiple new databases, separate them with commas (,). <p>Example: <code>"database_name": {"Original database name": "New database name"}</code></p> <p>Correct example: <code>"database_name": {"A": "A,A1,A2", "B": "B1,B2", "C": ""}</code></p> <p>Wrong example: <code>"database_name": {"A": "A", "B": "B1,B2", "C": "B1,C1", "D": "D1,d1"}</code>,</p> <p>Error causes are as follows:</p> <ol style="list-style-type: none"> 1. The new database name (A) is the same as the original

Name	Mandatory	Type	Description
			<p>database name (A).</p> <p>2. The new database name (B1) is not unique.</p> <p>3. When the database name is case insensitive, the database names D1 and d1 conflict.</p> <p>CAUTION Before the restoration, make sure that the size of the restored data does not exceed the purchased disk capacity.</p>

Table 5-199 serverless_info field data structure description

Parameter	Mandatory	Type	Description
min_cap	Yes	String	<p>Minimum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5.</p> <p>NOTE RCU: RDS Capacity Unit. It is the billing unit for serverless instances. The value of max_cap must be greater than that of min_cap.</p>
max_cap	Yes	String	Maximum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5.

Table 5-200 charge_info field data structure description

Name	Mandatory	Type	Description
charge_mode	Yes	String	<p>Specifies the billing mode.</p> <p>Value range:</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 type.</p> <p>Value range:</p> <ul style="list-style-type: none"> • month: indicates that the service is subscribed by month. • year: indicates that the service is subscribed by year. <p>NOTE This parameter is valid and mandatory if charge_mode is set to prePaid.</p>
period_num	No	Integer	<p>Specifies the subscription period. This parameter is valid and mandatory if charge_mode is set to prePaid.</p> <p>Value range:</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 ranges from 1 to 3.
is_auto_renew	No	boolean	<p>Specifies whether automatic renewal is enabled for yearly/monthly DB instances. The renewal period is the same as the original period and the order will be automatically paid.</p> <ul style="list-style-type: none"> • true: indicates that automatic renewal is enabled. • false: indicates that automatic renewal is disabled. The default value is false.

Name	Mandatory	Type	Description
is_auto_pay	No	boolean	<p>Specifies whether the order will be automatically paid after yearly/monthly DB instances are created. This parameter does not affect the payment mode of automatic renewal.</p> <ul style="list-style-type: none"> • true: indicates the order will be automatically paid. • false: indicates the order will be manually paid. The default value is false.

Table 5-201 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 _.:=+-@. However, it cannot start or end with a space, or start with <u>sys</u> _.
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 _.:=+-@.

Table 5-202 unchangeable_param field data structure description

Name	Mandatory	Type	Description
lower_case_table_names	No	String	<p>Whether table names are case sensitive. The default value is 1. Valid value:</p> <ul style="list-style-type: none"> • 0: Table names are fixed and case sensitive. • 1: Table names are stored in lowercase and are case insensitive.

Example Request

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

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances

{
    "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",
    "data_vip": "192.168.0.147",
    "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",
    "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
    "time_zone": "UTC+04:00",
    "restore_point": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
        "type": "backup",
        "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
    }
}
```

- Restoring some databases to a new DB instance from an RDS for SQL Server backup

```
{
    "name": "targetInst",
    "datastore": {
        "type": "SQLServer",
        "version": "2014_SE"
    },
    "availability_zone": "bbb,ccc",
    "ha": {
        "mode": "ha",
        "replication_mode": "sync"
    },
    "flavor_ref": "rds.mssql.2014.se.s3.xlarge.2.ha",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 40
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "data_vip": "192.168.0.147",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "backup_strategy": {
        "keep_days": 2,
        "start_time": "19:00-20:00"
    },
    "charge_info": {
        "charge_mode": "prePaid",
        "period_type": "month",
    }
}
```

```
        "period_num": 1,
        "is_auto_renew": false,
        "is_auto_pay": true
    },
    "password": "Demo@12345678",
    "configuration_id": "52e86e87445847a79bf807ceda213165pr04",
    "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
    "time_zone": "UTC+04:00",
    "collation": "Cyrillic_General_CI_AS",
    "restore_point": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04",
        "type": "backup",
        "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe",
        "database_name": {
            "db1": "dbtest1,dbtest2",
            "db2": "db2,db002",
            "db3": ""
        }
    }
}
```

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

```
{
    "name": "targetInst",
    "availability_zone": "bbb,ccc",
    "ha": {
        "mode": "ha",
        "replication_mode": "async"
    },
    "flavor_ref": "rds.mysql.s1.large",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 40
    },
    "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",
    "data_vip": "192.168.0.147",
    "backup_strategy": {
        "keep_days": 2,
        "start_time": "19:00-20:00"
    },
    "password": "Demo@12345678",
    "configuration_id": "52e86e87445847a79bf807ceda213165pr01",
    "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
    "time_zone": "UTC+04:00",
    "restore_point": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
        "type": "timestamp",
        "restore_time": 1532001446987
    }
}
```

- Restoring some databases of an RDS for SQL Server instance to a specific point in time

```
{
    "name": "targetInst",
    "datastore": {
        "type": "SQLServer",
        "version": "2014_SE"
    },
    "availability_zone": "bbb,ccc",
    "ha": {
        "mode": "ha",
        "replication_mode": "sync"
    },
    "flavor_ref": "rds.mssql.2014.se.s3.xlarge.2.ha",
    "volume": {
        "type": "ULTRAHIGH",
        "size": 40
    }
}
```

```
        "size": 40
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "data_vip": "192.168.0.147",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "backup_strategy": {
        "keep_days": 2,
        "start_time": "19:00-20:00"
    },
    "charge_info": {
        "charge_mode": "prePaid",
        "period_type": "month",
        "period_num": 1,
        "is_auto_renew": false,
        "is_auto_pay": true
    },
    "password": "Demo@12345678",
    "configuration_id": "52e86e87445847a79bf807ceda213165pr04",
    "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
    "time_zone": "UTC+04:00",
    "collation": "Cyrillic_General_CI_AS",
    "restore_point": {
        "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04",
        "type": "timestamp",
        "restore_time": 1532001446987,
        "database_name": {
            "db1": "dbtest1,dbtest2",
            "db2": "db2,db02",
            "db3": ""
        }
    }
}
```

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

```
{
    "name": "serverless",
    "datastore": {
        "type": "MySQL",
        "version": "5.7"
    },
    "ha": {
        "mode": "ha",
        "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.serverless.ha",
    "volume": {
        "type": "CLOUDSSD",
        "size": 100
    },
    "region": "aaa",
    "availability_zone": "bbb,ccc",
    "vpc_id": "bd3e4c67-74da-459d-820f-9fecd4ea9ca4",
    "subnet_id": "53cdf568-6f56-4944-a996-4afcaffee994e",
    "security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c",
    "port": 3307,
    "backup_strategy": {
        "start_time": "08:15-09:15",
        "keep_days": 12
    },
    "password": "*****",
    "time_zone": "UTC+08:00",
    "tags": [
        {
            "key": "key1",
            "value": "value1"
        },
        {
            "key": "key2",
            "value": "value2"
        }
    ]
}
```

```
        "value": "value2"
    },
    "dry_run": false,
    "serverless_info": {
        "min_cap": "0.5",
        "max_cap": "1"
    },
    "restore_point": {
        "instance_id": "aceb1e359a444660bb8fe0696afc76e1in01",
        "type": "backup",
        "backup_id": "0db0b4b93e5d40afbd65ede29153dc46br01"
    }
}
```

Response

- Normal response

Table 5-203 Parameter description

Name	Type	Description
instance	Object	Indicates the DB instance information. For details, see Table 5-204 .
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.
order_id	String	Indicates the order ID. This parameter is returned only for the creation of an RDS for SQL Server DB instance billed on the yearly/monthly basis.

Table 5-204 instance description

Name	Type	Description
id	String	Indicates the DB instance ID.

Name	Type	Description
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 5-205 .
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created. For details, see Table 5-206 .
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.• For RDS for SQL Server 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 2019 Enterprise Edition, 2019 Standard Edition, 2019 Web Edition, 2017 Enterprise Edition, 2017 Standard Edition, and 2017 Web Edition, the port number can be set to 1433 or 2100 to 9500 (excluding 5050, 5353, 5355, 5985, and 5986). For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355 and 5985). <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• RDS for SQL Server: 1433

Name	Type	Description
backup_strategy	Object	Indicates the automated backup policy. For details, see Table 5-207 .
enterprise_project_tag	String	Indicates the project ID.
flavor_ref	String	Indicates the specification ID. For details, see spec_code in Table 5-13 in section Querying Database Specifications .
volume	Object	Indicates the volume information. For details, see Table 5-208 .
region	String	Indicates the region ID.
availability_zone	String	Indicates the AZ ID.
vpc_id	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>.

Name	Type	Description
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>.
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>.
collation	String	Indicates the collation for RDS for SQL Server.

Name	Type	Description
charge_info	Object	Indicates the billing information, which is yearly/monthly or pay-per-use. For details, see Table 5-200 .

Table 5-205 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Indicates the DB engine. Its value can be any of the following and is case-insensitive: <ul style="list-style-type: none"> • MySQL • PostgreSQL • SQLServer
version	Yes	String	Indicates the database version. For details about supported database versions, see section Querying Version Information About a DB Engine .
complete_version	No	String	Indicates the complete version number. This parameter is returned only when the DB engine is PostgreSQL.

Table 5-206 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Indicates the primary/standby instance type. The value is Ha .
replication_mode	Yes	String	Indicates the replication mode for the standby DB instance. The value cannot be empty. <ul style="list-style-type: none">• RDS for MySQL: The value is async or semisync.• RDS for PostgreSQL: The value is async or sync.• RDS for SQL Server: The value is 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 5-207 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

Name	Mandatory	Type	Description
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. To extend the retention period, contact customer service.</p> <p>Automated backups can be retained for up to 2,562 days.</p>

Table 5-208 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	<p>Indicates the volume type.</p> <p>Its value can be any of the following and is case-sensitive:</p> <ul style="list-style-type: none">• ULTRAHIGH: ultra-high I/O type.• LOCALSSD: indicates the local SSD type.• CLOUDSSD: indicates the cloud SSD type.• ESSD: indicates the extreme SSD type.

Name	Mandatory	Type	Description
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": "bd51fb45-2dc8-4296-8783-8623bfe89bb7",
    "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": "bd51fb45-2dc8-4296-8783-8623bfe89bb7",
    "security_group_id": "23fd0cd4-15dc-4d65-bdb3-8844cc291be0"
  }
}
```

```
        "subnet_id": "bd51fb45-2dcb-4296-8783-8623bfe89bb7",
        "security_group_id": "23fd0cd4-15dc-4d65-bdb3-8844cc291be0"
    },
    "job_id": "bf003379-afea-4aa5-aa83-4543542070bc"
}
```

RDS for SQL Server

```
{
    "instance": {
        "id": "f5ffdd8b1c98434385eb001904209eacin01",
        "name": "demoname",
        "status": "BUILD",
        "datastore": {
            "type": "sqlserver",
            "version": "2014_SE"
        },
        "port": "2100",
        "volume": {
            "type": "ULTRAHIGH",
            "size": "40"
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "02:00-03:00",
            "keep_days": "7"
        },
        "flavor_ref": "rds.mssql.2014.se.s3.large.2",
        "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",
        "charge_info": {
            "charge_mode": "prePaid",
            "period_num": 1
        },
        "collation": "Cyrillic_General_CI_AS"
    },
    "order_id": "CS20122919584LQ7K"
}
```

RDS for MySQL Serverless

```
{
    "instance": {
        "id": "dbb35f31f4144086bf522ff8a124530din01",
        "name": "serverless",
        "status": "BUILD",
        "datastore": {
            "type": "MySQL",
            "version": "5.7.41"
        },
        "ha": {
            "mode": "Ha",
            "replication_mode": "semisync"
        },
        "port": "3307",
        "volume": {
            "type": "CLOUDSSD",
            "size": 100
        },
        "region": "aaa",
        "backup_strategy": {
            "start_time": "08:15-09:15",
            "keep_days": 12
        },
        "flavor_ref": "rds.mysql.serverless.ha",
        "availability_zone": "bbb,ccc",
        "vpc_id": "bd3e4c67-74da-459d-820f-9fec4ea9ca4",
        "subnet_id": "53cdff568-6f56-4944-a996-4afaffe994e",
        "security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c"
    },
}
```

```
        "job_id": "908c05f7-958a-4411-b590-890eed175345"  
    }
```

- 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](#).

5.8.14 Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)

Function

This API is used to check whether fast restoration can be used for restoring databases or tables of a DB instance.

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

Constraints

- This API is available to RDS for MySQL only.
- Fast restoration is disabled by default. To use this function, contact customer service.

URI

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

Table 5-209 Parameters

Parameter	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

Table 5-210 Parameters

Parameter	Mandatory	Type	Description
restore_time	Yes	String	Time point to which data is to be restored. 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.
instance_ids	Yes	Array of strings	Instance IDs.

Example Request

Checking whether fast restoration can be used for restoring databases or tables of a DB instance

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/fast-restore
{
  "restore_time" : "2023-06-25T11:35:40+0800",
  "instance_ids" : [ "14fc6c06d7e842829ee91d11c6b88b3ain01" ]
}
```

Response

- Normal response

Table 5-211 Response body parameters

Parameter	Type	Description
support_fast_restore_list	Array of objects	Whether fast restoration is supported for the DB instance. For details, see Table 5-212 .

Table 5-212 support_fast_restore_list field data structure description

Parameter	Type	Description
instance_id	String	Instance ID.

Parameter	Type	Description
is_support_fast_table_restore	Boolean	Whether fast restoration can be used for restoring tables.
is_support_fast_database_restore	Boolean	Whether fast restoration can be used for restoring databases.

- Example normal response

```
{  
    "support_fast_restore_list" : [ {  
        "instance_id" : "14fc6c06d7e842829ee91d11c6b88b3ain01",  
        "is_support_fast_table_restore" : true,  
        "is_support_fast_database_restore" : true  
    } ]  
}
```

- 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](#).

5.8.15 Querying Databases That Can Be Restored to a Specified Point in Time (RDS for MySQL)

Function

This API is used to query databases that can be restored to a specified point in time.

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

URI

- URI format
POST /v3/{project_id}/{engine}/instances/history/databases
- Parameter description

Table 5-213 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
engine	Yes	DB engine. The value can be mysql (case-insensitive).

Request

- Parameter description

Table 5-214 Parameters

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Instance IDs.
restore_time	Yes	Long	Restoration time point. A timestamp in milliseconds is used.
database_name_like	No	String	Database name, which is used for fuzzy query. The database name cannot contain Chinese characters.
instance_name_like	No	String	Instance name, which is used for fuzzy query.

- Example Request

Querying the databases that can be restored to a specified point in time:

```
{  
    "instance_ids" : [ "5d742eda6e574ff3a003191638ef8c51in01" ],  
    "restore_time" : 1688554422000,  
    "database_name_like" : "",  
    "instance_name_like" : ""  
}
```

Response

- Normal response

Table 5-215 Parameters

Parameter	Type	Description
database_limit	Integer	Maximum number of databases that can be restored for a single instance. If the number of databases queried exceeds this limit, only the databases within this limit are returned in the response.
table_limit	Integer	Maximum number of tables in all databases that can be restored for a single instance. If the number of tables queried exceeds this limit, only the databases whose total number of tables is within this limit are returned in the response.
instances	Array of objects	Instance information. For details, see Table 5-216 .

Table 5-216 instances field data structure description

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.
total_tables	Integer	Total number of tables in all restorable databases of the instance. This value cannot exceed the value of table_limit .
databases	Array of objects	Database information. For details, see Table 5-217 .

Table 5-217 databases field data structure description

Parameter	Type	Description
name	String	Database name. Databases whose names contain Chinese characters will be filtered out and cannot be restored.
total_tables	Integer	Total number of tables in the database. This value cannot exceed the value of table_limit .

- Example normal response

Querying databases that can be restored to a specified point in time:

```
{  
    "instances": [  
        {  
            "id": "5d742eda6e574ff3a003191638ef8c51in01",  
            "name": "AUTO-GENERATED-INSTANCE-57-HA-LOCALSSD",  
            "databases": [  
                {  
                    "name": "dbtest",  
                    "total_tables": 1  
                },  
                {  
                    "name": "dbtest_restore",  
                    "total_tables": 1  
                }  
            ],  
            "total_tables": 2  
        }  
    ],  
    "database_limit": 2000,  
    "table_limit": 20000  
}
```

- 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](#).

5.8.16 Restoring Databases to a Specified Point in Time (RDS for MySQL)

Function

This API is used to restore databases to a specified point in time.

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

Constraints

- This API is available to RDS for MySQL only.
- Database-level restoration is not supported for databases that contain tables with JSON virtual columns.
- Database-level restoration is not supported for databases whose names contain Chinese characters.

- Fast restoration is not supported for XA transactions.

URI

- URI format
POST /v3/{project_id}/instances/batch/restore/databases
- Parameter description

Table 5-218 Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .

Request

- Parameter description

Table 5-219 Parameters

Parameter	Mandatory	Type	Description
instances	Yes	Array of objects	Instance information. For details, see Table 5-220 .

Table 5-220 instances field data structure description

Parameter	Mandatory	Type	Description
restore_time	Yes	Long	Restoration time point. A timestamp in milliseconds is used.
instance_id	Yes	String	Instance ID. Only RDS for MySQL instances are supported.
databases	Yes	Array of objects	Database information. For details, see Table 5-221 .

Parameter	Mandatory	Type	Description
is_fast_restore	No	Boolean	<p>Whether to use fast restoration. The value can be true or false.</p> <ul style="list-style-type: none">To set this parameter, check whether fast restoration is supported by referring to Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL). If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to false to prevent data loss.If this parameter is not specified, the system determines whether to use fast restoration based on the query result of Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL). If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to false.

Table 5-221 databases field data structure description

Parameter	Mandatory	Type	Description
old_name	Yes	String	Name of the database before restoration. The database name cannot contain Chinese characters.

Parameter	Mandatory	Type	Description
new_name	Yes	String	Name of the database after restoration. The database name can contain letters, digits, hyphens (-), underscores (_), and dollar signs (\$). The new database name cannot be the same as the original database name.

- Example request

Restoring databases to a specified point in time:

```
{
  "instances": [ {
    "instance_id": "5d742eda6e574ff3a003191638ef8c51in01",
    "restore_time": 1699323939000,
    "databases": [ {
      "old_name": "dbtest",
      "new_name": "dbtest_restore"
    } ]
  } ]
}
```

Response

- Normal response

Table 5-222 Parameters

Parameter	Type	Description
restore_result	Array of objects	Database-level PITR task information. For details, see Table 5-223 .

Table 5-223 restore_result field data structure description

Parameter	Type	Description
instance_id	String	Instance ID.
job_id	String	Workflow ID.

- Example normal response

Restoring databases to a specified point in time:

```
{
  "restore_result": [ {
    "instance_id": "5d742eda6e574ff3a003191638ef8c51in01",
    "job_id": "749d6254-f4f0-4f72-aa32-876e220d2496"
  } ]
}
```

- 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 Upgrading a Major Version

5.9.1 Querying the Target Version to Which a DB Instance Can Be Upgraded (RDS for PostgreSQL)

Function

This API is used to query the target version to which an RDS for PostgreSQL DB instance can be upgraded.

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

Constraints

- This API is available to RDS for PostgreSQL only.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance specifications, changing port, frozen, or abnormal.

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/major-version/available-version
- Parameter description

Table 5-224 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Specifies the project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .

Name	Type	Mandatory	Description
instance_id	String	Yes	Instance ID.

Request

- Request parameters
None
- Example
`https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/available-version`

Response

- Normal response

Table 5-225 Parameter description

Name	Type	Description
available_versions	Array of Strings	Available versions.

- Example normal response
`{ "available_versions": ["13.9", "14.4"] }`
- 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](#).

5.9.2 Performing a Major Version Upgrade Pre-Check for a DB Instance (RDS for PostgreSQL)

Function

This API is used to perform a health check before a major version upgrade.

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

Constraints

- This API is available to RDS for PostgreSQL only.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance specifications, changing port, frozen, or abnormal.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/major-version/inspection
- Parameter description

Table 5-226 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	String	Yes	Instance ID.

Request

- Request parameters

Table 5-227 Parameter description

Name	Type	Mandatory	Description
target_version	String	Yes	Target version.

- URI example

```
https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/inspection  
{  
    "target_version": "14.9.0"  
}
```

Response

- Normal response

Table 5-228 Parameter description

Name	Type	Description
report_id	String	Check report ID.

- Example normal response

```
{    "report_id": "f7a8e35e-a14c-4e5e-b1f0-d3764e8ed8a8"}
```
- 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 the Major Version Check Status or Upgrade Status of a DB Instance (RDS for PostgreSQL)

Function

This API is used to query the major version check status or upgrade status.

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

Constraints

This API is available to RDS for PostgreSQL only.

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/major-version/status?
action={current_action}
- Parameters

Table 5-229 Parameters

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	String	Yes	Instance ID.

Parameter	Type	Mandatory	Description
action	String	Yes	The status to be queried. <ul style="list-style-type: none">• check: Check the pre-upgrade check status.• upgrade: Check the major version upgrade status.

Request

- Request parameters
None
- URI example
`https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/status?action=upgrade`

Response

- Normal response

Table 5-230 Parameters

Parameter	Type	Description
status	String	Major version upgrade status of the instance <ul style="list-style-type: none">• running: The pre-check or major version upgrade is in progress.• success: The pre-check or major version upgrade is successful.• failed: The pre-check or major version upgrade fails.
target_version	String	Target version.
start_time	String	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. For example, if the time zone offset is one hour, the value of Z is +0100 .
check_expiration_time	String	Time when a check report expires. 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, if the time zone offset is one hour, the value of Z is +0100 .
detail	String	Details about the pre-check or upgrade report.

- Example normal response

```
{  
    "status": "success",  
    "target_version": "14.4.1",  
    "start_time": "2023-03-06T02:33:49+0800",  
    "check_expiration_time": "2023-03-13T02:33:49+0800",  
    "detail": "2023-03-06 18:33:26 --- pg_upgrade check task  
\\n2023-03-06 18:34:40 --- pg_upgrade check on master:  
check success "  
}
```

begin
[user_check_report]User

- 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 the Major Version Upgrade Check History of a DB Instance (RDS for PostgreSQL)

Function

This API is used to query the major version upgrade check history.

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

Constraints

- This API is available to RDS for PostgreSQL only.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance specifications, changing port, frozen, or abnormal.

URI

- URI format

GET /v3/{project_id}/instances/{instance_id}/major-version/inspection-histories?
offset={offset}&limit={limit}&order={order}&sort_field={sort_field}&target_version={target_version}&is_available={is_available}

- Parameter description

Table 5-231 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	String	Yes	Instance ID.
offset	Integer	No	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N+1</i> piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value must be a number but cannot be a negative number.
limit	Integer	No	Number of query records. The default value is 10 . The value must be a positive integer. The minimum value is 1 and the maximum value is 100 .
order	String	No	Sorting order. <ul style="list-style-type: none"> • DESC: descending order • ASC: ascending order • Default value: desc
sort_field	String	No	Sorting field. <ul style="list-style-type: none"> • check_time: check time • expiration_time: expiration time • check_time is the default value.
target_version	String	No	Target version.
is_available	Boolean	No	Whether the check is valid. <ul style="list-style-type: none"> • true: valid • false: invalid

Request

- Request parameters
None
- URI example
<https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/inspection-histories?offset=0&limit=10>

Response

- Normal response

Table 5-232 Parameter description

Name	Type	Description
total_count	Integer	Total number of records.
inspection_reports	Array of objects	Check report details. For details, see Table 5-233 .

Table 5-233 inspection_report field data structure description

Name	Type	Description
id	String	Check report ID.
check_time	String	Check time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, if the time zone offset is one hour, the value of Z is +0100 .
expiration_time	String	Expiration time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, if the time zone offset is one hour, the value of Z is +0100 .
target_version	String	Target version.
result	String	Check results. <ul style="list-style-type: none"> success: The check is successful. failed: The check fails. running: The check is in progress.
detail	String	Check report details.

- Example normal response

```
{
    "total_count": 1,
```

```
"inspection_reports": [
    {
        "id": "289903e1-3006-19e9-e054-5fb7fe376552",
        "check_time": "2023-03-06T02:33:49+0800",
        "expiration_time": "2023-03-07T02:33:49+0800",
        "target_version": "14.4",
        "result": "success",
        "detail": "2023-03-06 18:33:26 --- pg_upgrade check task begin
\n2023-03-06 18:34:40 --- pg_upgrade check on master: [user_check_report]User check
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](#).

5.9.5 Upgrading a Major Version of a DB Instance (RDS for PostgreSQL)

Function

This API is used to upgrade a major version.

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

Constraints

- This API is available to RDS for PostgreSQL only.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance specifications, changing port, frozen, or abnormal.
- Before an upgrade, ensure that a valid upgrade check report is available. In the check report, the source version is the current instance version, the target version is the one contained in the request body, the check is performed within seven days, and the check result is successful.

URI

- URI format
POST /v3/{project_id}/instances/{instance_id}/major-version/upgrade
- Parameter description

Table 5-234 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	String	Yes	Instance ID.

Request

- Request parameters

Name	Type	Mandatory	Description
target_version	String	Yes	Target version. It must be later than the current major version of the instance. For example, if the current major version is 12, the target version must be 13 or 14.
is_change_private_ip	Boolean	Yes	Whether to switch the floating IP address of the source instance to the target instance. <ul style="list-style-type: none">true: After the upgrade, the floating IP address is switched to the target instance.false: After the upgrade, the floating IP address of the source instance remains unchanged, and the target instance uses a new floating IP address.

Name	Type	Mandatory	Description
statistics_collection_mode	String	No	<p>Mode of collecting statistics. It is mandatory if is_change_private_ip is set to true.</p> <ul style="list-style-type: none"> before_change_private_ip: Statistics are collected before the floating IP address of the source instance is switched to the target instance. after_change_private_ip: Statistics are collected after the floating IP address of the source instance is switched to the target instance.

- Example request

```
https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/upgrade
{
    "target_version": "14.6.1",
    "is_change_private_ip": true,
    "statistics_collection_mode": "before_change_private_ip"
}
```

Response

- Normal response

Table 5-235 Parameter description

Name	Type	Description
job_id	String	Task ID.

- Example normal response

```
{
    "job_id": "3afe25b7-4523-4d3b-8236-7121be922691"
}
```

- 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](#).

5.9.6 Querying the Major Version Upgrade History of a DB Instance (RDS for PostgreSQL)

Function

This API is used to query the major version upgrade history.

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

Constraints

- This API is available to RDS for PostgreSQL only.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance specifications, changing port, frozen, or abnormal.

URI

- URI format
`GET /v3/{project_id}/instances/{instance_id}/major-version/upgrade-histories?offset={offset}&limit={limit}&order={order}&sort_field={sort_field}`
- Parameter description

Table 5-236 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	String	Yes	Instance ID.
offset	Integer	No	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N+1</i> piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value must be a number but cannot be a negative number.
limit	Integer	No	Number of query records. The default value is 10 . The value must be a positive integer. The minimum value is 1 and the maximum value is 100 .

Name	Type	Mandatory	Description
order	String	No	Sorting order. • DESC : descending order • ASC : ascending order • Default value: desc
sort_field	String	No	Sorting field. • start_time : specifies the start time. • end_time : specifies the end time. • start_time is the default value.

Request

- Request parameters
None
- URI example
`https://{{Endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/upgrade-histories?offset=0&limit=10`

Response

- Normal response

Table 5-237 Parameter description

Name	Type	Description
total_count	Integer	Total number of records.
upgrade_reports	Array of objects	Upgrade report details. For details, see Table 5-238 .

Table 5-238 upgrade_report field data structure description

Name	Type	Description
id	String	Upgrade report ID.

Name	Type	Description
start_time	String	Upgrade 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. For example, if the time zone offset is one hour, the value of Z is +0100 .
end_time	String	Upgrade 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, if the time zone offset is one hour, the value of Z is +0100 .
src_instance_id	String	Source instance ID.
src_database_version	String	Source instance version.
dst_instance_id	String	Target instance ID.
dst_database_version	String	Target instance version.
result	String	Upgrade result. <ul style="list-style-type: none">● success: The upgrade is successful.● failed: The upgrade fails.● running: The upgrade is in progress.

Name	Type	Description
is_private_ip_changed	Boolean	<p>Whether to switch the floating IP address of the source instance to the target instance.</p> <ul style="list-style-type: none"> • true: indicates that the floating IP address of the source instance will be switched to the target instance. • false: indicates that the floating IP address of the source instance will not be switched to the target instance.
private_ip_change_time	String	<p>Time when the floating IP address is changed. The format is yyyy-mm-ddThh:mm:ssZ.</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>
statistics_collection_mode	String	<p>When to collect statistics.</p> <ul style="list-style-type: none"> • before_change_private_ip: Statistics are collected before the floating IP address is changed. • after_change_private_ip: Statistics are collected after the floating IP address is changed.
detail	String	Upgrade report details.

- Example normal response

```
{
    "total_count": 1,
    "upgrade_reports": [
        {
            "id": "1a8fda5a-17a6-ebc4-bf1f-97ae837f432b",
            "start_time": "2023-03-06T02:45:49+0800",
            "end_time": "2023-03-06T02:50:49+0800",
            "src_instance_id": "dccacebb7b884ee18bc5c02c918ef2b0in03",
            "src_database_version": "13.9",
            "dst_instance_id": "6b5750504be1403191c4f00e4ffaee5ein03",
            "dst_database_version": "14.6",
            "result": "success",
        }
    ]
}
```

```
        "is_private_ip_changed": true,  
        "private_ip_change_time": "2023-03-06T03:10:49+0800",  
        "statistics_collection_mode": "before_change_private_ip",  
        "detail": "2023-03-06 18:33:26 --- pg_upgrade upgrade task"  
    }  
}  
]  
}
```

- 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 Log Information Queries

5.10.1 Showing Original Logs (RDS for MySQL)

Function

This API is used to enable or disable Show Original Log.

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

Constraints

This API is supported only for RDS for MySQL.

URI

- URI format
`PUT /v3/{project_id}/instances/{instance_id}/slowlog-sensitization/{status}`
- Parameter description

Table 5-239 Parameter description

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

Name	Mandatory	Type	Description
instance_id	Yes	String	ID of the instance to be queried.
status	Yes	String	Whether to enable Show Original Log. The value can be on or off . <ul style="list-style-type: none">• on: Enable this function.• off: Disable this function.

Request

- Request parameters
None
- URI example
`PUT https://{{endpoint}}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/88a31c96daa0464482599360c34a7a6bin01/slowlog-sensitization/on`

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](#).

5.10.2 Querying Slow Query Log Files (SQL Server)

Function

This API is used to query slow query log files.

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

Constraints

This API is supported only for Microsoft SQL Server.

URI

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

Table 5-240 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 instance to be queried.
offset	No	Index offset. If offset is set to N , the resource query starts from the $N+1$ piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number.
limit	No	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.

Request

- Request parameters
None
- URI example
GET [https://\[endpoint\]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog-files](https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog-files)

Response

- Normal response

Table 5-241 Parameter description

Name	Type	Description
list	Array of objects	Slow log file information. For details, see Table 5-242 .
total_count	Integer	Total number of files.

Table 5-242 SlowLogFile field data structure description

Name	Type	Description
file_name	String	File name.
file_size	String	File size in bytes.

- Example normal response

```
{  
    "total_count": 1,  
    "list": [ {  
        "file_name": "SQLTrace.trc",  
        "file_size": "1024"  
    } ]  
}
```

- 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](#).

5.10.3 Querying Extended Logs (RDS for SQL Server)

Function

This API is used to query extended logs of a DB instance.

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

Constraints

This API is supported only for RDS for SQL Server.

URI

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

Table 5-243 Parameters

Parameter	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 instance to be queried.
offset	No	Index offset. 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 must be a number but cannot be a negative number.
limit	No	Number of records on each page. Its value ranges from 1 to 100. The default value is 10 .

Request

- Request parameters
None
- URI example
GET <https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/xellog-files>

Response

- Normal response

Table 5-244 Parameters

Parameter	Type	Description
list	Array of objects	Extended log file information. For details, see Table 5-245 .
count	Integer	Total number of files.

Table 5-245 SlowLogFile field data structure description

Parameter	Type	Description
file_name	String	File name.
file_size	String	File size in KB.

- Example normal response

```
{  
  "list" : [ {  
    "file_name" : "SQLTrace.xel",  
    "file_size" : "1024"  
  }, {  
    "file_name" : "SQLTrace2.xel",  
    "file_size" : "1024"  
  } ],  
  "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](#).

5.10.4 Obtaining Links for Downloading Extended Logs (RDS for SQL Server)

Function

This API is used to obtain links for downloading extended logs.

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

Constraints

This API is supported only for RDS for SQL Server.

URI

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

Table 5-246 Parameters

Parameter	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 .

Parameter	Mandatory	Description
instance_id	Yes	ID of the instance to be queried.

Request

Table 5-247 Parameters

Parameter	Mandatory	Type	Description
file_name	Yes	String	Name of the file to be downloaded. The value cannot be null or empty. It can contain only uppercase letters, lowercase letters, digits, and underscores (_) and ends with .xel. You can obtain the file name from Querying Extended Logs (RDS for SQL Server) .

Example Request

Obtaining links for downloading extended logs

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
cee5265e1e5845649e354841234567dfin01/xelog-download  
{  
    "file_name":"sqlserver_xelog_name.xel"  
}
```

Response

- Normal response

Table 5-248 Parameters

Parameter	Type	Description
list	List	List of links for downloading extended logs. For details, see Table 5-249 .
count	Integer	Number of extended log links.

Table 5-249 linkInfo field data structure description

Parameter	Type	Description
file_name	String	Name of the generated file for downloading.
status	String	Generation status of the link. <ul style="list-style-type: none">● FINISH: The download link has been generated.● EXPORTING: The file is being generated.● FAILED: The log file fails to be prepared.
file_size	String	File size in KB.
file_link	String	Download link. If the link generation status is EXPORTING or FAILED , no value is returned.
create_at	String	Generation time.
update_at	String	Update time.

- Example normal response

Generating links for downloading extended logs

```
{  
    "list": [  
        {  
            "file_name": "HkEngineEventFile_0_133337769850300000.xel",  
            "status": "EXPORTING",  
            "file_size": "0",  
            "create_at": "2023-08-14T03:35:24+0000",  
            "update_at": "2023-08-14T03:35:24+0000"  
        }  
    ],  
    "count": 1  
}
```

Links for downloading extended logs obtained successfully

```
{  
    "list": [  
        {  
            "file_name": "HkEngineEventFile_0_133337769850300000.xel",  
            "status": "SUCCESS",  
            "file_size": "0",  
            "file_link": "https://obs.xxx:443/xxx-7a95af72c4d54a31ae0663263f0e35ea/  
6e22b18b43a74e4486264194f6e09f66_EL_HkEngineEventFile_0_133337769850300000.xel?xxx",  
            "create_at": "2023-08-14T03:35:41+0000",  
            "update_at": "2023-08-14T03:35:41+0000"  
        }  
    ],  
    "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](#).

5.10.5 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_d
ate}&end_date={end_date}&sort={sort}`
- Parameter description

Table 5-250 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.

Name	Mandatory	Description
start_date	Yes	<p>Specifies the start date 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, in the Beijing time zone, the time zone offset is shown as +0800.</p>
end_date	Yes	<p>Specifies the end 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, in the Beijing time zone, the time zone offset is shown as +0800.</p>
type	Yes	<p>Specifies the statement type. If it is left blank, all statement types are queried. Valid value:</p> <ul style="list-style-type: none">• INSERT• UPDATE• SELECT• DELETE• CREATE• ALL
sort	No	<p>Specifies the sorting mode.</p> <ul style="list-style-type: none">• executeTime: indicates sorting slow query logs by execution time in descending order.• If this parameter is left empty or set to other values, the slow query logs are sorted by executions in descending order.

Request

- Request parameters
 - None
- URI example

GET https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog/statistics?cur_page=1&per_page=2&type=INSERT&start_date=2020-02-06T10:41:14+0800&end_date=2020-02-07T10:41:14+0800&sort=executeTime

Response

- Normal response

Table 5-251 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 5-252 .
totalRecord	Integer	Indicates the total number of records.
startTime	Long	Indicates the start time.
endTime	Long	Indicates the end time.

Table 5-252 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](#).

5.10.6 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 5-253 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 5-254 Parameter description

Name	Mandatory	Type	Description
file_name	No	String	<p>Name of the file to be downloaded.</p> <p>To obtain the file name, click the instance name on the console and choose Logs > Slow Query Logs.</p> <p>This parameter is mandatory for Microsoft SQL Server.</p>

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 5-255 Parameter description

Name	Type	Description
list	List	Indicates the links for downloading slow query logs. For details, see Table 5-256 .
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 5-256 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.
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.
update_at	Long	Indicates the update time.

- Example normal response

```
{  
  "list": [  
    {  
      "workflow_id": "44fb1d85-2fcc-4d63-ad3b-c3d1ecd7000e",  
      "file_name": "054bc9c1f680d55c1f36c006e5a9f67b_slowlog_download_20200515080614589",  
      "status": "SUCCESS",  
      "file_size": "0",  
      "file_link": "https://rdsbucket.xxr.obs.cn-xianhz-1.myhuaweicloud.com:443/054bc9c1f680d55c1f36c006e5a9f67b_slowlog_download_20200515080614589?AWSAccessKeyId=1BQ38TBCQHAVQXBUMUTC&Expires=1589530200&response-cache-control=no-cache%2Cno-store&Signature=Fgi4%2BLOJ9frAXyOkz5hRoW5O%2BUM%3D",  
    }  
  ]  
}
```

```
        "create_at": 1589529991385,
        "update_at": 1589529991385
    }
],
"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](#).

5.10.7 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 5-257 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 5-258 Parameter description

Name	Mandatory	Type	Description
keep_days	Yes	Integer	<p>Specifies the number of days for storing audit logs. The value range is from 0 to 732.</p> <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.
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

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
cee5265e1e5845649e354841234567df1n01/auditlog-policy  
  
{  
    "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](#).

5.10.8 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 5-259 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
- URI example
GET `https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog-policy`

Response

- Normal response

Table 5-260 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.
all_audit_log_action	String	All operation types that can be recorded in audit logs.

- Example normal response

```
{  
    "keep_days":7,  
    "audit_types":["CREATE_USER"],  
    "all_audit_log_action":  
        '{"DCL":"CREATE_USER,DROP_USER,RENAME_USER,GRANT,REVOKE,ALTER_USER,ALTER_USER_DEFAULT_ROLE","DDL":"CREATE,ALTER,DROP,RENAME,TRUNCATE,REPAIR,OPTIMIZE","DML":"INSERT,DELETE,  
        UPDATE,REPLACE,SELECT","OTHER":"BEGIN/COMMIT/  
        ROLLBACK,PREPARED_STATEMENT,CALL_PROCEDURE,KILL,SET_OPTION,CHANGE_DB,UNINSTALL_PLUGIN,UNINSTALL_PLUGIN,INSTALL_PLUGIN,SHUTDOWN,SLAVE_START,SLAVE_STOP,LOCK_TABLES,UNLOCK_TABLES,FLUSH,XA"}'  
}
```

- 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](#).

5.10.9 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 5-261 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 .
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

- URI example

GET https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog?
start_time=2019-11-06T09:00:00+0800&end_time=2019-11-07T10:40:15+0800
&offset=0&limit=10

Response

- Normal response

Table 5-262 Parameter description

Name	Type	Description
auditlogs	Array of objects	Indicates detailed information. For details, see Table 5-263 .
total_record	Integer	Indicates the total number of records.

Table 5-263 auditlogs field data structure description

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

5.10.10 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 5-264 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 5-265 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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/auditlog-links
{
  "ids": ["fa163e9970a3t11e9d834e122fdceb1d6br01", "fa163ea0e2bet11e9d8364943103c94c5br01"]
}
```

Response

- Normal response

Table 5-266 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](#).

5.10.11 Setting the Local Retention Period of Binlogs

Function

This API is used to set the local retention period of binlogs.

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

Constraints

- The local retention period of binlogs cannot be set during the DB instance creation.
- This API is supported for RDS for MySQL DB instances only.

URI

- URI format
`PUT /v3/{project_id}/instances/{instance_id}/binlog/clear-policy`
- Parameter description

Table 5-267 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 5-268 Parameter description

Name	Mandatory	Type	Description
binlog_retention_hours	Yes	Integer	Specifies the binlog retention period. Value range: 0 to 168 (7x24)

Example Request

Setting the local retention period of binlogs to 3 hours

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
fa60258325f6424ca1ba28653629d7b1n01/binlog/clear-policy  
{  
    "binlog_retention_hours": 3  
}
```

Response

- Normal response

Table 5-269 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](#).

5.10.12 Obtaining the Local Retention Period of Binlogs

Function

This API is used to obtain the local retention period of binlogs.

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

URI

- URI format

GET /v3/{project_id}/instances/{instance_id}/binlog/clear-policy

- Parameter description

Table 5-270 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
- URI example
`GET https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/fa60258325f6424ca1ba28653629d7b1in01/binlog/clear-policy`

Response

- Normal response

Table 5-271 Parameter description

Name	Mandatory	Type	Description
binlog_retention_hours	Yes	Integer	Specifies the binlog retention period.

- Example normal response

```
{  
    "binlog_retention_hours": 3  
}
```
- Abnormal response
For details, see [Abnormal Request Results](#).

5.11 Instance Diagnosis

5.11.1 Obtaining the Number of Instances After Diagnosis

Function

This API is used to obtain the number of instances after diagnosis.

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

URI

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

Table 5-272 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .

Table 5-273 Request parameters

Parameter	Mandatory	Type	Description
engine	Yes	String	Engine type. Enumerated values: <ul style="list-style-type: none">• mysql• postgresql• sqlserver

Request

- Request parameters
None
- URI example
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/diagnosis?engine=sqlserver

Response

- Normal response

Table 5-274 Parameter description

Name	Type	Description
diagnosis	Array of objects	Diagnosis details. For details, see Table 5-275 .

Table 5-275 diagnosis field data structure description

Name	Type	Description
name	String	Diagnosis item.
count	Integer	Number of instances.

- Example normal response

```
{  
  "diagnosis": [ {  
    "name": "high_pressure",  
    "count": 1  
  }, {  
    "name": "lock_wait",  
    "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](#).

5.11.2 Obtaining the Result of a Specific Diagnosis Item

Function

This API is used to obtain the result of a specific diagnosis item.

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

URI

- URI format
GET /v3/{project_id}/instances/diagnosis/info
- Parameter description

Table 5-276 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .

Table 5-277 Request parameters

Parameter	Mandatory	Type	Description
engine	Yes	String	Engine type. Enumerated values: <ul style="list-style-type: none">• mysql• postgresql• sqlserver
diagnosis	Yes	String	Diagnosis item. Enumerated values: <ul style="list-style-type: none">• high_pressure• lock_wait• insufficient_capacity• slow_sql_frequency• disk_performance_cap• mem_overrun• age_exceed• connections_exceed
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N+1</i> piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value must be a number but cannot be a negative number.
limit	No	Integer	Number of returned results. Default value: 10

Request

- Request parameters
 - None
- URI example

```
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/diagnosis/info?engine=sqlserver&diagnosis=high_pressure&offset=1&limit=10
```

Response

- Normal response

Table 5-278 Parameter description

Parameter	Type	Description
diagnosis	String	Diagnosis item. Enumerated values: <ul style="list-style-type: none">high_pressurelock_waitinsufficient_capacityslow_sql_frequencydisk_performance_capmem_overrunage_exceedconnections_exceed
total_count	Integer	Number of instances.
instances	Array of objects	Specifies the DB instance ID. For details, see Table 5-279 .

Table 5-279 instances field data structure description

Name	Type	Description
id	String	Specifies the DB instance ID.

- Example normal response

```
{  
  "diagnosis": "high_pressure",  
  "total_count": 1,  
  "instances": [ {  
    "id": "abd21a25fdedfd6db69721f4b761bc38in04"  
  } ]  
}
```
- 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 Database and Account Management (MySQL)

5.12.1 Precautions

The `lower_case_table_names` parameter controls whether the MySQL database and table names are case sensitive. This parameter setting may affect the database or table configurations when the APIs in the following sections in this chapter are invoked. For example, if you have set the table names to be case insensitive and enter a table name containing uppercase letters, the name of the created table may contain only lowercase letters because the letter cases are insensitive. Therefore, when using the following APIs, ensure that the case of your input is the same as the actual case to avoid being affected by the case setting.

5.12.2 Creating a Database

Function

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

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

Constraints

- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

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

Table 5-280 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 5-281 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.

Name	Mandatory	Type	Description
comment	No	String	<p>Specifies the database remarks.</p> <p>The value can contain 0 to 512 characters.</p> <p>NOTE</p> <ul style="list-style-type: none"> To use this function, contact customer service to apply for the required permissions. This parameter takes effect only for kernel versions 5.6.51.3 or later, 5.7.33.1 or later, and 8.0.25.1 or later. If your kernel version does not meet the requirements, upgrade the kernel to the latest version by referring to Upgrading a Minor Version.

Example Request

Creating a database named **rds-test**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
database
{
  "name": "rds-test",
  "character_set": "utf8",
  "comment": "comment"
}
```

Response

- Normal response

Table 5-282 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](#).

5.12.3 Querying Details About a Database (Discarded)

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 or frozen state.

URI

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

Table 5-283 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
- URI example

GET https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database

Response

- Normal response

Table 5-284 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-285 .

Table 5-285 databases element structure description

Name	Type	Description
name	String	Indicates the database name.
character_set	String	Indicates the character set used by the database, such as utf8, gbk, and ascii.
users	Array of objects	Each element in the list indicates an account associated with the database. For details, see Table 5-286 .

Table 5-286 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": "test",
      "character_set": "utf8",
      "users": [
        {
          "name": "root",
          "readonly": false
        }
      ]
    }
  ]
}
```

```
        "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](#).

5.12.4 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 or frozen 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 5-287 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
- URI example
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database/detail?page=1&limit=10`

Response

- Normal response

Table 5-288 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-289 .
total_count	Integer	Indicates the total number of databases.

Table 5-289 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.
comment	String	Specifies the database remarks. NOTE If you did not specify this parameter during instance creation, this parameter cannot be queried.

- Example normal response

```
{  
    "databases": [  
        {  
            "name": "rds-test",  
            "character_set": "utf8",  
            "comment": "comment"  
        },  
        {  
            "name": "testdb1",  
            "character_set": "utf8",  
            "comment": "comment"  
        },  
        {  
            "name": "tt",  
            "character_set": "utf8",  
            "comment": "comment"  
        }  
    ],  
    "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](#).

5.12.5 Querying Authorized Databases of a Specified User

Function

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

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

Constraints

- This operation cannot be performed when the instance is in the abnormal or frozen state.
- For databases authorized using the SQL statement **GRANT ALL ON *.* TO `user`@`host`**, no result will be returned after this API is called. You can run the **show grants for** command to query the authorized databases instead. You are advised to authorize a database by specifying it: **GRANT ALL ON db1.* TO `user`@`host`**.

URI

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

Table 5-290 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
- URI example
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/database?user-name=rds&page=1&limit=10`

Response

- Normal response

Table 5-291 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-292 .
total_count	Integer	Indicates the total number of databases.

Table 5-292 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](#).

5.12.6 Modifying the Database Remarks of a Specified DB Instance

Function

This API is used to modify the database remarks of a specified DB instance.

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

Constraints

- To use this function, contact customer service to apply for the required permissions.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.
- This operation can be performed no matter whether the database exists.
 - The remarks will be updated or created when this operation is performed, depending on whether the remarks already exist.
 - The remarks will be deleted if its value is changed to an empty string or null.
 - If the database does not exist or is deleted when remarks are created, the remarks will still be saved.
- This operation is supported only for specified kernel versions. If your kernel version does not meet the requirements, upgrade the kernel to the latest version by referring to [Upgrading a Minor Version](#).
 - RDS for MySQL 5.6: 5.6.51.3 or later.
 - RDS for MySQL 5.7: 5.7.33.1 or later.
 - RDS for MySQL 8.0: 8.0.25.1 or later.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

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

Table 5-293 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 5-294 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the database name.
comment	No	String	Specifies the database remarks. The value can contain 0 to 512 characters.

Example Request

Modifying the database remarks of a DB instance

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
database/update

{
  "name": "rds",
  "comment": "this is a comment"
}
```

Response

- Normal response

Table 5-295 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](#).

5.12.7 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

- URI format
`DELETE /v3/{project_id}/instances/{instance_id}/database/{db_name}`
- Parameter description

Table 5-296 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

```
DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/  
database/rds-test  
{}
```

Response

- Normal response

Table 5-297 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](#).

5.12.8 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, frozen, or abnormal.
- If you want to call this API repeatedly to create database accounts for your DB instance, call it in serial.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

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

Table 5-298 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 5-299 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:</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 (~!@#\$%^*-_=+?,()&). 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>
comment	No	String	<p>Specifies remarks of the database account.</p> <p>The parameter must be 1 to 512 characters long and is supported only for MySQL 8.0.25 and later versions.</p>

Name	Mandatory	Type	Description
hosts	No	Array of strings	<p>IP addresses that are allowed to access your DB instance.</p> <ul style="list-style-type: none"> If the IP address is set to %, all IP addresses are allowed to access your instance. If the IP address is set to 10.10.10%, all IP addresses in the subnet 10.10.10.X are allowed to access your instance. Multiple IP addresses can be added.
databases	No	Array of objects	Databases that you can log in using the account. For details, see Table 5-300 .

Table 5-300 databases element structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Database name.
readonly	No	Boolean	<p>Whether the database is read-only.</p> <ul style="list-style-type: none"> true: indicates the database is read-only. false: indicates the database is readable and writable.

Example Request

Creating a database account named **rds**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user
```

```
{
  "name": "rds",
  "password": "*****",
  "comment": "mysql",
```

```
"hosts": [
    "%"
],
"databases" : [
    {
        "name" : "***",
        "readonly" : false
    }
]
```

Response

- Normal response

Table 5-301 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](#).

5.12.9 Querying Database Users of a DB Instance (Discarded)

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

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

URI

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

Table 5-302 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
- URI example
GET https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user

Response

- Normal response

Table 5-303 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-304 .

Table 5-304 users element structure description

Name	Type	Description
name	String	Account name.

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database associated with the account. For details, see Table 5-305 .

Table 5-305 databases element structure description

Name	Type	Description
name	String	Indicates a database name.
readonly	Boolean	Indicates the read-only permission. <ul style="list-style-type: none"> • true: indicates the read-only permission. • false: indicates the read and write permission.

- Example normal response

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

- Abnormal response

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

Status Code

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

Error Code

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

5.12.10 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 or frozen 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 5-306 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
- URI example
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/detail?page=1&limit=10`

Response

- Normal response

Table 5-307 Parameter description

Name	Type	Description
users	Array of objects	Database account information. For details, see Table 5-308 .
total_count	Integer	Total number of database accounts.

Table 5-308 users element structure description

Name	Type	Description
name	String	Account name.
comment	String	Account remarks. This parameter is only available to RDS for MySQL 8.0.25 and later versions.
databases	Array of objects	Databases authorized to the account. For details, see Table 5-309 .
hosts	Array of strings	Hosts configured for the account.

Table 5-309 databases element structure description

Name	Type	Description
name	String	Database name.
readonly	Boolean	Whether the permission is read-only.

- Example normal response

```
{  
  "users": [  
    {  
      "name": "aaa",  
      "comment": "user comment",  
      "databases": [  
        {  
          "name": "db1",  
          "readonly": true  
        }  
      ]  
    }  
  ]  
}
```

```
        "name": "db1",
        "readonly": false
    },
],
"hosts": [
    "10.0.0.10"
]
},
"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](#).

5.12.11 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 or frozen 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 5-310 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
- URI example
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/database/db_user?db-name=rds&page=1&limit=10`

Response

- Normal response

Table 5-311 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-312 .
total_count	Integer	Indicates the total number of database users.

Table 5-312 users element structure description

Name	Type	Description
name	String	Account name.

Name	Type	Description
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](#).

5.12.12 Modifying Remarks of a Database Account

Function

This API is used to modify remarks of a database account for a specified DB instance.

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

Constraints

- To use this function, contact customer service to apply for the required permissions.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.
- This operation can be performed no matter whether the associated database exists.

- The remarks will be updated or created when this operation is performed, depending on whether the remarks already exist.
- The remarks will be deleted if its value is changed to an empty string or null.
- If the associated database does not exist or is deleted when remarks are created, the remarks will still be saved.
- This operation is supported only for specified kernel versions. If your kernel version does not meet the requirements, upgrade the kernel to the latest version by referring to [Upgrading a Minor Version](#).
 - RDS for MySQL 5.6: Not supported.
 - RDS for MySQL 5.7: Not supported.
 - RDS for MySQL 8.0: 8.0.25 or later.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

- URI format
`PUT /v3/{project_id}/instances/{instance_id}/db-users/{user_name}/comment`
- Parameter description

Table 5-313 Parameters

Parameter	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.
user_name	Yes	Database username.

Request

Parameter description

Table 5-314 Parameters

Parameter	Mandatory	Type	Description
comment	No	String	Remarks of the database username. Value range: 1 to 512 characters.

Example Request

Modifying the remarks of user **root** for a DB instance

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db-users/root/comment
{
    "comment": "this is a comment"
}
```

Response

- Normal response

Table 5-315 Parameters

Parameter	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](#).

5.12.13 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

- URI format
`DELETE /v3/{project_id}/instances/{instance_id}/db_user/{user_name}`
- Parameter description

Table 5-316 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.

- URI example
`DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_user/rds`
- Request example
`{}`

Response

- Normal response

Table 5-317 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](#).

5.12.14 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see

Table 5-299), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.

- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see **Table 5-281**) and account naming rules (see **Table 5-299**), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

- URI format

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

- Parameter description

Table 5-318 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 5-319 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account.

Name	Mandatory	Type	Description
password	Yes	String	<p>Specifies the password of the database account.</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 (~!@#\$%^*-_=+?,()&). 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

Setting a password for user **rds**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
db_user/resetpwd

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

Response

- Normal response

Table 5-320 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](#).

5.12.15 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

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

Table 5-321 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 5-322 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 5-323 .

Table 5-323 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**

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_privilege
```

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

Response

- Normal response

Table 5-324 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](#).

5.12.16 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and

account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

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

Table 5-325 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 5-326 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 5-327 .

Table 5-327 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

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/db_privilege
{
  "db_name": "rds-test",
  "users": [
    {
      "name": "rds"
    },
    {
      "name": "rds001"
    }
  ]
}
```

Response

- Normal response

Table 5-328 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](#).

5.12.17 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.

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

URI

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

Table 5-329 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 5-330 Parameter description

Name	Mandatory	Type	Description
db_user_password	Yes	String	<p>Specifies the database password. Valid value:</p> <p>RDS for MySQL: 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>RDS for PostgreSQL: 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**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/
password
```

```
{
```

```
        "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](#).

5.13 Database and Account Management (PostgreSQL)

5.13.1 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, frozen, 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 5-331 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 5-332 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>

Name	Mandatory	Type	Description
template	No	String	Specifies the name of the database template. The value can be template0 or template1 (default value).
character_set	No	String	Specifies the database character set. The default value is UTF8 .
lc_collate	No	String	Specifies the database collocation. The default value is en_US.UTF-8 . NOTICE For different collation rules, 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.
lc_ctype	No	String	Specifies the database classification. The default value is en_US.UTF-8 .

Name	Mandatory	Type	Description
is_revoke_public_privilege	No	Boolean	<p>Specifies whether to revoke the PUBLIC CREATE permission of the public schema.</p> <ul style="list-style-type: none"> • true: indicates that the permission will be revoked. • false: indicates that the permission will not be revoked. <p>If this parameter is not specified, the default value is false.</p>

Example Request

Creating a database named **rds_test**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/database
{
    "name": "rds_test",
    "owner": "test",
    "template": "template0",
    "character_set": "UTF8",
    "lc_collate": "en_US.UTF-8",
    "lc_ctype": "en_US.UTF-8",
    "is_revoke_public_privilege": true
}
```

Response

- Normal response

Table 5-333 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](#).

5.13.2 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, frozen, 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 5-334 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 5-335 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the username of the database account.</p> <p>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.</p> <p>System users include rdsAdmin, rdsMetric, rdsBackup, rdsRepl, rdsProxy, and rdsDdm.</p>
password	Yes	String	<p>Specifies the password of the database account.</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 (~!@#%^*-_=+?). The value cannot contain the username or the username 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**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
f569f1358436479dbcba8603c32cc4aein03/db_user

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

Response

- Normal response

Table 5-336 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](#).

5.13.3 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, frozen, or abnormal.

URI

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

Table 5-337 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 5-338 Parameter description

Name	Mandatory	Type	Description
db_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 <code>postgres</code>, <code>template0</code>, and <code>template1</code>.</p>
schemas	Yes	Array of objects	<p>Each element is the schema information associated with the database. A single request supports a maximum of 20 elements.</p> <p>For details on the element structure, see Table 5-339.</p>

Table 5-339 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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/schema
{
  "db_name": "rds_test",
  "schemas": [
    {
      "schema_name": "teste123",
    }
  ]
}
```

```
        "owner": "teste123"
    }
}
```

Response

- Normal response

Table 5-340 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](#).

5.13.4 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, frozen, 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 5-341 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 5-342 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 <code>postgres</code> , <code>template0</code> , and <code>template1</code> .

Name	Mandatory	Type	Description
users	Yes	Array of objects	<p>Database accounts. Each element is a database account. A single request supports a maximum of 50 elements.</p> <p>For details on the element structure, see Table 5-343.</p>

Table 5-343 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the username of the database account.</p> <p>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.</p> <p>System users include rdsAdmin, rdsMetric, rdsBackup, rdsRepl, rdsProxy, and rdsDdm.</p>
readonly	Yes	Boolean	<p>Specifies the database account permissions.</p> <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 <code>postgres</code>, <code>template0</code>, and <code>template1</code>.</p>

Example Request

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

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/db_privilege

{"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 5-344 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](#).

5.13.5 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, frozen, or abnormal.

URI

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

Table 5-345 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 5-346 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**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/db_user/resetpwd
```

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

Response

- Normal response

Table 5-347 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](#).

5.13.6 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 or frozen 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 5-348 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
- URI example

GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/database/detail?page=1&limit=10`

Response

- Normal response

Table 5-349 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-350 .
total_count	Integer	Indicates the total number of databases.

Table 5-350 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](#).

5.13.7 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), for example, containing Chinese characters or unsupported special characters, the database and account cannot be managed through the RDS console or APIs.
- In migration scenarios, if any database name and account name of the source database do not meet the database naming rules (see [Table 5-281](#)) and account naming rules (see [Table 5-299](#)), the database and account cannot be managed through the RDS console or APIs after being migrated to the destination RDS for MySQL database.

URI

- URI format
`GET /v3/{project_id}/instances/{instance_id}/db_user/detail?
page={page}&limit={limit}`
- Parameter description

Table 5-351 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
- URI example

GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/db_user/detail?page=1&limit=10

Response

- Normal response

Table 5-352 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-353 .
total_count	Integer	Indicates the total number of database users.

Table 5-353 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 5-354 .
memberof	Array of strings	Indicates default rights of a user.

Table 5-354 attributes element structure description

Name	Type	Description
rolsuper	Boolean	Indicates whether a user has the super user permission. The value is false .

Name	Type	Description
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 .
rolcreaterole	Boolean	Indicates whether a user can create other sub-users. The value can be true or false .
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 .
rolconnlimit	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,
        "rolcreaterole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconnlimit": -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,
        "rolcreaterole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconnlimit": -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](#).

5.13.8 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 or frozen 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 5-355 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. 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
- URI example
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/schema/detail?db_name=rds_test&page=1&limit=10`

Response

- Normal response

Table 5-356 Parameter description

Name	Type	Description
database_schemas	Array of objects	Each element in the list indicates a database schema. For details, see Table 5-357 .
total_count	Integer	Indicates the total number of database schemas.

Table 5-357 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](#).

5.13.9 Configuring Account Permissions

Function

This API is used to set account permissions to read-only or read/write.

- 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, frozen, or abnormal.

URI

- URI format
`POST /v3/{project_id}/instances/{instance_id}/user-privilege`
- Parameter description

Table 5-358 Parameters

Parameter	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

Table 5-359 Parameters

Parameter	Mandatory	Type	Description
all_users	Yes	Boolean	Whether to configure permissions for all database accounts. <ul style="list-style-type: none"> true: Configure permissions for all database accounts. The user_name parameter is ignored. false: Configure permissions only for the account specified by user_name.
user_name	No	String	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 usernames include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , rdsProxy , and rdsDdm .
readonly	Yes	Boolean	Whether to set the permissions to read-only. <ul style="list-style-type: none"> true: Set the permissions to read-only. false: Set the permissions to read/write.

Example Request

- Setting all database accounts to read-only

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/user-privilege

{
  "all_users": true,
  "readonly": true
}
```
- Setting all database accounts to readable and writable

```
{
  "all_users": true,
  "readonly": false
}
```
- Setting a single database account to read-only

```
{
  "all_users": false,
  "user_name": "test1234",
  "readonly": true
}
```
- Setting a single database account to readable and writable

```
{
  "all_users": false,
  "user_name": "test1234",
  "readonly": false
}
```

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](#).

5.13.10 Querying the pg_hba.conf File Configurations of a DB Instance

Function

This API is used to query the **pg_hba.conf** file configurations of a DB instance.

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

URI

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

Table 5-360 Parameters

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

Request

- Request parameters
None
- URI example
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e28979107ed04d3b8b2f1b819b8d2be3in03/hba-info

Response

- Normal response

Table 5-361 Parameters

Parameter	Type	Description
Array elements	Array of objects	Parameter list. For details, see Table 5-362 .

Table 5-362 Parameters

Parameter	Type	Description
type	String	Connection type. Enumerated values: host , hostssl , and hostnossal

Parameter	Type	Description
database	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none"> • all indicates all database users of the DB instance. • Use commas (,) to separate multiple user names.
address	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.
mask	String	Subnet mask. The default value is an empty string.
method	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256
priority	Integer	Configuration priority.

- Example normal response

```
[{
  "type" : "host",
  "database" : "all",
  "user" : "all",
  "address" : "0.0.0.0/0",
  "mask" : "",
  "method" : "md5",
  "priority" : 0
}]
```

- 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](#).

5.13.11 Modifying or Adding One or More Records in the pg_hba.conf File

Function

This API is used to modify or add one or more records in the `pg_hba.conf` file.

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

URI

- URI format

`PUT /v3/{project_id}/instances/{instance_id}/hba-info`

- Parameter description

Table 5-363 Parameters

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

Request

Request parameters

Table 5-364 Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see Table 5-365 .

Table 5-365 Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: <code>host</code> , <code>hostssl</code> , and <code>hostnossal</code>

Parameter	Mandatory	Type	Description
database	Yes	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none"> • all indicates all database users of the DB instance. • Use commas (,) to separate multiple user names.
address	Yes	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.
mask	No	String	Subnet mask. The default value is an empty string.
method	Yes	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256
priority	Yes	Integer	Configuration priority. The priority you specified determines whether to modify or add a record in the pg_hba.conf file. <ul style="list-style-type: none"> • If the priority you specified does not exist, a new record will be added to the pg_hba.conf file. • If the priority you specified already exists, the record will be modified in the pg_hba.conf file.

Example Request

```
PUT https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e28979107ed04d3b8b2f1b819b8d2be3in03/hba-info

[ {
    "type" : "host",
    "database" : "all",
    "user" : "all",
    "address" : "0.0.0.0/0",
    "mask" : ""
  }
```

```
"method" : "md5",
"priority" : 0
}]
```

Response

- Normal response

Table 5-366 Parameters

Parameter	Type	Description
code	String	Result code.
message	String	Result description.

- Example normal response

```
{
  "code" : 0,
  "message" : ""
}
```

- 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](#).

5.13.12 Overwriting the pg_hba.conf File

Function

This API is used to overwrite the **pg_hba.conf** file with the input configurations. If the input parameters are left blank, the file is overwritten with the default configurations.

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

URI

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

Table 5-367 Parameters

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

Request

Request parameters

Table 5-368 Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see Table 5-369 .

Table 5-369 Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: host , hostssl , and hostnossal
database	Yes	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none"> • all indicates all database users of the DB instance. • Use commas (,) to separate multiple user names.
address	Yes	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.

Parameter	Mandatory	Type	Description
mask	No	String	Subnet mask. The default value is an empty string.
method	Yes	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256
priority	Yes	Integer	Configuration priority.

Example Request

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e28979107ed04d3b8b2f1b819b8d2be3in03/hba-info
[ {
    "type" : "host",
    "database" : "all",
    "user" : "all",
    "address" : "0.0.0.0/0",
    "mask" : "",
    "method" : "md5",
    "priority" : 0
} ]
```

Response

- Normal response

Table 5-370 Parameters

Parameter	Type	Description
code	String	Result code.
message	String	Result description.

- Example normal response

```
{
    "code" : 0,
    "message" : ""
}
```

- 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](#).

5.13.13 Deleting One or More Records from the pg_hba.conf File

Function

This API is used to delete one or more records from the **pg_hba.conf** file. The priority is used as the unique identifier.

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

URI

- URI format

DELETE /v3/{project_id}/instances/{instance_id}/hba-info

- Parameter description

Table 5-371 Parameters

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

Request

Request parameters

Table 5-372 Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see Table 5-373 .

Table 5-373 Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: host , hostssl , and hostnossal
database	Yes	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none"> • all indicates all database users of the DB instance. • Use commas (,) to separate multiple user names.
address	Yes	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.
mask	No	String	Subnet mask. The default value is an empty string.
method	Yes	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256
priority	Yes	Integer	Configuration priority.

Example Request

```
DELETE https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e28979107ed04d3b8b2f1b819b8d2be3in03/hba-info
[ {
  "type" : "host",
  "database" : "all",
  "user" : "all",
  "address" : "0.0.0.0/0",
  "mask" : "",
  "method" : "md5",
  "priority" : 0
} ]
```

Response

- Normal response

Table 5-374 Parameters

Parameter	Type	Description
code	String	Result code.
message	String	Result description.

- Example normal response

```
{  
  "code": 0,  
  "message": ""  
}
```
- 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](#).

5.13.14 Querying the pg_hba.conf Change History of a DB Instance

Function

This API is used to query the **pg_hba.conf** change history of a DB instance.

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

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/hba-info/history
- Parameter description

Table 5-375 Parameters

Parameter	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 .

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.

Table 5-376 Request parameters

Parameter	Mandatory	Type	Description
start_time	No	String	Start time. If this parameter is not specified, 00:00 (UTC time zone) on the current day is used by default.
end_time	No	String	End time. If this parameter is not specified, the current time (UTC time zone) is used by default.

Request

- Request parameters
None
- URI example
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e28979107ed04d3b8b2f1b819b8d2be3in03/hba-info/history?
start_time=2023-08-01 00:00:00&end_time=2023-08-03 00:00:00

Response

- Normal response

Table 5-377 Parameters

Parameter	Type	Description
Array elements	Array of objects	Parameter list. For details, see Table 5-378 .

Table 5-378 Parameters

Parameter	Type	Description
status	String	Change result. <ul style="list-style-type: none"> ● success: The change has taken effect. ● failed: The change did not take effect. ● setting: The change is in progress.
time	String	Time when the change was made.
fail_reason	String	Reason for change failure.
before_confs	Array of objects	Original values. For details, see Table 5-379 .
after_confs	Array of objects	New values. For details, see Table 5-380 .

Table 5-379 before_confs field description

Parameter	Type	Description
type	String	Connection type. Enumerated values: host , hostssl , and hostnossal
database	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none"> ● all indicates all database users of the DB instance. ● Use commas (,) to separate multiple user names.
address	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.
mask	String	Subnet mask. The default value is an empty string.
method	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256

Parameter	Type	Description
priority	Integer	Configuration priority.

Table 5-380 after_confs field description

Parameter	Type	Description
type	String	Connection type. Enumerated values: host , hostssl , and hostnossal
database	String	Database name other than template0 and template1 . Use commas (,) to separate multiple names.
user	String	Name of a user other than rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and rdsProxy . <ul style="list-style-type: none">● all indicates all database users of the DB instance.● Use commas (,) to separate multiple user names.
address	String	Client IP address. 0.0.0.0/0 indicates that the user can access the database from any IP address.
mask	String	Subnet mask. The default value is an empty string.
method	String	Authentication mode. Enumerated values: reject , md5 , and scram-sha-256
priority	Integer	Configuration priority.

- Example normal response

```
[{"status": "success",  
 "time": "2023-08-01 09:00:00",  
 "fail_reason": "",  
 "before_confs": [ {  
     "type": "host",  
     "database": "all",  
     "user": "all",  
     "address": "0.0.0.0/0",  
     "mask": "",  
     "method": "md5",  
     "priority": 0  
   } ],  
 "after_confs": [ {  
     "type": "hostssl",  
     "database": "all",  
     "user": "all",  
     "address": "0.0.0.0/0",  
     "mask": ""  
   } ]}
```

```
        "method" : "md5",
        "priority" : 0
    } ]
}
```

- 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 Database and Account Management (Microsoft SQL Server)

5.14.1 Querying the Available SQL Server Character Set

Function

This API is used to query the SQL Server character set list.

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

URI

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

Table 5-381 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
- URI example
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/collations

Response

- Normal response

Table 5-382 Parameter description

Name	Type	Description
charSets	List<String>	Indicates the character set information list.

- Example normal response
{
 "charSets": ["Chinese_PRC_CI_AS", "SQL_Latin1_General_CI_AS", "French_BIN",
 "Chinese_PRC_Stroke_BIN", "Chinese_PRC_CI_AI"]
}
- 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](#).

5.14.2 Creating a Database

Function

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

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

Constraints

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

URI

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

Table 5-383 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 5-384 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the database name. The database name can contain 1 to 64 characters, and can include letters, digits, hyphens (-), underscores (_), and periods (.). It cannot start or end with an RDS for SQL Server system database name. RDS for SQL Server system databases include master, msdb, model, tempdb, resource, and rdsadmin.

Example Request

Creating a database named **rds-test**

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
a8abe84a41364097be7c233c39275087in04/database  
{  
    "name": "rds-test"  
}
```

Response

- Normal response

Table 5-385 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](#).

5.14.3 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 or frozen state.
- The databases of read replicas cannot be queried.

URI

- URI format
`GET /v3/{project_id}/instances/{instance_id}/database/detail?
page={page}&limit={limit}&db-name={db-
name}&recover_model={recover_model}`
- Parameter description

Table 5-386 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).
db-name	No	Specifies the database name. When this parameter is specified, the page and limit parameters need to be specified but do not take effect.
recover_mode	No	Specifies recovery models of databases. Value: <ul style="list-style-type: none">• FULL: full recovery model• SIMPLE: simple recovery model• BULK_LOGGED: bulk-logged recovery model

Request

- Request parameters
None
- URI example
`GET https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/database/detail?
page=1&limit=10&db-name=testdb1`

Response

- Normal response

Table 5-387 Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see Table 5-388 .
total_count	Integer	Indicates the total number of databases.

Table 5-388 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 Chinese_PRC_CI_AS.
state	String	Indicates the database status. Its value can be any of the following: <ul style="list-style-type: none">• Creating: The database is being created.• Running: The database is running.• Deleting: The database is being deleted.• Not Exists: The database does not exist.

- Example normal response

```
{  
  "databases": [  
    {  
      "name": "master",  
      "character_set": "Chinese_PRC_CI_AS",  
      "state": "Running"  
    },  
    {  
      "name": "msdb",  
      "character_set": "Chinese_PRC_CI_AS",  
      "state": "Running"  
    },  
    {  
      "name": "model",  
      "character_set": "Latin1_General_CI_AS",  
      "state": "Creating"  
    }  
  ]  
}
```

```
        "character_set": "Chinese_PRC_CI_AS",
        "state": "Running"
    },
    {
        "name": "tempdb",
        "character_set": "Chinese_PRC_CI_AS",
        "state": "Running"
    },
    {
        "name": "rdsadmin",
        "character_set": "Chinese_PRC_CI_AS",
        "state": "Running"
    },
    {
        "name": "rds-test",
        "character_set": "Chinese_PRC_CI_AS",
        "state": "Running"
    }
],
"total_count": 6
}
```

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

Status Code

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

Error Code

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

5.14.4 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, frozen, 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 5-389 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 5-390 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. It consists of 1 to 128 characters and must be different from system usernames. System users include rdsadmin , rdsuser , rdsbackup , and rdsmirror .
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 must be different from the username or 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**

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
a8abe84a41364097be7c233c39275087in04/db_user
```

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

Response

- Normal response

Table 5-391 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](#).

5.14.5 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, frozen, or abnormal.
- For any database and account created using methods other than the RDS console and APIs, if the database name and account name do not meet the database naming rules (see [Table 5-390](#)) and account naming rules (see [Table 5-393](#)), for example, containing Chinese characters or unsupported

special characters, the database and account cannot be managed through the RDS console or APIs.

URI

- URI format

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

- Parameter description

Table 5-392 Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain it, refer to Obtaining a Project ID .
instance_id	Yes	Instance ID.

Request

Table 5-393 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Username of the database account.
password	Yes	String	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 must be different from the username or username spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

Example Request

Change the password of the rdsuser user.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/161e33e453954e21acfff65bfa3dbfebin04/db_user/resetpwd
```

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

Response

- Normal response

Table 5-394 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](#).

5.14.6 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 or frozen 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 5-395 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
- URI example
GET [https://\[endpoint\]/v3/0483b6b16e954cb88930a360d2c4e663/instances/a8abe84a41364097be7c233c39275087in04/db_user/detail?page=1&limit=10](https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/a8abe84a41364097be7c233c39275087in04/db_user/detail?page=1&limit=10)

Response

- Normal response

Table 5-396 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-397 .
total_count	Integer	Indicates the total number of database users.

Table 5-397 users element structure description

Name	Type	Description
name	String	Indicates the account name.
state	String	Indicates the database user status. <ul style="list-style-type: none">● unavailable: The database user is unavailable.● available: The database user is available.

- Example normal response

```
{  
  "users": [  
    {  
      "name": "rdsuser",  
      "state": "available"  
    },  
    {  
      "name": "login001",  
      "state": "available"  
    }  
,  
    "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](#).

5.14.7 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 or frozen state.
- Authorized users of a specified database for 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 5-398 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
- URI example
GET https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/a8abe84a41364097be7c233c39275087in04/database/db_user?db-name=rds&page=1&limit=10

Response

- Normal response

Table 5-399 Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see Table 5-400 .
total_count	Integer	Indicates the total number of database users.

Table 5-400 users element structure description

Name	Type	Description
name	String	Account name.

- Example normal response

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

5.14.8 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, frozen, or abnormal.

URI

- URI format
`DELETE /v3/{project_id}/instances/{instance_id}/db_user/{user_name}`
- Parameter description

Table 5-401 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.

Example Request

```
DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
a8abe84a41364097be7c233c39275087in04/db_user/rds  
{}
```

Response

- Normal response

Table 5-402 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](#).

5.14.9 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, frozen, or abnormal.

URI

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

Table 5-403 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 5-404 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 5-405 .

Table 5-405 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Username of the database account. Currently, SQL users without login names cannot be authorized. It can contain up to 128 characters and must be different from system usernames. System users include rdsadmin , rdsuser , rdsbackup , and rdsmirror .
readonly	No	Boolean	Whether the permission is read-only. The default value is false . <ul style="list-style-type: none">• true: indicates the read-only permission.• false: indicates the read and write permission.

Example Request

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/  
a8abe84a41364097be7c233c39275087in04/db_privilege  
{  
    "db_name": "rds-test",  
    "users": [  
        {  
            "name": "rds",  
            "password": "rds123456",  
            "privilege": "rw",  
            "readonly": false  
        }  
    ]  
}
```

```
        "readonly": true
    },
{
    "name": "rds001",
    "readonly": false
}
]
```

Response

- Normal response

Table 5-406 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](#).

5.14.10 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, frozen, or abnormal.

URI

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

Table 5-407 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 5-408 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 5-409 .

Table 5-409 users field data structure description

Name	Mandatory	Type	Description
name	Yes	String	Username of the database account. It contains 1 to 128 characters and must be different from system usernames. System users include rdsadmin , rdsuser , rdsbackup , and rdsmirror .

Example Request

```
DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/db_privilege

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

Response

- Normal response

Table 5-410 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](#).

5.14.11 Adding Host Addresses for MSDTC

Function

This API is used to add host addresses for Microsoft Distributed Transaction Coordinator (MSDTC).

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

URI

- URI format
`POST /v3/{project_id}/instances/{instance_id}/msdtc/host`
- Parameter description

Table 5-411 Parameters

Parameter	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

Table 5-412 Parameters

Parameter	Mandatory	Type	Description
hosts	No	Array of objects	Host information. For details on the element structure, see Table 5-413 .

Table 5-413 hosts data structure description

Parameter	Mandatory	Type	Description
host_name	Yes	String	Host name.
ip	Yes	String	Host IP address.

Example Request

Adding host addresses for MSDTC

```
POST https://{{endpoint}}/v3/054b93101a00d3a02fe3c01fb31462ac/instances/  
463a6520abc345888850ea5bfb245e4fin04/msdtc/host  
  
{  
    "hosts" : [ {  
        "host_name" : "pc1",  
        "ip" : "127.0.0.1"  
    } ]  
}
```

Response

- Normal response

Table 5-414 Parameters

Parameter	Type	Description
job_id	String	Task ID.

- Example normal response

```
{  
    "job_id" : "603d87db-9a91-411e-b369-ca4d72007e27"  
}
```

- 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](#).

5.14.12 Querying MSDTC Hosts

Function

This API is used to query MSDTC hosts.

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

URI

- URI format
GET /v3/{project_id}/instances/{instance_id}/msdtc/hosts?
offset={offset}&limit={limit}
- Parameter description

Table 5-415 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	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	String	Instance ID.
offset	No	Integer	Pagination parameter. The minimum value is 0 . Default value: 0
limit	No	Integer	Pagination parameter. The value ranges from 1 to 100. Default value: 10

Request

- Request parameters
None
- URI example
GET `https://{endpoint}/v3/054b93101a00d3a02fe3c01fb31462ac/instances/8ef19e30cbf44c79b63c7e6b2168a400in04/msdtc/hosts`

Response

- Normal response

Table 5-416 Parameters

Parameter	Type	Description
total_count	Integer	Total number of hosts.
hosts	Array of objects	Host list. For details, see Table 5-417 .

Table 5-417 hosts element structure description

Parameter	Type	Description
id	String	Host ID.
host	String	Host address.
host_name	String	Host name.

- Example normal response

```
{  
    "total_count" : 1,  
    "hosts" : [ {  
        "id" : "527dd9ca-cc2c-4bac-8707-f9b4f55343f4",  
        "host" : "192.168.0.90",  
        "host_name" : "MSSQL-00E5FB7A"  
    } ]  
}
```

- 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](#).

5.15 Parameter Management

5.15.1 Obtaining a Parameter Template List

Function

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

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

Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

URI

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

Table 5-418 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
- URI example
GET <https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/configurations>

Response

- Normal response

Table 5-419 Parameter description

Name	Type	Description
configurations	Array of objects	Indicates the parameter template list. For details, see Table 5-420 .

Table 5-420 configurations field data structure description

Name	Type	Description
id	String	Indicates the parameter template ID.

Name	Type	Description
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 .
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](#).

## 5.15.2 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 following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.
- 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 5-421** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request

Parameter description

**Table 5-422** 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 <a href="#">Table 5-423</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 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.                                                                                                                                                                                                                                                                                                                                                          |
| 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"> <li>• <b>key:</b> parameter name, for example, <b>div_precision_increment</b> or <b>connect_timeout</b>. If this parameter is not specified, no parameter value is to be changed.</li> <li>• <b>value:</b> parameter value, for example, <b>6</b> or <b>20</b>. If <b>key</b> is not empty, the parameter <b>value</b> cannot be empty, either.</li> </ul> |

**Table 5-423** datastore field data structure description

| Name    | Mandatory | Type   | Description                                                                                                                                                                                                                                            |
|---------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type    | Yes       | String | Specifies the DB engine. Its value can be any of the following and is case-insensitive: <ul style="list-style-type: none"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul>                                                           |
| version | Yes       | String | Specifies the database version. For details, see <a href="#">Constraints</a> . Example values: <ul style="list-style-type: none"> <li>• MySQL: <b>5.7</b></li> <li>• PostgreSQL: <b>9.5</b></li> <li>• Microsoft SQL Server: <b>2014_SE</b></li> </ul> |

## Example Request

Creating a parameter template named **configuration\_test**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/configurations
{
 "name": "configuration_test",
 "description": "configuration_test",
 "values": {
 "div_precision_increment": "6",
 "connect_timeout": "20"
 },
 "datastore": {
 "type": "mysql",
 "version": "5.7"
 }
}
```

## Response

- Normal response

**Table 5-424** Parameter description

| Name          | Type   | Description                                                                                     |
|---------------|--------|-------------------------------------------------------------------------------------------------|
| configuration | Object | Indicates the parameter template information.<br>For details, see <a href="#">Table 5-425</a> . |

**Table 5-425** 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.<br><br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |
| updated                | String | Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.<br><br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> .   |

- 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](#).

### 5.15.3 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 following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.
- 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*.
- Modifying sensitive parameters, for example, `lower_case_table_names`, is risky. For details, see "[Suggestions on RDS for MySQL Parameter Tuning](#)" 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 5-426** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| 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 5-427** Parameter description

| Name        | Mandatory | Type                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|-----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name        | No        | String              | Specifies the parameter template name. It contains a maximum of 64 characters and can contain only uppercase letters, lowercase letters, digits, hyphens (-), underscores (_), and periods (.).                                                                                                                                                                                                                                                                                                                                                                      |
| description | No        | String              | Specifies the parameter template description. It contains a maximum of 256 characters and does not support the following special characters: !<>='&" Its value is left blank by default.                                                                                                                                                                                                                                                                                                                                                                             |
| values      | No        | Map<String, String> | <p>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.</p> <ul style="list-style-type: none"><li>• <b>key:</b> parameter name, for example, <b>div_precision_increment</b> or <b>connect_timeout</b>. If this parameter is not specified, no parameter value is to be changed.</li><li>• <b>value:</b> parameter value, for example, <b>6</b> or <b>20</b>. If <b>key</b> is not empty, the parameter <b>value</b> cannot be empty, either.</li></ul> |

## Example Request

Modifying parameters in a parameter template

```
PUT https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9

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

## Response

- Normal response

**Table 5-428** Parameters

| Parameter     | Type   | Description                                                                    |
|---------------|--------|--------------------------------------------------------------------------------|
| configuration | Object | Parameter template information. For details, see <a href="#">Table 5-429</a> . |

**Table 5-429** 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 <b>values</b> .<br>If a parameter does not exist, the modification will fail. The names of all ignored parameters are returned by <b>ignored_params</b> . |

- 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](#).

## 5.15.4 Replicating a Parameter Template

### Function

This API is used to replicate a parameter template.

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

### Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

### URI

- URI format  
POST /v3/{project\_id}/configurations/{config\_id}/copy
- Parameter description

**Table 5-430** Parameters

| Parameter  | Mandatory | Description                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| config_id  | Yes       | Parameter template ID.                                                                                                              |

### Request

Parameter description

**Table 5-431** Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                            |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name        | Yes       | String | Name of the new parameter template. The name can contain 1 to 64 characters. It is case-sensitive and can contain only letters, digits, periods (.), underscores (_), and hyphens (-). |
| description | No        | String | Description of the new parameter template. The description can contain 0 to 256 characters and cannot contain the following characters: ! < > = & " '                                  |

## Example Request

Replicating a parameter template, with the new template named **copy\_by\_v31**

```
POST https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/configurations/
66251c9024774eeb9edd8663a4cbb0a1pr04/copy
{
 "name" : "copy_by_v31",
 "description" : "copy"
}
```

## Response

- Normal response

**Table 5-432** Parameters

| Parameter              | Type   | Description                     |
|------------------------|--------|---------------------------------|
| id                     | String | Parameter template ID.          |
| name                   | String | Parameter template name.        |
| description            | String | Parameter template description. |
| datastore_version_name | String | Database version name.          |
| datastore_name         | String | Database name.                  |

| Parameter   | Type   | Description                                                                                                                                                                                                                                           |
|-------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time | String | 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 <b>+0800</b> . |
| update_time | String | Update 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 <b>+0800</b> .   |

- Example normal response

```
{
 "id" : "a73a272e50ba427397e90992fbb96f3cpr04",
 "name" : "copy_by_v31",
 "description" : "copy",
 "datastore_version_name" : "2017_EE",
 "datastore_name" : "sqlserver",
 "create_time" : "2022-10-31T08:24:06+0000",
 "update_time" : "2022-10-31T08:24:06+0000"
}
```

- 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](#).

## 5.15.5 Querying Change History of Instance Parameters

### Function

This API is used to query parameter change history of a DB instance.

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

## Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

## URI

- URI format  
`GET /v3/{project_id}/instances/{instance_id}/configuration-histories?offset={offset}&limit={limit}&start_time={start_time}&end_time={end_time}&param_name={param_name}`
- Parameter description

**Table 5-433** Parameters

| Parameter   | Mandatory | Type    | Description                                                                                                                                          |
|-------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String  | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                  |
| instance_id | Yes       | String  | Instance ID.                                                                                                                                         |
| offset      | No        | Integer | Pagination parameter.<br>Default value: <b>0</b>                                                                                                     |
| limit       | No        | Integer | Pagination parameter.<br>Default value: <b>10</b>                                                                                                    |
| start_time  | No        | String  | Start time in the "yyyy-MM-ddTHH:mm:ssZ" format. The default value is seven days before the current time, for example, <b>2020-09-01T18:50:20Z</b> . |
| end_time    | No        | String  | End time in the "yyyy-MM-ddTHH:mm:ssZ" format. The default value is the current time, for example, <b>2020-09-01T18:50:20Z</b> .                     |
| param_name  | No        | String  | Parameter name.                                                                                                                                      |

## Request

- Parameter description  
None
- URI example  
`GET https://[endpoint]/v3/054e292c9880d4992f02c0196d3ea468/instances/1922f9c9144a421d9d1dfcb7377a849ain04/configuration-histories`

## Response

- Normal response

**Table 5-434** Parameters

| Parameter   | Type             | Description                                                                      |
|-------------|------------------|----------------------------------------------------------------------------------|
| total_count | Integer          | Total number of historical records.                                              |
| histories   | Array of objects | Parameter change history list.<br>For details, see <a href="#">Table 5-435</a> . |

**Table 5-435** histories data structure description

| Parameter      | Type    | Description                                                                                                                                                                                                                                            |
|----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parameter_name | String  | Parameter name.                                                                                                                                                                                                                                        |
| old_value      | String  | Old parameter value.                                                                                                                                                                                                                                   |
| new_value      | String  | New parameter value.                                                                                                                                                                                                                                   |
| update_result  | String  | Update result. Valid Value:<br><ul style="list-style-type: none"> <li>• <b>SUCCESS</b></li> <li>• <b>FAILED</b></li> </ul>                                                                                                                             |
| applied        | Boolean | Whether the new value has been applied to the instance.<br><ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the new value has been applied.</li> <li>• <b>false</b>: indicates that the new value has not been applied.</li> </ul> |
| update_time    | String  | Time when the value is updated.                                                                                                                                                                                                                        |
| apply_time     | String  | Time when the new value is applied to the instance.                                                                                                                                                                                                    |

- Example normal response

```
{
 "total_count" : 3,
 "histories" : [{
 "parameter_name" : "fill factor (%)",
 "old_value" : "0",
 "new_value" : "2",
 "update_result" : "SUCCESS",
 "applied" : true,
 "update_time" : "2022-10-29T09:39:21+0000",
 "apply_time" : "2022-10-31T01:46:29+0000"
 }, {
 "parameter_name" : "remote login timeout (s)",
 "old_value" : "10",
 "new_value" : "20",
 "update_result" : "SUCCESS",
 }
]
```

```
 "applied" : true,
 "update_time" : "2022-10-29T09:38:36+0000",
 "apply_time" : "2022-10-29T09:38:36+0000"
 }, {
 "parameter_name" : "remote query timeout (s)",
 "old_value" : "600",
 "new_value" : "601",
 "update_result" : "SUCCESS",
 "applied" : true,
 "update_time" : "2022-10-29T09:40:30+0000",
 "apply_time" : "2022-10-29T09:40:30+0000"
 }]
}
```

- 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](#).

## 5.15.6 Obtaining the Parameter Template of a Specified DB Instance

### Function

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

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

### Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/configurations
- Parameter description

**Table 5-436** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID compliant with the UUID format.                                                                                      |

## Request

- Request parameters  
None
- URI example  
GET `https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/configurations`

## Response

- Normal response

**Table 5-437** 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.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |
| updated                | String | Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> .   |

| Name                     | Type             | Description                                                                                                                           |
|--------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| configuration_parameters | Array of objects | Indicates the parameters defined by users based on the default parameter templates.<br>For details, see <a href="#">Table 5-438</a> . |

**Table 5-438** 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"><li>• <b>false</b>: A reboot is not required.</li><li>• <b>true</b>: A reboot is required.</li></ul>                   |
| readonly         | Boolean | Indicates whether the parameter is read-only. <ul style="list-style-type: none"><li>• <b>false</b>: The parameter is not read-only.</li><li>• <b>true</b>: The parameter is read-only.</li></ul> |
| value_range      | String  | Indicates the parameter value range. If the type is <b>integer</b> , the value is <b>0</b> or <b>1</b> . If the type is <b>boolean</b> , the value is <b>true</b> or <b>false</b> .              |
| type             | String  | Indicates the parameter type, which can be <b>integer</b> , <b>string</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .                                                                     |
| 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](#).

## 5.15.7 Obtaining Parameters in a Specified Parameter Template

### Function

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

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

### Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

### URI

- URI format  
GET /v3/{project\_id}/configurations/{config\_id}
- Parameter description

**Table 5-439** Parameter description

| Name       | Mandatory | Description                                                                                                                                                                                                  |
|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                            |
| config_id  | Yes       | Specifies the parameter template ID.<br>When this parameter is empty (not space), the URL of the parameter template list is obtained. For details, see <a href="#">Obtaining a Parameter Template List</a> . |

### Request

- Request parameters  
None

- URI example

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

## Response

- Normal response

**Table 5-440** Parameter description

| Name                     | Type             | Description                                                                                                                                                                                                                                                                                       |
|--------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                       | String           | Indicates the parameter template ID.                                                                                                                                                                                                                                                              |
| name                     | String           | Indicates the parameter template name.                                                                                                                                                                                                                                                            |
| datastore_version_name   | String           | Indicates the database version name.                                                                                                                                                                                                                                                              |
| datastore_name           | String           | Indicates the database name.                                                                                                                                                                                                                                                                      |
| description              | String           | Indicates the parameter template description.                                                                                                                                                                                                                                                     |
| created                  | String           | Indicates the creation time in the following format: yyyy-MM-ddTHH:mm:ssZ.<br><br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |
| updated                  | String           | Indicates the update time in the following format: yyyy-MM-ddTHH:mm:ssZ.<br><br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> .   |
| configuration_parameters | Array of objects | Indicates the parameters defined by users based on the default parameter templates.<br>For details, see <a href="#">Table 5-441</a> .                                                                                                                                                             |

**Table 5-441** configuration\_parameters field data structure description

| Name             | Type    | Description                                                                                                                                                                                                                    |
|------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name             | String  | Indicates the parameter name.                                                                                                                                                                                                  |
| value            | String  | Indicates the parameter value.                                                                                                                                                                                                 |
| restart_required | Boolean | Indicates whether a restart is required. <ul style="list-style-type: none"><li>• <b>false</b>: indicates that a restart is not required.</li><li>• <b>true</b>: indicates that a restart is required.</li></ul>                |
| readonly         | Boolean | Indicates whether the parameter is read-only. <ul style="list-style-type: none"><li>• <b>false</b>: indicates that the parameter is not read-only.</li><li>• <b>true</b>: indicates that the parameter is read-only.</li></ul> |
| value_range      | String  | Indicates the parameter value range. If the type is <b>integer</b> , the value is <b>0</b> or <b>1</b> . If the type is <b>boolean</b> , the value is <b>true</b> or <b>false</b> .                                            |
| type             | String  | Indicates the parameter type, which can be <b>integer</b> , <b>string</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .                                                                                                   |
| 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,
 "type": "integer",
 "description": "The auto increment value for the database.",
 "value_range": "0|1",
 "configurable": 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](#).

## 5.15.8 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

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.
- Default parameter templates cannot be deleted.

### URI

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

**Table 5-442** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| config_id  | Yes       | Specifies the parameter template ID.                                                                                                              |

## Request

- Request parameters  
None
- URI example  
`DELETE https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9`

## 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](#).

# 5.16 Plugin Management (RDS for PostgreSQL)

## 5.16.1 Creating a Plugin

### Function

This API is used to create a plugin for a specified database.

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

## Constraints

- This API is in OBT. To use this API, contact customer service.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.

## URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/extensions
- Parameter description

**Table 5-443** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 5-444** Parameters

| Parameter      | Mandatory | Type   | Description    |
|----------------|-----------|--------|----------------|
| database_name  | Yes       | String | Database name. |
| extension_name | Yes       | String | Plugin name.   |

## Example Request

Creating the plugin **pg\_stat\_statements** for database **db1**

```
POST https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/extensions
{
 "database_name": "db1",
 "extension_name": "pg_stat_statements"
}
```

## 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](#).

## 5.16.2 Querying Plugins

### Function

This API is used to obtain plugin information of a specified database.

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

### Constraints

- This API is in OBT. To use this API, contact customer service.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.

### URI

- URI format  
`GET /v3/{project_id}/instances/{instance_id}/extensions?  
database_name={database_name}&offset={offset}&limit={limit}`
- Parameter description

**Table 5-445** Parameters

| Parameter     | Mandatory | Description                                                                                                                         |
|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id   | Yes       | Instance ID.                                                                                                                        |
| database_name | Yes       | Database name.                                                                                                                      |

| Parameter | Mandatory | Description                                                                                                                                                                                                                                                         |
|-----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Index offset. If <b>offset</b> is set to $N$ , the resource query starts from the $N+1$ piece of data. The value is <b>0</b> by default, indicating that the query starts from the first piece of data. The value must be a number but cannot be a negative number. |
| limit     | No        | Number of records to be queried. The default value is <b>100</b> . The value must be a positive integer. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                                        |

## Request

- Request parameters  
None
- URI example  
GET `https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/extensions?database_name=db1`

## Response

- Normal response

**Table 5-446** Parameters

| Parameter   | Type             | Description                                                    |
|-------------|------------------|----------------------------------------------------------------|
| extensions  | Array of objects | Plugin list.<br>For details, see <a href="#">Table 5-447</a> . |
| total_count | Integer          | Total number of plugins.                                       |

**Table 5-447** extensions element structure description

| Parameter                | Type    | Description                          |
|--------------------------|---------|--------------------------------------|
| name                     | String  | Plugin name.                         |
| database_name            | String  | Database name.                       |
| version                  | String  | Plugin version.                      |
| shared_preload_libraries | String  | Dependent preloaded library.         |
| created                  | Boolean | Whether the plugin has been created. |

| Parameter   | Type   | Description         |
|-------------|--------|---------------------|
| description | String | Plugin description. |

- Example normal response

```
{
 "extensions": [{
 "name": "pg_cron",
 "database_name": "db1",
 "version": "1.0",
 "shared_preload_libraries": "pg_cron",
 "created": false,
 "description": "pg_cron access method - signature file based index"
 }, {
 "name": "dblink",
 "database_name": "db1",
 "version": "1.2",
 "shared_preload_libraries": "",
 "created": false,
 "description": "connect to other PostgreSQL databases from within a database"
 }],
 "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](#).

### 5.16.3 Deleting a Plugin

#### Function

This API is used to delete a plugin of a specified database.

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

#### Constraints

- This API is in OBT. To use this API, contact customer service.
- This operation cannot be performed when the DB instance is in any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.

#### URI

- URI format

DELETE /v3/{project\_id}/instances/{instance\_id}/extensions

- Parameter description

**Table 5-448** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 5-449** Parameters

| Parameter      | Mandatory | Type   | Description    |
|----------------|-----------|--------|----------------|
| database_name  | Yes       | String | Database name. |
| extension_name | Yes       | String | Plugin name.   |

## Example Request

```
DELETE https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/extensions

{
 "database_name": "db1",
 "extension_name": "pg_stat_statements"
}
```

## 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](#).

## 5.16.4 Modifying the Value of a Specified Parameter for an Instance

### Function

This API is used to modify the value of a specified parameter for an instance.

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

### Constraints

- This API is in OBT. To use this API, contact customer service.
- This operation cannot be performed when the DB instance is in the abnormal or frozen state.
- Parameters of read replicas cannot be modified.
- Only the value of **shared\_preload\_libraries** can be modified.

### URI

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

**Table 5-450** Parameters

| Parameter   | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |
| name        | Yes       | Parameter name. Only the value of <b>shared_preload_libraries</b> can be modified.                                                  |

### Request

Parameter description

**Table 5-451** Parameters

| Parameter | Mandatory | Type   | Description      |
|-----------|-----------|--------|------------------|
| value     | Yes       | String | Parameter value. |

## Example Request

Changing the value of `shared_preload_libraries` for a DB instance

```
PUT https://[endpoint]/v3/054e292c9880d4992f02c0196d3ea468/instances/f569f1358436479dbcba8603c32cc4aein03/parameter/shared_preload_libraries
{
 "value" : "passwordcheck.so,pg_stat_statements,pg_sql_history"
}
```

## Response

- Normal response

**Table 5-452** Parameters

| Parameter        | Type    | Description                                                                                                                                                                                                         |
|------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_id           | String  | Task ID.                                                                                                                                                                                                            |
| restart_required | Boolean | Whether a reboot is required.<br>The value can be: <ul style="list-style-type: none"><li><b>true</b>: indicates that a reboot is required.</li><li><b>false</b>: indicates that a reboot is not required.</li></ul> |

- Example normal response

```
{
 "job_id" : "e7a7535b-eb9b-45ac-a83a-020dc5016d94",
 "restart_required" : true
}
```

- 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](#).

## 5.16.5 Obtaining the Value of a Specified Parameter for an Instance

### Function

This API is used to obtain the value of a specified parameter for an instance.

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

## Constraints

- This API is in OBT. To use this API, contact customer service.
- This operation cannot be performed when the instance is in the abnormal or frozen state.
- Only the value of **shared\_preload\_libraries** can be queried.

## URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/parameter/{name}
- Parameter description

**Table 5-453** Parameter description

| Name        | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |
| name        | Yes       | Parameter name. Only the value of <b>shared_preload_libraries</b> can be queried.                                                   |

## Request

- Request parameters  
None
- URI example  
GET `https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/parameter/shared_preload_libraries`

## Response

- Normal response

**Table 5-454** Parameter description

| Name  | Type   | Description      |
|-------|--------|------------------|
| name  | String | Parameter name.  |
| value | String | Parameter value. |

| Name             | Type    | Description                                                                                                                                                                               |
|------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restart_required | Boolean | Whether a reboot is required. <ul style="list-style-type: none"><li>• <b>true</b>: A reboot is required.</li><li>• <b>false</b>: A reboot is not required.</li></ul>                      |
| value_range      | String  | Parameter value range. If the parameter type is <b>integer</b> , the value is <b>0</b> or <b>1</b> . If the parameter type is <b>boolean</b> , the value is <b>true</b> or <b>false</b> . |
| type             | String  | Parameter type. The value can be <b>string</b> , <b>integer</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .                                                                        |
| description      | String  | Parameter description.                                                                                                                                                                    |

- Example normal response

```
{
 "name" : "shared_preload_libraries",
 "value" : "passwordcheck.so,pg_sql_history",
 "restart_required" : true,
 "value_range" : "passwordcheck.so,pg_stat_statements,pg_sql_history",
 "type" : "list",
 "description" : "Lists shared libraries to preload into server."
}
```

- 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](#).

# 5.17 Recycling a DB Instance

## 5.17.1 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 5-455** Parameter description

| Name       | Mandatory | Description                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

Parameter description

**Table 5-456** Parameter description

| Name           | Mandatory | Type   | Description                                                                                                                 |
|----------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------|
| recycle_policy | Yes       | Object | Each element is associated with the recycle bin.<br>For details on the element structure, see <a href="#">Table 5-457</a> . |

**Table 5-457** 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.<br>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

```
PUT https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/recycle-policy
{
 "recycle_policy":{
 "retention_period_in_days":"1"
 }
}
```

## Response

- Normal response

**Table 5-458** Parameter description

| Name   | Type   | Description                                           |
|--------|--------|-------------------------------------------------------|
| result | String | Returns <b>success</b> 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](#).

## 5.17.2 Querying the Recycling Policy

### Function

This API is used to query the recycling policy of the recycle bin.

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

### URI

- URI format  
GET /v3/{project\_id}/instances/recycle-policy
- Parameter description

**Table 5-459** Parameters

| Parameter  | Mandatory | Description                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

- Parameter description  
None
- URI example  
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/recycle-policy

## Response

- Normal response

**Table 5-460** Parameters

| Parameter                | Type    | Description                                                |
|--------------------------|---------|------------------------------------------------------------|
| retention_period_in_days | Integer | Number of days for retaining instances in the recycle bin. |

- Example normal response  

```
{ "retention_period_in_days" : 7 }
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

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

## Error Code

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

## 5.17.3 Querying Instances in the Recycle Bin

### Function

This API is used to query instances in the recycle bin.

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

## URI

- URI format  
GET /v3/{project\_id}/recycle-instances?offset={offset}&limit={limit}
- Parameter description

**Table 5-461** Parameters

| Parameter  | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .               |
| offset     | Yes       | Index offset. The query starts from the next piece of data indexed by this parameter. The value must be a number and cannot be a negative number. |
| limit      | Yes       | Number of data records on each page. The value range is from 1 to 50.                                                                             |

## Request

- Parameter description  
None
- URI example  
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/054ea741f700d4a32f1bc00f5c80dd4c/recycle-instances?offset=0&limit=10

## Response

- Normal response

**Table 5-462** Parameters

| Parameter   | Type             | Description                                                          |
|-------------|------------------|----------------------------------------------------------------------|
| total_count | Integer          | Number of data records in the recycle bin.                           |
| instances   | Array of objects | Instance information. For details, see <a href="#">Table 5-463</a> . |

**Table 5-463** instances field data structure description

| Parameter | Type   | Description  |
|-----------|--------|--------------|
| id        | String | Instance ID. |

| Parameter      | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name           | String | Instance name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ha_mode        | String | Instance type. The value can be <b>Ha</b> (primary/standby) or <b>Single</b> (single-node) and is case-insensitive.                                                                                                                                                                                                                                                                                                                                                                                                                |
| engine_name    | String | DB engine name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| engine_version | String | DB engine version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| pay_model      | String | Billing mode. The value can be <b>0</b> (pay-per-use) or <b>1</b> (yearly/monthly).                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| created_at     | String | Creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, if the time zone offset is one hour, the value of <b>Z</b> is <b>+0100</b> .                                                                                                                                                                                                                                                          |
| deleted_at     | String | Deletion time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, if the time zone offset is one hour, the value of <b>Z</b> is <b>+0100</b> .                                                                                                                                                                                                                                                          |
| volume_type    | String | Storage type. The value can be any of the following (case-sensitive): <ul style="list-style-type: none"> <li>• <b>ULTRAHIGH</b>: ultra-high I/O storage.</li> <li>• <b>ULTRAHIGHPRO</b>: ultra-high I/O (advanced) storage. This storage type is supported only with ultra-high performance (advanced) instances (permission required).</li> <li>• <b>CLOUDSSD</b>: cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.</li> <li>• <b>LOCALSSD</b>: local SSD storage.</li> </ul> |

| Parameter             | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| volume_size           | Integer | <p>Storage space in GB. The value must be a multiple of 10 and the value range is from 40 GB to 4,000 GB.</p> <p>If you want to create an instance with storage space up to 6,000 GB or scale the storage up to 10,000 GB, contact customer service to apply for required permissions.</p> <p>This parameter is invalid for read replicas. The storage space of a read replica is the same as that of the primary instance by default.</p> |
| data_vip              | String  | Floating IP address.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| data_vip_v6           | String  | Private IPv6 address.                                                                                                                                                                                                                                                                                                                                                                                                                      |
| enterprise_project_id | String  | Enterprise project ID.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| retained_until        | String  | <p>Retention 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 <b>+0100</b>.</p>                                                                                                                                                                            |
| recycle_backup_id     | String  | Backup ID.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| recycle_status        | String  | <p>Backup status. The value can be any of the following (case-sensitive):</p> <ul style="list-style-type: none"> <li>• <b>BUILDING</b>: The instance is being backed up and cannot be rebuilt.</li> <li>• <b>COMPLETED</b>: The backup is complete and the instance can be rebuilt.</li> </ul>                                                                                                                                             |
| is_serverless         | Boolean | <p>Instance type.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: serverless</li> <li>• <b>false</b>: non-serverless</li> </ul>                                                                                                                                                                                                                                                                                                  |

- Example normal response

```
{
 "total_count": 2,
 "instances": [
 {
 "id": "b7dea08c0f0e4fed9f1951fff9013639in01",
 "name": "rds-8b86",
 "ha_mode": "Ha",
 "engine_name": "mysql",
 "engine_version": "5.7.38",
 "pay_model": "0",
 "created_at": "2022-12-26T03:38:10+0000",
 "status": "COMPLETED"
 }
]
}
```

```
 "deleted_at" : "2023-01-09T08:57:10+0000",
 "volume_type" : "SSD",
 "volume_size" : 80,
 "data_vip" : "192.168.226.188",
 "enterprise_project_id" : "0",
 "retained_until" : "2023-01-16T09:20:48+0000",
 "recycle_backup_id" : "e8e3c329c20442f5aec21b95a8cdcaa52br01",
 "recycle_status" : "COMPLETED",
 "is_serverless" : false
 }, {
 "id" : "cc6d0dff4a9145d0a1335c35a866de23in01",
 "name" : "rds-82b2",
 "ha_mode" : "Ha",
 "engine_name" : "mysql",
 "engine_version" : "5.7.38",
 "pay_model" : "0",
 "created_at" : "2022-12-26T06:17:58+0000",
 "deleted_at" : "2023-01-09T08:56:49+0000",
 "volume_type" : "SSD",
 "volume_size" : 200,
 "data_vip" : "192.168.2.24",
 "enterprise_project_id" : "0",
 "retained_until" : "2023-01-16T09:20:45+0000",
 "recycle_backup_id" : "3f35a348ae0943979bd302a9788f49e7br01",
 "recycle_status" : "COMPLETED",
 "is_serverless" : 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](#).

# 5.18 Tag Management

## 5.18.1 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 5-464** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-465** Parameter description

| Name   | Mandatory | Type             | Description                                                                                                                    |
|--------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| action | Yes       | String           | Specifies the operation identifier (case sensitive), which is <b>create</b> during the creation operation.                     |
| tags   | Yes       | Array of objects | Specifies the tag list. A maximum of 20 tags can be added for each instance.<br>For details, see <a href="#">Table 5-466</a> . |

**Table 5-466** 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 _.:=-@. However, it cannot start or end with a space, or start with <u>sys</u> _. |

| Name  | Mandatory | Type   | Description                                                                                                                                        |
|-------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 _.:=+-@. |

## Example Request

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

```
POST https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/tags/action
```

```
{
 "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](#).

## 5.18.2 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 5-467** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 5-468** Parameter description

| Name   | Mandatory | Type             | Description                                                                                                |
|--------|-----------|------------------|------------------------------------------------------------------------------------------------------------|
| action | Yes       | String           | Specifies the operation identifier (case sensitive), which is <b>delete</b> during the deletion operation. |
| tags   | Yes       | Array of objects | Specifies the tag list.<br>For details, see <a href="#">Table 5-469</a> .                                  |

**Table 5-469** 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 _.:=-@. However, it cannot start or end with a space, or start with <b>_sys_</b> . |

| Name  | Mandatory | Type   | Description                                                                                                                                        |
|-------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 _.:=+-@. |

## Example Request

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

```
POST https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/tags/action
```

```
{
 "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](#).

## 5.18.3 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 5-470** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

- Request parameters  
None
- URI example  
GET <https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/tags>

## Response

- Normal response

**Table 5-471** 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.<br>For details, see <a href="#">Table 5-472</a> . |

**Table 5-472** 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](#).

# 5.19 Quota Management

## 5.19.1 Querying Resource Quotas

### Function

This API is used to query resource quotas in a project.

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

### URI

- URI format  
GET /v3/{project\_id}/quotas
- Parameter description

**Table 5-473** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request

- Request parameters  
None

- URI example  
GET https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/quotas

## Response

- Normal response

**Table 5-474** Parameter description

| Name   | Type   | Description                                                                                |
|--------|--------|--------------------------------------------------------------------------------------------|
| quotas | Object | Specifies the objects in the quota list.<br>For details, see <a href="#">Table 5-475</a> . |

**Table 5-475** quotas field data structure description

| Name      | Type             | Description                                                                            |
|-----------|------------------|----------------------------------------------------------------------------------------|
| resources | Array of objects | Indicates the resource list objects.<br>For details, see <a href="#">Table 5-476</a> . |

**Table 5-476** resources field data structure description

| Name  | Type    | Description                                                         |
|-------|---------|---------------------------------------------------------------------|
| quota | Integer | Indicates the project resource quota.                               |
| used  | Integer | Indicates the number of used resources.                             |
| type  | String  | Indicates the project resource type. The value is <b>instance</b> . |

- Example normal response

```
{
 "quotas": {
 "resources": [{
 "quota": 100,
 "used": 1,
 "type": "instance"
 }]
 }
}
```

- 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](#).

# 5.20 Obtaining Task Information

## 5.20.1 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, restoring data to a new DB instance, migrating a standby RDS for MySQL DB instance, upgrading a minor version of an RDS for MySQL DB instance, restoring table data to a specified time point for an RDS for MySQL DB instance, and changing an instance class.

### URI

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

**Table 5-477** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| id         | Yes       | Specifies the task ID.                                                                                                                            |

## Request

- Request parameters  
None
- URI example  
`GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/jobs?id=a9767ede-fe0f-4888-9003-e843a4c90514`

## Response

- Normal response

**Table 5-478** Parameter description

| Name | Type   | Description                                                                       |
|------|--------|-----------------------------------------------------------------------------------|
| job  | Object | Indicates the task information.<br>For details, see <a href="#">Table 5-479</a> . |

**Table 5-479** 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.<br>Value: <ul style="list-style-type: none"><li><b>Running:</b> The task is being executed.</li><li><b>Completed:</b> The task is successfully executed.</li><li><b>Failed:</b> The task fails to be executed.</li></ul> |

| Name        | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created     | String | <p>Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format.</p> <p><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>.</p>                                                                                                                      |
| ended       | String | <p>Indicates the end time in the "yyyy-mm-ddThh:mm:ssZ" format.</p> <p><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>.</p>                                                                                                                           |
| process     | String | <p>Indicates the task execution progress.</p> <p><b>NOTE</b><br/>The execution progress (such as "<b>60%</b>") is displayed only when the task is being executed. Otherwise, "" is returned.</p>                                                                                                                                                                                                                    |
| instance    | Object | <p>Indicates information of the DB instance on which the task is executed.</p> <p>For details, see <a href="#">Table 5-480</a>.</p>                                                                                                                                                                                                                                                                                 |
| entities    | Object | <p>The displayed information varies depending on the tasks.</p> <p>For details, see the following:</p> <ul style="list-style-type: none"><li>• <a href="#">Table 5-481</a></li><li>• <a href="#">Table 5-484</a></li><li>• <a href="#">Table 5-486</a></li><li>• <a href="#">Table 5-487</a></li></ul> <p><b>NOTE</b><br/>For asynchronous tasks without the <b>entities</b> field description, {} is returned.</p> |
| fail_reason | String | Indicates the error information displayed when a task failed.                                                                                                                                                                                                                                                                                                                                                       |

**Table 5-480** instances field data structure description

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

**Table 5-481** 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.<br>For details, see <a href="#">Table 5-482</a> . |
| resource_ids | List<String> | Indicates the queried resource ID.                                                                         |

**Table 5-482** entities.instance field data structure description

| Name       | Type   | Description                                                                                                                                                   |
|------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| endpoint   | String | Indicates the DB instance connection address.                                                                                                                 |
| type       | String | The value is <b>Single</b> , <b>Ha</b> , or <b>Replica</b> , indicating the single DB instance, primary/standby DB instances, and read replica, respectively. |
| datastore  | Object | Indicates the database information. For details, see <a href="#">Table 5-483</a> .                                                                            |
| replica_of | String | Indicates the primary DB instance ID. This parameter is returned only when a read replica is created.                                                         |

**Table 5-483** datastore field data structure description

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

**Table 5-484** entities field data structure description (resizing a DB instance)

| Name         | Type         | Description                                                                                         |
|--------------|--------------|-----------------------------------------------------------------------------------------------------|
| volume       | Object       | Indicates the information about the resized disk.<br>For details, see <a href="#">Table 5-485</a> . |
| resource_ids | List<String> | Indicates the queried resource ID.                                                                  |

**Table 5-485** 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 5-486** 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 5-487** 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",
"ended": "2018-08-06T16:41:14+0000",
"process": "",
"instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "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": ["a48e43ff268f4c0e879652d65e63d0fb01.vm",
 "a48e43ff268f4c0e879652d65e63d0fb01.volume"]
}
}
```

#### Creating a read replica:

```
{
 "job": {
 "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
 "name": "CreateMysqlReplicaInstance",
 "status": "Completed",
 "created": "2018-08-06T10:41:14+0000",
 "ended": "2018-08-06T16:41:14+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": "a48e43ff268f4c0e879652d65e63d0fb01"
 },
 "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",
 "ended": "2018-08-06T16:41:14+0000",
 "process": "",
 "instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "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",
 "ended": "2018-08-06T16:41:14+0000",
 "process": "",
 "instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "name": "DO-NOT-TOUCH-mgr2-mysql-single"
 },
 "entities": {}
 }
}
```

Task being executed:

```
{
 "job": {
 "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
 "name": "CreateMysqlSingleHAIstance", "status": "Running",
 "created": "2018-08-06T10:41:14+0000",
 "process": "60% ",
 "instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "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": "CreateMysqlSingleHAIstance",
 "status": "Failed",
 "created": "2018-08-06T10:41:14+0000",
 "ended": "2018-08-06T16:41:14+0000",
 "process": "",
 "instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "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": "CreatePostgresqlSingleHAIstance",
 "status": "Failed",
 }
}
```

```
"created": "2018-08-06T10:41:14+0000",
"ended": "2018-08-06T16:41:14+0000",
"process": "",
"instance": {
 "id": "a48e43ff268f4c0e879652d65e63d0fb01",
 "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](#).

## 5.20.2 Obtaining Task Information of a Specified SQL Server DB Instance in a Specified Time Range

### Function

This API is used to obtain the task information list of a specified SQL Server DB instance ID within a specified time range.

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

### Constraints

- This API is used to query asynchronous tasks of the last one month in the task center.
- Information of the following asynchronous tasks can be obtained: creating single or primary/standby DB instances, creating read replicas, changing single DB instances to primary/standby instances, switching primary/standby DB instances, scaling up storage space, creating automated or manual backups, restoring data to original, existing, or new DB instances.

### URI

- URI format

GET /v3/{project\_id}/instances/{instance\_id}/tasklist/detail?  
start\_time={start\_time}&end\_time={end\_time}

- Parameter description

**Table 5-488** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |
| start_time  | Yes       | Specifies the start time in the UTC timestamp format.                                                                                             |
| end_time    | No        | Specifies the end time in the UTC timestamp format.                                                                                               |

## Request

- Request parameters
- None
- URI example

GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/a48e43ff268f4c0e879652d65e63d0fb01/tasklist/detail?  
start\_time=1533423274000&end\_time=1533823274000

## Response

- Normal response

**Table 5-489** Parameter description

| Name  | Type    | Description                                                                       |
|-------|---------|-----------------------------------------------------------------------------------|
| jobs  | Object  | Indicates the task information.<br>For details, see <a href="#">Table 5-490</a> . |
| count | Integer | Indicates the total number of tasks.                                              |

**Table 5-490** jobs field data structure description

| Name | Type   | Description            |
|------|--------|------------------------|
| id   | String | Indicates the task ID. |

| Name     | Type   | Description                                                                                                                                                                                                                                                                          |
|----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name     | String | Indicates the task name.                                                                                                                                                                                                                                                             |
| status   | String | Indicates the task execution status.<br>Value: <ul style="list-style-type: none"><li>• <b>Running:</b> The task is being executed.</li><li>• <b>Completed:</b> The task is successfully executed.</li><li>• <b>Failed:</b> The task fails to be executed.</li></ul>                  |
| created  | String | Indicates the creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |
| ended    | String | Indicates the end time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> .      |
| process  | String | Indicates the task execution progress.<br><b>NOTE</b><br>The execution progress (such as " <b>60</b> ", indicating the task execution progress is 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.<br>For details, see <a href="#">Table 5-491</a> .                                                                                                                                                            |

| Name        | Type   | Description                                                                                                                                                                                                                                                                                                                                               |
|-------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| task_detail | String | <p>The displayed information varies depending on the tasks.</p> <p>For details, see the following:</p> <ul style="list-style-type: none"><li>• <a href="#">Table 5-492</a></li><li>• <a href="#">Table 5-493</a></li></ul> <p><b>NOTE</b></p> <p>This field is not displayed for asynchronous tasks that do not contain the <b>task_detail</b> field.</p> |
| fail_reason | String | Indicates the error information displayed when a task failed.                                                                                                                                                                                                                                                                                             |
| entities    | Object | The displayed information varies depending on the tasks.                                                                                                                                                                                                                                                                                                  |

**Table 5-491** instance field data structure description

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

**Table 5-492** task\_detail field data structure description (restoring data to original, existing, or new DB instances, or restoring table-level data to a specified time point)

| Name             | Type         | Description                                                                    |
|------------------|--------------|--------------------------------------------------------------------------------|
| sourceInstanceId | String       | Indicates the ID of the original DB instance to which backup data is restored. |
| targetInstanceId | String       | Indicates the ID of the target DB instance to which backup data is restored.   |
| backupId         | String       | Indicates the backup file ID.                                                  |
| restoreTime      | String       | Indicates the time point to which table-level data is restored.                |
| type             | String       | Indicates the task type.                                                       |
| dbNames          | List<String> | Indicates the database name.                                                   |

**Table 5-493 task\_detail field data structure description (creating automated or manual backups)**

| Name        | Type   | Description                                          |
|-------------|--------|------------------------------------------------------|
| instanceId  | String | Indicates the ID of the DB instance to be backed up. |
| name        | String | Indicates the task name.                             |
| description | String | Indicates the task description.                      |
| dbNames     | String | Indicates the name of the data to be backed up.      |

**NOTE**

In the response example, some returned task details are used as examples.

- Example normal response

Creating automated or manual backups:

```
{
 "jobs": [
 {
 "id": "aa4e3386-af27-436e-99f5-7cfefa21c37a",
 "name": "BackupDbSqlServerInInstance",
 "status": "Completed",
 "created": "2020-07-20T16:10:07+0000",
 "ended": "2020-07-20T16:14:39+0000",
 "process": "",
 "instance": {
 "id": "9a09052dfa824cae36f583bc3e5684ein04",
 "name": "rds-8d43-0004"
 },
 "task_detail": "{\"instanceId\":\"9a09052dfa824cae36f583bc3e5684ein04\",\"name\"\\\"sqlserver-rds-8d43-0004-20200719161130675\\\""}
 }
],
 "count":1
}
```

Restoring data to original, existing, or new DB instances, or restoring table-level data to a specified time point:

```
{
 "jobs": [
 {
 "id": "11bef2cb-2924-4727-a9c2-b6fec61fc03a",
 "name": "SingleDbRestoreSqlServerInInstance",
 "status": "Failed",
 "created": "2020-07-21T01:38:00+0000",
 "ended": "2020-07-21T01:39:59+0000",
 "process": "",
 "instance": {
 "id": "9a09052dfa824cae36f583bc3e5684ein04",
 "name": "rds-8d43-0004"
 },
 "task_detail": "{\"backupId\":\"83c76e6852c145779dc153d8299ee0e1br04\",\"dbNames\"\\\"backeeeeee\\\",\\\"sourceInstanceId\\\":\\\"9a09052dfa824cae36f583bc3e5684ein04\\\",\\\"targetInstanceId\\\":\\\"9a09052dfa824cae36f583bc3e5684ein04\\\""}
 }
],
 "count":1
}
```

Other task types:

```
{
 "jobs": [
 {
 "id": "11bef2cb-2924-4727-a9c2-b6fec61fc03a",
 "name": "SingleDbRestoreSqlserverInInstance",
 "status": "Complete",
 "created": "2020-07-21T01:38:00+0000",
 "ended": "2020-07-21T01:39:59+0000",
 "process": "",
 "instance": {
 "id": "9a09052dfa824caea36f583bc3e5684ein04",
 "name": "rds-8d43-0004"
 }
 }
],
 "count": 1
}
```

Task being executed:

```
{
 "jobs": [
 {
 "id": "32291a2e-882b-4266-b7c0-89dae34d2a9d",
 "name": "CreateSqlserverSingleHAInstance",
 "status": "Running",
 "created": "2020-07-14T15:02:29+0000",
 "ended": "2020-07-14T15:16:18+0000",
 "process": "50",
 "instance": {
 "id": "9a09052dfa824caea36f583bc3e5684ein04",
 "name": "rds-8d43-0004"
 }
 }
],
 "count": 1
}
```

Task fails to be executed:

```
{
 "jobs": [
 {
 "id": "32291a2e-882b-4266-b7c0-89dae34d2a9d",
 "name": "CreateSqlserverSingleHAInstance",
 "status": "Failed",
 "created": "2020-07-14T15:02:29+0000",
 "ended": "2020-07-14T15:16:18+0000",
 "process": "",
 "instance": {
 "id": "9a09052dfa824caea36f583bc3e5684ein04",
 "name": "rds-8d43-0004"
 },
 "fail_reason": "createVM failed."
 }
],
 "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](#).

# 6 Historical APIs

## 6.1 API v3

### 6.1.1 Querying API Versions

#### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Querying API Versions](#)) before then.

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

#### URI

- URI format  
GET /rds
- Parameter description  
None

#### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/rds

## Response

- Normal response

**Table 6-1** Parameter description

| Name     | Type             | Description                                                                                             |
|----------|------------------|---------------------------------------------------------------------------------------------------------|
| versions | Array of objects | Indicates the list of detailed API version information.<br>For details, see <a href="#">Table 6-2</a> . |

**Table 6-2** versions field data structure description

| Name   | Type             | Description                                                                                                                                                                                                                    |
|--------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id     | String           | Indicates the API version. <ul style="list-style-type: none"><li><b>v1</b>: indicates the API v1 version.</li><li><b>v3</b>: indicates the API v3 version.</li></ul>                                                           |
| links  | Array of objects | Indicates the API link information. The value is empty when the version is v1 or v3.<br>For details, see <a href="#">Table 6-3</a> .                                                                                           |
| status | String           | Indicates the version status. <ul style="list-style-type: none"><li><b>CURRENT</b>: indicates that the version is recommended.</li><li><b>DEPRECATED</b>: indicates a deprecated version which may be deleted later.</li></ul> |

| Name    | Type   | Description                                                                                                                                                                                                |
|---------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| updated | String | Indicates the version update time in the "yyyy-mm-dd Thh:mm:ssZ" format.<br><br>T is the separator between the calendar and the hourly notation of time. Z indicates the Coordinated Universal Time (UTC). |

**Table 6-3** links field data structure description

| Name | Type   | Description                                                             |
|------|--------|-------------------------------------------------------------------------|
| href | String | Indicates the API URL and the value is "".                              |
| rel  | String | Its value is <b>self</b> , indicating that <b>href</b> is a local link. |

- Example normal response

```
{
 "versions": [
 {
 "id": "v3",
 "links": [],
 "status": "CURRENT",
 "updated": "2019-01-15T12:00:00Z"
 },
 {
 "id": "v1",
 "links": [],
 "status": "DEPRECATED",
 "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](#).

### 6.1.2 Upgrading a Minor Version

#### Function

This API is used to upgrade minor versions of RDS for MySQL or RDS for PostgreSQL instances.

#### NOTICE

This API will be unavailable on September 14, 2024. You are advised to switch workloads to the new API ([Upgrading the Minor Version of a DB Instance](#)) before then.

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

#### Constraints

This API is supported for MySQL and PostgreSQL DB engines.

The constraints on minor version upgrades for RDS for PostgreSQL are as follows:

- The minor version cannot be upgraded for instances with abnormal nodes.
- The following minor versions cannot be upgraded:
  - Versions earlier than 11.2 for RDS for PostgreSQL 11
  - The upgrade will be performed immediately upon the submission of your request. Delayed upgrade of minor versions is not supported.

#### URI

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

**Table 6-4** Parameter description

| Name        | Mandatory | Description                                                                                                                         |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                                                        |

## Request

Parameter description

**Table 6-5** Parameter description

| Name  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                          |
|-------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| delay | No        | Boolean | <p>Whether to delay the upgrade until the maintenance window.</p> <ul style="list-style-type: none"><li>• <b>true</b>: Delay the upgrade. The instance will be upgraded during the specified maintenance window.</li><li>• <b>false</b>: Upgrade the instance immediately (default value).</li></ul> |

## Example Request

Upgrading the minor version of a DB instance

```
POST https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/
5b409baece064984a1b3eef6addae50cin01/action/db-upgrade
{
 "delay":false
}
```

## Response

- Normal response

**Table 6-6** Parameter description

| Name   | Type   | Description |
|--------|--------|-------------|
| job_id | String | Job ID.     |

- Example normal response  
{  
 "job\_id": "2b414788a6004883a02390e2eb0ea227"  
}
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Code

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

### 6.1.3 Applying a Parameter Template

#### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Applying a Parameter Template](#)) before then.

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

#### Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.

#### URI

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

**Table 6-7** Parameter description

| Name       | Mandatory | Description                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| config_id  | Yes       | Parameter template ID.                                                                                                              |

#### Request

Parameter description

**Table 6-8** Parameter description

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

## Example Request

```
https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/configurations/463b4b58-d0e8-4e2b-9560-5dea4552fde9/apply

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

## Response

- Normal response

**Table 6-9** 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.<br>For details, see <a href="#">Table 6-10</a> .                                                                                                                                                                                                                                                |
| success            | Boolean          | Whether the parameter template is applied to all requested DB instances successfully. <ul style="list-style-type: none"><li><b>true:</b> The parameter template was successfully applied to all requested DB instances.</li><li><b>false:</b> The parameter template failed to be applied to one or more requested DB instances.</li></ul> |
| job_id             | String           | Task ID.                                                                                                                                                                                                                                                                                                                                   |

**Table 6-10** apply\_results field data structure description

| Name          | Type   | Description    |
|---------------|--------|----------------|
| instance_id   | String | Instance ID.   |
| instance_name | String | Instance name. |

| Name             | Type    | Description                                                                                                                                                                                                                  |
|------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restart_required | Boolean | Whether a reboot is required. <ul style="list-style-type: none"> <li>• <b>true</b>: A reboot is required.</li> <li>• <b>false</b>: A reboot is not required.</li> </ul>                                                      |
| success          | Boolean | Whether the parameter template is applied to the DB instance successfully. <ul style="list-style-type: none"> <li>• <b>true</b>: The application was successful.</li> <li>• <b>false</b>: The application failed.</li> </ul> |

- 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](#).

## 6.1.4 Modifying Parameters of a Specified DB Instance

### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Modifying Parameters of a Specified Instance](#)) before then.

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

### Constraints

- The following DB engines are supported: MySQL, PostgreSQL, and Microsoft SQL Server.
- 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*.
- Modifying sensitive parameters, for example, `lower_case_table_names`, is risky. For details, see "[Suggestions on RDS for MySQL Parameter Tuning](#)" in the *Relational Database Service User Guide*.

### URI

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

**Table 6-11** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

### Request

#### Parameter description

**Table 6-12** Parameter description

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

## Request example

- RDS for MySQL

```
https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/configurations

{
 "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 6-13** Parameter description

| Name   | Type   | Description |
|--------|--------|-------------|
| job_id | String | Task ID.    |

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

- 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](#).

### 6.1.5 Restoring Data to an Existing DB Instance

#### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Restoring Data to an Existing DB Instance](#)) before then.

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

## Constraints

- Microsoft SQL Server supports batch calling of this API to restore one database to an existing DB instance.
- 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 target DB instance version must be later than or equal to that of the source instance. For example, MySQL 5.7.25 DB instance can be restored to MySQL 5.7.27 DB instance. For constraints of Microsoft SQL Server, see [Table 6-14](#).
  - For RDS for MySQL, the total storage space of the target DB instance must be greater than or 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.
- When data is restored to an original DB instance:  
This API is supported only for the Microsoft SQL Server DB engine.

**Table 6-14** Restoring to the DB engine versions supported by RDS for SQL Server

| Original DB Engine Version | Restore To                                                           |
|----------------------------|----------------------------------------------------------------------|
| 2008 Standard Edition      | 2008 Standard Edition                                                |
| 2012 Web Edition           | 2012 Web Edition<br>2012 Standard Edition<br>2012 Enterprise Edition |
| 2012 Standard Edition      | 2012 Standard Edition<br>2012 Enterprise Edition                     |
| 2012 Enterprise Edition    | 2012 Enterprise Edition                                              |
| 2014 Standard Edition      | 2014 Standard Edition<br>2014 Enterprise Edition                     |
| 2014 Enterprise Edition    | 2014 Enterprise Edition                                              |
| 2016 Standard Edition      | 2016 Standard Edition<br>2016 Enterprise Edition                     |
| 2016 Enterprise Edition    | 2016 Enterprise Edition                                              |

| Original DB Engine Version | Restore To                                                           |
|----------------------------|----------------------------------------------------------------------|
| 2017 Web Edition           | 2017 Web Edition<br>2017 Standard Edition<br>2017 Enterprise Edition |
| 2017 Standard Edition      | 2017 Standard Edition<br>2017 Enterprise Edition                     |
| 2017 Enterprise Edition    | 2017 Enterprise Edition                                              |

## URI

- URI format  
POST /v3/{project\_id}/instances/recovery
- Parameter description

**Table 6-15** Parameter description

| Name       | Mandatory | Description                                                                                                                                       |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request

Parameter description

**Table 6-16** Parameter description

| Name   | Mandatory | Type   | Description                                                                             |
|--------|-----------|--------|-----------------------------------------------------------------------------------------|
| source | Yes       | Object | Specifies the restoration information.<br>For details, see <a href="#">Table 6-17</a> . |
| target | Yes       | Object | Specifies the restoration target.<br>For details, see <a href="#">Table 6-18</a> .      |

**Table 6-17** source field data structure description

| Name         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id  | Yes       | String  | Specifies the DB instance ID.                                                                                                                                                                                                                                                                                                                                                                      |
| type         | No        | String  | Specifies the restoration mode. Enumerated values include: <ul style="list-style-type: none"><li>● <b>backup</b>: indicates using backup files for restoration. In this mode, <b>type</b> is not mandatory and <b>backup_id</b> is mandatory.</li><li>● <b>timestamp</b>: indicates the point-in-time restoration mode. In this mode, <b>type</b> and <b>restore_time</b> are mandatory.</li></ul> |
| backup_id    | No        | String  | Specifies the ID of the backup used to restore data. This parameter must be specified when the backup file is used for restoration.                                                                                                                                                                                                                                                                |
| restore_time | No        | Integer | Specifies the time point of data restoration in the UNIX timestamp. The unit is millisecond and the time zone is UTC.                                                                                                                                                                                                                                                                              |

| Name          | Mandatory | Type                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|-----------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_name | No        | Map<String, String> | <p>This parameter applies only to the Microsoft SQL Server DB engine.</p> <ul style="list-style-type: none"><li>• If this parameter is specified, you can restore all or specific databases and rename new databases.</li><li>• If this parameter is not specified, all databases are restored by default.</li><li>• You can enter multiple new database names and separate them with commas (,). The new database names can contain but cannot be the same as the original database names.</li><li>• Note the following when you are specifying new database names:<ul style="list-style-type: none"><li>- New database names must be different from the original database names. If they are left blank, the original database names will be used for restoration by default.</li><li>- The case-sensitivity settings of the new databases are the same as those of the original databases. Make sure the new database names are unique.</li><li>- The total number of new and existing databases on the existing or original DB instances where data is restored cannot exceed the database quota specified by <b>rds_databases_quota</b>.</li><li>- New database names cannot contain the following fields (case-insensitive): rdsadmin, master, msdb, tempdb, model, and resource.</li><li>- New database names must consist of 1 to 64 characters, including only letters, digits, underscores (_), and hyphens (-). If you want to restore data to multiple new databases, separate them with commas (,).</li><li>- New database names must be different from any database names on the original DB instance.</li><li>- New database names must be different from any database names on the existing or original DB instances where data is restored.</li></ul></li></ul> |

| Name | Mandatory | Type | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------|-----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |           |      | <p>"database_name": {"Original database name": "New database name"}</p> <p>Correct example: "database_name": {"A": "A,A1,A2", "B": "B1,B2", "C": ""}</p> <p>Wrong example: "database_name": {"A": "A", "B": "B1,B2", "C": "B1,C1", "D": "D1,d1"},</p> <p>Error causes are as follows:</p> <ol style="list-style-type: none"> <li>1. The new database name (A) is the same as the original database name (A).</li> <li>2. The new database name (B1) is not unique.</li> <li>3. When the database name is case insensitive, the database names D1 and d1 conflict.</li> </ol> <ul style="list-style-type: none"> <li>• Exercise caution when restoring data to an existing or original DB instance.</li> </ul> <p><b>NOTICE</b><br/>Before the restoration, make sure that the size of the restored data does not exceed the purchased disk capacity. Expand disk capacity, if necessary.</p> |

**Table 6-18** 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

Use backup files for restoration:

MySQL:

```
https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/recovery
{
 "source": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
 "type": "backup",
 "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
 },
 "target": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01"
 }
}
```

Microsoft SQL Server:

```
{
 "source": {
 "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
 "type": "backup",
 "backup_id": "b021670e69ba4538b7b2ed07257306aebr04",
 "database_name": {
 "db1": "dbtest1",
 "db2": ""
 }
 },
 "target": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04"
 }
}
```

Use PITR for restoration:

MySQL:

```
{
 "source": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01",
 "type": "timestamp",
 "restore_time": 1532001446987
 },
 "target": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf01"
 }
}
```

Microsoft SQL Server:

```
{
 "source": {
 "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
 "type": "timestamp",
 "restore_time": 1532001446987,
 "database_name": {
 "db1": "dbtest1,dbtest2",
 "db2": "db2,db02",
 "db3": ""
 }
 },
 "target": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf04"
 }
}
```

## Response

- Normal response

**Table 6-19** 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](#).

## 6.1.6 Restoring Tables to a Specified Point in Time (RDS for MySQL)

### Function

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

#### NOTICE

This API will be unavailable on September 14, 2024. You are advised to switch workloads to the new API ([Restoring Tables to a Specified Point in Time \(RDS for MySQL\)](#)) before then.

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

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

### Constraints

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

### URI

- URI format  
`POST /v3/{project_id}/instances/{instance_id}/restore/tables`
- Parameter description

**Table 6-20** Parameter description

| Name        | Mandatory | Description                                                                                                                                                 |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <p>Specifies the project ID of a tenant in a region.</p> <p>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a>.</p> |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                               |

## Request

Parameter description

**Table 6-21** Parameter description

| Name            | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restoreTime     | Yes       | Long             | Backup time point.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| restoreTables   | Yes       | Array of objects | Database information. For details, see <a href="#">Table 6-22</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| is_fast_restore | No        | Boolean          | <p>Whether to use fast restoration. The value can be <b>true</b> or <b>false</b>.</p> <ul style="list-style-type: none"> <li>To set this parameter, check whether fast restoration is supported by referring to <a href="#">Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)</a>. If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to <b>false</b> to prevent data loss.</li> <li>If this parameter is not specified, the system determines whether to use fast restoration based on the query result of <a href="#">Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)</a>. If fast restoration is supported, but there are XA transactions in the DB instance, set this parameter to <b>false</b>.</li> </ul> |

**Table 6-22** restoreTables field data structure description

| Name     | Mandatory | Type             | Description                                                                       |
|----------|-----------|------------------|-----------------------------------------------------------------------------------|
| database | Yes       | String           | Specifies the database name.                                                      |
| tables   | Yes       | Array of objects | Specifies the table information.<br>For details, see <a href="#">Table 6-23</a> . |

**Table 6-23** tables field data structure description

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

## Example Request

Restoring table data to a specific point in time

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/restore/tables
```

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

## Response

- Normal response

**Table 6-24** Response body parameters

| Name  | Type   | Description            |
|-------|--------|------------------------|
| jobId | String | Indicates the task ID. |

- Example normal response

```
{ "jobId":"7b55d6ca-dc8e-4844-a9da-6c53a1506db3"}
```
- Abnormal response  
For details, see [Abnormal Request Results](#).

## Status Code

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

## Error Code

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

### 6.1.7 Querying Database Error Logs

#### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Querying Database Error Logs \(MySQL\)](#)) before then.

- 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 6-25** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the ID of the queried DB instance.                                                                                                      |

| Name       | Mandatory | Description                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_date | Yes       | <p>Specifies the start 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, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>.</p>                                                              |
| end_date   | Yes       | <p>Specifies the end 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, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>.</p> <p>You can only query error logs generated within a month.</p> |
| offset     | No        | <p>Specifies the page offset, such as 1, 2, 3, or 4. The parameter value is <b>1</b> by default if it is not specified.</p>                                                                                                                                                                                                                |
| limit      | No        | <p>Specifies the number of records on each page. Its value range is from 1 to 100. The parameter value is <b>10</b> by default if it is not specified.</p>                                                                                                                                                                                 |
| level      | No        | <p>Specifies the log level. The default value is <b>ALL</b>. Valid value:</p> <ul style="list-style-type: none"> <li>• ALL</li> <li>• INFO</li> <li>• LOG</li> <li>• WARNING</li> <li>• ERROR</li> <li>• FATAL</li> <li>• PANIC</li> <li>• NOTE</li> </ul>                                                                                 |

## Request

- Request parameters
  - None
- URI example
 

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

## Response

- Normal response

**Table 6-26** Parameter description

| Name           | Type             | Description                                                                      |
|----------------|------------------|----------------------------------------------------------------------------------|
| error_log_list | Array of objects | Indicates detailed information.<br>For details, see <a href="#">Table 6-27</a> . |
| total_record   | Integer          | Indicates the total number of records.                                           |

**Table 6-27** 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](#).

## 6.1.8 Querying Database Slow Logs (RDS for MySQL)

### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Querying Database Slow Logs \(MySQL\)](#)) before then.

- 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 6-28** Parameter description

| Name        | Mandatory | Description                                                                                                                                                                                                                                                                       |
|-------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                 |
| 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.<br><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b> . |

| Name     | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| end_date | Yes       | <p>Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format.</p> <p><b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as <b>+0800</b>. You can only query slow logs generated within a month.</p>                                                                                                                                                        |
| offset   | No        | <p>Specifies the page offset, for example, <b>1</b>, <b>2</b>, <b>3</b>, or <b>4</b>. If this parameter is not specified, the default value is <b>1</b>, indicating that data on the first page is queried.</p> <p>The latest 2,000 slow query logs can be queried. The value of <b>offset</b> multiplied by the value of <b>limit</b> must be no more than 2,000. For example, if the value of <b>offset</b> is set to <b>200</b>, and the value of <b>limit</b> cannot be greater than <b>10</b>.</p> |
| limit    | No        | <p>Specifies the number of records on each page. Its value range is from 1 to 100. The parameter value is <b>10</b> by default if it is not specified.</p>                                                                                                                                                                                                                                                                                                                                              |
| type     | No        | <p>Specifies the statement type. If it is left blank, all statement types are queried.</p> <p>Valid value:</p> <ul style="list-style-type: none"><li>• INSERT</li><li>• UPDATE</li><li>• SELECT</li><li>• DELETE</li><li>• CREATE</li></ul>                                                                                                                                                                                                                                                             |

## Request

- Request parameters

None

- URI example

GET [https://\[endpoint\]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog?offset=1&limit=10&start\\_date=2018-08-06T10:41:14+0800&end\\_date=2018-08-07T10:41:14+0800&type=INSERT](https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog?offset=1&limit=10&start_date=2018-08-06T10:41:14+0800&end_date=2018-08-07T10:41:14+0800&type=INSERT)

## Response

- Normal response

**Table 6-29** Parameter description

| Name          | Type             | Description                                                                      |
|---------------|------------------|----------------------------------------------------------------------------------|
| slow_log_list | Array of objects | Indicates detailed information.<br>For details, see <a href="#">Table 6-30</a> . |
| total_record  | Integer          | Indicates the total number of records.                                           |

**Table 6-30** 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. By default, slow query logs are anonymized. To display them in plaintext, contact customer service to add a whitelist. |
| 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](#).

### 6.1.9 Deleting a Database (RDS for SQL Server)

#### Function

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

---

#### NOTICE

This API will be unavailable on March 31, 2024. You are advised to switch workloads to the new API ([Deleting a Database \(RDS for SQL Server\)](#)) before then.

---

- 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, frozen, or abnormal.

#### URI

- URI format  
`DELETE /v3/{project_id}/instances/{instance_id}/database/{db_name}`
- Parameter description

**Table 6-31** 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 <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                  |
| db_name     | Yes       | Specifies the name of the database to be deleted.                                                                                              |

## Request

Parameter description

**Table 6-32** Parameter description

| Name            | Mandatory | Type    | Description                                                                          |
|-----------------|-----------|---------|--------------------------------------------------------------------------------------|
| is_force_delete | No        | Boolean | Specifies whether to forcibly delete a database. The default value is <b>false</b> . |

## Example Request

```
https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/database/rds-test

{
 "is_force_delete" : false
}
```

## Response

- Normal response

**Table 6-33** Parameter description

| Name | Type   | Description                                              |
|------|--------|----------------------------------------------------------|
| resp | String | Returns <b>successful</b> 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](#).

### 6.1.10 Shrinking Database Logs (Not Recommended)

#### Function

This API is used to shrink database logs of an RDS for SQL Server instance.

#### NOTICE

This API will be unavailable on December 30, 2024. You are advised to switch workloads to the new API ([Shrinking Database Logs](#)) before then.

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

#### URI

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

**Table 6-34** Parameters

| Parameter   | Mandatory | Description                                                                                            |
|-------------|-----------|--------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>To obtain it, refer to <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Instance ID.                                                                                           |

## Request

**Table 6-35** Parameters

| Parameter | Mandatory | Type   | Description    |
|-----------|-----------|--------|----------------|
| db_name   | Yes       | String | Database name. |

## Example Request

Shrinking database logs

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/161e33e453954e21acfff65bfa3dbfebin04/db_shrink
{
 "db_name": "test1"
}
```

## Response

- Normal response

**Table 6-36** Parameters

| Parameter | Type   | Description                                                                                              |
|-----------|--------|----------------------------------------------------------------------------------------------------------|
| resp      | String | Returns <b>successful</b> if the invoking is successful, or returns <b>failed</b> if the invoking fails. |

- 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](#).

## 6.1.11 Database Proxy (PostgreSQL)

### 6.1.11.1 Enabling Database Proxy

#### Function

This API is used to enable database proxy for a specified DB instance.

#### NOTICE

This API will be unavailable on March 31, 2024.

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

#### Constraints

- To use database proxy, contact customer service to apply for the required permissions.
- Only RDS for PostgreSQL 11 and 12 are supported.
- DB instances must be deployed in primary/standby mode, and at least one read replica is available.

#### URI

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

**Table 6-37** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

#### Request

Parameter description

**Table 6-38** Parameter description

| Name      | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| flavor_id | No        | String | Flavor ID.  |

| Name     | Mandatory | Type    | Description                                                                      |
|----------|-----------|---------|----------------------------------------------------------------------------------|
| node_num | No        | Integer | Number of nodes.<br>This parameter can be only set to 2 if it is not left blank. |

## Example Request

```
https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy
{
 "flavor_id": "rds.pg.proxy.c6.large.2.ha",
 "node_num": 2
}
```

## Response

- Normal response

**Table 6-39** Parameter description

| Name        | Type   | Description                |
|-------------|--------|----------------------------|
| workflow_id | String | Indicates the workflow ID. |

- Example normal response

```
{
 "workflow_id": "e7a7535b-eb9b-45ac-a83a-020dc5016d94"
}
```
- 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](#).

### 6.1.11.2 Disabling Database Proxy

#### Function

This API is used to disable database proxy for a specified DB instance.

### NOTICE

This API will be unavailable on March 31, 2024.

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

## Constraints

- Only RDS for PostgreSQL 11 and 12 are supported.
- Database proxy of DB instance has been enabled.

## URI

- URI format  
`DELETE /v3/{project_id}/instances/{instance_id}/proxy`
- Example  
`https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy`
- Parameter description

**Table 6-40** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

None

## Response

- Normal response

**Table 6-41** Parameter description

| Name        | Type   | Description                |
|-------------|--------|----------------------------|
| workflow_id | String | Indicates the workflow ID. |

- Example normal response

```
{
 "workflow_id": "e7a7535b-eb9b-45ac-a83a-020dc5016d94"
}
```

- 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](#).

### 6.1.11.3 Querying Information About Database Proxy

#### Function

This API is used to query information about the database proxy of a specified DB instance.

---

#### NOTICE

This API will be unavailable on March 31, 2024.

---

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

#### Constraints

- Only PostgreSQL 11 and PostgreSQL 12 are supported.
- A database proxy must have been enabled for the DB instance.

#### URI

- URI format  
GET /v3/{*project\_id*}/instances/{*instance\_id*}/proxy
- Example  
[https://\[endpoint\]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy](https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy)
- Parameter description

**Table 6-42** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

None

## Response

- Normal response

**Table 6-43** Parameter description

| Name               | Type             | Description                                                                                |
|--------------------|------------------|--------------------------------------------------------------------------------------------|
| proxy              | Object           | Indicates the proxy instance information.<br>For details, see <a href="#">Table 6-44</a> . |
| master_instance    | Object           | Indicates the primary instance information.<br>For details, see <a href="#">Table 6-45</a> |
| readonly_instances | Array of objects | Indicates read replica information.<br>For details, see <a href="#">Table 6-46</a> .       |

**Table 6-44** proxy element data structure description

| Name    | Type   | Description                      |
|---------|--------|----------------------------------|
| pool_id | String | Indicates the proxy instance ID. |

| Name                          | Type             | Description                                                                                                                                                                                                                                                                                                   |
|-------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status                        | String           | Indicates whether the proxy instance is enabled. The value can be any of the following: <ul style="list-style-type: none"><li>• <b>open</b></li><li>• <b>closed</b></li><li>• <b>frozen</b></li><li>• <b>opening</b></li><li>• <b>closing</b></li><li>• <b>freezing</b></li><li>• <b>unfreezing</b></li></ul> |
| address                       | String           | Indicates the proxy read/write splitting address.                                                                                                                                                                                                                                                             |
| elb_vip                       | String           | Indicates the virtual IP address in ELB mode.                                                                                                                                                                                                                                                                 |
| eip                           | String           | Indicates the EIP.                                                                                                                                                                                                                                                                                            |
| port                          | Integer          | Indicates the proxy port.                                                                                                                                                                                                                                                                                     |
| pool_status                   | String           | Indicates the proxy instance status. The value can be any of the following: <ul style="list-style-type: none"><li>• <b>abnormal</b></li><li>• <b>normal</b></li><li>• <b>creating</b></li><li>• <b>deleted</b></li></ul>                                                                                      |
| delay_threshold_in_kilo_bytes | Integer          | Indicates the delay threshold (KB).                                                                                                                                                                                                                                                                           |
| cpu                           | String           | Indicates the number of CPUs of a proxy instance.                                                                                                                                                                                                                                                             |
| mem                           | String           | Indicates the memory of a proxy instance.                                                                                                                                                                                                                                                                     |
| node_num                      | Integer          | Indicates the number of a proxy node.                                                                                                                                                                                                                                                                         |
| nodes                         | Array of objects | Indicates the proxy node information.<br>For details, see <a href="#">Table 6-47</a> .                                                                                                                                                                                                                        |
| mode                          | String           | Indicates the proxy in the primary/standby mode. The value can be <b>Ha</b> .                                                                                                                                                                                                                                 |

**Table 6-45** master\_instance element data structure description

| Name            | Type             | Description                                                                    |
|-----------------|------------------|--------------------------------------------------------------------------------|
| id              | String           | Indicates the primary DB instance ID.                                          |
| status          | String           | Indicates the primary DB instance status.                                      |
| name            | String           | Indicates the primary DB instance name.                                        |
| weight          | Integer          | Indicates the read weight of a primary DB instance.                            |
| available_zones | Array of objects | Indicates the AZ information.<br>For details, see <a href="#">Table 6-48</a> . |
| cpu_num         | Integer          | Indicates the number of CPUs of a primary DB instance.                         |

**Table 6-46** readonly\_instances element data structure description

| Name            | Type             | Description                                                                    |
|-----------------|------------------|--------------------------------------------------------------------------------|
| id              | String           | Indicates the read replica ID.                                                 |
| status          | String           | Indicates the read replica status.                                             |
| name            | String           | Indicates the read replica name.                                               |
| weight          | Integer          | Indicates the read weight of a read replica.                                   |
| available_zones | Array of objects | Indicates the AZ information.<br>For details, see <a href="#">Table 6-48</a> . |
| cpu_num         | Integer          | Indicates the number of CPUs of a read replica.                                |

**Table 6-47** nodes element data structure description

| Name | Type   | Description                    |
|------|--------|--------------------------------|
| id   | String | Indicates the proxy node ID.   |
| name | String | Indicates the proxy node name. |

| Name        | Type    | Description                                                                                                                                                                                                               |
|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| role        | String  | Indicates the proxy node role. The value can be either of the following: <ul style="list-style-type: none"> <li>• <b>master</b></li> <li>• <b>slave</b></li> </ul>                                                        |
| az_code     | String  | Indicates the AZ.                                                                                                                                                                                                         |
| status      | String  | Indicates the proxy node status. The value can be any of the following: <ul style="list-style-type: none"> <li>• <b>normal</b></li> <li>• <b>abnormal</b></li> <li>• <b>creating</b></li> <li>• <b>deleted</b></li> </ul> |
| frozen_flag | Integer | Indicates whether the proxy node is frozen. <ul style="list-style-type: none"> <li>• <b>0:</b> unfrozen.</li> <li>• <b>1:</b> frozen</li> <li>• <b>2:</b> deleted after being frozen.</li> </ul>                          |

**Table 6-48** available\_zones element data structure description

| Name        | Type   | Description                   |
|-------------|--------|-------------------------------|
| code        | String | Indicates the AZ code.        |
| description | String | Indicates the AZ description. |

- Example normal response

```
{
 "proxy": {
 "pool_id": "c6ee492784b640e694f1da0201cd82c8po03",
 "status": "open",
 "address": "192.168.0.60",
 "elb_vip": null,
 "eip": null,
 "port": 3306,
 "pool_status": "normal",
 "delay_threshold_in_kilobytes": 30,
 "cpu": "4",
 "mem": "8",
 "node_num": 2,
 "nodes": [
 {
 "id": "4fb00607cffd42dc9583ca09863df93cpn03",
 "name": "PROXY-c6ee492784b640e694f1da0201cd82c8po03_1",
 "role": "slave",
 "az_code": "az1xahz",
 "status": "normal",
 }
]
 }
}
```

```
 "frozen_flag":0
 },
 {
 "id":"191f3164f918463bb6aedeb6ba742920pn03",
 "name":"PROXY-c6ee492784b640e694f1da0201cd82c8po03_0",
 "role":"master",
 "az_code":"az1xahz",
 "status":"normal",
 "frozen_flag":0
 }
],
"mode":"Ha"
},
"master_instance":{
 "id":"49fcbb94435c4d89930e91dcf5884909in03",
 "status":"normal",
 "name":"proxy-hwt-0922-3",
 "weight":0,
 "available_zones":[
 {
 "code":"az1xahz",
 "description":"AZ 1"
 }
],
 "cpu_num":8
},
"readonly_instances":[
 {
 "id":"83251d1398594b9fbfc8f1ab8b8228b2in03",
 "status":"normal",
 "name":"replica-a392",
 "weight":100,
 "available_zones":[
 {
 "code":"az1xahz",
 "description":"AZ 1"
 }
],
 "cpu_num":4
 }
]
}
```

- 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](#).

### 6.1.11.4 Modifying Read Weight

#### Function

This API is used to modify the read weight of a specified DB instance.

### NOTICE

This API will be unavailable on March 31, 2024.

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

## Constraints

- Only RDS for PostgreSQL 11 and 12 are supported.
- The database proxy of DB instances has been enabled.

## URI

- URI format  
`PUT /v3/{project_id}/instances/{instance_id}/proxy/weight`
- Parameter description

**Table 6-49** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

## Request

Parameter description

**Table 6-50** Parameter description

| Name               | Mandatory | Type             | Description                                                                                    |
|--------------------|-----------|------------------|------------------------------------------------------------------------------------------------|
| master_weight      | Yes       | String           | Specifies the weight distributed to the primary DB instance. It can be a value from 0 to 1000. |
| readonly_instances | Yes       | Array of objects | Specifies the read replica information.<br>For details, see <a href="#">Table 6-51</a> .       |

**Table 6-51** readonly\_instances field data structure description

| Name   | Mandatory | Type    | Description                                                                           |
|--------|-----------|---------|---------------------------------------------------------------------------------------|
| id     | Yes       | String  | Specifies the read replica ID.                                                        |
| weight | Yes       | Integer | Specifies the weight distributed to a read replica. It can be a value from 0 to 1000. |

## Example Request

```
https://{{endpoint}}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy/weight

{
 "master_weight": "0",
 "readonly_instances": [
 {
 "id": "83251d1398594b9fbfc8f1ab8b8228b2in03",
 "weight": 100
 }
]
}
```

## Response

- Normal response

**Table 6-52** Parameter description

| Name   | Type   | Description                                       |
|--------|--------|---------------------------------------------------|
| result | String | Indicates the modified result of the read weight. |

- 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](#).

### 6.1.11.5 Changing the Delay Threshold of Read/Write Splitting

#### Function

This API is used to modify the delay threshold of read/write splitting in a specified DB instance.

#### NOTICE

This API will be unavailable on March 31, 2024.

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

#### Constraints

- Only RDS for PostgreSQL 11 and 12 are supported.
- The database proxy of DB instance has been enabled.

#### URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/proxy/delay-threshold
- Parameter description

**Table 6-53** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

#### Request

Parameter description

**Table 6-54** Parameter description

| Name                         | Mandatory | Type    | Description                                                                |
|------------------------------|-----------|---------|----------------------------------------------------------------------------|
| delay_threshold_in_kilobytes | Yes       | Integer | Specifies the delay threshold in KB. It can be a value from 0 to 10485760. |

## Example Request

```
https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy/delay-threshold
{
 "delay_threshold_in_kilobytes":30
}
```

## Response

- Normal response

**Table 6-55** Parameter description

| Name   | Type   | Description                                                                   |
|--------|--------|-------------------------------------------------------------------------------|
| result | String | Indicates the modified result of the delay threshold of read/write splitting. |

- 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](#).

### 6.1.11.6 Changing the Instance Class of a DB Proxy Instance

#### Function

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

#### NOTICE

This API will be unavailable on March 31, 2024.

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

#### Constraints

- You need to contact customer service to apply for the required permissions.
- This API is supported only for RDS for PostgreSQL 11 and 12.
- The database proxy must have been enabled for the DB instance.

#### URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/proxy/scale
- Parameter description

**Table 6-56** Parameter description

| Name        | Mandatory | Description                                                                                                                                       |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> . |
| instance_id | Yes       | Specifies the DB instance ID.                                                                                                                     |

#### Request

Parameter description

**Table 6-57** Parameter description

| Name       | Mandatory | Type   | Description                         |
|------------|-----------|--------|-------------------------------------|
| flavor_ref | Yes       | String | Specifies the ID of the new flavor. |

| Name  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                  |
|-------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| delay | Yes       | Boolean | <p>Specifies whether to delay the change.</p> <ul style="list-style-type: none"><li>• <b>true</b>: indicates that the change is delayed. It will be automatically performed in the maintenance window.</li><li>• <b>false</b>: indicates that the change is performed immediately.</li></ul> |

## Example Request

```
https://[endpoint]/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy/scale
{
 "flavor_ref" : "rds.pg.proxy.c6.xlarge.2.ha",
 "delay" : false
}
```

## Response

- Normal response

**Table 6-58** Parameter description

| Name   | Type   | Description           |
|--------|--------|-----------------------|
| job_id | String | Indicates the job ID. |

- Example normal response

```
{
 "job_id" : "e7a7535b-eb9b-45ac-a83a-020dc5016d94"
}
```

- Abnormal response

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

### 6.1.11.7 Querying Available Instance Classes for a DB Proxy Instance (v3.1)

#### Function

This API is used to query available instance classes for a DB proxy instance.

#### NOTICE

This API will be unavailable on March 31, 2024.

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

## Constraints

- You need to contact customer service to apply for the required permissions.
- This API is supported only for RDS for PostgreSQL 11 and 12.
- Database proxy has been enabled for the DB instance.

## URI

- URI format
  - GET /v3/{project\_id}/instances/{instance\_id}/proxy/scale/flavors
  - GET /v3.1/{project\_id}/instances/{instance\_id}/proxy/scale/flavors
- Example
  - `https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/proxy/scale/flavors`
- Parameter description

**Table 6-59** Parameter description

| Name        | Mandatory | Description                                                                                                                                                                                                                                              |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                      |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                             |
| offset      | No        | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N+1</i> piece of data. The value is <b>0</b> by default, indicating that the query starts from the first piece of data. The value cannot be a negative number. |
| limit       | No        | Number of records to be queried. The default value is <b>100</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                            |

## Request

None

## Response

- Normal response

**Table 6-60** Parameter description

| Name                  | Type             | Description                                                                   |
|-----------------------|------------------|-------------------------------------------------------------------------------|
| compute_flavor_groups | Array of objects | Compute flavor list objects.<br>For details, see <a href="#">Table 6-61</a> . |

**Table 6-61** compute\_flavor\_groups element data structure description

| Name            | Type             | Description                                                                                                        |
|-----------------|------------------|--------------------------------------------------------------------------------------------------------------------|
| group_type      | String           | Group type <ul style="list-style-type: none"><li>• X86: x86 architecture</li><li>• ARM: Arm architecture</li></ul> |
| compute_flavors | Array of objects | Compute flavor information<br>For details, see <a href="#">Table 6-62</a> .                                        |

**Table 6-62** ScaleFlavors element data structure description

| Name | Type   | Description        |
|------|--------|--------------------|
| code | String | Specification code |
| cpu  | String | Number of vCPUs    |
| mem  | String | Memory size in GB  |

- Example normal response

```
{
 "compute_flavor_groups" : {
 "group_type" : "X86",
 "compute_flavors" : {
 "code" : "rds.pg.proxy.c6.large.2.ha",
 "cpu" : 2,
 "mem" : 4
 }
 }
}
```

- Abnormal response

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

# 7

# Permissions and Supported Actions

## 7.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of your RDS. If your Huawei account does not need individual IAM users, you can skip this section.

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

You can grant users permissions using **roles** and **policies**. Roles are provided by IAM to define service-based permissions that match users' job responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

### NOTE

If you want to allow or deny the access to an API, use policy-based authorization.

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query RDS DB instances using an API, the user must have been granted permissions that allow the **rds:instance:list** action.

## Supported Actions

RDS provides system-defined policies that can be directly used in IAM. You can also create custom policies to supplement system-defined policies for more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: statements in a policy that allow or deny certain operations
- APIs: REST APIs that can be called by a user who has been granted specific permissions

- Actions: specific operations that are allowed or denied
- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- IAM projects/Enterprise projects: the authorization scope of a custom policy. A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions for both IAM and enterprise projects can be used and applied for both IAM and Enterprise Management. Policies that contain actions only for IAM projects can be used and applied to IAM only. For details about the differences between IAM and enterprise management, see [Differences Between IAM and Enterprise Management](#).

 NOTE

The check mark (✓) indicates that an action takes effect. The cross mark (✗) indicates that an action does not take effect.

## 7.2 RDS Actions

**Table 7-1** Common query actions

| Permission                       | API                                                                           | Action             | IAM Project | Enterprise Project |
|----------------------------------|-------------------------------------------------------------------------------|--------------------|-------------|--------------------|
| Querying the DB engine version   | GET /v3/{projectId}/datastores/{database_name}                                | No action required | ✓           | ✓                  |
| Querying database specifications | GET /v3/{project_id}/flavors/{database_name}?version_name={version_name}      | No action required | ✓           | ✓                  |
| Querying the storage type        | GET /v3/{project_id}/storage-type/{database_name}?version_name={version_name} | No action required | ✓           | ✓                  |

**Table 7-2** Instance management actions

| Permission                          | API                                                                                 | Action                                                                                                                              | IAM Project | Enterprise Project |
|-------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|
| Creating a DB instance              | POST /v3/{project_id}/instances                                                     | rds:instance:create<br>(To create an encrypted DB instance, you need to configure the KMS Administrator permission in the project.) | ✓           | ✓                  |
| Changing a DB instance name         | PUT https:// <i>{Endpoint}</i> /v3/{project_id}/instances/{instance_id}/name        | rds:instance:modify                                                                                                                 | ✓           | ✓                  |
| Changing a DB instance description  | PUT https:// <i>{Endpoint}</i> /v3/{project_id}/instances/{instance_id}/alias       | rds:instance:modify                                                                                                                 | ✓           | ✓                  |
| Applying for a private domain name  | POST https:// <i>{Endpoint}</i> /v3/{project_id}/instances/{instance_id}/create-dns | rds:instance:createDns                                                                                                              | ✓           | ✓                  |
| Modifying a private domain name     | PUT https:// <i>{Endpoint}</i> /v3/{project_id}/instances/{instance_id}/modify-dns  | rds:instance:modifyDns                                                                                                              | ✓           | ✓                  |
| Changing DB instance specifications | POST /v3/{project_id}/instances/{instance_id}/action                                | rds:instance:modifySpec                                                                                                             | ✓           | ✓                  |

| Permission                                                       | API                                                    | Action                                                                                                                             | IAM Project | Enterprise Project |
|------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|
| Scaling up storage space                                         | POST /v3/{project_id}/instances/{instance_id}/action   | rds:instance:extendspace                                                                                                           | ✓           | ✓                  |
| Changing a DB instance type from single to primary/standby       | POST /v3/{project_id}/instances/{instance_id}/action   | rds:instance:singleToHa<br>(The KMS Administrator permission needs to be configured for the encrypted DB instance in the project.) | ✓           | ✓                  |
| Rebooting a DB instance                                          | POST /v3/{project_id}/instances/{instance_id}/action   | rds:instance:restart                                                                                                               | ✓           | ✓                  |
| Deleting a DB instance                                           | DELETE /v3/{project_id}/instances/{instance_id}        | rds:instance:delete                                                                                                                | ✓           | ✓                  |
| Querying DB instances                                            | GET /v3/{project_id}/instances                         | rds:instance:list                                                                                                                  | ✓           | ✓                  |
| Querying DB instances for which cross-region backups are created | GET /v3/{project_id}/backups/offsite-backup-instance   | rds:instance:list                                                                                                                  | ✓           | ✓                  |
| Binding or unbinding an EIP                                      | PUT /v3/{project_id}/instances/{instance_id}/public-ip | rds:instance:modifyPublicAccess                                                                                                    | ✓           | ✓                  |
| Changing a DB instance password                                  | PUT /v3/{project_id}/instances/{instance_id}/password  | rds:password:update                                                                                                                | ✓           | ✓                  |

| Permission                                      | API                                                            | Action                             | IAM Project | Enterprise Project |
|-------------------------------------------------|----------------------------------------------------------------|------------------------------------|-------------|--------------------|
| Performing a manual switchover                  | PUT /v3/{project_id}/instances/{instance_id}/failover          | rds:instance:switchover            | ✓           | ✓                  |
| Changing a failover priority                    | PUT /v3/{project_id}/instances/{instance_id}/failover/strategy | rds:instance:modifyStrategy        | ✓           | ✓                  |
| Changing a replication mode                     | PUT /v3/{project_id}/instances/{instance_id}/failover/mode     | rds:instance:modifySyncronizeModel | ✓           | ✓                  |
| Changing a maintenance window                   | PUT /v3/{project_id}/instances/{instance_id}/ops-window        | rds:instance:modify                | ✓           | ✓                  |
| Migrating the standby DB instance to another AZ | POST /v3/{project_id}/instances/{instance_id}/migrateslave     | rds:instance:create                | ✓           | ✓                  |

**Table 7-3** Database security actions

| Permission                     | API                                               | Action                  | IAM Project | Enterprise Project |
|--------------------------------|---------------------------------------------------|-------------------------|-------------|--------------------|
| Configuring SSL                | PUT /v3/{project_id}/instances/{instance_id}/ssl  | rds:instance:modifySSL  | ✓           | ✓                  |
| Changing a database port       | PUT /v3/{project_id}/instances/{instance_id}/port | rds:instance:modifyPort | ✓           | ✓                  |
| Changing a floating IP address | PUT /v3/{project_id}/instances/{instance_id}/ip   | rds:instance:modifyIp   | ✓           | ✓                  |

| Permission                | API                                                         | Action                           | IAM Project | Enterprise Project |
|---------------------------|-------------------------------------------------------------|----------------------------------|-------------|--------------------|
| Changing a security group | PUT /v3/{project_id}/instances/{instance_id}/security-group | rds:instance:modifySecurityGroup | ✓           | ✓                  |

**Table 7-4** Parameter configuration actions

| Permission                                                  | API                                                         | Action           | IAM Project | Enterprise Project |
|-------------------------------------------------------------|-------------------------------------------------------------|------------------|-------------|--------------------|
| Obtaining parameter templates                               | GET /v3/{project_id}/configurations                         | rds:param:list   | ✓           | ✓                  |
| Creating a parameter template                               | POST /v3/{project_id}/configurations                        | rds:param:create | ✓           | ✓                  |
| Modifying parameters in a parameter template                | PUT /v3/{project_id}/configurations/{config_id}             | rds:param:modify | ✓           | ✓                  |
| Applying a parameter template                               | PUT /v3/{project_id}/configurations/{config_id}/apply       | rds:param:apply  | ✓           | ✓                  |
| Modifying parameters of a specified DB instance             | PUT /v3/{project_id}/instances/{instance_id}/configurations | rds:param:modify | ✓           | ✓                  |
| Obtaining the parameter template of a specified DB instance | GET /v3/{project_id}/instances/{instance_id}/configurations | rds:param:list   | ✓           | ✓                  |

| Permission                                             | API                                                | Action           | IAM Project | Enterprise Project |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|--------------------|
| Obtaining parameters of a specified parameter template | GET /v3/{project_id}/configurations/{config_id}    | rds:param:list   | ✓           | ✓                  |
| Deleting a parameter template                          | DELETE /v3/{project_id}/configurations/{config_id} | rds:param:delete | ✓           | ✓                  |

**Table 7-5** Backup and restoration actions

| Permission                               | API                                                                 | Action                          | IAM Project | Enterprise Project |
|------------------------------------------|---------------------------------------------------------------------|---------------------------------|-------------|--------------------|
| Configuring an automated backup policy   | PUT /v3/{project_id}/instances/{instance_id}/backups/policy         | rds:instance:modifyBackupPolicy | ✓           | ✓                  |
| Configuring a cross-region backup policy | PUT /v3/{project_id}/instances/{instance_id}/backups/offsite-policy | rds:instance:modifyBackupPolicy | ✓           | ✓                  |
| Querying an automated backup policy      | GET /v3/{project_id}/instances/{instance_id}/backups/policy         | rds:instance:list               | ✓           | ✓                  |
| Querying a cross-region backup policy    | GET /v3/{project_id}/instances/{instance_id}/backups/offsite-policy | rds:instance:list               | ✓           | ✓                  |
| Creating a manual backup                 | POST /v3/{project_id}/backups                                       | rds:backup:create               | ✓           | ✓                  |

| Permission                                                   | API                                                               | Action                                                                                                                         | IAM Project | Enterprise Project |
|--------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------|
| Obtaining backups                                            | GET /v3/{project_id}/backups?instance_id={instance_id}            | rds:backup:list                                                                                                                | ✓           | ✓                  |
| Querying cross-region backups                                | GET /v3/{project_id}/offsite-backups?instance_id={instance_id}    | rds:backup:list                                                                                                                | ✓           | ✓                  |
| Obtaining the link for downloading a backup                  | GET /v3/{project_id}/backup-files?backup_id={backup_id}           | rds:backup:download                                                                                                            | ✓           | ✓                  |
| Deleting a manual backup                                     | DELETE /v3/{project_id}/backups/{backup_id}                       | rds:backup:delete                                                                                                              | ✓           | ✓                  |
| Querying the restoration time range                          | GET /v3/{project_id}/instances/{instance_id}/restore-time         | rds:instance:list                                                                                                              | ✓           | ✓                  |
| Querying the restoration time range of a cross-region backup | GET /v3/{project_id}/instances/{instance_id}/offsite-restore-time | rds:instance:list                                                                                                              | ✓           | ✓                  |
| Restoring data to a new DB instance                          | POST /v3/{project_id}/instances                                   | rds:instance:create<br>(The KMS Administrator permission needs to be configured for the encrypted DB instance in the project.) | ✓           | ✓                  |

| Permission                                            | API                                      | Action                      | IAM Project | Enterprise Project |
|-------------------------------------------------------|------------------------------------------|-----------------------------|-------------|--------------------|
| Restoring data to an existing or original DB instance | POST /v3/{project_id}/instances/recovery | rds:instance:restoreInPlace | ✓           | ✓                  |

**Table 7-6 Log query actions**

| Permission                         | API                                                                                                   | Action               | IAM Project | Enterprise Project |
|------------------------------------|-------------------------------------------------------------------------------------------------------|----------------------|-------------|--------------------|
| Querying error logs                | GET /v3/{project_id}/instances/{instance_id}/errorlog?<br>start_date={start_date}&end_date={end_date} | rds:log:list         | ✓           | ✓                  |
| Querying slow query logs           | GET /v3/{project_id}/instances/{instance_id}/slowlog?<br>start_date={start_date}&end_date={end_date}  | rds:log:list         | ✓           | ✓                  |
| Setting a policy for audit logs    | PUT /v3/{project_id}/instances/{instance_id}/auditlog-policy                                          | rds:auditlog:operate | ✓           | ✓                  |
| Querying the policy for audit logs | GET /v3/{project_id}/instances/{instance_id}/auditlog-policy                                          | rds:auditlog:list    | ✓           | ✓                  |

| Permission                                          | API                                                                                                                                 | Action                | IAM Project | Enterprise Project |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|--------------------|
| Obtaining audit logs                                | GET /v3/{project_id}/instances/{instance_id}/auditlog?<br>start_time={start_time}&end_time={end_time}&offset={offset}&limit={limit} | rds:auditlog:list     | ✓           | ✓                  |
| Obtaining the link for downloading an audit log     | POST /v3/{project_id}/instances/{instance_id}/auditlog-links                                                                        | rds:auditlog:download | ✓           | ✓                  |
| Obtaining the link for downloading a slow query log | POST /v3/{project_id}/instances/{instance_id}/slowlog-download                                                                      | rds:log:download      | ✓           | ✓                  |
| Obtaining the local retention period of binlogs     | GET /v3/{project_id}/instances/{instance_id}/binlog/clear-policy                                                                    | rds:binlog:get        | ✓           | ✓                  |
| Setting the local retention period of binlogs       | PUT /v3/{project_id}/instances/{instance_id}/binlog/clear-policy                                                                    | rds:binlog:setPolicy  | ✓           | ✓                  |

**Table 7-7** Database and account management actions (RDS for MySQL)

| Permission          | API                                                    | Action              | IAM Project | Enterprise Project |
|---------------------|--------------------------------------------------------|---------------------|-------------|--------------------|
| Creating a database | POST /v3/{project_id}/instances/{instance_id}/database | rds:database:create | ✓           | ✓                  |

| Permission                                           | API                                                                                                               | Action                  | IAM Project | Enterprise Project |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------|-------------|--------------------|
| Querying databases                                   | GET /v3/{project_id}/instances/{instance_id}/database/detail?<br>page={page}&limit={limit}                        | rds:database:list       | ✓           | ✓                  |
| Querying authorized databases of a specified account | GET /v3/{project_id}/instances/{instance_id}/db_user/database?<br>user-name={user-name}&page={page}&limit={limit} | rds:database:list       | ✓           | ✓                  |
| Deleting a database                                  | DELETE /v3/{project_id}/instances/{instance_id}/database/{db_name}                                                | rds:database:drop       | ✓           | ✓                  |
| Creating a database account                          | POST /v3/{project_id}/instances/{instance_id}/db_user                                                             | rds:databaseUser:create | ✓           | ✓                  |
| Querying database users                              | GET /v3/{project_id}/instances/{instance_id}/db_user/detail?<br>page={page}&limit={limit}                         | rds:databaseUser:list   | ✓           | ✓                  |
| Querying authorized users of a specified database    | GET /v3/{project_id}/instances/{instance_id}/database/db_user?<br>db-name={db-name}&page={page}&limit={limit}     | rds:databaseUser:list   | ✓           | ✓                  |

| Permission                                   | API                                                                       | Action                       | IAM Project | Enterprise Project |
|----------------------------------------------|---------------------------------------------------------------------------|------------------------------|-------------|--------------------|
| Modifying remarks of a database user         | PUT /v3/{project_id}/instances/{instance_id}/db-users/{user_name}/comment | rds:databaseUser:update      | ✓           | ✓                  |
| Deleting a database account                  | DELETE /v3/{project_id}/instances/{instance_id}/db_user/{user_name}       | rds:databaseUser:drop        | ✓           | ✓                  |
| Authorizing a database account               | POST /v3/{project_id}/instances/{instance_id}/db_privilege                | rds:databasePrivilege:grant  | ✓           | ✓                  |
| Changing the password for a database account | POST /v3/{project_id}/instances/{instance_id}/db_user/resetpwd            | rds:password:update          | ✓           | ✓                  |
| Revoking permissions of a database account   | DELETE /v3/{project_id}/instances/{instance_id}/db_privilege              | rds:databasePrivilege:revoke | ✓           | ✓                  |

**Table 7-8** Database and account management actions (RDS for PostgreSQL)

| Permission          | API                                                    | Action              | IAM Project | Enterprise Project |
|---------------------|--------------------------------------------------------|---------------------|-------------|--------------------|
| Creating a database | POST /v3/{project_id}/instances/{instance_id}/database | rds:database:create | ✓           | ✓                  |

| Permission                           | API                                                                                                | Action                      | IAM Project | Enterprise Project |
|--------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------|-------------|--------------------|
| Creating a database account          | POST /v3/{project_id}/instances/{instance_id}/db_user                                              | rds:databaseUser:create     | ✓           | ✓                  |
| Authorizing a database account       | POST /v3/{project_id}/instances/{instance_id}/db_privilege                                         | rds:databasePrivilege:grant | ✓           | ✓                  |
| Creating a database schema           | POST /v3/{project_id}/instances/{instance_id}/schema                                               | rds:database:create         | ✓           | ✓                  |
| Querying databases                   | GET /v3/{project_id}/instances/{instance_id}/database/detail?page={page}&limit={limit}             | rds:database:list           | ✓           | ✓                  |
| Querying database users              | GET /v3/{project_id}/instances/{instance_id}/db_user/detail?page={page}&limit={limit}              | rds:databaseUser:list       | ✓           | ✓                  |
| Querying database schemas            | GET /v3/{project_id}/instances/{instance_id}/schema/detail?db_name={name}page={page}&limit={limit} | rds:database:list           | ✓           | ✓                  |
| Modifying remarks of a database user | PUT /v3/{project_id}/instances/{instance_id}/db-users/{user_name}/comment                          | rds:databaseUser:update     | ✓           | ✓                  |

**Table 7-9** Recycle bin actions

| Permission                     | API                                                                      | Action                     | IAM Project | Enterprise Project |
|--------------------------------|--------------------------------------------------------------------------|----------------------------|-------------|--------------------|
| Modifying the recycling policy | PUT https:// <i>{Endpoint}</i> /v3/{project_id}/instances/recycle-policy | rds:instance:setRecycleBin | ✓           | ✓                  |

**Table 7-10** Tag management actions

| Permission                         | API                                                       | Action               | IAM Project | Enterprise Project |
|------------------------------------|-----------------------------------------------------------|----------------------|-------------|--------------------|
| Adding or deleting tags in batches | POST /v3/{project_id}/instances/{instance_id}/tags/action | rds:instance:dealTag | ✓           | ✓                  |
| Querying project tags              | GET /v3/{project_id}/tags                                 | rds:tag:list         | ✓           | ✓                  |

**Table 7-11** Quota management actions

| Permission               | API                                                    | Action            | IAM Project | Enterprise Project |
|--------------------------|--------------------------------------------------------|-------------------|-------------|--------------------|
| Querying resource quotas | GET https:// <i>{Endpoint}</i> /v3/{project_id}/quotas | rds:instance:list | ✓           | ✓                  |

**Table 7-12** Task actions

| Permission                 | API                               | Action        | IAM Project | Enterprise Project |
|----------------------------|-----------------------------------|---------------|-------------|--------------------|
| Obtaining task information | GET /v3/{project_id}/jobs?id={id} | rds:task:list | ✓           | ✓                  |

# 8 Appendix

## 8.1 Abnormal Request Results

### v3 APIs

#### Abnormal response description

**Table 8-1** 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."
}
```

## 8.2 Status Codes

[Table 8-2](#) describes status codes.

**Table 8-2** Status codes

| Status Code | Message                       | Description                                                                                                                                                                                                                              |
|-------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 100         | Continue                      | The client should continue with its request.<br>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.<br>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.<br>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.<br>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.<br>The client should not repeat the request without modifications.                               |
| 404         | NotFound                      | The requested resource cannot be found.<br>The client should not repeat the request without modifications.                                                         |
| 405         | MethodNotAllowed              | The method specified in the request is not supported for the requested resource.<br>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.<br>The client may repeat the request without modifications at any later time.                                        |

| Status Code | Message                       | Description                                                                                                                                                                                                                                                                                                                                                |
|-------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 409         | Conflict                      | <p>The request could not be processed due to a conflict.</p> <p>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.</p>                                                                                                    |
| 410         | Gone                          | <p>The requested resource is no longer available.</p> <p>The requested resource has been deleted permanently.</p>                                                                                                                                                                                                                                          |
| 411         | Length Required               | <p>The server refuses to process the request without a defined Content-Length.</p>                                                                                                                                                                                                                                                                         |
| 412         | Precondition Failed           | <p>The server does not meet one of the preconditions that the requester puts on the request.</p>                                                                                                                                                                                                                                                           |
| 413         | Request Entity Too Large      | <p>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.</p>                                                                                     |
| 414         | Request-URI Too Large         | <p>The URI provided was too long for the server to process.</p>                                                                                                                                                                                                                                                                                            |
| 415         | Unsupported Media Type        | <p>The server is unable to process the media format in the request.</p>                                                                                                                                                                                                                                                                                    |
| 416         | Requested range not satisfied | <p>The requested range is invalid.</p>                                                                                                                                                                                                                                                                                                                     |
| 417         | Expectation Failed            | <p>The server fails to meet the requirements of the Expect request-header field.</p>                                                                                                                                                                                                                                                                       |
| 422         | UnprocessableEntity           | <p>The request is well-formed but is unable to be processed due to semantic errors.</p>                                                                                                                                                                                                                                                                    |
| 429         | TooManyRequests               | <p>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.</p> |
| 500         | InternalServerError           | <p>The server is able to receive the request but it could not understand the request.</p>                                                                                                                                                                                                                                                                  |

| 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.<br>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.                                                               |

## 8.3 Error Codes

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [API Gateway Error Codes](#).

The following table describes error codes.

**Table 8-3** 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. |

| Status Code | Error Code | Description                                                                           |
|-------------|------------|---------------------------------------------------------------------------------------|
| 409         | DBS.200011 | Another operation is being performed on the DB instance or the DB instance is faulty. |
| 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.200037 | The DB engine version is inconsistent.                                                |
| 400         | DBS.200038 | Primary/standby replication is abnormal. Try again later.                             |
| 400         | DBS.200039 | This operation cannot be performed because the replication delay exceeds 5 minutes.   |
| 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.                                                                      |

| Status Code | Error Code | Description                                                                                       |
|-------------|------------|---------------------------------------------------------------------------------------------------|
| 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.                                                     |
| 400         | DBS.200062 | Invalid database username.                                                                        |
| 400         | DBS.200063 | Invalid cluster mode.                                                                             |
| 400         | DBS.200076 | The DB instance and node must be in the <b>Available</b> state.                                   |
| 400         | DBS.200080 | Primary/standby replication is in progress. Try again later.                                      |
| 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.200121 | Select an AZ different from that of the standby node.                                             |
| 400         | DBS.200203 | Failed to query the DB instance.                                                                  |
| 500         | DBS.200208 | Server failure.                                                                                   |
| 400         | DBS.200302 | Storage space must be a multiple of 10.                                                           |
| 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.    |
| 400         | DBS.200311 | The DB instance cannot be scaled up because a node is abnormal. Please contact technical support. |
| 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.                                                                                  |

| Status Code | Error Code | Description                                                                    |
|-------------|------------|--------------------------------------------------------------------------------|
| 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.200507 | The KMS key is invalid or has been deleted.                                    |
| 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. |
| 403         | DBS.200810 | You are not allowed to create databases on read replicas.                      |
| 403         | DBS.200819 | You are not allowed to delete database users on read replicas.                 |
| 500         | DBS.200821 | Failed to modify database user permissions.                                    |
| 400         | DBS.200823 | The database does not exist.                                                   |
| 400         | DBS.200824 | The database account does not exist.                                           |
| 400         | DBS.200825 | Modifying permission is not allowed on read replicas.                          |
| 409         | DBS.200826 | The database name already exists.                                              |
| 409         | DBS.200827 | The database user already exists.                                              |
| 409         | DBS.200828 | You are not allowed to create a database built-in account.                     |
| 500         | DBS.200835 | Failed to delete the database because the database lock wait times out.        |
| 500         | DBS.200811 | Failed to create the database.                                                 |
| 403         | DBS.201003 | Resource not found or permission denied.                                       |
| 400         | DBS.201006 | Invalid parameters.                                                            |
| 404         | DBS.201010 | The backup information does not exist.                                         |

| Status Code | Error Code | Description                                                                           |
|-------------|------------|---------------------------------------------------------------------------------------|
| 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.                                            |
| 400         | DBS.201208 | The operation is not allowed by the backup status.                                    |
| 404         | DBS.212001 | The parameter template does not exist.                                                |
| 400         | DBS.212002 | Incorrect parameter template quota.                                                   |
| 400         | DBS.212003 | Operation not allowed.                                                                |
| 400         | DBS.212004 | Parameter template update error.                                                      |
| 400         | DBS.212005 | The node does not belong to the group.                                                |
| 409         | DBS.212006 | Another operation is being performed on the DB instance or the DB instance is faulty. |
| 400         | DBS.212007 | The DB engine does not exist.                                                         |
| 400         | DBS.212008 | The DB engine is not supported.                                                       |
| 400         | DBS.212009 | Task processing failed.                                                               |
| 400         | DBS.212010 | The parameter template is being applied.                                              |
| 400         | DBS.212011 | Application failed.                                                                   |
| 400         | DBS.212012 | The parameter does not exist.                                                         |
| 404         | DBS.212013 | The object does not exist.                                                            |

| Status Code | Error Code | Description                                                                           |
|-------------|------------|---------------------------------------------------------------------------------------|
| 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.213002 | Failed to process the request.                                                        |
| 500         | DBS.213004 | Failed to process the request.                                                        |
| 400         | DBS.216028 | Insufficient internal resource quota.                                                 |
| 400         | DBS.280001 | Parameter error.                                                                      |
| 409         | DBS.280011 | Another operation is being performed on the DB instance or the DB instance is faulty. |
| 403         | DBS.280015 | Resource not found or permission denied.                                              |
| 403         | DBS.280020 | The account is restricted.                                                            |
| 401         | DBS.280058 | You do not have operation permissions. Check account permissions on IAM.              |
| 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.280216 | Invalid backup start time.                                                            |
| 400         | DBS.280235 | Invalid database type.                                                                |
| 400         | DBS.280237 | The datastore is empty.                                                               |
| 400         | DBS.280238 | The DB engine or version is not supported.                                            |
| 400         | DBS.280239 | Invalid specifications.                                                               |

| Status Code | Error Code | Description                                              |
|-------------|------------|----------------------------------------------------------|
| 400         | DBS.280241 | Invalid storage type.                                    |
| 400         | DBS.280242 | Storage space is out of range.                           |
| 400         | DBS.280246 | Invalid database root password.                          |
| 400         | DBS.280250 | Invalid backup retention days.                           |
| 400         | DBS.280251 | Invalid backup cycle.                                    |
| 400         | DBS.280253 | Invalid backup start time.                               |
| 400         | DBS.280262 | Invalid synchronize model.                               |
| 400         | DBS.280270 | The parameter does not exist.                            |
| 400         | DBS.280271 | The parameter value is out of range.                     |
| 400         | DBS.280272 | The tag key must be unique.                              |
| 404         | DBS.280275 | The original DB instance does not exist.                 |
| 400         | DBS.280277 | Invalid object name.                                     |
| 400         | DBS.280285 | Invalid AZ.                                              |
| 400         | DBS.280288 | Invalid flavor.                                          |
| 400         | DBS.280311 | Invalid size of the storage space.                       |
| 400         | DBS.280325 | Invalid disk information.                                |
| 400         | DBS.280328 | Operation not allowed by the DB instance type.           |
| 400         | DBS.280342 | Invalid cluster mode.                                    |
| 400         | DBS.280364 | Invalid port number of the database.                     |
| 400         | DBS.280402 | Invalid HA mode.                                         |
| 400         | DBS.280404 | Invalid DB instance ID or node ID format.                |
| 409         | DBS.280406 | Operation not allowed by the DB instance type or status. |
| 400         | DBS.280434 | Invalid specification code.                              |
| 400         | DBS.280448 | The storage type is sold out.                            |
| 400         | DBS.280449 | Operation not allowed on frozen objects.                 |
| 400         | DBS.280450 | The DB instance specifications are sold out.             |
| 400         | DBS.280457 | Invalid number of coordinating nodes.                    |
| 400         | DBS.280458 | Invalid number of shards.                                |
| 400         | DBS.280461 | Invalid number of added shards.                          |

| Status Code | Error Code | Description                                                                                                  |
|-------------|------------|--------------------------------------------------------------------------------------------------------------|
| 400         | DBS.280489 | RDS DB instance associated with DDM instance. Delete the associated schema from the DDM instance first.      |
| 400         | DBS.280490 | RDS DB backup associated with a DDM backup. Delete the associated schema from the DDM backup first.          |
| 400         | DBS.280649 | Invalid DB instance name length.                                                                             |
| 400         | DBS.280810 | Failed to set read/write permissions for the database user. The user may not exist. Check the configuration. |
| 400         | DBS.280812 | The DB instance is already in this state.                                                                    |
| 400         | DBS.280813 | There is a large transaction or DDL in progress.                                                             |
| 400         | DBS.280816 | A DRS migration task is in progress. Try again later.                                                        |
| 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.                                        |

## 8.4 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 API used to [query project information based on the specified criteria](#).

The API used to obtain a project ID is **GET https://*{Endpoint}*/v3/projects**. *{Endpoint}* is the IAM endpoint and can be obtained from [Regions and Endpoints](#). For details about API authentication, see [Authentication](#).

The following is an example response. The value of **id** is the project ID.

```
{
 "projects": [
 {
 "domain_id": "65382450e8f64ac0870cd180d14e684b",
 "is_domain": false,
 "parent_id": "65382450e8f64ac0870cd180d14e684b",
 "name": "project_name",
 "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"
 }
}
```

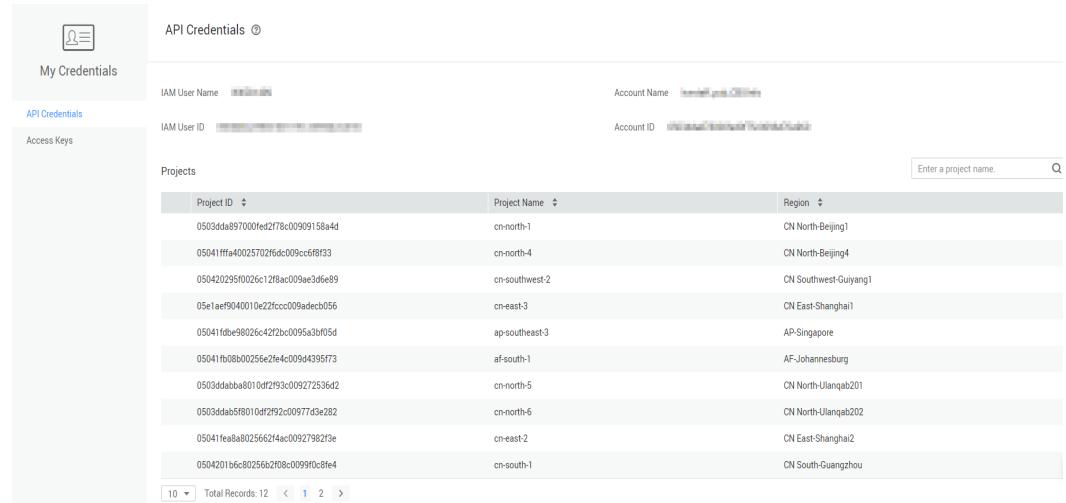
## Obtaining a Project ID from the Console

**Step 1** Register yourself on the management console and log in to it.

**Step 2** Hover the mouse over the username in the upper right corner and select **My Credentials** from the drop-down list.

On the **API Credentials** page, view the project ID in the project list.

**Figure 8-1** Viewing project IDs



The screenshot shows the 'API Credentials' section of a web interface. At the top, there are fields for 'IAM User Name' (redacted) and 'Account Name' (redacted). Below these are sections for 'Access Keys' and 'Projects'. The 'Projects' section contains a table with columns: 'Project ID', 'Project Name', and 'Region'. The table lists ten entries, each with a unique Project ID, a corresponding Project Name (e.g., 'cn-north-1', 'cn-southwest-2'), and its Region (e.g., 'CN North-Beijing1', 'CN Southwest-Guiyang1'). A search bar at the top right allows entering a project name.

| Project ID                        | Project Name   | Region                |
|-----------------------------------|----------------|-----------------------|
| 0503dda897000fed2f78c00909158a4d  | cn-north-1     | CN North-Beijing1     |
| 05041ffa40025702f6dc009cc6bf933   | cn-north-4     | CN North-Beijing4     |
| 050420295f0026c12f8ac009ae3df5e89 | cn-southwest-2 | CN Southwest-Guiyang1 |
| 05e1aef9040010e22fcc009adecb056   | cn-east-3      | CN East-Shanghai1     |
| 05041fdb898026c42f2bc0095x3bf05d  | ap-southeast-3 | AP-Singapore          |
| 05041fb08800256e2t4c40094395f73   | af-south-1     | AF-Johannesburg       |
| 0503ddabba8010df2f93c009272536d2  | cn-north-5     | CN North-Ulanqab201   |
| 0503ddabba8010df2f93c009272536d2  | cn-north-6     | CN North-Ulanqab202   |
| 05041fea8a8025662f6ac00927982f3e  | cn-east-2      | CN East-Shanghai2     |
| 0504201b6c8025662f68c0099f0c8fe4  | cn-south-1     | CN South-Guangzhou    |

----End

## 8.5 Replication Mode

Replication mode

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

## 8.6 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 8-4** RDS performance metrics

| Metric ID        | Name                      | Description                                                                  | Value Range   | Monitored Object and Instance Type                                                                                                                                |
|------------------|---------------------------|------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rds001_cp_u_util | CPU Usage                 | CPU usage of the monitored object                                            | 0%-100%       | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds002_mem_util  | Memory Usage              | Memory usage of the monitored object                                         | 0-100 %       | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds003_iops      | IOPS                      | Average number of I/O requests processed by the system in a specified period | ≥ 0 counts /s | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds004_bytes_in  | Network Input Throughput  | Incoming traffic in bytes per second                                         | ≥ 0 bytes/s   | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds005_bytes_out | Network Output Throughput | Outgoing traffic in bytes per second                                         | ≥ 0 bytes/s   | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |

| Metric ID                | Name                         | Description                                                                       | Value Range      | Monitored Object and Instance Type                                     |
|--------------------------|------------------------------|-----------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------|
| rds006_conn_count        | Total Connections            | Total number of connections that attempt to connect to the MySQL server           | $\geq 0$ counts  | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds007_conn_active_count | Current Active Connections   | Number of current active connections                                              | $\geq 0$ counts  | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds008_qps               | QPS                          | Query times of SQL statements (including storage procedures) per second           | $\geq 0$ times/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds009_tps               | TPS                          | Execution times of submitted and rollback transactions per second                 | $\geq 0$ times/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds010_innodb_buf_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<br>Monitored instance type: MySQL instances |
| rds011_innodb_buf_hit    | Buffer Pool Hit Rate         | Ratio of read hits to read requests in the InnoDB buffer                          | 0-1              | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds012_innodb_buf_dirty  | Buffer Pool Dirty Block Rate | Ratio of dirty data to used pages in the InnoDB buffer                            | 0-1              | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds013_innodb_reads      | InnoDB Read Throughput       | Number of read bytes per second in the InnoDB buffer                              | $\geq 0$ bytes/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds014_innodb_writes     | InnoDB Write Throughput      | Number of write bytes per second in the InnoDB buffer                             | $\geq 0$ bytes/s | Monitored object: database<br>Monitored instance type: MySQL instances |

| Metric ID                               | Name                                 | Description                                                            | Value Range  | Monitored Object and Instance Type                                     |
|-----------------------------------------|--------------------------------------|------------------------------------------------------------------------|--------------|------------------------------------------------------------------------|
| rds015_in_nodb_read_count               | InnoDB File Read Frequency           | Number of times that InnoDB reads data from files per second           | ≥ 0 times/s  | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds016_in_nodb_write_count              | InnoDB File Write Frequency          | Number of times that InnoDB writes data to files per second            | ≥ 0 times/s  | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds017_in_nodb_log_write_req_count      | InnoDB Log Write Requests per Second | Number of InnoDB log write requests per second                         | ≥ 0 counts/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds018_in_nodb_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<br>Monitored instance type: MySQL instances |
| rds019_in_nodb_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<br>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<br>Monitored instance type: MySQL instances |
| rds021_myisam_buf_usage                 | Key Buffer Usage                     | MyISAM key buffer usage                                                | 0-1          | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds022_myisam_buf_write_hit             | Key Buffer Write Hit Ratio           | MyISAM key buffer write hit ratio                                      | 0-1          | Monitored object: database<br>Monitored instance type: MySQL instances |

| Metric ID                      | Name                                         | Description                                                                   | Value Range  | Monitored Object and Instance Type                                     |
|--------------------------------|----------------------------------------------|-------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------|
| rds023_myisam_buf_read_hit     | Key Buffer Read Hit Ratio                    | MyISAM key buffer read hit ratio                                              | 0-1          | Monitored object: database<br>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<br>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<br>Monitored instance type: MySQL instances |
| rds026_myisam_buf_write_count  | MyISAM Buffer Pool Write Requests per Second | Number of requests for writing indexes into the MyISAM buffer pool per second | ≥ 0 counts/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds027_myisam_buf_read_count   | MyISAM Buffer Pool Read Requests per Second  | Number of requests for reading indexes from the MyISAM buffer pool per second | ≥ 0 counts/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds028_comdml_del_count        | DELETE Statements per Second                 | Number of DELETE statements executed per second                               | ≥ 0 counts/s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds029_comdml_ins_count        | INSERT Statements per Second                 | Number of INSERT statements executed per second                               | ≥ 0 counts/s | Monitored object: database<br>Monitored instance type: MySQL instances |

| Metric ID                    | Name                                    | Description                                                | Value Range   | Monitored Object and Instance Type                                     |
|------------------------------|-----------------------------------------|------------------------------------------------------------|---------------|------------------------------------------------------------------------|
| rds030_comdml_ins_sel_count  | INSERT_SELECT Statements per Second     | Number of INSERT_SELECT statements executed per second     | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds031_comdml_rep_count      | REPLACE Statements per Second           | Number of REPLACE statements executed per second           | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds032_comdml_rep_sel_count  | REPLACE_SELECTION Statements per Second | Number of REPLACE_SELECTION statements executed per second | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds033_comdml_sel_count      | SELECT Statements per Second            | Number of SELECT statements executed per second            | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds034_comdml_upd_count      | UPDATE Statements per Second            | Number of UPDATE statements executed per second            | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds035_innodb_del_row_count  | Row Delete Frequency                    | Number of rows deleted from the InnoDB table per second    | ≥ 0 counts /s | Monitored object: database<br>Monitored instance type: MySQL instances |
| rds036_innodb_ins_row_count  | Row Insert Frequency                    | Number of rows inserted into the InnoDB table per second   | ≥ 0 counts /s | Monitored object: database<br>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<br>Monitored instance type: MySQL instances |

| Metric ID                           | Name                         | Description                                             | Value Range        | Monitored Object and Instance Type                                                                                                                                |
|-------------------------------------|------------------------------|---------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rds038_in_nodb_upd_row_count        | Row Update Frequency         | Number of rows updated into the InnoDB table per second | $\geq 0$ counts /s | Monitored object: database<br>Monitored instance type: MySQL instances                                                                                            |
| rds039_disk_util                    | Storage Space Usage          | Storage space usage of the monitored object             | 0-100 %            | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds040_transaction_logs_usage       | Transaction Logs Usage       | Storage space usage of transaction logs                 | $\geq 0$ MB        | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| rds041_replication_slot_usage       | Replication Slot Usage       | Storage space usage of replication slot files           | $\geq 0$ MB        | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| rds042_database_connections         | Database Connections in Use  | Number of database connections in use                   | $\geq 0$ counts    | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| rds043_maximum_used_transaction_ids | Maximum Used Transaction IDs | Maximum number of transaction IDs that have been used   | $\geq 0$ counts    | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| rds044_transaction_logs_generations | Transaction Logs Generation  | Size of transaction logs generated per second           | $\geq 0$ MB/s      | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |

| Metric ID                          | Name                               | Description                                                                        | Value Range   | Monitored Object and Instance Type                                                                                                                                |
|------------------------------------|------------------------------------|------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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<br>Monitored instance type: PostgreSQL instances                                                                                       |
| rds046_replication_lag             | Replication Lag                    | Replication lag delay                                                              | ≥ 0 ms        | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| read_count_per_second              | Read IOPS                          | Average number of read I/O requests processed by the system in a specified period  | ≥ 0 counts /s | Monitored object: ECS<br>Monitored instance type: PostgreSQL instances                                                                                            |
| write_count_per_second             | Write IOPS                         | Average number of write I/O requests processed by the system in a specified period | ≥ 0 counts /s | Monitored object: ECS<br>Monitored instance type: PostgreSQL instances                                                                                            |
| inactive_logical_replication_slot  | Inactive Logical Replication Slots | Number of inactive logical replication slots                                       | ≥ 0           | Monitored object: database<br>Monitored instance type: PostgreSQL instances                                                                                       |
| pgaudit_log_size                   | Audit Log Size                     | Size of audit logs                                                                 | ≥ 0 GB        | Monitored object: database<br>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.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |

| Metric ID                    | Name                        | Description                                                     | Value Range | Monitored Object and Instance Type                                                                                                                                |
|------------------------------|-----------------------------|-----------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rds048_disk_used_size        | Used Storage Space          | Used storage space of the monitored object                      | 0–4,000 GB  | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds049_disk_read_throughput  | Disk Read Throughput        | Number of bytes read from the disk per second                   | ≥ 0 bytes/s | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds050_disk_write_throughput | Disk Write Throughput       | Number of bytes written into the disk per second                | ≥ 0 bytes/s | Monitored object: ECS.<br>Monitored DB instance type: <ul style="list-style-type: none"><li>• MySQL</li><li>• PostgreSQL</li><li>• Microsoft SQL Server</li></ul> |
| rds054_db_connections_in_use | Database Connections in Use | Number of database connections in use                           | ≥ 0 counts  | Monitored object: database<br>Monitored instance type: Microsoft SQL Server instances                                                                             |
| rds075_avg_disk_ms_per_read  | Disk Read Time              | Average time required for each disk read in a specified period  | ≥ 0 ms      | Monitored object: ECS<br>Monitored instance type: MySQL instance                                                                                                  |
| rds076_avg_disk_ms_per_write | Disk Write Time             | Average time required for each disk write in a specified period | ≥ 0 ms      | Monitored object: ECS<br>Monitored instance type: MySQL instance                                                                                                  |

## Dimension

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

| Key                      | Value                             |
|--------------------------|-----------------------------------|
| rds_cluster_sqlserver_id | RDS for SQL Server 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-
e94fdbeaa391&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"
 }
}
```

## 8.7 Idempotent Requests

Idempotency is important in APIs because a resource may be called multiple times if an operation times out or encounters other server issues before it completes. If

the original request and the subsequent retries are successful, the operation is completed multiple times. This means that you might create more resources than you intended.

To solve this problem, idempotent request identifiers are introduced to distinguish the first attempt from subsequent attempts. With an idempotent request, if the original request completes successfully, any subsequent retries complete successfully without performing any further actions.

#### NOTICE

Currently, idempotency is only available to the API for creating RDS for MySQL single and primary/standby instances in [Creating a DB Instance](#).

## Idempotency

An idempotent operation produces the same result even when the operation is repeated many times.

### Idempotency in RDS APIs

When sending a request, the client can add **X-Client-Token** to the HTTP header as the idempotency identifier. For details, see [Table 8-5](#).

**Table 8-5** Idempotency identifier message header

| Parameter      | Description                                                                                                                                                        | Mandatory | Example Value                        |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------|
| X-Client-Token | Identifier that ensures idempotency of client requests.<br>It is a UUID containing 32 hexadecimal digits and is generated by the client. The value must be unique. | No        | 46436810-d999-454c-bd85-e515fd258600 |

Generally, the client resends the request only when the response status code is 5xx due to an internal server exception or connection timeout or when the response result cannot be obtained. If the retry request uses the same idempotent identifier and request parameters, the server will return the same result as the original request.

Description about idempotency identifiers:

- An idempotency identifier is a case-sensitive UUID containing 32 hexadecimal digits. It is in the format of xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx

(8-4-4-4-12), where each x is a hexadecimal digit ranging from 0 to 9 or a to f. If you provide an identifier that is not in UUID format, the server returns error code DBS.280497.

- Idempotency identifiers must be unique. If you reuse an identifier with different parameters, the server returns error code DBS.280495.
- Idempotent identifiers remain valid for eight hours. If an identifier has expired, the server returns error code DBS.280498.
- After an idempotency identifier is used:
  - If the returned status code is 2xx, subsequent retries will return the same result as the original one without affecting the server status.
  - If the returned status code is 4xx, subsequent retries will fail. You need to rectify the fault based on the error information and retry the request.

## Idempotent API

The following API is idempotent with **X-Client-Token**:

- [Creating a DB Instance](#)

# A Change History

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2024-01-26   | <p>This issue is the fifty-fourth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added the <b>is_serverless</b> parameter in <a href="#">Querying Database Specifications</a>.</li><li>Added the <b>serverless_info</b> parameter in <a href="#">Creating a DB Instance</a>.</li><li>Added the <b>serverless_info</b> parameter in <a href="#">Querying DB Instances</a>.</li><li>Added the <b>serverless_info</b> parameter in <a href="#">Restoring Data to a New DB Instance</a>.</li><li>Added the <b>is_serverless</b> parameter in <a href="#">Querying Instances in the Recycle Bin</a>.</li></ul> |
| 2023-12-27   | <p>This issue is the fifty-third official release, which incorporates the following change:</p> <p>Added <a href="#">Shrinking Database Logs</a>.</p> <p><b>NOTE</b></p> <p>The preceding API is used to replace the original API for shrinking database logs. The original API has been moved to section "Historical APIs". For details, see <a href="#">Shrinking Database Logs (Not Recommended)</a>.</p>                                                                                                                                                                                                                                                     |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2023-12-15   | <p>This issue is the fifty-second official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Enabling TDE for a DB Instance (RDS for SQL Server)</a>.</li><li>Added <a href="#">Querying TDE Status of a DB Instance (RDS for SQL Server)</a>.</li><li>Added <a href="#">Querying the Target Version to Which a DB Instance Can Be Upgraded (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Performing a Major Version Upgrade Pre-Check for a DB Instance (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Querying the Major Version Check Status or Upgrade Status of a DB Instance (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Querying the Major Version Upgrade Check History of a DB Instance (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Upgrading a Major Version of a DB Instance (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Querying the Major Version Upgrade History of a DB Instance (RDS for PostgreSQL)</a>.</li><li>Added <a href="#">Shrinking Database Logs (Not Recommended)</a>.</li><li>Added <a href="#">Configuring a Password for a Database Account</a>.</li></ul> |
| 2023-11-06   | <p>This issue is the fifty-first official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Querying the pg_hba.conf File Configurations of a DB Instance</a>.</li><li>Added <a href="#">Modifying or Adding One or More Records in the pg_hba.conf File</a>.</li><li>Added <a href="#">Overwriting the pg_hba.conf File</a>.</li><li>Added <a href="#">Deleting One or More Records from the pg_hba.conf File</a>.</li><li>Added <a href="#">Querying the pg_hba.conf Change History of a DB Instance</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2023-09-15   | <p>This issue is the fiftieth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Restoring Tables to a Specified Point in Time (RDS for MySQL)</a>.</li><li>Added <a href="#">Upgrading the Minor Version of a DB Instance</a>.</li></ul> <p><b>NOTE</b><br/>These APIs are used to replace the original v3 APIs. The original v3 APIs are moved to the "Historical APIs" section. For details, see <a href="#">Restoring Tables to a Specified Point in Time (RDS for MySQL)</a> and <a href="#">Upgrading a Minor Version</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2023-07-24   | This issue is the forty-ninth official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Added the <code>is_fast_restore</code> parameter in <a href="#">Restoring Tables to a Specified Point in Time (RDS for MySQL)</a>.</li><li>Added <a href="#">Checking Whether Fast Restoration Can Be Used for Restoring Databases or Tables (RDS for MySQL)</a>.</li></ul>                                                                 |
| 2023-05-25   | This issue is the forty-eighth official release, which incorporates the following change:<br>Added the <code>recover_model</code> parameter in <a href="#">Querying Databases</a> .                                                                                                                                                                                                                                                                                         |
| 2023-03-17   | This issue is the forty-seventh official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Added <a href="#">Querying the Recycling Policy</a>.</li><li>Added <a href="#">Querying Instances in the Recycle Bin</a>.</li></ul>                                                                                                                                                                                                       |
| 2023-02-24   | This issue is the forty-sixth official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Supported request idempotence for <a href="#">creating an RDS for MySQL instance</a>.</li><li>Added <a href="#">Idempotent Requests</a>.</li></ul>                                                                                                                                                                                          |
| 2023-02-08   | This issue is the forty-fifth official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Added <a href="#">Querying the Domain Name of a DB Instance</a>.</li><li>Added <a href="#">Querying the IPv6 Domain Name of a DB Instance</a>.</li><li>Added <a href="#">Obtaining the Replication Status of a DB Instance</a>.</li></ul>                                                                                                   |
| 2022-12-29   | This issue is the forty-fourth official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Added <a href="#">Querying DR Instances in Batches</a>.</li><li>Added the <code>is_revoke_public_privilege</code> field in the request in <a href="#">Creating a Database</a>.</li><li>Added error codes DBS.200038 and DBS.200039.</li></ul>                                                                                              |
| 2022-12-19   | This issue is the forty-third official release, which incorporates the following changes: <ul style="list-style-type: none"><li>Added <a href="#">Creating a Plugin</a>.</li><li>Added <a href="#">Querying Plugins</a>.</li><li>Added <a href="#">Deleting a Plugin</a>.</li><li>Added <a href="#">Modifying the Value of a Specified Parameter for an Instance</a>.</li><li>Added <a href="#">Obtaining the Value of a Specified Parameter for an Instance</a>.</li></ul> |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022-12-15   | <p>This issue is the forty-second official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Configuring an Autoscaling Policy</a>.</li><li>Added <a href="#">Querying an Autoscaling Policy</a>.</li><li>Added <a href="#">Configuring a Monitoring by Seconds Policy</a>.</li><li>Added <a href="#">Querying a Monitoring by Seconds Policy</a>.</li><li>Added <a href="#">Replicating a Parameter Template</a>.</li><li>Added <a href="#">Querying Change History of Instance Parameters</a>.</li><li>Added <a href="#">Adding Host Addresses for MSDTC</a>.</li><li>Added <a href="#">Querying MSDTC Hosts</a>.</li></ul>                                                        |
| 2022-09-21   | <p>This issue is the forty-first official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added the <b>force</b> field in the request in <a href="#">Manually Switching Primary/Standby DB Instances</a>.</li><li>Added the <b>comment</b> field in the request in <a href="#">Creating a Database Account</a>.</li><li>Added the <b>comment</b> field in the response in <a href="#">Querying Database Users</a>.</li><li>Added <a href="#">Modifying Remarks of a Database Account</a>.</li></ul>                                                                                                                                                                                                  |
| 2022-07-30   | <p>This is the fortieth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Supported RDS for PostgreSQL 14.</li><li>Modified the description of <b>security_group_id</b> in <a href="#">Creating a DB Instance</a> and <a href="#">Restoring Data to a New DB Instance</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2022-06-30   | <p>This is the thirty-ninth official release, which incorporates the following change:</p> <p>Added <a href="#">Showing Original Logs (RDS for MySQL)</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2022-04-15   | <p>This issue is the thirty-eighth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added a v3.1 API in <a href="#">Applying a Parameter Template</a>.</li><li>Added a v3.1 API in <a href="#">Modifying Parameters of a Specified Instance</a>.</li><li>Added a v3.1 API in <a href="#">Deleting a Database (RDS for SQL Server)</a>.</li></ul> <p><b>NOTE</b><br/>These APIs are used to replace the original v3 APIs. The original v3 APIs are moved to the "Historical APIs" section. For details, see <a href="#">Applying a Parameter Template</a>, <a href="#">Modifying Parameters of a Specified DB Instance</a>, and <a href="#">Deleting a Database (RDS for SQL Server)</a>.</p> |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2022-03-31   | <p>This issue is the thirty-seventh official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Stopping an Instance</a>.</li><li>Added <a href="#">Starting an Instance</a>.</li><li>Added <a href="#">Applying a Parameter Template</a>. The original API for applying a parameter template is to be taken offline.</li><li>Added error code DBS.301132.</li></ul>                                                                                                                                                                                                                                                                                                                                         |
| 2022-01-28   | <p>This issue is the thirty-sixth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>The API for <a href="#">Restoring Data to an Existing DB Instance</a> is to be brought offline.</li><li>Supported data restoration from an earlier version to a later version for Microsoft SQL Server in <a href="#">Restoring Data to a New DB Instance</a> and <a href="#">Restoring Data to an Existing DB Instance</a>.</li><li>Added parameter <b>ad_domain_info</b> and deleted parameter <b>password</b> in the request in <a href="#">Changing a Single DB Instance to Primary/Standby DB Instances</a>.</li><li>Supported DB instances using local disks in <a href="#">Migrating a Standby DB Instance</a>.</li></ul> |
| 2021-11-30   | <p>This issue is the thirty-fifth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>The original APIs for querying error logs and slow query logs of RDS for MySQL DB instances are to be brought offline. The following APIs are added:<ul style="list-style-type: none"><li>Added <a href="#">Querying Database Error Logs (MySQL)</a>.</li><li>Added <a href="#">Querying Database Slow Logs (MySQL)</a>.</li></ul></li><li>Added <a href="#">Upgrading a Minor Version</a>.</li></ul>                                                                                                                                                                                                                            |
| 2021-11-04   | <p>This issue is the thirty-fourth official release, which incorporates the following change:</p> <p>Added the <b>max_iops</b> and <b>expiration_time</b> fields in the response in <a href="#">Querying DB Instances</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2021-08-26   | <p>This issue is the thirty-third official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Added the <b>comment</b> field in the request in <a href="#">Creating a Database</a>.</li> <li>● Added the <b>comment</b> field in the response in <a href="#">Querying Databases</a>.</li> <li>● Added the <b>readonly</b> field in the request in <a href="#">Authorizing a Database Account</a>.</li> <li>● Added <a href="#">Modifying the Database Remarks of a Specified DB Instance</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  |
| 2021-07-21   | <p>This issue is the thirty-second official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Supported extreme SSDs for PostgreSQL.</li> <li>● Supported MySQL in <a href="#">Changing the Description of a DB Instance</a>.</li> <li>● Added response parameter <b>alias</b> in <a href="#">Querying DB Instances</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2021-06-22   | <p>This issue is the thirty-first official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Added <a href="#">Setting the Local Retention Period of Binlogs</a> for MySQL.</li> <li>● Added <a href="#">Obtaining the Local Retention Period of Binlogs</a> for MySQL.</li> <li>● Supported () and &amp; for MySQL database account passwords.</li> <li>● Added <a href="#">Querying Resource Quotas</a>.</li> <li>● Added error codes DBS.200311, DBS.280020, and DBS.200037.</li> <li>● Optimized error code DBS.200121.</li> <li>● Added request parameter <b>is_force_delete</b> in <a href="#">Deleting a Database (RDS for SQL Server)</a>.</li> <li>● Added response parameter <b>complete_version</b> for RDS for PostgreSQL in <a href="#">Querying DB Instances</a>.</li> <li>● Added the description of the quota management API in <a href="#">API Overview</a>.</li> </ul> |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| 2021-05-18   | <p>This issue is the thirtieth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Supported extreme SSDs in the response parameter <b>groupType</b> in <a href="#">Querying Database Specifications</a>.</li><li>Supported extreme SSDs in the response parameter <b>supportComputeGroupType</b> in <a href="#">Querying the Storage Type of a Database</a>.</li><li>Supported extreme SSDs in the request parameter <b>volume</b> in <a href="#">Creating a DB Instance</a>.</li><li>Supported extreme SSDs in the request parameter and response parameter <b>volume</b> in <a href="#">Restoring Data to a New DB Instance</a>.</li><li>Supported PostgreSQL in <a href="#">Setting a Cross-Region Backup Policy</a>.</li><li>Supported PostgreSQL in <a href="#">Querying Information About a Cross-Region Backup Policy</a>.</li><li>Supported PostgreSQL in <a href="#">Querying Cross-Region Backups</a>.</li><li>Supported PostgreSQL in <a href="#">Querying DB Instances for Which Cross-Region Backups Are Created</a>.</li><li>Supported PostgreSQL in <a href="#">Querying the Restoration Time Range of a Cross-Region Backup</a>.</li><li>Supported cross-region DR configuration for PostgreSQL in <a href="#">Configuring the DR Capability for a Primary DB Instance</a>.</li><li>Supported cross-region DR configuration for PostgreSQL in <a href="#">Configuring the DR Capability for a DR Instance</a>.</li><li>Supported cross-region DR instance promotion to primary DB instances for PostgreSQL in <a href="#">Promoting a DR Instance to Be the Primary DB Instance</a>.</li><li>Supported the query of cross-region DR replication status for PostgreSQL in <a href="#">Querying the DR Replication Status</a>.</li></ul> |
| 2021-05-06   | <p>This issue is the twenty-ninth official release, which incorporates the following change:</p> <p>Optimized <a href="#">Error Codes</a> based on the API specifications.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| 2021-04-19   | <p>This issue is the twenty-eighth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>● Supported PostgreSQL 13.</li><li>● Supported general-purpose and dedicated specifications in the response parameter <b>groupType</b> in <a href="#">Querying Database Specifications</a>.</li><li>● Supported cloud SSDs in the response parameter <b>supportComputeGroupType</b> in <a href="#">Querying the Storage Type of a Database</a>.</li><li>● Supported cloud SSDs in the request parameter <b>volume</b> in <a href="#">Creating a DB Instance</a>.</li><li>● Supported standby DB instance migration for PostgreSQL in <a href="#">Migrating a Standby DB Instance</a>.</li></ul> |
| 2021-03-22   | <p>This issue is the twenty-seventh official release, which incorporates the following change:</p> <p>Supported restoration to multiple databases when you restore from Microsoft SQL Server backup files to existing or new DB instances.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| 2021-02-22   | <p>This issue is the twenty-sixth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>• Changed the name of section "Resetting the Database Password" to "Resetting the Password of User root" and moved this section to chapter "Database and Account Management (MySQL)".</li><li>• Supported Microsoft SQL Server in <a href="#">Setting a Cross-Region Backup Policy</a>.</li><li>• Supported Microsoft SQL Server in <a href="#">Querying Information About a Cross-Region Backup Policy</a>.</li><li>• Supported Microsoft SQL Server in <a href="#">Querying Cross-Region Backups</a>.</li><li>• Supported Microsoft SQL Server in <a href="#">Querying DB Instances for Which Cross-Region Backups Are Created</a>.</li><li>• Supported Microsoft SQL Server in <a href="#">Querying the Restoration Time Range of a Cross-Region Backup</a>.</li><li>• Supported dollar signs (\$) for the MySQL administrator password.</li><li>• Supported the maintenance interval from one to four hours for MySQL and PostgreSQL in <a href="#">Configuring the Maintenance Window</a>.</li><li>• Supported instance type changes from single to primary/standby for MySQL, PostgreSQL, and Microsoft SQL Server DB instances billed on the yearly/monthly basis.</li><li>• Added the <b>count</b> parameter to support batch creation of MySQL DB instances.</li><li>• Added the <b>dry_run</b> parameter for checking parameters and specifications during MySQL instance creation.</li><li>• Added the response parameter <b>groupType</b> in <a href="#">Querying Database Specifications</a>.</li><li>• Added the response parameter <b>supportComputeGroupType</b> in <a href="#">Querying the Storage Type of a Database</a>.</li></ul> |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| 2021-01-18   | <p>This issue is the twenty-fifth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Applying for a Private Domain Name</a>.</li><li>Added <a href="#">Modifying a Private Domain Name</a>.</li><li>Added <a href="#">Setting a Cross-Region Backup Policy</a>.</li><li>Added <a href="#">Querying Information About a Cross-Region Backup Policy</a>.</li><li>Added <a href="#">Querying Cross-Region Backups</a>.</li><li>Added <a href="#">Querying DB Instances for Which Cross-Region Backups Are Created</a>.</li><li>Added <a href="#">Querying the Restoration Time Range of a Cross-Region Backup</a>.</li><li>Added the <b>collation</b> parameter to the request and response in <a href="#">Creating a DB Instance</a>.</li><li>Supported dollar signs (\$) in the <b>password</b> parameter when a Microsoft SQL Server DB instance is created.</li><li>Added the <b>collation</b> and <b>charge_info</b> parameters to the request and response in <a href="#">Restoring Data to a New DB Instance</a>.</li><li>Supported instance class changes and storage scale-up for PostgreSQL and Microsoft SQL Server DB instances billed on a yearly/monthly basis.</li></ul> |
| 2020-12-15   | <p>This issue is the twenty-fourth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Changing a DB Instance Name</a>.</li><li>Added <a href="#">Modifying Recycling Policy</a>.</li><li>Added <a href="#">Querying Databases</a>.</li><li>Added <a href="#">Querying Database Users</a>.</li><li>Added <a href="#">Querying Database Schemas</a>.</li><li>Added the <b>ha_mode</b> parameter to <a href="#">Querying the Storage Type of a Database</a>.</li><li>Added the <b>template</b>, <b>character_set</b>, and <b>lc_collate</b> parameters to the request in <a href="#">Creating a Database</a>.</li><li>Added the <b>associated_with_ddm</b> parameter to the response in <a href="#">Querying DB Instances</a> and <a href="#">Obtaining Backups</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                          |

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| 2020-11-16   | <p>This issue is the twenty-third official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added the <a href="#">data_vip</a> field to the request in <a href="#">Creating a DB Instance</a>.</li><li>Added the following error codes: DBS.280489 and DBS.280490.</li><li>Added <a href="#">Creating a Database</a>.</li><li>Added <a href="#">Creating a Database Account</a>.</li><li>Added <a href="#">Creating a Database Schema</a>.</li><li>Added <a href="#">Granting Read or Write Permissions to a Database Account</a>.</li></ul>                                                                                                       |
| 2020-10-15   | <p>This issue is the twenty-second official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Querying Database Users</a>.</li><li>Added <a href="#">Querying Authorized Users of a Specified Database</a>.</li><li>Supported instance specification changes for yearly/monthly DB instances.</li></ul>                                                                                                                                                                                                                                                                                                                           |
| 2020-09-15   | <p>This issue is the twenty-first official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Creating a Database Account</a>.</li><li>Added <a href="#">Deleting a Database Account</a>.</li><li>Added <a href="#">Authorizing a Database Account</a>.</li><li>Added <a href="#">Revoking Permissions of a Database Account</a>.</li><li>Added <a href="#">Resetting a Password for a Database Account</a>.</li><li>Added the <code>order_id</code> field to the response in <a href="#">Querying DB Instances</a>.</li><li>Added the <code>tags</code> field to the request in <a href="#">Creating a DB Instance</a>.</li></ul> |
| 2020-08-15   | <p>This issue is the twentieth official release, which incorporates the following change:</p> <p>Added <a href="#">Obtaining Task Information of a Specified SQL Server DB Instance in a Specified Time Range</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2020-07-17   | <p>This issue is the nineteenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>Added <a href="#">Creating a Database</a>.</li><li>Added <a href="#">Querying Databases</a>.</li><li>Added <a href="#">Deleting a Database (RDS for SQL Server)</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                           |

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| 2020-05-30   | <p>This issue is the eighteenth official release. Modified the following content:</p> <ul style="list-style-type: none"> <li>● Added <a href="#">Configuring the Maintenance Window</a>.</li> <li>● Added <a href="#">Changing a Security Group</a>.</li> <li>● Added <a href="#">Obtaining Links for Downloading Slow Query Logs</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                      |
| 2020-05-13   | <p>This issue is the seventeenth official release. Modified the following content:</p> <ul style="list-style-type: none"> <li>● Added <a href="#">Configuring SSL</a>.</li> <li>● Added <a href="#">Changing a Database Port</a>.</li> <li>● Added <a href="#">Changing a Floating IP Address</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| 2020-03-31   | <p>This issue is the sixteenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Brought v1 API documentation offline.</li> <li>● Added <a href="#">Changing the Failover Priority</a>.</li> <li>● Added <a href="#">Manually Switching Primary/Standy DB Instances</a>.</li> <li>● Added <a href="#">Changing the Data Replication Mode of Primary/Standy DB Instances</a>.</li> <li>● Added <a href="#">Migrating a Standby DB Instance</a>.</li> <li>● Added <a href="#">Restoring Tables to a Specified Point in Time (RDS for MySQL)</a>.</li> <li>● Added <a href="#">Obtaining Slow Query Log Statistics (RDS for MySQL)</a>.</li> </ul> |
| 2020-03-06   | <p>This issue is the fifteenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Added <a href="#">Binding and Unbinding an EIP</a>.</li> <li>● Added <a href="#">Resetting the Password for User root</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2019-12-17   | <p>This issue is the fourteenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Added <code>backup_used_space</code> and <code>storage_used_space</code> in the response message in "Querying Details About DB Instances".</li> <li>● Added <a href="#">Querying the Available SQL Server Character Set</a>.</li> </ul>                                                                                                                                                                                                                                                                                                                       |
| 2019-11-30   | <p>This issue is the thirteenth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>● Added tag search criteria in the request in <a href="#">Querying DB Instances</a>.</li> <li>● Added <a href="#">Adding Tags in Batches</a>.</li> <li>● Added <a href="#">Deleting Tags in Batches</a>.</li> <li>● Added <a href="#">Querying Project Tags</a>.</li> </ul>                                                                                                                                                                                                                                                                                     |

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| 2019-10-15   | <p>This issue is the twelfth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>• Added <a href="#">Setting SQL Audit</a>.</li><li>• Added <a href="#">Querying the Policy for SQL Audit Logs</a>.</li><li>• Added <a href="#">Obtaining an Audit Log List</a>.</li><li>• Added <a href="#">Obtaining the Links for Downloading Audit Logs</a>.</li></ul>                                                                                                                                                                                                                                                                                                            |
| 2019-09-20   | <p>This issue is the eleventh official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>• Added <code>az_status</code> in the response message in <a href="#">Querying Database Specifications</a>.</li><li>• Added <a href="#">Querying the Storage Type of a Database</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                      |
| 2019-08-31   | <p>This issue is the tenth official release. Modified the following content:</p> <ul style="list-style-type: none"><li>• Optimized the URI format of v3 APIs and added URI examples.</li><li>• Added "API Calling", "Endpoints", "Constraints", and "Selecting an API Type" to "Before You Start."</li><li>• Added "Making an API Request", "Authentication", and "Response" to "Calling APIs."</li><li>• Changed "parameter group" to "parameter template".</li><li>• Changed the maximum storage capacity to 6,000 GB and the storage scaling upper limit to 10,000 GB when you create MySQL primary DB instances and read replicas, if you contact customer service to apply for the required permissions.</li></ul> |
| 2019-08-13   | <p>This issue is the ninth official release, which incorporates the following change:</p> <p>Added three v1 APIs for adding, querying, and deleting tags, respectively.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2019-07-03   | <p>This issue is the eighth official release, which incorporates the following change:</p> <p>Added the date field in <a href="#">Querying the Restoration Time Range</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2019-05-06   | <p>This issue is the seventh official release, which incorporates the following change:</p> <p>Added the precautions that should be taken during the modification of sensitive MySQL parameters.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2019-03-30   | <p>This issue is the sixth official release, which incorporates the following change:</p> <ul style="list-style-type: none"><li>• Added the STORAGE FULL state in <a href="#">Obtaining Task Information</a>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| 2019-02-15   | <p>This issue is the fifth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>• Added <a href="#">Rebooting a DB Instance</a>.</li><li>• Added <a href="#">Querying Database Error Logs</a>.</li><li>• Described v1 and v3 APIs in separated chapters.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2018-11-20   | <p>This issue is the fourth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>• Added <a href="#">Obtaining a Parameter Template List</a>.</li><li>• Added <a href="#">Obtaining the Parameter Template of a Specified DB Instance</a>.</li><li>• Added <a href="#">Obtaining Parameters in a Specified Parameter Template</a>.</li><li>• Added <a href="#">Creating a Parameter Template</a>.</li><li>• Added <a href="#">Applying a Parameter Template</a>.</li><li>• Added <a href="#">Modifying a Parameter Template</a>.</li><li>• Added <a href="#">Modifying Parameters of a Specified DB Instance</a>.</li><li>• Added <a href="#">Deleting a Parameter Template</a>.</li><li>• Added <a href="#">Querying the Restoration Time Range</a>.</li><li>• Modified <a href="#">Restoring Data to a New DB Instance</a>.</li><li>• Modified <a href="#">Restoring Data to an Existing DB Instance</a>.</li><li>• Modified <a href="#">Creating a DB Instance</a>.</li><li>• Added the AK/SK authentication.</li><li>• Added the following error codes: DBS.200203, DBS.200506, and DBS.212032.</li></ul> |

| Release Date | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 2018-09-30   | <p>This issue is the third official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>● Added <a href="#">Creating a DB Instance</a>.</li><li>● Added <a href="#">Deleting a DB Instance</a>.</li><li>● Added <a href="#">Querying DB Instances</a>.</li><li>● Added <a href="#">Obtaining Task Information</a>.</li><li>● Added <a href="#">Setting an Automated Backup Policy</a>.</li><li>● Added <a href="#">Obtaining an Automated Backup Policy</a>.</li><li>● Added <a href="#">Creating a Manual Backup</a>.</li><li>● Added <a href="#">Creating a Manual Backup</a>.</li><li>● Added <a href="#">Obtaining Backups</a>.</li><li>● Added <a href="#">Deleting a Manual Backup</a>.</li><li>● Added <a href="#">Restoring Data to a New DB Instance</a>.</li><li>● Added <a href="#">Restoring Data to an Existing DB Instance</a>.</li><li>● Added v3 error codes.</li><li>● Added v3 abnormal responses.</li></ul> |
| 2018-06-15   | <p>This issue is the second official release, which incorporates the following changes:</p> <ul style="list-style-type: none"><li>● Modified the value range of <code>keepDays</code>.</li><li>● Modified the value range of <code>keepday</code>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2018-05-04   | <p>This issue is the first official release.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |