

# Relational Database Service

## API Reference

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# 1 Before You Start

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## 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](#).

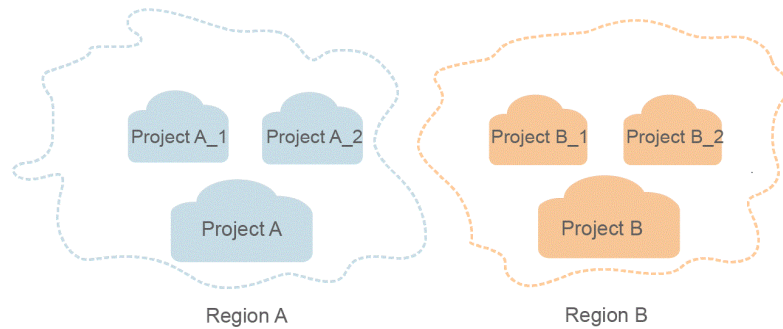
## 1.4 Constraints

- 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 (v3.1)	<a href="#">API v3.1 (Recommended)</a>	Apply a parameter template, modify parameters of a specified instance, and restore data to an existing instance.
RDS APIs (v3)	<a href="#">Querying Version Information About APIs</a>	Obtain API versions, including the API version list and API version information.
RDS APIs (v3)	<a href="#">Querying Version Information About a DB Engine</a>	Query the DB version information of a specified DB engine.
RDS APIs (v3)	<a href="#">Querying Database Specifications</a>	Query the DB specifications of a specified DB engine version.
RDS APIs (v3)	<a href="#">Querying the Storage Type of a Database</a>	Query the storage type of a specified DB engine version.
RDS APIs (v3)	<a href="#">DB Instance Management</a>	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)	<a href="#">DR Instances</a>	Configure DR capabilities for primary and DR instances, and promote DR instances to primary.

Type	Subtype	Description
RDS APIs (v3)	<a href="#">Database Security</a>	Improve database security, including configuring SSL encryption, changing database ports, modifying security groups, and changing floating IP addresses.
RDS APIs (v3)	<a href="#">Backup and Restoration</a>	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)	<a href="#">Upgrading a Major Version</a>	Query the target version to which a DB instance can be upgraded, perform an upgrade pre-check, and query the check status or upgrade status.
RDS APIs (v3)	<a href="#">Log Information Queries</a>	Obtain log information, including querying database error logs and querying database slow logs.
RDS APIs (v3)	<a href="#">Instance Diagnosis</a>	Obtain the number of instances after diagnosis and obtain the result of a specific diagnosis item.
RDS APIs (v3)	<a href="#">SQL Statement Concurrency Control (RDS for PostgreSQL)</a>	Add a SQL statement concurrency control rule, delete a concurrency control rule, and modify a concurrency control rule.
RDS APIs (v3)	<a href="#">Database Proxy (RDS for MySQL)</a>	Enable or disable the database proxy and query database proxy information.
RDS APIs (v3)	<a href="#">Database and Account Management (MySQL)</a>	Create and query databases, create, query, and delete accounts, and grant and revoke permissions of accounts.
RDS APIs (v3)	<a href="#">Database and Account Management (PostgreSQL)</a>	Create and query databases, and create and query accounts.
RDS APIs (v3)	<a href="#">Database and Account Management (Microsoft SQL Server)</a>	Create and query databases, create, query, and delete accounts, and grant and revoke permissions to accounts.

Type	Subtype	Description
RDS APIs (v3)	<b>Parameter Management</b>	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)	<b>Extension Management (RDS for PostgreSQL)</b>	Create an extension, query extensions, and update an extension.
RDS APIs (v3)	<b>Configuring Replication Delay for a Read Replica (RDS for PostgreSQL)</b>	Obtain the delayed replay status of WAL logs and pause or resume WAL replay.
RDS APIs (v3)	<b>Recycling a DB Instance</b>	Modify the recycling policy, query the recycling policy, and query instances in the recycle bin.
RDS APIs (v3)	<b>Tag Management</b>	Manage tags, including adding tags in batches, deleting tags in batches, and querying project tags.
RDS APIs (v3)	<b>Quota Management</b>	Query resource quotas.
RDS APIs (v3)	<b>Obtaining Task Information</b>	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 <b>Regions and Endpoints</b> . For example, the endpoint of IAM in the <b>CN-Hong Kong</b> region is <b>iam.ap-southeast-1.myhuaweicloud.com</b> .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the <b>resource-path</b> of the API used to obtain a user token is <b>/v3/auth/tokens</b> .



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, <b>?limit=10</b> 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 <b>https</b> is <b>443</b> .	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 <b>application/json</b> . 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 <a href="#">Obtaining a Project ID</a> .	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 <b>obtain a user token</b>. This API is the only one that does not require authentication.</p> <p>After the request is processed, the value of <b>X-Subject-Token</b> in the message header is the token value.</p>	<p>No</p> <p>This parameter is mandatory for token authentication.</p>	<p>The following is part of an example token:</p> <p>MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ</p>

 **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 **xxxxxxxxxxxxxxxxxxxx** (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": "xxxxxxxxxxxxxxxxxxxxxx"
      }
    }
  }
}
```

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 → noopen

x-frame-options → SAMEORIGIN

x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5

x-subject-token
→ MIYXQYJKoZIhvcNAQcCoIIYJCCEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMD.
fj3Kjs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5tdfq4lqHCYb8P4NaYONyejAgzJVeFYtLWT1GSO0zxKZmlQHJQ82HBqHdglZO9fuEbl5dMhdavj+33wEI
xHRCe9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXlIjipPEGA270g1FruooL6jqglFKNPQuFSOU8+uSsttVwRtnfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUUpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==

x-xss-protection → 1; mode=block;
    
```

#### (Optional) Response Body

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

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

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

```

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

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

In the response body, **error\_code** is an error code, and **error\_msg** provides information about the error.

# 4 API v3.1 (Recommended)

## 4.1 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	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> .
config_id	Yes	Specifies the parameter template ID.



## Request

**Table 4-2** Parameter description

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

## Example Request

Apply 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"> <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.

- 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*.
- The new parameter values must be within the default ranges for specified DB engine versions.
- 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](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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**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"> <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

- Change parameter values of an RDS for MySQL instance.

```
PUT https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/configurations
```

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

- Change parameter values of an RDS for PostgreSQL instance.

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

- Change 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"> <li>• <b>true:</b> A reboot is required.</li> <li>• <b>false:</b> A reboot is not required.</li> </ul>

- 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.
- 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.
  - For RDS for MySQL, the DB engine version of the target DB instance must be at least equal to that of the original DB instance, for example, from MySQL 5.7.25 to 5.7.27.
  - For RDS for PostgreSQL, the DB engine version of the target DB instance must be the same as that of the original DB instance.
  - For RDS for SQL Server, the time zone of the target DB instance must be the same as that of the original DB instance. Otherwise, data inconsistency may occur.
  - 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 MySQL and Microsoft SQL Server DB engines.

**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	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> .

## Request

**Table 4-9** Parameter description

Name	Mandatory	Type	Description
source	Yes	Object	Specifies the restoration information. For details, see <a href="#">Table 4-10</a> .
target	Yes	Object	Specifies the restoration target. For details, see <a href="#">Table 4-11</a> .

**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"> <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>



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"> <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</li> </ul> </li> </ul>

Name	Mandatory	Type	Description
			<p>blank, the original database names will be used for restoration by default.</p> <ul style="list-style-type: none"> <li>- Check whether new database names are case sensitive based on the character set selected during instance creation and make sure each new database name is 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</li> </ul>

Name	Mandatory	Type	Description
			<p>following fields (case-insensitive): rdsadmin, master, msdb, tempdb, model, and resource.</p> <ul style="list-style-type: none"> <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</li> </ul>

Name	Mandatory	Type	Description
			<p>instances where data is restored.</p> <p>Example:  <pre>"database_name": {"Original database name": "New database name"}</pre> </p> <p>Correct example:  <pre>"database_name": {"A": "A,A1,A2", "B": "B1,B2", "C": ""}</pre> </p> <p>Wrong example:  <pre>"database_name": {"A": "A", "B": "B1,B2", "C": "B1,C1", "D": "D1,d1"}</pre> </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>

Name	Mandatory	Type	Description
			<p><b>NOTICE</b></p> <p>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>
restore_all_databases	No	Boolean	<p>Specifies whether to restore all databases. The default value is <b>false</b>, 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><b>NOTICE</b></p> <p>If you want to restore all databases to an existing instance, set <b>restore_all_databases</b> to <b>true</b>.</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

- Restore data to a DB instance from a backup.

```
POST https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/recovery
{
  "source": {
```

```

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

```

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

```

{
  "source": {
    "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
    "type": "backup",
    "backup_id": "b021670e69ba4538b7b2ed07257306aeb04",
    "restore_all_database": true
  },
  "target": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin04"
  }
}

```

- Restore instance data to a specific point in time.

```

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

```

- Restore 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": "d8e6ca5a624745bcb546a227aa3ae1cfin04"
  }
}

```

## 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 a selected time point to a temporary DB instance, 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. For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**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	Whether to use fast restoration. The value can be <b>true</b> or <b>false</b> . <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** Data structure of the restore\_tables field

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** Data structure of the tables field

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

Restore table data to a specific point in time.

```
POST https://{endpoint}/v3.1/054e292c9880d4992f02c0196d3ea468/instances/d8e6ca5a624745bcb546a227aa3ae1cfin01/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. 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. <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	End time in the "yyyy-mm-ddThh:mm:ssZ" format. <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 error logs generated within a month.
offset	No	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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 cannot be a negative number.
limit	No	Number of records (query results) displayed on each page. The number ranges from 1 to 100. The default value is <b>10</b> .
level	No	Log level. The default value is <b>ALL</b> . Valid value: <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. 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. 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. <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. <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	Detailed information. For details, see <a href="#">Table 4-23</a> .
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. 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

**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. 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://{endpoint}/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. For details, see <a href="#">Table 5-2</a> .

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

Name	Type	Description
id	String	API version. 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. 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. <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	Specifies the API version. It is case-sensitive. For details, see <b>id</b> in <a href="#">Table 5-2</a> in section <a href="#">Querying API Versions</a> .

## Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/rds/v1

## Response

- Normal response

**Table 5-5** Parameter description

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

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

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



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. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> 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	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> .
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. 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	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
database_name	Yes	<p><b>Explanation:</b> DB engine name.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul> <p><b>Default value:</b> N/A</p>

Name	Mandatory	Description
version_name	No	<p><b>Explanation:</b> 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.)</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
is_serverless	No	<p><b>Explanation:</b> Whether to query serverless specifications.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <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> <p><b>Default value:</b> N/A</p>
spec_code	No	<p><b>Explanation:</b> Specification code.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## 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	<p><b>Explanation:</b> Indicates the DB instance specifications information list. For details, see <a href="#">Table 5-13</a>.</p>

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

Name	Type	Description
vcpus	String	<p><b>Explanation:</b> Indicates the CPU size. For example, the value <b>1</b> indicates 1 vCPU. <b>Value range:</b> N/A</p>
ram	Integer	<p><b>Explanation:</b> Indicates the memory size in GB. <b>Value range:</b> N/A</p>
id	String	<p><b>Explanation:</b> Indicates the specification ID, which is unique. <b>Value range:</b> N/A</p>

Name	Type	Description
spec_code	String	<p><b>Explanation:</b> Indicates the resource specification code. Use <b>rds.mysql.m1.xlarge.rr</b> as an example. 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: <b>rds.mysql.n1.large.4.rha.rr</b>. <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> <p><b>Value range:</b> N/A</p>
version_name	Array	<p><b>Explanation:</b> Indicates the database version. Example value for the MySQL DB engine: ["5.6","5.7","8.0"]</p>
instance_mode	String	<p><b>Explanation:</b> Indicates the instance type.</p> <p><b>Value range:</b></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><b>Explanation:</b> Indicates the specification status in an AZ.</p> <p><b>Value range:</b></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>

Name	Type	Description
az_desc	Map<String, String>	<p><b>Explanation:</b> Indicates the description of the AZ to which the specifications belong.</p> <p><b>Value range:</b> N/A</p>
group_type	String	<p><b>Explanation:</b> Indicates instance specifications.</p> <p><b>Value range:</b></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.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.rr",
        "version_name": ["5.6", "5.7", "8.0"],
        "instance_mode": "replica",
        "az_status": {
          "az1": "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	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> .
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	Yes	Specifies the DB engine version. For details about how to obtain the version, see <a href="#">Querying Version Information About a DB Engine</a> . For the MySQL DB engine, it indicates the major version, for example, 5.6, 5.7, or 8.0.
ha_mode	No	Specifies the HA mode. The value options are as follows: <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	Indicates the DB instance specifications information list. For details, see <a href="#">Table 5-16</a> .

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

**Table 5-16** storage\_type field data structure description

Name	Type	Description
name	String	Indicates the storage type. Its value can be any of the following: <ul style="list-style-type: none"> <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>

Name	Type	Description
support_compute_group_type	List<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>dedicicateNormal</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	<p>Indicates the dsspool status. Its value can be any of the following:</p> <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"
      }
    },
    {
      "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"
      }
    },
    {
      "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 Querying Storage Usage of a DB Instance

## Function

This API is used to query storage usage of a DB instance.

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

## Constraints

This API is available only for the MySQL and SQL Server DB engines.

## URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/storage-used-space
- Parameter description

**Table 5-18** Parameters

Parameter	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Description
instance_id	Yes	<b>Explanation:</b> ID of the instance to be queried. <b>Constraints:</b> N/A <b>Value range:</b> N/A <b>Default value:</b> N/A

## Request

- Request parameters

None

- URI example

GET <https://{Endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/314958daf6904c478d17c642ac209abbin01/storage-used-space>

## Response

- Normal response

**Table 5-19** Parameters

Parameter	Type	Description
node_id	String	<b>Explanation:</b> Instance node ID. <b>Value range:</b> N/A
used	String	<b>Explanation:</b> Used storage, in GB. <b>Value range:</b> N/A

- Example normal response

```
{
  "node_id" : "0314958daf6904c478d17c642ac209abbin01",
  "used" : "14.21"
}
```

- Abnormal 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 DB Instance Management

## 5.6.1 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 5-20** 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 <a href="#">Obtaining a Project ID</a> .



## Request

**Table 5-21** 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 5-23</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 in Querying Database Specifications</a>.</p>

Parameter	Mandatory	Type	Description
volume	Yes	Object	Specifies instance storage. For details, see <a href="#">Table 5-26</a> .
region	Yes	String	Specifies the region ID. The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a> .
availability_zone	Yes	String	Specifies the AZ ID. If the DB instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). For details, see the example.  The AZ ID can be obtained from the response returned after the API in <a href="#">Querying Database Specifications</a> is called.
vpc_id	Yes	String	Specifies the VPC ID. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"> <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 <a href="#">Service Tickets &gt; Create Service Ticket</a> 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 5-24</a>.</p>

Parameter	Mandatory	Type	Description
configuration_id	No	String	Specifies the parameter template ID. For details, see <b>id</b> in <a href="#">Table 5-524</a> in section <a href="#">Obtaining a Parameter Template List</a> .

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, 5985, and 5986).</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:</p> <p>A database password must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters.</p> <p>Different DB engines support different special characters.</p> <ul style="list-style-type: none"> <li>• RDS for MySQL: ~!@#%&amp;^*_-=+?,()&amp;</li> <li>• RDS for SQL Server: ~!@#%&amp;^*_-=+?,</li> <li>• RDS for PostgreSQL: ~!@#%&amp;^*_-=+?,</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 5-25</a>.</p>
enterprise_project_id	No	String	<p>Specifies the enterprise project ID.</p>
disk_encryption_id	No	String	<p>Specifies the key ID for disk encryption. The default value is empty.</p> <p><b>NOTE</b> 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 5-27</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 5-29</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 5-28</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 5-31</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.</p> <p>Value range: 1 to 50</p> <p>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.</p> <p>For details, see <a href="#">Table 5-30</a>.</p>

**Table 5-22** 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	<p>Specifies the ID of the primary DB instance. This parameter is mandatory when you create a read replica and is unavailable in other scenarios.</p>
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 5-26</a>.</p>

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	Specifies the AZ ID. The AZ ID can be obtained from the response returned after the API in <a href="#">Querying Database Specifications</a> is called.
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	Specifies the billing information, which is yearly/monthly or pay-per-use (default setting). For details, see <a href="#">Table 5-27</a> . <b>NOTE</b> 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. RDS for SQL Server does not support yearly/monthly read replicas.

**Table 5-23** 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>5.7</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 5-24** 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 5-25** 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> Primary/standby DB instances of RDS for SQL Server do not support disabling the automated backup policy.</p>

**Table 5-26** 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> For read replicas, this parameter is invalid. The volume size is the same as that of the primary DB instance by default.</p>

**Table 5-27** 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> 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 5-28** tags field data structure description

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

**Table 5-29** 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": {"<i>Original database name</i>":"<i>New database name</i>"}</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 5-30** 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> RCU: RDS Capacity Unit. It is the billing unit for serverless instances. The value of <b>max_cap</b> must be greater than that of <b>min_cap</b>.</p>
max_cap	Yes	String	<p>Maximum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5.</p>

**Table 5-31** 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> 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.</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": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "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": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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"
  },
  "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": "5.7"
  },
  "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": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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",
    "size": 100
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "enterprise_project_id": "fdsa-3rds",
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    }
  ]
}
```

```

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

```

- Creating an RDS for MySQL single serverless instance

```

{
  "name": "rds-instance-serverless1",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "flavor_ref": "rds.mysql.serverless",
  "volume": {
    "type": "CLOUDSSD",
    "size": 40
  },
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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 primary/standby serverless 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": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a,ap-southeast-1b",
  "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 5-32** Parameter description

Parameter	Type	Description
instance	Object	Indicates the DB instance information. For details, see <a href="#">Table 5-33</a> .
job_id	String	Indicates the ID of the DB instance creation task. For details about how to query task details, see <a href="#">Obtaining Information About a Task with a Specified ID</a> . 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 5-33** 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, <b>BUILD</b> 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 <a href="#">Table 5-34</a> .
ha	Object	Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created.  For details, see <a href="#">Table 5-35</a> .
configuration_id	String	Indicates the parameter template ID. This parameter is returned only when a custom parameter template is used during DB instance creation.

Parameter	Type	Description
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 <a href="#">Table 5-36</a> .
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. <b>NOTE</b> Serverless instances do not support this parameter.
flavor_ref	String	Indicates the specification code. The value cannot be empty. For details, see <b>spec_code</b> in <a href="#">Table 5-13</a> in section <a href="#">Querying Database Specifications</a> .
volume	Object	Indicates the volume information. For details, see <a href="#">Table 5-37</a> .
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"> <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	<p>Indicates 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	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"> <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>
charge_info	Object	<p>Indicates the billing information, which is yearly/monthly or pay-per-use.</p> <p>For details, see <a href="#">Table 5-38</a>.</p>
collation	String	<p>Indicates the collation set for RDS for SQL Server.</p>
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 <a href="#">Table 5-39</a>.</p>



**Table 5-34** datastore field data structure description

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

**Table 5-35** ha field data structure description

Parameter	Type	Description
mode	String	Indicates the primary/standby instance type. The value is <b>Ha</b> .
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"> <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> <b>NOTE</b> <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 5-36** 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"> <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> <p>If <b>backup_strategy</b> in the request body is empty, <b>02:00-03:00</b> is returned for <b>start_time</b> 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 <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>If <b>backup_strategy</b> in the request body is empty, <b>7</b> is returned for <b>keep_days</b> by default.</p>

**Table 5-37** volume field data structure description

Parameter	Type	Description
type	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"> <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	Integer	<p>Indicates the volume size.</p> <p>Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.</p>

**Table 5-38** chargeInfo field data structure description

Parameter	Type	Description
charge_mode	String	<p>Indicates the billing information, which is yearly/monthly or pay-per-use.</p>
period_num	Integer	<p>Indicates the subscription period, which is calculated by month.</p> <p>This parameter is valid when <b>charge_mode</b> is set to <b>prePaid</b> (creating yearly/monthly DB instances).</p>

**Table 5-39** restore\_point field data structure description

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

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

RDS for MySQL single instance created.

```
{
  "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "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"
}
```

RDS for SQL Server single instance created.

```
{
  "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
},
"disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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"
}

```

Primary/standby instance created.

```

{
  "instance": {
    "id": "dsfae23fsfdae3435in01",
    "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a,ap-southeast-1b",
    "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"
  }
}

```

Read replica created.

```

{
  "instance": {
    "id": "dsfae23fsfdae3435in01",
    "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "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"
}

```

RDS for MySQL single serverless instance created.

```

{
  "instance": {
    "id": "4c57a8203dd348f3b789476165755b20in01",
    "name": "serverless_single1",
    "status": "BUILD",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "port": "3307",
    "volume": {
      "type": "CLOUDSSD",
      "size": 40
    },
    "region": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "backup_strategy": {
      "start_time": "08:15-09:15",
      "keep_days": 12
    },
    "flavor_ref": "rds.mysql.serverless",
    "vpc_id": "bd3e4c67-74da-459d-820f-9fec4ea9ca4",
    "subnet_id": "53cdf568-6f56-4944-a996-4afcaff994e",
    "security_group_id": "89f258c5-4b81-4ef0-be30-34f2ee07dd1c",
    "charge_info": {
      "charge_mode": "postPaid"
    }
  },
  "job_id": "3c1b8910-4191-4eed-9865-49bd82bac65b"
}

```

RDS for MySQL primary/standby serverless instance created.

```

{
  "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a,ap-southeast-1b",
    "backup_strategy": {
      "start_time": "08:15-09:15",
      "keep_days": 12
    },
  },
}

```

```

"flavor_ref": "rds.mysql.serverless.ha",
"vpc_id": "bd3e4c67-74da-459d-820f-9fec4ea9ca4",
"subnet_id": "53cdf568-6f56-4944-a996-4afcaff994e",
"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](#).

## 5.6.2 Creating a DB Instance (API v5)

### Function

This API is derived from the API for creating a DB instance (v3). The **subscription\_agency** field is added to the request body of this API. This field is used when a RAM-based shared key is used to create a yearly/monthly RDS DB instance. This API is used to create a single-node RDS DB instance, primary/standby DB instance, or read replica.

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

This API supports only AK/SK authentication. This API allows you to set the X-Client-Token request header in the HTTP request header to ensure the request idempotence. For details, see [Idempotent Requests](#).

### URI

- URI format  
POST /v5/{project\_id}/instances
- Parameter description

**Table 5-40** 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 <a href="#">Obtaining a Project ID</a> .

## Request

**Table 5-41** Parameters (creating single, primary/standby, and cluster instances)

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name. Instances of the same type can have the same name under the same tenant. Value range: <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	Database information. This parameter is optional when you create RDS for MySQL read replicas. For details, see <a href="#">Table 5-43</a> .
ha	No	Object	HA configuration, which is used when you create primary/standby instances. For details, see <a href="#">Table 5-44</a> .
configuration_id	No	String	Parameter template ID. For details, see <b>id</b> in <a href="#">Table 5-524 of Obtaining a Parameter Template List</a> .



Parameter	Mandatory	Type	Description
port	No	String	<p>Database port.</p> <ul style="list-style-type: none"> <li>RDS for MySQL instances can use database ports 1024 to 65535, excluding 12017, 33071, and 33062, 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, 5985, and 5986).</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>
password	No	String	<p>Database password.</p> <p>Value range:</p> <p>A database password must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters.</p> <p>Different DB engines support different special characters.</p> <ul style="list-style-type: none"> <li>RDS for MySQL: <code>~!@#%*^*-_+=+?,()&amp;. </code></li> <li>RDS for SQL Server: <code>~!@#%*^*-_+?,</code></li> <li>RDS for PostgreSQL: <code>~!@#%*^*-_+=+?,</code></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>

Parameter	Mandatory	Type	Description
backup_strategy	No	Object	Advanced backup policy. For details, see <a href="#">Table 5-45</a> .
enterprise_project_id	No	String	Enterprise project ID.
disk_encryption_id	No	String	Key ID for disk encryption. The default value is empty. <b>NOTE</b> Serverless instances do not support this parameter.
subscription_agency	No	String	URN of the agency authorized to the Billing service. This parameter is required when you use a RAM-based shared key to create a yearly/monthly RDS DB instance. For details about how to obtain the agency URN, see <a href="#">Obtaining an Agency URN</a> .
flavor_ref	Yes	String	Specification code. The value cannot be empty. For details, see <b>spec_code</b> in <a href="#">Table 5-13 of Querying Database Specifications</a> .
volume	Yes	Object	Volume information. For details, see <a href="#">Table 5-46</a> .
region	Yes	String	Region ID. The value cannot be empty. For details about how to obtain this parameter value, see <a href="#">Regions and Endpoints</a> .
availability_zone	Yes	String	AZ ID. If the DB instance is not a single-node instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). For details, see the example.  The AZ ID can be obtained from the response returned after the API in <a href="#">Querying Database Specifications</a> is called.

Parameter	Mandatory	Type	Description
vpc_id	Yes	String	<p>VPC ID. This parameter is optional when you create RDS for MySQL read replicas.</p> <p>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 view the VPC ID on the VPC details page.</li> <li>Method 2: See the "Querying VPCs" section in the <i>Virtual Private Cloud API Reference</i>.</li> </ul>
subnet_id	Yes	String	<p>Subnet ID. This parameter is optional when you create RDS for MySQL read replicas.</p> <p>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>
data_vip	No	String	<p>Floating IP address of a DB instance. Currently, only IPv4 addresses are supported. You can use either of 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>

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	<p>Security group which the DB instance is associated with. To obtain this parameter value, use either of the following methods: This parameter is optional when you create RDS for MySQL read replicas.</p> <p>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 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>
charge_info	No	Object	<p>Billing information, which is yearly/ monthly or pay-per-use (default setting). For details, see <a href="#">Table 5-47</a>.</p>
time_zone	No	String	<p>UTC time zone.</p> <ul style="list-style-type: none"> <li>If this parameter is not specified, the time zone of each DB 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 uses UTC by default.</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> </ul>
dsspool_id	No	String	<p>DSS pool ID for DeC users. The DSS pool configured for each AZ is different. When DeC users create DB instances other than single-node instances or read replicas, DSS pool IDs must be specified for all nodes of the DB instances and must be separated by commas (,).</p>

Parameter	Mandatory	Type	Description
replica_of_id	No	String	ID of the primary DB instance. This parameter is mandatory when you create a read replica and is unavailable in other scenarios.
restore_point	No	Object	Restoration information. This parameter is mandatory when data is restored to a new instance. For details, see <a href="#">Table 5-49</a> .
tags	No	Array of objects	Tag list. Each DB instance can be associated with tag key-value pairs while being created. <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 keys and values, separate them with commas (.). A maximum of 10 key-value pairs can be added for a DB instance.</p> <p>For details, see <a href="#">Table 5-48</a>.</p>
unchangeable_param	No	Object	List of unchangeable parameters. The unchangeable parameters need to be specified before database initialization and cannot be modified after being specified. For details, see <a href="#">Table 5-51</a> .
collation	No	String	This parameter applies only to RDS for SQL Server instances. It is invalid for RDS for MySQL, RDS for MariaDB, and RDS for PostgreSQL instances. Value range: character sets queried in <a href="#">Querying the Available SQL Server Character Set</a> .

Parameter	Mandatory	Type	Description
dry_run	No	Boolean	<p>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>Number of DB instances to be created in a batch. Value range: 1 to 50</p> <p><b>NOTE</b> This parameter is available only when you create an RDS for MySQL or RDS for SQL Server primary instance. This parameter is unavailable when you create read replicas.</p>
serverless_info	No	Object	<p>Resource scaling scope of a serverless instance. This parameter is mandatory when you create a serverless instance. For details, see <a href="#">Table 5-50</a>.</p>

**Table 5-42** Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name. Instances of the same type can have the same name under the same tenant. Value range: <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>
enterprise_project_id	No	String	Project ID.
disk_encryption_id	No	String	Key ID for disk encryption. The default value is empty.
subscription_agency	No	String	URN of the agency authorized to the Billing service. This parameter is required when you use a RAM-based shared key to create a yearly/monthly RDS DB instance. For details about how to obtain the agency URN, see <a href="#">Obtaining an Agency URN</a> .
replica_of_id	No	String	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	Specification code. The value cannot be empty. For details, see <b>spec_code</b> in <a href="#">Table 5-13 of Querying Database Specifications</a> .
volume	Yes	Object	Volume information. For details, see <a href="#">Table 5-46</a> .

Parameter	Mandatory	Type	Description
region	No	String	Region ID. 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> .
availability_zone	Yes	String	AZ ID. The AZ ID can be obtained from the response returned after the API in <a href="#">Querying Database Specifications</a> is called.
charge_info	No	Object	Billing information, which is yearly/monthly or pay-per-use (default setting). For details, see <a href="#">Table 5-47</a> . <b>NOTE</b> To create RDS for MySQL or RDS for PostgreSQL read replicas billed on a yearly/monthly basis, contact customer service to apply for the required permissions. RDS for SQL Server does not support yearly/monthly read replicas.

**Table 5-43** Data structure description of field datastore

Parameter	Mandatory	Type	Description
type	Yes	String	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>DB engine version.</p> <ul style="list-style-type: none"> <li>MySQL: 5.7 and 8.0 are supported. Example value: 5.7</li> <li>PostgreSQL: 9.5, 9.6, 10, 11, 12, 13, 14, and 15 are supported. Example value: 9.6</li> <li>Microsoft SQL Server: Only 2022 Enterprise Edition, 2022 Standard Edition, 2022 Web Edition, 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, 2008 R2 Enterprise Edition, 2008 R2 Web Edition, 2014 Web Edition, and 2016 Web Edition are supported. Example value: 2014_SE</li> </ul> <p>For details about supported DB engine versions, see <a href="#">Querying Version Information About a DB Engine</a>.</p>
complete_version	No	String	Complete database version number.

**Table 5-44** Data structure description of field ha

Parameter	Mandatory	Type	Description
mode	Yes	String	Primary/standby instance type. The value is <b>Ha</b> (case-insensitive).

Parameter	Mandatory	Type	Description
replication_mode	Yes	String	<p>Replication mode for the standby 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 asynchronous replication.</li> <li><b>semisync</b> indicates semi-synchronous replication.</li> <li><b>sync</b> indicates synchronous replication.</li> </ul>

**Table 5-45** Data structure description of field backup\_strategy

Parameter	Mandatory	Type	Description
start_time	Yes	String	<p>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>

Parameter	Mandatory	Type	Description
keep_days	No	Integer	Retention days for backups. The value ranges 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. <b>NOTICE</b> The automated backup policy cannot be disabled for primary/standby DB instances of RDS for SQL Server.

**Table 5-46** Data structure description of field volume

Parameter	Mandatory	Type	Description
type	Yes	String	Storage type. The value can be any of the following (case-sensitive): <ul style="list-style-type: none"> <li>● <b>ULTRAHIGH</b>: SSD 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 instances.</li> <li>● <b>ESSD</b>: extreme SSD storage.</li> </ul>
size	Yes	Integer	Storage space. The value must be a multiple of 10 and the value range is from 40 GB to 4,000 GB. <b>NOTE</b> For read replicas, this parameter is invalid. The storage space is the same as that of the primary instance by default.

**Table 5-47** Data structure description of field charge\_info

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode. Values: <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>
period_type	No	String	Subscription type. Values: <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> This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</p>
period_num	No	Integer	Subscription period. This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b> . Value range: <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>. Only RDS for MySQL supports the 5-year subscription. The constraints are as follows: <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> </li> </ul>

Parameter	Mandatory	Type	Description
is_auto_renew	No	boolean	<p>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"> <li>• <b>true</b>: indicates that automatic renewal is enabled.</li> <li>• <b>false</b>: indicates that automatic renewal is disabled. The default value is <b>false</b>.</li> </ul>
is_auto_pay	No	boolean	<p>Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment method of automatic renewal.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: The order will be automatically paid.</li> <li>• <b>false</b>: The order will be manually paid. The default value is <b>false</b>.</li> </ul>

**Table 5-48** Data structure description of field tags

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

**Table 5-49** Data structure description of field `restore_point`

Parameter	Mandatory	Type	Description
<code>instance_id</code>	Yes	String	Source instance ID.
<code>type</code>	Yes	String	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>
<code>backup_id</code>	No	String	ID of the backup used to restore data. This parameter must be specified when backups are used for restoration.
<code>restore_time</code>	No	Integer	Time point of data restoration in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.
<code>database_name</code>	No	Map<String,String>	This parameter is supported only for Microsoft SQL Server instances. If this parameter is specified, you can restore specific databases and rename new databases. <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": {"<i>Original database name</i>": "<i>New database name</i>"}</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 5-50** Data structure description of field `serverless_info`

Parameter	Mandatory	Type	Description
<code>min_cap</code>	Yes	String	Minimum compute power of a serverless instance, in RCU. The value ranges from 0.5 to 8 and the step is 0.5. <b>NOTE</b> RCU: RDS Capacity Unit. It is the billing unit for serverless instances. The value of <b>max_cap</b> must be greater than that of <b>min_cap</b> .
<code>max_cap</code>	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 5-51** Data structure description of field `unchangeable_param`

Parameter	Mandatory	Type	Description
<code>lower_case_table_names</code>	No	String	Whether table names are case sensitive. The default value is <b>1</b> . Values: <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> <b>NOTE</b> 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.

 **NOTE**

The values of **region** and **availability\_zone** in the example request are only for reference.

- URI example  
POST `https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances`

- Example request

Create an RDS for MySQL single-node instance billed on a yearly/monthly basis using a RAM-based shared key.

```
{
  "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",
"subscription_agency": "xxx::xxxx:xx:xxxx",
"region": "ap-southeast-1",
"availability_zone": "ap-southeast-1a",
"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": "prePaid",
  "period_type": "year",
  "period_num": 1
},
"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"
  }
],
"dry_run": false,
"count": 12
}

```

Create an RDS for PostgreSQL single-node instance billed on a yearly/monthly basis using a RAM-based shared key.

```

{
  "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",
  "subscription_agency": "xxx::xxxx:xx:xxxx",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "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"
    }
  ]
}

```

Create an RDS for SQL Server single-node instance billed on a yearly/monthly basis using a RAM-based shared key.

```

{
  "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",
  "subscription_agency": "xxx::xxxx:xx:xxxx",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
  "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": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "collation": "Cyrillic_General_CI_AS",
  "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"
    }
  ]
}

```

```
]
}
```

Create an RDS for MySQL primary/standby instance billed on a yearly/monthly basis using a RAM-based shared key.

```
{
  "name": "rds-instance-rep2",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "ha": {
    "mode": "ha",
    "replication_mode": "semisync"
  },
  "flavor_ref": "rds.mysql.s1.large.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 100
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "subscription_agency": "xxx::xxxx:xx:xxxx",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a,ap-southeast-1b",
  "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": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "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"
    }
  ],
  "dry_run": false,
  "count": 12
}
```

Create an RDS for MySQL read replica billed on a yearly/monthly basis using a RAM-based shared key.

```
{
  "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",
  "subscription_agency": "xxx::xxxx:xx:xxxx",
  "region": "ap-southeast-1",
  "availability_zone": "ap-southeast-1a",
}
```

```

    "charge_info": {
      "charge_mode": "prePaid",
      "period_type": "year",
      "period_num": 1
    },
    "enterprise_project_id": "fdsa-3rds",
    "tags": [
      {
        "key": "key1",
        "value": "value1"
      },
      {
        "key": "key2",
        "value": "value2"
      }
    ]
  }

```

## Response

- Normal response

**Table 5-52** Parameters

Parameter	Type	Description
instance	Object	Instance information. For details, see <a href="#">Table 5-53</a> .
job_id	String	ID of the instance creation task. For details about how to query task details, see <a href="#">Obtaining Information About a Task with a Specified ID</a> . This parameter is returned only for the creation of pay-per-use instances.
order_id	String	Order ID. This parameter is returned only for the creation of yearly/monthly instances.

**Table 5-53** instance description

Parameter	Type	Description
id	String	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	Instance name. Instances of the same type can have the same name under the same tenant.

Parameter	Type	Description
status	String	Instance status. For example, <b>BUILD</b> indicates that the instance is being created. This parameter is returned only for the creation of pay-per-use instances.
datastore	Object	Database information. For details, see <a href="#">Table 5-54</a> .
ha	Object	HA configurations. This parameter is returned only when primary/standby instances are created. For details, see <a href="#">Table 5-55</a> .
configuration_id	String	Parameter template ID. This parameter is returned only when a custom parameter template is used during instance creation.
port	String	Database port, which is the same as the request parameter.
backup_strategy	Object	Automated backup policy. For details, see <a href="#">Table 5-56</a> .
enterprise_project_id	String	Project ID.
disk_encryption_id	String	Key ID for disk encryption. This parameter is returned only when it is specified during the instance creation. By default, it is empty.
flavor_ref	String	Specification code. The value cannot be empty. For details, see <b>spec_code</b> in <a href="#">Table 5-13 of Querying Database Specifications</a> .
volume	Object	Volume information. For details, see <a href="#">Table 5-57</a> .
region	String	Region ID.
availability_zone	String	AZ ID.
vpc_id	String	VPC ID.
subnet_id	String	Subnet ID.

Parameter	Type	Description
security_group_id	String	Security group which the DB instance is associated with. To obtain this parameter value, use either of the following methods:
charge_info	Object	Billing information, which is yearly/ monthly or pay-per-use. For details, see <a href="#">Table 5-58</a> .
collation	String	Collation for the RDS for SQL Server instance.
restore_point	Object	Restoration information. This parameter is mandatory when data is restored to a new instance. For details, see <a href="#">Table 5-59</a> .

**Table 5-54** Data structure description of field datastore

Parameter	Type	Description
type	String	DB engine. Value: <ul style="list-style-type: none"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul>
version	String	DB engine version. For details about supported DB engine versions, see <a href="#">Querying Version Information About a DB Engine</a> .
complete_version	String	Complete database version number.

**Table 5-55** Data structure description of field ha

Parameter	Type	Description
mode	String	Primary/standby instance type. The value is <b>Ha</b> .

Parameter	Type	Description
replication_mode	String	<p>Replication mode for the standby instance. This parameter is valid only when the instance is an HA 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 asynchronous replication.</li> <li><b>semisync</b> indicates semi-synchronous replication.</li> <li><b>sync</b> indicates synchronous replication.</li> </ul>

**Table 5-56** Data structure description of field backupStrategy

Parameter	Type	Description
start_time	String	<p>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> <p>If <b>backup_strategy</b> in the request body is empty, <b>02:00-03:00</b> is returned for <b>start_time</b> by default.</p>

Parameter	Type	Description
keep_days	Integer	Retention days for backups. The value ranges 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. If <b>backup_strategy</b> in the request body is empty, <b>7</b> is returned for <b>keep_days</b> by default.

**Table 5-57** Data structure description of field volume

Parameter	Type	Description
type	String	Storage type. The value can be any of the following (case-sensitive): <ul style="list-style-type: none"> <li>• <b>ULTRAHIGH</b>: SSD 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 instances.</li> <li>• <b>ESSD</b>: extreme SSD storage.</li> </ul>
size	Integer	Storage space. Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.

**Table 5-58** Data structure description of field chargeInfo

Parameter	Type	Description
charge_mode	String	Billing information, which is yearly/ monthly or pay-per-use.
period_type	String	Subscription type. <ul style="list-style-type: none"> <li>• <b>month</b>: The service is subscribed by month.</li> <li>• <b>year</b>: The service is subscribed by year.</li> </ul>

Parameter	Type	Description
period_num	Integer	Subscription period, which is calculated by month. This parameter is valid only when <b>charge_mode</b> is set to <b>prePaid</b> (yearly/monthly billing).
is_auto_pay	Boolean	Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment method of automatic renewal. <ul style="list-style-type: none"> <li>• <b>false</b>: The order will be manually paid. The default value is <b>false</b>.</li> <li>• <b>true</b>: The order will be automatically paid.</li> </ul>
is_auto_renew	Boolean	Whether automatic renewal is enabled for yearly/monthly instances. The renewal period is the same as the original period, and the order will be automatically paid. <ul style="list-style-type: none"> <li>• <b>false</b>: Automatic renewal is disabled. The default value is <b>false</b>.</li> <li>• <b>true</b>: Automatic renewal is enabled.</li> </ul>

**Table 5-59** Data structure description of field restore\_point

Parameter	Type	Description
instance_id	String	Source instance ID.
type	String	Restoration mode. <ul style="list-style-type: none"> <li>• <b>backup</b>: indicates using backup files for restoration.</li> <li>• <b>timestamp</b>: indicates the point-in-time restoration.</li> </ul>
backup_id	String	ID of the backup used to restore data.
restore_time	Integer	Time point of data restoration in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.



Parameter	Type	Description
database_name	Map<String,String>	This parameter is supported only for Microsoft SQL Server instances. If this parameter is specified, you can restore specific databases and rename new databases.

 NOTE

The values of **region** and **availability\_zone** in the example response are only for reference.

- Example normal response  
RDS for MySQL single instance created.

```
{
  "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "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": "prePaid",
      "period_type": "year",
      "period_num": 1
    },
    "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
  }
}
```

RDS for SQL Server single instance created.

```
{
  "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
    },
    "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
    "region": "ap-southeast-1",
  }
}
```

```

    "availability_zone": "ap-southeast-1a",
    "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": "prePaid",
      "period_type": "year",
      "period_num": 1
    },
    "collation": "Cyrillic_General_CI_AS"
  },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}

```

RDS for MySQL primary/standby instance created.

```

{
  "instance": {
    "id": "dsfae23fsfsdae3435in01",
    "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a,ap-southeast-1b",
    "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": "prePaid",
      "period_type": "year",
      "period_num": 1
    }
  },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}

```

RDS for MySQL read replica created.

```

{
  "instance": {
    "id": "dsfae23fsfsdae3435in01",
    "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": "ap-southeast-1",
    "availability_zone": "ap-southeast-1a",
    "charge_info": {
      "charge_mode": "prePaid",
      "period_type": "year",
      "period_num": 1
    },
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "port": "8635",
    "configuration_id": "452408-44c5-94be-305145fg"
  },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}

```

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

## Status Code

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

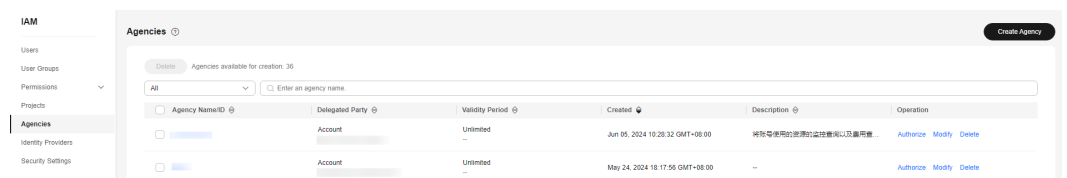
## Error Code

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

## Obtaining an Agency URN

1. Log in to the Identity and Access Management (IAM) console.

Figure 5-1 IAM page



2. Click **Agencies**. On the displayed page, click **Create Agency**.
3. On the **Create Agency** page, set the following parameters and click **Next**.
  - **Agency Name:** For example, enter **agency\_billing**.
  - **Agency Type:** Select **Cloud service**.
  - **Cloud Service:** Select **Billing**.
  - **Validity Period:** Select **Unlimited**.
  - **Description:** Enter a description about the agency.

Figure 5-2 Creating an agency

Agencies / Create Agency

\* Agency Name

\* Agency Type  Account  
Delegate another Huawei Cloud account to perform operations on your resources.  
 Cloud service  
Delegate a cloud service to access your resources in other cloud services.

\* Cloud Service

\* Validity Period

Description   
0/255

4. Enter **fulfillment** in the search box to start a search, select **ServicePolicyForRDSFulfillment**, and click **Next**.

Figure 5-3 Selecting a policy

< | Authorize Agency

1 Select Policy/Role 2 Select Scope 3 Finish

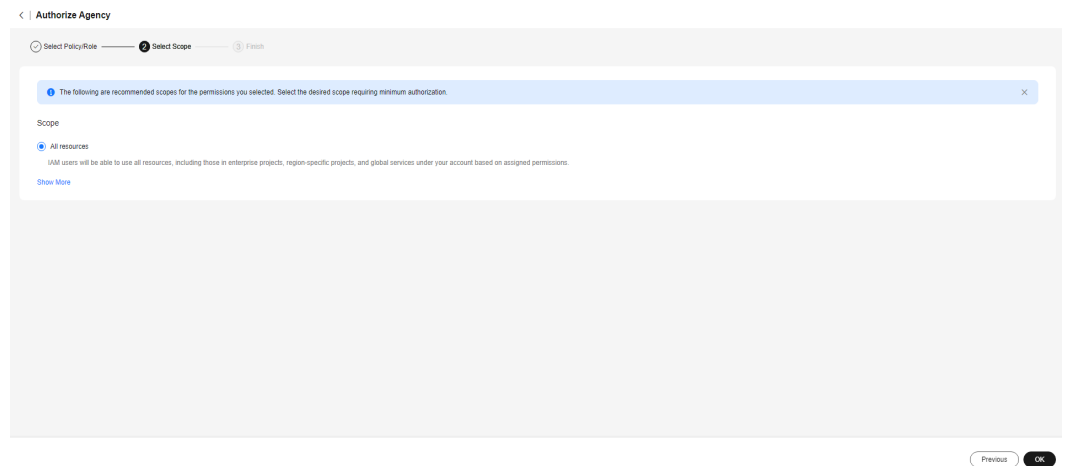
Assign selected permissions to agency\_billing Create Policy

View Selected (1) Copy Permissions from Another Project All policies/roles All services Fuzzy search fulfillment X

Policy/Role Name	Type
<input checked="" type="checkbox"/> ServicePolicyForRDSFulfillment <small>Order fulfillment permissions for RDS</small>	System-defined policy

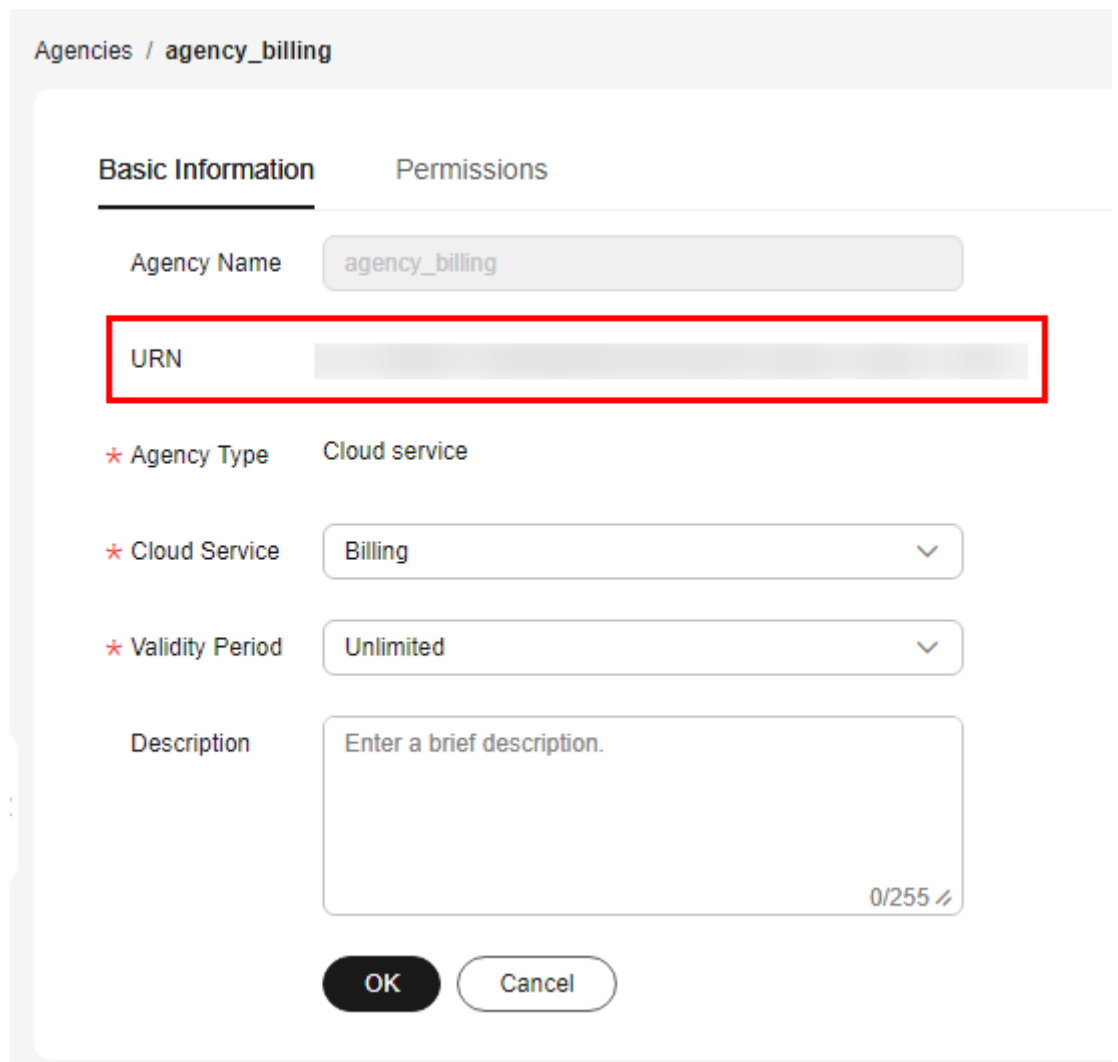
5. By default, the permissions apply to all resources. Click **OK**.

**Figure 5-4** Selecting a scope



6. Click the name of the created agency. On the **Basic Information** page, obtain the agency URN.

**Figure 5-5** Obtaining a URN



## 5.6.3 Changing the Billing Mode from Pay-per-Use to Yearly/Monthly

### Function

This API is used to change the billing mode of an RDS instance from pay-per-use to yearly/monthly.

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

### URI

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

**Table 5-60** Parameters

Parameter	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
instance_id	Yes	<p><b>Explanation:</b> Instance ID.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

### Request

- Parameter description

**Table 5-61** Parameters

Parameter	Mandatory	Type	Description
period_type	Yes	String	<p><b>Explanation:</b> Period type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• MONTH</li> <li>• YEAR</li> </ul> <p><b>Default value:</b> N/A</p>
period_num	Yes	int	<p><b>Explanation:</b> Number of periods.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
auto_pay_policy	No	String	<p><b>Explanation:</b> Whether to enable automatic payment.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• YES: Enable automatic payment.</li> <li>• NO (default): Disable automatic payment.</li> </ul> <p><b>Default value:</b> NO</p>

Parameter	Mandatory	Type	Description
auto_renew_policy	No	String	<p><b>Explanation:</b> Whether to automatically renew the subscription upon expiration.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>YES:</b> Enable auto renewal.</li> <li>• <b>NO (default):</b> Disable auto renewal.</li> </ul> <p><b>Default value:</b> NO</p>

- URI example  
POST <https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52ebin03/to-period>

- Request example  
Change the billing mode of an RDS instance from pay-per-use to yearly/monthly.

```
{
  "period_type": "MONTH",
  "period_num": 6,
  "auto_pay_policy": "NO",
  "auto_renew_policy": "NO"
}
```

## Response

- Normal response

**Table 5-62** Parameters

Parameter	Type	Description
order_id	String	<p><b>Explanation:</b> ID of the order for changing the billing mode to yearly/monthly.</p> <p><b>Value range:</b> N/A</p>

- Example normal response  

```
{
  "order_id": "CS2408170728W40QZ"
}
```
- Abnormal 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 Stopping an Instance

### Function

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

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

### Constraints

- 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.
- A stopped instance will not be moved to the recycle bin after being deleted.
- If you stop a primary instance, read replicas (if there are any) will also be stopped. You cannot stop a read replica without stopping the primary instance. In CN East-Shanghai1, both the primary instance and read replicas can be stopped for up to 15 days. In other regions, they can be stopped for up to 7 days.
  - In CN East-Shanghai1, if you do not manually start your instance 15 days after the instance is stopped, your instance will start during the next maintenance window.
  - In other regions, if you do not manually start your instance 7 days after the instance is stopped, your instance will start 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 5-63** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

None

## Example Request

Stop an instance.

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

```

## Response

- Normal response

**Table 5-64** 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](#).

## 5.6.5 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

- 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 5-65** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

None

### Example Request

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

```

### Response

- Normal response

**Table 5-66** 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](#).

## 5.6.6 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 5-67** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-68** 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"> <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>

## Example Request

Change 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](#).

## 5.6.7 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 5-69** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

### Request

**Table 5-70** 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

Change the description of a DB instance.

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

## Response

- Normal response

**Table 5-71** Parameter description

Name	Type	Description
resp	String	Returns <b>successful</b> 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](#).

## 5.6.8 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 5-72** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-73** Parameter description

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

## Example Request

Apply for a private domain name.

```
POST https://{endpoint}/v3/054ea741f700d4a32f1bc00f5c80dd4c/instances/5b409baece064984a1b3eef6addae50cin01/create-dns
{
  "dns_type": "private"
}
```

## Response

- Normal response

**Table 5-74** 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](#).

## 5.6.9 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 5-75** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-76** 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

Modify the private domain name of a DB Instance.

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

## Response

- Normal response

**Table 5-77** 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](#).

## 5.6.10 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 5-78** 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 <a href="#">Obtaining a Project ID</a> .
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 5-79** Parameters

Parameter	Type	Description
instance_id	String	Instance ID.
dns_name	String	Domain name of the instance.
dns_type	String	Domain type. Value: <b>private</b> .
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](#).

## 5.6.11 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 5-80** 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 <a href="#">Obtaining a Project ID</a> .
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 5-81** Parameters

Parameter	Type	Description
instance_id	String	Instance ID.
dns_name	String	Domain name of the instance.
dns_type	String	Domain type. Value: <b>private</b>
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](#).

## 5.6.12 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 5-82** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

- Parameter description

- None
- URI example  
GET `https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/c90928717dc747e2a20099894a87c468in01/replication/status`

## Response

- Normal response

**Table 5-83** Parameters

Parameter	Type	Description
replication_status	String	Replication status: <ul style="list-style-type: none"> <li>normal</li> <li>abnormal</li> </ul>
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](#).

## 5.6.13 Querying Available Instance Classes for a DB Instance

### Function

This API is used to query available instance classes for a DB instance.

- 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  
GET /v3/{project\_id}/instances/{instance\_id}/flavors-resize
- Parameter description

**Table 5-84** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

None

## Example Request

Query available instance classes for a DB instance.

```
GET https://{Endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/d674b54d5e0241c49eeb50c82ef3efe0in03/flavors-resize
```

## Response

**Table 5-85** Response body parameters

Parameter	Type	Description
flavor_groups	Array of objects	List of available instance classes. For details, see <a href="#">Table 5-86</a> . <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>dediccateNormal (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>: dedicated</li> </ul>



**Table 5-86** Data structure description of field `flavor_groups`

Parameter	Type	Description
<code>group_type</code>	String	Instance class. Its value can be any of the following: <b>normal</b> : general-enhanced <b>normal2</b> : general-enhanced II <b>armFlavors</b> : Kunpeng general-enhanced <b>dedicateNormal (dedicatedNormalLocalssd)</b> : exclusive x86 <b>armLocalssd</b> : standard Kunpeng <b>normalLocalssd</b> : standard x86 <b>general</b> : general-purpose <b>dedicated</b> : dedicated
<code>compute_flavors</code>	Object	List of compute specifications. For details, see <a href="#">Table 5-87</a> .

**Table 5-87** Data structure description of field `compute_flavors`

Parameter	Type	Description
<code>id</code>	String	Specification ID, which is unique.
<code>code</code>	String	Resource specification code. Example: <b>rds.pg.m1.xlarge.rr</b> For more specifications, see <a href="#">Querying Database Specifications</a> . <ul style="list-style-type: none"> <li>• <b>rds</b>: indicates the RDS product.</li> <li>• <b>pg</b>: indicates the DB engine.</li> <li>• <b>m1.xlarge</b>: indicates the high memory specifications.</li> <li>• <b>rr</b>: indicates read replicas (<b>.ha</b> indicates primary/standby DB instances).</li> </ul>
<code>vcpus</code>	String	Number of vCPUs. For example, the value <b>1</b> indicates one vCPU.
<code>ram</code>	String	Memory size in GB.
<code>az_status</code>	Map<String,String>	Status of the specification in the AZ. The value can be any of the following: <ul style="list-style-type: none"> <li>• <b>normal</b>: The specification is available in the AZ.</li> <li>• <b>unsupported</b>: The specification is not supported.</li> <li>• <b>sellout</b>: The specification is sold out.</li> </ul>

- Example normal response

```
{
  "flavor_groups": [ {
```

```

"group_type" : "general",
"compute_flavors" : [ {
  "id" : "400fd0df-0502-34f1-99be-ccf2a04241ae",
  "code" : "rds.pg.n1.medium.2",
  "vcpus" : "1",
  "ram" : "2",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "b7adc282-7efb-37d3-9e34-afb8279b5436",
  "code" : "rds.pg.n1.large.2",
  "vcpus" : "2",
  "ram" : "4",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "42a4a62c-5fa8-3cd8-9856-51ebcca6e2a8",
  "code" : "rds.pg.n1.large.4",
  "vcpus" : "2",
  "ram" : "8",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "9cbf4c9f-413b-3d07-bd4c-3b9432c0e662",
  "code" : "rds.pg.n1.xlarge.2",
  "vcpus" : "4",
  "ram" : "8",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "4937f920-ba42-37a8-a375-ab46ef030814",
  "code" : "rds.pg.n1.xlarge.4",
  "vcpus" : "4",
  "ram" : "16",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "32a8aa95-72cc-34c7-873b-827e23f3ccec",
  "code" : "rds.pg.n1.2xlarge.2",
  "vcpus" : "8",
  "ram" : "16",
  "az_status" : {
    "cn-southwest-244b" : "normal"
  }
}, {
  "id" : "98c033ca-a0f2-34be-8b27-c5dda5e6bee1",
  "code" : "rds.pg.n1.2xlarge.4",
  "vcpus" : "8",
  "ram" : "32",
  "az_status" : {
    "cn-southwest-244b" : "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](#).

## 5.6.14 Changing DB Instance Specifications

### Function

This API is used to change DB instance specifications.

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

#### NOTE

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

### Constraints

- The new DB instance specifications must be different from the original DB instance specifications.
- The instance specifications can be modified only for DB instances in the **Available** status.
- The specifications of a DB instance can be changed only to the specifications of the same DB instance type. (For example, the specifications of a single DB instance cannot be changed to those of primary/standby DB instances.)
- 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 5-88** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-89** Parameter description

Name	Mandatory	Type	Description
resize_flavor	Yes	Object	For details, see <a href="#">Table 5-90</a> .

**Table 5-90** resize\_flavor field data structure description

Name	Mandatory	Type	Description
spec_code	Yes	String	Specifies the resource specification code. Use <b>rds.mysql.m1.xlarge</b> as an example. <b>rds</b> indicates the RDS product, <b>mysql</b> indicates the DB engine, and <b>m1.xlarge</b> indicates the high memory performance specifications. The parameter containing <b>rr</b> indicates the read replica specifications. The parameter not containing <b>rr</b> 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"> <li>• <b>true</b>: indicates the order will be automatically paid.</li> <li>• <b>false</b>: indicates the order will be manually paid. The default value is <b>false</b>.</li> </ul>

## Example Request

- Change 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
  }
}
```

- Change 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
  }
}
```

- Change 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 5-91** 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 5-92** 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](#).

## 5.6.15 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 5-93** Parameter description

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

## Request

**Table 5-94** Parameter description

Name	Mandatory	Type	Description
enlarge_volume	Yes	Object	Specifies the target storage space after scaling up. For details, see <a href="#">Table 5-95</a> .

**Table 5-95** 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"> <li><b>true</b>: indicates the order will be automatically paid.</li> <li><b>false</b>: indicates the order will be manually paid. The default value is <b>false</b>.</li> </ul>

## Example Request

Scale 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 5-96** 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 5-97** 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](#).

## 5.6.16 Configuring an Autoscaling Policy

### Function

This API is used to configure autoscaling for a DB instance. You will be billed for the new 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. If you have customized an autoscaling increment, the storage will autoscale by the specified increment. To customize an autoscaling increment, contact customer service.

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

- 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 5-98** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-99** Parameters

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

Parameter	Mandatory	Type	Description
limit_size	No	Integer	Upper limit for autoscaling, in GB. This parameter is mandatory when <b>switch_option</b> is set to <b>true</b> . The value ranges from 40 GB to 4,000 GB and must be no less than the current storage of the instance.
trigger_thres hold	No	Integer	Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered. This parameter is mandatory when <b>switch_option</b> is set to <b>true</b> . Enumerated values: <ul style="list-style-type: none"> <li>• 10</li> <li>• 15</li> <li>• 20</li> </ul>
step_percent	No	Integer	Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time. Value range: 5% to 50% This parameter is available when <b>switch_option</b> is set to <b>true</b> and autoscaling increment customization is enabled. If this parameter is not specified, the default value <b>20%</b> is used.

## Example Request

Configure 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/3d39c18788b54a919bab633874c159dfin01/disk-auto-expansion
```

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

Configure a storage autoscaling policy for a DB instance, with the trigger threshold set to 10% or 10 GB, upper limit to 4,000 GB, and autoscaling increment to 20%.

```
{
  "switch_option" : true,
```

```
"limit_size" : 4000,  
"trigger_threshold" : 10,  
"step_percent" : 20  
}
```

## 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](#).

## 5.6.17 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 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 5-100** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

- Parameter description  
None
- URI example  
GET https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159dfin011/disk-auto-expansion

## Response

- Normal response

**Table 5-101** Parameters

Parameter	Type	Description
switch_option	Boolean	Whether autoscaling is enabled. <ul style="list-style-type: none"> <li><b>true</b>: Enabled.</li> <li><b>false</b>: Disabled.</li> </ul>
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.
step_percent	Integer	Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time. This parameter is returned only when autoscaling increment customization is enabled. To customize an autoscaling increment, contact customer service.

- Example normal response  
Query the autoscaling policy with autoscaling increment customization disabled.

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

Query the autoscaling policy with autoscaling increment customization enabled.

```
{
  "switch_option": true,
  "limit_size": 4000,
  "trigger_threshold": 10,
  "step_percent": 30
}
```

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

## Status Code

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

## Error Code

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

# 5.6.18 Changing a Single DB Instance to Primary/Standby DB Instances

## Function

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

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

## Constraints

- Single DB instances with certain specifications cannot be changed to primary/standby DB instances.
- 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 5-102** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-103** Parameter description

Name	Mandatory	Type	Description
single_to_ha	Yes	Object	For details, see <a href="#">Table 5-104</a> .

**Table 5-104** 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.
is_auto_pay	No	Boolean	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. <ul style="list-style-type: none"> <li><b>true</b>: indicates the order will be automatically paid.</li> <li><b>false</b> (default setting): indicates the order will be manually paid.</li> </ul>
ad_domain_info	No	Object	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.  This parameter is available only for RDS for SQL Server.  For details about the field structure, see <a href="#">Table 5-105</a> .

**Table 5-105** 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

- Change 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"
  }
}
```

- Change 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
  }
}
```

- Change 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"
    }
  }
}
```

- Change 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 5-106** 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 5-107** 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](#).

## 5.6.19 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 5-108** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-109** Parameter description

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

## Example Request

Reboot a DB instance.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdsae3435in01/action
{
  "restart": {}
}
```

## Response

- Normal response

**Table 5-110** 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](#).

## 5.6.20 Deleting a DB Instance

### Function

This API is used to delete a DB instance.

(To delete DB instances and read replicas billed in the yearly/monthly mode, you need to unsubscribe from the order. For details, see [Unsubscribing from a Yearly/Monthly Instance](#) or [Unsubscribing from Yearly/Monthly Resources](#).)

- 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 5-111** 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 <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 5-112** 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](#).

## 5.6.21 Querying DB Instances

### Function

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

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

### URI

- URI format

GET /v3/{project\_id}/instances?

id={id}&name={name}&type={type}&datastore\_type={datastore\_type}&vpc\_id={vpc\_id}&subnet\_id={subnet\_id}&offset={offset}&limit={limit}&tags={key}={value}

- Parameter description

**Table 5-113** Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Type	Mandatory	Description
id	String	No	<p><b>Explanation:</b> Instance ID.</p> <p>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 (*).</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
name	String	No	<p><b>Explanation:</b> Instance name.</p> <p>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 (*).</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Type	Mandatory	Description
type	String	No	<p><b>Explanation:</b> Instance type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>Single:</b> single-node instance</li> <li>• <b>Ha:</b> primary/standby instance</li> <li>• <b>Replica:</b> read replica</li> <li>• <b>Enterprise:</b> distributed instance (Enterprise Edition)</li> </ul> <p><b>Default value:</b> N/A</p>
datastore_type	String	No	<p><b>Explanation:</b> DB engine.</p> <p><b>Constraints:</b> The value is case-sensitive.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul> <p><b>Default value:</b> N/A</p>
vpc_id	String	No	<p><b>Explanation:</b> 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> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Type	Mandatory	Description
subnet_id	String	No	<p><b>Explanation:</b> 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> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
offset	Integer	No	<p><b>Explanation:</b> Index offset. The query starts from the next piece of data indexed by this parameter.</p> <p><b>Constraints:</b> The value must be a non-negative number.</p> <p><b>Value range:</b> An integer greater than or equal to 0</p> <p><b>Default value:</b> 0</p>



Name	Type	Mandatory	Description
limit	Integer	No	<p><b>Explanation:</b> Number of records to be queried.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> 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> <p><b>Default value:</b> 100</p>
tags	Array of objects	No	<p><b>Explanation:</b> Tag key-value pairs of the instance.</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. For details, see <a href="#">Table 5-114</a>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

**Table 5-114** tags field data structure description

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

## 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 5-115** Parameter description

Name	Type	Description
instances	Array of objects	<b>Explanation:</b> Indicates the DB instance information. For details, see <a href="#">Table 5-116</a> .
total_count	Integer	<b>Explanation:</b> Indicates the total number of records. <b>Value range:</b> N/A

**Table 5-116** instances field data structure description

Name	Type	Description
id	String	<b>Explanation:</b> Indicates the DB instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Indicates the created DB instance name. <b>Value range:</b> N/A

Name	Type	Description
status	String	<p><b>Explanation:</b> Indicates the DB instance status.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>BUILD:</b> The instance is being created.</li> <li>• <b>CREATE FAIL:</b> The instance failed to be created.</li> <li>• <b>ACTIVE:</b> The instance is running properly.</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	<p><b>Explanation:</b> Indicates the DB instance alias.</p> <p><b>Value range:</b> N/A</p>
private_ips	List<String>	<p><b>Explanation:</b> Indicates the private IP address list. It is a blank string until an ECS is created.</p> <p><b>Value range:</b> N/A</p>

Name	Type	Description
private_dns_names	List<String>	<p><b>Explanation:</b> 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.</p> <p><b>Value range:</b> N/A</p>
public_dns_names	List<String>	<p><b>Explanation:</b> 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.</p> <p><b>Value range:</b> N/A</p>
public_ips	List<String>	<p><b>Explanation:</b> Indicates the public IP address list.</p> <p><b>Value range:</b> N/A</p>

Name	Type	Description
port	Integer	<p><b>Explanation:</b> Indicates the database port number.</p> <p><b>Value range:</b></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, 5985, and 5986).</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><b>Explanation:</b> Indicates whether SSL is enabled for the instance.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>true:</b> SSL is enabled for the instance.</li> <li>• <b>false:</b> SSL is disabled for the instance.</li> </ul>

Name	Type	Description
type	String	<p><b>Explanation:</b> Instance type.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>Single:</b> single-node instance</li> <li>• <b>Ha:</b> primary/standby instance</li> <li>• <b>Replica:</b> read replica</li> <li>• <b>Enterprise:</b> distributed instance (Enterprise Edition)</li> </ul>
ha	Object	<p><b>Explanation:</b> Indicates the primary/standby DB instance information. Returned only when you obtain a primary/standby DB instance list. For details, see <a href="#">Table 5-117</a>.</p>
region	String	<p><b>Explanation:</b> Indicates the region where the DB instance is deployed.</p> <p><b>Value range:</b> N/A</p>
datastore	Object	<p><b>Explanation:</b> Indicates the database information. For details, see <a href="#">Table 5-118</a>.</p>
created	String	<p><b>Explanation:</b> Indicates the creation time.</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. <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>. The value is empty when the instance is being created. After the instance is created, the value is not empty.</p>

Name	Type	Description
updated	String	<p><b>Explanation:</b> Indicates the update time.</p> <p><b>Value range:</b> The format is the same as that of the <b>created</b> field. The value is empty when the instance is being created. After the instance is created, the value is not empty.</p>
db_user_name	String	<p><b>Explanation:</b> Indicates the default username.</p> <p><b>Value range:</b> N/A</p>
vpc_id	String	<p><b>Explanation:</b> Indicates the VPC ID.</p> <p><b>Value range:</b> N/A</p>
subnet_id	String	<p><b>Explanation:</b> Indicates the network ID of the subnet.</p> <p><b>Value range:</b> N/A</p>
security_group_id	String	<p><b>Explanation:</b> Indicates the security group ID.</p> <p><b>Value range:</b> N/A</p>
flavor_ref	String	<p><b>Explanation:</b> Indicates the specification code.</p> <p><b>Value range:</b> N/A</p>
cpu	String	<p><b>Explanation:</b> Indicates the number of vCPUs. For example, the value 1 indicates 1 vCPU.</p> <p><b>Value range:</b> N/A</p>



Name	Type	Description
mem	String	<b>Explanation:</b> Indicates the memory size in GB. <b>Value range:</b> N/A
volume	Object	<b>Explanation:</b> Indicates instance storage. For details, see <a href="#">Table 5-119</a> .
switch_strategy	String	<b>Explanation:</b> Indicates the database failover priority. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>reliability:</b> Reliability is given priority during the failover.</li> <li>• <b>availability:</b> Availability is given priority during the failover.</li> </ul>
read_only_by_user	Boolean	<b>Explanation:</b> Indicates the read-only status of the DB instance. This parameter is available only to RDS for MySQL. <b>Value range:</b> <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	<b>Explanation:</b> Indicates the backup policy. For details, see <a href="#">Table 5-120</a> .
maintenance_window	String	<b>Explanation:</b> Indicates the start time of the maintenance time window in the UTC format. <b>Value range:</b> N/A
nodes	Array of objects	<b>Explanation:</b> Indicates the primary/standby DB instance information. For details, see <a href="#">Table 5-121</a> .

Name	Type	Description
related_instance	Array of objects	<b>Explanation:</b> Indicates all associated DB instances. For details, see <a href="#">Table 5-122</a> .
disk_encryption_id	String	<b>Explanation:</b> Indicates the disk encryption key ID. <b>Value range:</b> N/A
enterprise_project_id	String	<b>Explanation:</b> Indicates the enterprise project ID. <b>Value range:</b> N/A
time_zone	String	<b>Explanation:</b> Indicates the time zone. <b>Value range:</b> N/A
charge_info	Object	<b>Explanation:</b> Indicates the billing information, which is yearly/monthly or pay-per-use. By default, pay-per-use is used. For details, see <a href="#">Table 5-123</a> .
tags	Array of objects	<b>Explanation:</b> Indicates the tag list. If there is no tag in the list, an empty array is returned. For details, see <a href="#">Table 5-125</a> .
backup_used_space	Double	<b>Explanation:</b> Indicates the backup space usage in GB. This field is returned only when you query information about a specified RDS for PostgreSQL or RDS for SQL Server DB instance. <b>Value range:</b> N/A

Name	Type	Description
storage_used_space	Double	<p><b>Explanation:</b> Indicates the storage space usage in GB.</p> <p>This field is returned only when you query information about a specified RDS for PostgreSQL or RDS for SQL Server DB instance.</p> <p><b>Value range:</b> N/A</p>
order_id	String	<p><b>Explanation:</b> Indicates the order ID. This field is returned only when the DB instance is billed on a yearly/monthly basis.</p> <p><b>Value range:</b> N/A</p>
associated_with_ddm	Boolean	<p><b>Explanation:</b> Indicates whether a DDM instance has been associated.</p> <p><b>Value range:</b> N/A</p>
max_iops	Long	<p><b>Explanation:</b> Indicates the maximum disk IOPS of the instance.</p> <p>This field is returned only for RDS for SQL Server instances.</p> <p><b>Value range:</b> N/A</p>
expiration_time	String	<p><b>Explanation:</b> Indicates the time when an instance expires. The format is yyyy-mm-ddThh:mm:ssZ.</p> <p>This field is returned only for yearly/monthly instances.</p> <p><b>Value range:</b> N/A</p>
serverless_info	Object	<p><b>Explanation:</b> Indicates the compute power range of a serverless instance, in RCU.</p> <p>For details, see <a href="#">Table 5-124</a>.</p>

**Table 5-117** ha field data structure description

Name	Type	Description
replication_mode	String	<p><b>Explanation:</b> Indicates the replication mode for the standby instance.</p> <p><b>Value range:</b></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 5-118** datastore field data structure description

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

**Table 5-119** volume field data structure description

Name	Type	Description
type	String	<p><b>Explanation:</b> Storage type. The value is case-sensitive.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>COMMON:</b> SATA storage.</li> <li>• <b>HIGH:</b> SAS storage.</li> <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.</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> <li>• <b>ESSD:</b> extreme SSD storage. This storage type is supported only with dedicated instances.</li> </ul>
size	Integer	<p><b>Explanation:</b> Storage space in GB.</p> <p><b>Value range:</b> N/A</p>

**Table 5-120** backup\_strategy field data structure description

Name	Type	Description
start_time	String	<p><b>Explanation:</b> Indicates the backup time window. Automated backups will be triggered during the backup time window. The time is in the UTC format.</p> <p><b>Value range:</b> N/A</p>

Name	Type	Description
keep_days	Integer	<p><b>Explanation:</b> Indicates the number of days to retain the generated backup files.</p> <p><b>Value range:</b> 0–732 If the value is <b>0</b>, 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.</p>

**Table 5-121** nodes field data structure description

Name	Type	Description
id	String	<p><b>Explanation:</b> Indicates the node ID.</p> <p><b>Value range:</b> N/A</p>
name	String	<p><b>Explanation:</b> Indicates the node name.</p> <p><b>Value range:</b> N/A</p>
role	String	<p><b>Explanation:</b> Indicates the node type.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>master:</b> primary node</li> <li>• <b>slave:</b> standby node</li> <li>• <b>readreplica:</b> read replica node</li> </ul>
status	String	<p><b>Explanation:</b> Indicates the node status.</p>
availability_zone	String	<p><b>Explanation:</b> Indicates the AZ.</p> <p><b>Value range:</b> N/A</p>

**Table 5-122** related\_instance field data structure description

Name	Type	Description
id	String	<b>Explanation:</b> ID of the associated DB instance. <b>Value range:</b> N/A
type	String	<b>Explanation:</b> Type of the associated DB instance. <b>Value range:</b> <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 5-123** chargeInfo field data structure description

Name	Mandatory	Type	Description
charge_mode	Yes	String	<b>Explanation:</b> Indicates the billing mode. <b>Value range:</b> <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 5-124** Data structure of the serverless\_info field

Parameter	Mandatory	Type	Description
min_compute_unit	Yes	String	<b>Explanation:</b> Minimum compute power of a serverless instance, in RCU. <b>Value range:</b> 0.5–8, in RCU
max_compute_unit	Yes	String	<b>Explanation:</b> Maximum compute power of a serverless instance, in RCU. <b>Value range:</b> 0.5–8, in RCU

**Table 5-125** tags field data structure description

Name	Type	Description
key	String	<b>Explanation:</b> Indicates the tag key. <b>Value range:</b> N/A
value	String	<b>Explanation:</b> Indicates the tag value. <b>Value range:</b> N/A

 **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-999150bc4eef",
    "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
    "flavor_ref": "rds.mysql.s1.large",
    "cpu": "2",
    "mem": "4",
    "switch_strategy": ""
  }],
  "total": 1
}
```



```

    "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": [],
    "db_user_name": "root",
    "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
    "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
    "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
    "flavor_ref": "rds.mysql.s1.large",
    "cpu": "2",
    "mem": "4",
    "switch_strategy": "",
    "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-80b6-0a301f2afd97",
    "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",
      "name": "rds-4961",
      "port": 3306,
      "type": "Ha",
      "ha": {
        "replication_mode": "semisync"
      },
      "region": "aaa",
      "datastore": {
        "type": "MySQL",
        "version": "5.7"
      },
      "created": "2023-10-24T03:10:28+0000",
      "updated": "2023-10-24T03:10:28+0000",
      "volume": {
        "type": "CLOUDSSD",
        "size": 40
      },
      "nodes": [
        {
          "id": "0c4844b1323e4f30a7a49b021a047e36no01",
          "name": "rds-4961_node0",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "bbb"
        },
        {
          "id": "62bb9a79e2c34c369845ede701a4cf34no01",
          "name": "rds-4961_node1",
          "role": "slave",
          "status": "ACTIVE",
          "availability_zone": "bbb"
        }
      ],
      "tags": [],
      "bpDomainId": "",
      "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](#).

## 5.6.22 Binding and Unbinding an EIP

### Function

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

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

### Constraints

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

## URI

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

**Table 5-126** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-127** Parameter description

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

- Bind an EIP to a DB instance.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in01/  
public-ip
```

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

- Unbind 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](#).

## 5.6.23 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 5-128** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-129** Parameter description

Name	Mandatory	Type	Description
repairStrategy	Yes	String	Specifies the failover priority. Valid value: <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

Change the failover priority of a DB instance to availability.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/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](#).

## 5.6.24 Manually Switching Primary/Standby DB Instances

### Function

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

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

### Constraints

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

### URI

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

**Table 5-130** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.



## Request

**Table 5-131** 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> This parameter is valid only for the PostgreSQL DB engine.</p>

## Example Request

- Perform a primary/standby switchover.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in01/failover
```

```
{}
```

- Perform 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](#).

## 5.6.25 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 5-132** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-133** Parameter description

Name	Mandatory	Type	Description
mode	Yes	String	Specifies the replication mode. 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

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

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/
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](#).

## 5.6.26 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 5-134** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-135** 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

Set a DB instance to read-only.

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

```
{
  "readonly" : true
}
```

## Response

- Normal response

**Table 5-136** 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](#).

## 5.6.27 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 5-137** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

### Request

**Table 5-138** Parameter description

Name	Mandatory	Type	Description
nodeId	Yes	String	ID of the standby DB instance.

Name	Mandatory	Type	Description
azCode	Yes	String	Code of the AZ to which the standby DB instance is to be migrated.  Specify an AZ code other than the original one after obtaining the codes of the AZs where the instance specifications are supported from <a href="#">Querying Database Specifications</a> .

## Example Request

Migrate a standby DB instance to az2.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfcae23fsfdsae3435in01/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](#).

## 5.6.28 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 5-139** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

### Request

**Table 5-140** Parameter description

Name	Mandatory	Type	Description
start_time	Yes	String	Specifies the start time (UTC).
end_time	Yes	String	Specifies the end time (UTC). <b>NOTE</b> <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

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



```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/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](#).

## 5.6.29 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.
- The minor versions of any 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.
- For RDS for PostgreSQL, minor versions can be upgraded immediately upon request submission only, but not during the specified maintenance window.
- A minor version upgrade of RDS for PostgreSQL instances can cause a primary/standby switchover.

### URI

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

- Parameter description

**Table 5-141** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-142** Parameters

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

## Example Request

Upgrade the minor version of a DB instance.

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

## Response

- Normal response

**Table 5-143** 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](#).

## 5.6.30 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.

### URI

- URI format  
PUT `/v3/{project_id}/instances/{instance_id}/second-level-monitor`
- Parameter description

**Table 5-144** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-145** 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. Enumerated values: <ul style="list-style-type: none"> <li>1</li> <li>5</li> </ul>

## Example Request

- Enable 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
}
```

- Disable 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](#).

## 5.6.31 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 5-146** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

- Parameter description  
None
- URI example

GET <https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159dfin01/second-level-monitor>

## Response

- Normal response

**Table 5-147** 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. 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](#).

## 5.6.32 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
- Parameter description

**Table 5-148** Parameters

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. 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 5-149** 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

- Enable TDE for a DB instance (with TDE rotation not used).

```
PUT https://{Endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/3d39c18788b54a919bab633874c159dfin04/tde
{}
```

- Enable TDE for a DB instance (with TDE rotation used).

```
{
  "rotate_day": 365,
```

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

## Response

- Normal response

**Table 5-150** 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](#).

## 5.6.33 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 5-151** Parameter description

Name	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. 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/3d39c18788b54a919bab633874c159dfin04/tde-status
```

## Response

- Normal response

**Table 5-152** Parameter description

Name	Type	Description
instance_id	String	Instance ID.
tde_status	String	TDE status. 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": "3d39c18788b54a919bab633874c159dfin04",
  "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](#).

## 5.6.34 Unlocking a DB Instance from the Read-Only State

### Function

This API is used to remove the read-only status of a DB instance.

- 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  
PUT /v3/{project\_id}/instances/{instance\_id}/unlock-node-readonly-status
- Parameter description

**Table 5-153** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

**Table 5-154** Parameters

Parameter	Mandatory	Type	Description
status_preservation_time	Yes	Integer	Duration (in minutes) during which the HA component no longer sets the instance to read-only. Minimum value: <b>0</b> Maximum value: <b>1440</b>

### Example Request

Unlock a DB instance from the read-only state.

```
PUT https://{Endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/42d4b4fc17d144bbb3ba64a306e68c72in03/unlock-node-readonly-status
```

```
{  
  "status_preservation_time" : 5  
}
```

## Response

- Normal response

**Table 5-155** Parameters

Parameter	Type	Description
resp	String	If the operation is successful, <b>SUCCESS</b> is returned. Otherwise, an error code is returned.

- Example normal response

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

# 5.7 DR Instances

## 5.7.1 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.

**NOTICE**

Before using this function, ensure that the network between the VPC CIDR blocks of the DB instances across clouds or regions is connected, and configure security group rules to allow access from database ports in the VPC CIDR blocks. The DR relationship cannot be established if only the network is connected but security group rules are not configured.

- 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.
- RDS for PostgreSQL 12 and later versions support cross-cloud or cross-region DR.
- 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 5-156** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-157** 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.  For details, see <a href="#">Table 5-158</a> .

**Table 5-158** 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

Configure 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 5-159** 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](#).

## 5.7.2 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.

#### NOTICE

Before using this function, ensure that the network between the VPC CIDR blocks of the DB instances across clouds or regions is connected, and configure security group rules to allow access from database ports in the VPC CIDR blocks. The DR relationship cannot be established if only the network is connected but security group rules are not configured.

- 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.
- After the API for configuring DR for the DR instance is called, you cannot change the instance class or perform a primary/standby switchover until the DR relationship is set up.
- RDS for PostgreSQL 12 and later versions support cross-cloud or cross-region DR.
- 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.
- Modifying a parameter of the primary instance does not modify that of the DR instance. You need to modify the parameter of the DR instance separately.
- RDS for PostgreSQL DR instances do not support point-in-time recovery (PITR) or CBR snapshot-based backups. Perform such operations on the primary instance if needed.

## URI

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

**Table 5-160** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-161** 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. For details, see <a href="#">Table 5-162</a> .

**Table 5-162** 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

Configure 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 5-163** 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](#).

### 5.7.3 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.

#### NOTICE

Before using this function, ensure that the network between the VPC CIDR blocks of the DB instances across clouds or regions is connected, and configure security group rules to allow access from database ports in the VPC CIDR blocks. The DR relationship cannot be established if only the network is connected while security group rules are not configured.

- 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.
- RDS for PostgreSQL 12 and later versions support DR instance promotion to the primary instance.

#### URI

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

**Table 5-164** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-165** 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

Promote a DR instance to the primary DB instance.

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

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

## Response

- Normal response

**Table 5-166** 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](#).

## 5.7.4 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.

#### NOTICE

Before using this function, ensure that the network between the VPC CIDR blocks of the DB instances across clouds or regions is connected, and configure security group rules to allow access from database ports in the VPC CIDR blocks. The DR relationship cannot be established if only the network is connected but security group rules are not configured.

- 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.
- DR instances of RDS for PostgreSQL 12 and later versions support DR replication status query.

### URI

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

**Table 5-167** 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 <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 5-168** 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. <b>NOTE</b> 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.
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](#).

## 5.7.5 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

RDS for PostgreSQL 12 and later versions support cross-cloud or cross-region DR.

### URI

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

**Table 5-169** 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 <a href="#">Obtaining a Project ID</a> .

### Request

- Parameter description  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/disaster-recovery-relation
- Request example  
None

### Response

- Normal response

**Table 5-170** Parameter description

Parameter	Type	Description
instance_dr_relations	Array of objects	DR instance list. For details, see <a href="#">Table 5-171</a> .

**Table 5-171** 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. For details, see <a href="#">Table 5-172</a> .
slave_instances	Array of objects	DR instance information. For details, see <a href="#">Table 5-173</a> .

**Table 5-172** Data structure description of master\_instance

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

**Table 5-173** 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": "b5e2c7cef8b4c2f8fd8d80d73344756in03",
      "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](#).

## 5.7.6 Removing the DR Relationship from a DB Instance

### Function

This API is used to remove the DR relationship from a DB instance.

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

### Constraints

- Cross-cloud or cross-region DR relationships can be removed only for RDS for PostgreSQL 12 and later versions.
- The DR relationship must be removed from the DR instance first and then the primary instance. Otherwise, your DB instance may not run properly.

### URI

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

Parameter	Mandatory	Description
project_id	Yes	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	Instance ID.

## Request

**Table 5-174** Parameters

Parameter	Mandatory	Type	Description
target_instance_id	Yes	String	ID of the target instance.
target_project_id	Yes	String	ID of the project that the target instance belongs to.
target_region	Yes	String	Region where the target instance is located.
target_ip	Yes	String	Floating IP address of the target instance.
is_master	Yes	Boolean	Whether the operation object is the primary instance. <ul style="list-style-type: none"> <li><b>true</b>: The operation object is the primary instance.</li> <li><b>false</b>: The operation object is the DR instance.</li> </ul>

## Example Request

Remove the DR relationship from a DB instance.

```
DELETE https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/instances/42d4b4fc17d144bbb3ba64a306e68c72in03/delete-disaster-recovery
{
  "target_instance_id": "8c08eda627cc4344aca26832c87ff16cin03",
  "target_project_id": "0ddd1dbcb3494d3dbdb614b39104760b",
  "target_region": "cn-southwest-244",
  "target_ip": "192.168.2.70",
  "is_master": true
}
```

## Response

- Normal response



**Table 5-175** Parameters

Parameter	Type	Description
job_id	String	Taskflow ID.

- Example normal response
 

```
{
  "job_id": "64a5083a-d8e0-4cee-b086-5c2a776ee92d"
}
```
- Abnormal 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 Database Security

## 5.8.1 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 5-176** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-177** 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

- Enable SSL for a DB instance.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
dsfae23fsfdsae3435in01/ssl
```

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

- Disable 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](#).

## 5.8.2 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 5-178** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-179** 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, 33062, 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, 5985, and 5986).</li> </ul>

## Example Request

Change the database port of a DB instance to 8836.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/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](#).

## 5.8.3 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 5-180** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-181** Parameter description

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

## Example Request

Change the security group of a DB instance.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/security-group
{
  "security_group_id": "23423klj432lk0sdf0234eaa"
}
```

## Response

- Normal response

Name	Description
workflowId	Workflow ID.

- Example normal response

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

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

## 5.8.4 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 5-182** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-183** Parameters

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

## Example Request

Change the floating IP address of a DB instance.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsae3435in01/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](#).

# 5.9 Backup and Restoration

## 5.9.1 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 5-184** 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 <a href="#">Obtaining a Project ID</a> .



Name	Mandatory	Description
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-185** Parameter description

Name	Mandatory	Type	Description
backup_policy	Yes	Object	Specifies the backup policy objects, including the backup retention period (days) and backup start time. For details, see <a href="#">Table 5-186</a> .
reserve_backups	No	Boolean	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> . <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 automated backup policy is disabled.</li> </ul>

**Table 5-186** 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. 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</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>

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

- Configure 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/dsf23fsdsae3435in01/backups/policy
```

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

- Disable 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](#).

## 5.9.2 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 enabled.

### URI

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

**Table 5-187** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-188** 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. For details, see <a href="#">Table 5-189</a> .

**Table 5-189** policy\_para field data structure description

Name	Mandatory	Type	Description
backup_type	Yes	String	Specifies the backup type. For RDS for SQL Server, this parameter can only be set to <b>all</b> . Its value can be any of the following: <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>

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

## Example Request

- Configure 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"
  }
}
```

- Disable the 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"
  }
}
```

- Configure 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"
  }
}
```

- Disable the 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](#).

## 5.9.3 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 5-190** 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 <a href="#">Obtaining a Project ID</a> .



Name	Mandatory	Description
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 5-191** 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 <a href="#">Table 5-192</a> .

**Table 5-192** 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.

Name	Type	Description
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](#).

## 5.9.4 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 5-193** 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 <a href="#">Obtaining a Project ID</a> .
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 5-194** 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 <a href="#">Table 5-195</a> .

**Table 5-195** 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"> <li>• <b>auto</b>: automated full backup</li> <li>• <b>incremental</b>: automated incremental backup</li> <li>• <b>manual</b>: manual backup (returned only for RDS for SQL Server DB instances)</li> </ul>
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](#).

## 5.9.5 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 5-196** 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 <a href="#">Obtaining a Project ID</a> .

## Request

**Table 5-197** Parameter description

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

Name	Mandatory	Type	Description
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 <a href="#">Table 5-198</a> .
backup_database_individually	No	Boolean	Specifies whether to back up databases individually. This parameter is available to RDS for SQL Server only. The default value is <b>false</b> .

**Table 5-198** databases field data structure description

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

## Example Request

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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/backups
{
  "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
  "name": "mybackup",
  "description": "manual backup"
}
```

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

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

- Create a manual backup **mybackup** for an RDS for SQL Server DB instance.

```
{
  "instance_id": "34029da944074135a3bc24c75b3bb3edin04",
  "name": "mybackup",
}
```

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

## Response

- Normal response

**Table 5-199** Parameter description

Name	Type	Description
backup	Object	Indicates the backup information. For details, see <a href="#">Table 5-200</a> .

**Table 5-200** 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 <a href="#">Table 5-198</a> .



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"> <li>• BUILDING: Backup in progress</li> <li>• COMPLETED: Backup completed</li> <li>• FAILED: Backup failed</li> <li>• DELETING: Backup being deleted</li> </ul>
type	String	Indicates the backup type. Value: <ul style="list-style-type: none"> <li>• auto: automated full backup</li> <li>• manual: manual full backup</li> <li>• fragment: differential full backup</li> <li>• incremental: automated incremental backup</li> </ul>

- Example normal response

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

```
{
  "backup": {
    "id": "cb211c0075104151a748a854bc8bd87dbr01",
    "name": "mybackup",
    "description": "manual backup",
    "begin_time": "2022-08-23T07:41:50Z",
    "status": "BUILDING",
    "type": "manual",
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
  }
}
```

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

```
{
  "backup": {
    "id": "104b59afd83d4fc7b2c03ad14c4be080br03",
    "name": "mybackup",
  }
}
```

```

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

```

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](#).

## 5.9.6 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 5-201** Parameter description

Name	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
instance_id	Yes	<p><b>Explanation:</b> Instance ID.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
backup_id	No	<p><b>Explanation:</b> Backup ID.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Mandatory	Description
backup_type	No	<p><b>Explanation:</b> Backup type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>auto:</b> automated full backup</li> <li>• <b>manual:</b> manual full backup</li> <li>• <b>fragment:</b> differential full backup</li> <li>• <b>incremental:</b> automated incremental backup</li> </ul> <p><b>Default value:</b> N/A</p>
status	No	<p><b>Explanation:</b> Backup status. Only the statuses of RDS for SQL Server full backups can be filtered.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>BUILDING:</b> backup in progress</li> <li>• <b>COMPLETED:</b> backup completed</li> <li>• <b>FAILED:</b> backup failed</li> </ul> <p><b>Default value:</b> N/A</p>
offset	No	<p><b>Explanation:</b> Index offset.</p> <p><b>Constraints:</b> 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 must be a number but cannot be a negative number.</p> <p><b>Value range:</b> An integer greater than or equal to 0</p> <p><b>Default value:</b> 0</p>

Name	Mandatory	Description
limit	No	<p><b>Explanation:</b> Number of records to be queried.</p> <p><b>Constraints:</b> The value cannot be a negative number.</p> <p><b>Value range:</b> 1-100</p> <p><b>Default value:</b> 100</p>
begin_time	No	<p><b>Explanation:</b> Query start time.</p> <p><b>Constraints:</b> When <b>begin_time</b> is not empty, <b>end_time</b> is mandatory.</p> <p><b>Value range:</b> The value is 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> <p><b>Default value:</b> N/A</p>

Name	Mandatory	Description
end_time	No	<p><b>Explanation:</b> Query end time.</p> <p><b>Constraints:</b> When <b>end_time</b> is not empty, <b>begin_time</b> is mandatory.</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format and must be later than the query start time.</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> <p><b>Default value:</b> N/A</p>

## Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/backups?instance\_id=43e4feaab48f11e89039fa163ebaa7e4in01&offset=0&limit=10&begin\_time=2018-08-06T10:41:14+0800&end\_time=2018-08-16T10:41:14+0800

## Response

- Normal response

**Table 5-202** Parameter description

Name	Type	Description
backups	Array of objects	<p><b>Explanation:</b> Indicates the backup list. For details, see <a href="#">Table 5-203</a>.</p>
total_count	Integer	<p><b>Explanation:</b> Indicates the total number of records.</p> <p><b>Value range:</b> N/A</p>

**Table 5-203** backups field data structure description

Name	Type	Description
id	String	<b>Explanation:</b> Indicates the backup ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Indicates the backup name. <b>Value range:</b> N/A
type	String	<b>Explanation:</b> Indicates the backup type. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>auto:</b> automated full backup</li> <li>• <b>manual:</b> manual full backup</li> <li>• <b>fragment:</b> differential full backup</li> <li>• <b>incremental:</b> automated incremental backup</li> </ul>
size	Long	<b>Explanation:</b> Indicates the backup size in KB. <b>Value range:</b> N/A
status	String	<b>Explanation:</b> Indicates the backup status. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>BUILDING:</b> backup in progress</li> <li>• <b>COMPLETED:</b> backup completed</li> <li>• <b>FAILED:</b> backup failed</li> <li>• <b>DELETING:</b> backup being deleted</li> </ul>

Name	Type	Description
begin_time	String	<p><b>Explanation:</b> Indicates the backup start time.</p> <ul style="list-style-type: none"> <li>• For a full backup, it indicates the full backup start time.</li> <li>• For an RDS for MySQL incremental backup, it indicates the time when the last transaction of the last incremental backup task is committed.</li> </ul> <p><b>Value range:</b> The format is yyyy-mm-ddThh:mm:ssZ. <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>
end_time	String	<p><b>Explanation:</b> Indicates the backup end time.</p> <ul style="list-style-type: none"> <li>• For a full backup, it indicates the full backup end time.</li> <li>• For an RDS for MySQL incremental backup, it indicates the time when the last transaction is committed.</li> </ul> <p><b>Value range:</b> The format is yyyy-mm-ddThh:mm:ssZ. <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>
datastore	Object	<p><b>Explanation:</b> Indicates the database version. For details, see <a href="#">Table 5-204</a>.</p>
databases	Array of objects	<p><b>Explanation:</b> Indicates a list of self-built Microsoft SQL Server databases that support partial backups. For details, see <a href="#">Table 5-205</a>.</p>



Name	Type	Description
instance_id	String	<p><b>Explanation:</b> Indicates the ID of the DB instance for which the backup is created.</p> <p><b>Value range:</b> N/A</p>
associated_with_ddm	Boolean	<p><b>Explanation:</b> Indicates whether this instance is associated with a DDM instance.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>false:</b> The instance is not associated with any DDM instance.</li> <li>• <b>true:</b> The instance is associated with a DDM instance.</li> </ul>

**Table 5-204** datastore field data structure description

Parameter	Type	Description
type	String	<p><b>Explanation:</b> Indicates the DB engine.</p> <p><b>Value range:</b> The value is case-insensitive.</p> <ul style="list-style-type: none"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul>
version	String	<p><b>Explanation:</b> Indicates the database version.</p> <p><b>Value range:</b> N/A</p>

**Table 5-205** databases field data structure description

Parameter	Type	Description
name	String	<b>Explanation:</b> Indicates the name of the self-built database. <b>Value range:</b> N/A

- Example normal response

Obtaining all backups of an RDS for MySQL instance:

```
{
  "backups": [{
    "id": "43e4feaab48f11e89039fa163ebaa7e4br01",
    "name": "xxxx.xxx",
    "type": "auto",
    "size": 2803,
    "status": "COMPLETED",
    "begin_time": "2018-08-06T12:41:14+0800",
    "end_time": "2018-08-06T12:43:14+0800",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin01",
    "associated_with_ddm": false
  }],
  "total_count": 1
}
```

Obtaining all backups of an RDS for PostgreSQL instance:

```
{
  "backups": [{
    "id": "43e4feaab48f11e89039fa163ebaa7e4br03",
    "name": "xxxx.xxx",
    "type": "incremental",
    "size": 2803,
    "status": "COMPLETED",
    "begin_time": "2018-08-06T12:41:14+0800",
    "end_time": "2018-08-06T12:43:14+0800",
    "datastore": {
      "type": "PostgreSQL",
      "version": "11"
    },
    "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin03 ",
    "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"  
  }],  
  "instance_id": "a48e43ff268f4c0e879652d65e63d0fbin04",  
  "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](#).

## 5.9.7 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 5-206** 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 <a href="#">Obtaining a Project ID</a> .
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"> <li><b>auto</b>: indicates automated full backups and manual backups. Cross-region manual backups are supported only for RDS for SQL Server.</li> <li><b>incremental</b>: indicates automated incremental backups.</li> </ul>
backup_id	No	Specifies the backup ID.
offset	No	Specifies the index position. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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 cannot be a negative number.
limit	No	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> .
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". <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> . <b>NOTE</b> When <b>begin_time</b> is not empty, <b>end_time</b> is mandatory.

Parameter	Mandatory	Description
end_time	No	<p>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.</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> <p><b>NOTE</b> When <b>end_time</b> is not empty, <b>begin_time</b> 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 5-207** Parameters

Parameter	Type	Description
backups	Array of objects	Indicates the backup list. For details, see <a href="#">Table 5-208</a> .
total_count	Integer	Indicates the total number of records.

**Table 5-208** backups field data structure description

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

Parameter	Type	Description
type	String	<p>Indicates the backup type. Its value can be any of the following:</p> <ul style="list-style-type: none"> <li>• <b>auto</b>: indicates automated full backups and manual backups. Cross-region manual backups are supported only for RDS for SQL Server.</li> <li>• <b>incremental</b>: indicates automated incremental backups.</li> </ul>
size	Long	Indicates the backup size in KB.
status	String	<p>Indicates the backup status. Its value can be any of the following:</p> <ul style="list-style-type: none"> <li>• <b>BUILDING</b>: backup in progress</li> <li>• <b>COMPLETED</b>: backup completed</li> <li>• <b>FAILED</b>: backup failed</li> <li>• <b>DELETING</b>: backup being deleted</li> </ul>
databases	Array of objects	<p>Indicates the self-built database. This parameter is returned only for RDS for SQL Server DB instances.</p> <p>For details, see <a href="#">Table 5-209</a>.</p>
begin_time	String	<p>Indicates the backup start 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>

Parameter	Type	Description
end_time	String	Indicates the backup end time. <ul style="list-style-type: none"> <li>For a full backup, it indicates the full backup end time.</li> <li>For an incremental backup, it indicates the time when the last transaction in the backup file was submitted.</li> </ul> The format is yyyy-mm-ddThh:mm:ssZ. <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> .
datastore	Object	Indicates the database version. For details, see <a href="#">Table 5-210</a> .
instance_id	String	Indicates the ID of the DB instance for which the backup is created.
associated_with_ddm	Boolean	Indicates whether to associate with DDM. This parameter is returned only for RDS for MySQL DB instances.

**Table 5-209** databases field data structure description

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

**Table 5-210** 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": "a48e43ff268f4c0e879652d65e63d0fbin01",
    "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": "a48e43ff268f4c0e879652d65e63d0fbin01"
  }],
  "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](#).

## 5.9.8 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 5-211** Parameter description

Name	Type	Mandatory	Description
offset	Integer	No	Specifies the index position. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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 cannot be a negative number.
limit	Integer	No	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> .

## 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 5-212** 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 <a href="#">Table 5-213</a> .
total_count	Integer	Indicates the total number of records.

**Table 5-213** 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 <a href="#">Table 5-214</a> .
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 5-214** 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](#).

## 5.9.9 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 5-215** Parameter description

Name	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Mandatory	Description
backup_id	Yes	<p><b>Explanation:</b> Specifies the backup ID. For details about how to obtain the backup ID, see <a href="#">Obtaining Backups</a>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/97b026aa9cc4417888c14c84a1ad9860/backup-files?backup\_id=c0c9f155c7b7423a9d30f0175998b63bbr01

## Response

- Normal response

**Table 5-216** Parameter description

Name	Type	Description
files	Array of objects	<p><b>Explanation:</b> Indicates the list of backup files. For details, see <a href="#">Table 5-217</a>.</p>
bucket	String	<p><b>Explanation:</b> Indicates the name of the bucket where the file is located.</p> <p><b>Value range:</b> N/A</p>

**Table 5-217** files field data structure description

Name	Type	Description
name	String	<b>Explanation:</b> Indicates the file name. <b>Value range:</b> N/A
size	Long	<b>Explanation:</b> Indicates the file size in KB. <b>Value range:</b> N/A
download_link	String	<b>Explanation:</b> Indicates the link for downloading the backup file. <b>Value range:</b> N/A
link_expired_time	String	<b>Explanation:</b> Indicates the link expiration time. The format is "yyyy-mm-ddThh:mm:ssZ". <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> . <b>Value range:</b> N/A
database_name	String	<b>Explanation:</b> Indicates the name of the database. If the backup file is not a database backup file, <b>null</b> is returned. <b>Value range:</b> N/A

- 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](#).

## 5.9.10 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 5-218** 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 <a href="#">Obtaining a Project ID</a> .
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](#).

## 5.9.11 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 5-219](#).

- 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 5-219** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.



Name	Mandatory	Description
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 5-220** Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see <a href="#">Table 5-221</a> .

**Table 5-221** 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.

Name	Type	Description
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](#).

## 5.9.12 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 5-222](#).

- 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 5-222** 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 <a href="#">Obtaining a Project ID</a> .
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/dsfae23fsfsae3435in01/offsite-restore-time
  - Querying the restoration time range of a cross-region backup based on a specified date  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/offsite-restore-time?date=2020-12-26

## Response

- Normal response

**Table 5-223** Parameter description

Name	Type	Description
restore_time	Array of objects	Indicates the list of restoration time ranges. For details, see <a href="#">Table 5-224</a> .

**Table 5-224** 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.

Name	Type	Description
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](#).

## 5.9.13 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 SQL Server, the time zones of the original and target DB instances must be the same. Otherwise, data inconsistency may occur.
- 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 5-225** 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 <a href="#">Obtaining a Project ID</a> .

## Request

**Table 5-226** 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"> <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>

Name	Mandatory	Type	Description
password	No	String	<p>Specifies the database password. If this parameter is not specified, you can reset the password after the instance is created.</p> <p>Valid value:</p> <p>A database password must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters.</p> <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.</p>
flavor_ref	Yes	String	<p>Specifies the specification code. The value cannot be empty.</p> <p>For details, see <b>spec_code</b> in section <a href="#">Querying Database Specifications</a>.</p>

Name	Mandatory	Type	Description
volume	Yes	Object	Specifies the volume information. For details, see <a href="#">Table 5-231</a> .
availability_zone	Yes	String	Specifies the AZ ID. If the DB instance is not a single instance, you need to specify an AZ for each node of the instance and separate the AZs with commas (,). For details, see the example.  The AZ ID can be obtained from the response returned after the API in <a href="#">Querying Database Specifications</a> is called.
restore_point	Yes	Object	Specifies the restoration information. For details, see <a href="#">Table 5-232</a> .
datastore	No	Object	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. For details, see <a href="#">Table 5-228</a> .  For details about versions for RDS for SQL Server restoration, see <a href="#">Table 5-229</a> .



Name	Mandatory	Type	Description
ha	No	Object	Specifies the HA configuration parameters, which are used when creating primary/standby DB instances. For details, see <a href="#">Table 5-227</a> .
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"> <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).</li> </ul>

Name	Mandatory	Type	Description
			<p>For other editions, the port number can be set to 1433 or 2100 to 9500 (excluding 5355, 5985, and 5986).</p> <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>
backup_strategy	No	Object	<p>Specifies the advanced backup policy.</p> <p>For details, see <a href="#">Table 5-230</a>.</p>
enterprise_project_id	No	String	<p>Specifies the project ID.</p>
disk_encryption_id	No	String	<p>Specifies the key ID for disk encryption. The default value is empty.</p> <p><b>NOTE</b> Serverless instances do not support this parameter.</p>

Name	Mandatory	Type	Description
region	No	String	<p>Specifies the region ID. For details, see <a href="#">Regions and Endpoints</a>.</p> <p>This parameter is mandatory for RDS for SQL Server and RDS for PostgreSQL.</p>
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"> <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> <p>This parameter is mandatory for RDS for SQL Server and RDS for PostgreSQL.</p>

Name	Mandatory	Type	Description
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"> <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> <p>This parameter is mandatory for RDS for SQL Server and RDS for PostgreSQL.</p>

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

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"> <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>This parameter is mandatory for RDS for SQL Server and RDS for PostgreSQL.</p> <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</p>

Name	Mandatory	Type	Description
			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 (,).
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 <a href="#">Table 5-234</a> .



Name	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: Chinese mainland site and international site use UTC by default.</li> <li>- PostgreSQL: Chinese mainland site and international site use 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, 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>

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"> <li>• Method 1: Log in to the DSS console, view the DSS pool list, and select the desired DSS ID in the AZ.</li> <li>• Method 2: Query the DSS pool ID using the DSS API. For details, see <a href="#">Obtaining Details of DSS Storage Pools</a>.</li> </ul>

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 <a href="#">Querying the Available SQL Server Character Set</a>.</p>
tags	No	Array of objects	<p>Specifies the tag list. Each DB instance can be associated with tag key-value pairs while being created.</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 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 <a href="#">Table 5-235</a>.</p>

Name	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 MySQL 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>
serverless_info	No	Object	<p>Specifies the RDS capacity unit (RCU) range of a serverless instance. This parameter is mandatory when you create a serverless instance.</p> <p>For details, see <a href="#">Table 5-233</a>.</p>

**Table 5-227** ha field data structure description

Name	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>The value cannot be empty.</p> <ul style="list-style-type: none"> <li>RDS for MySQL: The value is <b>async</b> or <b>semisync</b>.</li> <li>RDS for PostgreSQL: The value is <b>async</b> or <b>sync</b>.</li> <li>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 asynchronous replication.</li> <li><b>semisync</b> indicates semi-synchronous replication.</li> <li><b>sync</b> indicates synchronous replication.</li> </ul>

**Table 5-228** 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"> <li>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. Example value: 2014_SE 2008 R2 Enterprise Edition and 2008 R2 Web Edition are only for installed base operations.</li> </ul> <p>For details about supported database versions, see <a href="#">Querying Version Information About a DB Engine</a>.</p>

**Table 5-229** 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 5-230** 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"> <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>



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 <b>0</b>, 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 5-231** 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"> <li>● <b>ULTRAHIGH:</b> ultra-high I/O type.</li> <li>● <b>LOCALSSD:</b> indicates the local SSD type.</li> <li>● <b>CLOUDSSD:</b> indicates the cloud SSD type.</li> <li>● <b>ESSD:</b> indicates the extreme SSD type.</li> </ul>

Name	Mandatory	Type	Description
size	Yes	Integer	<p>Specifies the storage space.</p> <p>Its value range is from 40 GB to 4,000 GB. The value must be a multiple of 10.</p> <p><b>NOTICE</b></p> <p>The storage 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 5-232** 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"> <li> <p><b>backup:</b> indicates restoration from backup files. In this mode, <b>backup_id</b> is mandatory when <b>type</b> is not mandatory.</p> </li> <li> <p><b>timestamp:</b> indicates point-in-time restoration. In this mode, <b>restore_time</b> is mandatory when <b>type</b> is mandatory.</p> </li> </ul>

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><b>NOTICE</b> When <b>type</b> is not mandatory, <b>backup_id</b> 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><b>NOTICE</b> When <b>type</b> is mandatory, <b>restore_time</b> 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"> <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</li> </ul> </li> </ul>

Name	Mandatory	Type	Description
			<p>blank, the original database names will be used for restoration by default.</p> <ul style="list-style-type: none"> <li>- Check whether new database names are case sensitive based on the character set selected during instance creation and make sure each new database name is unique.</li> <li>- New database names must be different from any database names on the original DB instance.</li> <li>- The total number of new databases cannot exceed the database quota specified by <b>rds_databases_quota</b>.</li> <li>- New database</li> </ul>

Name	Mandatory	Type	Description
			<p>names cannot contain the following fields (case-insensitive): rdsadmin, master, msdb, tempdb, model, and resource.</p> <ul style="list-style-type: none"> <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> </ul> <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>

Name	Mandatory	Type	Description
			<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> <p><b>CAUTION</b> Before the restoration, make sure that the size of the restored data does not exceed the purchased disk capacity.</p>

**Table 5-233** Data structure of the serverless\_info field

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

**Table 5-234** charge\_info field data structure description

Name	Mandatory	Type	Description
charge_mode	Yes	String	Specifies the billing mode. Value range: <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>
period_type	No	String	Specifies the subscription type. Value range: <ul style="list-style-type: none"> <li>• <b>month</b>: indicates that the service is subscribed by month.</li> <li>• <b>year</b>: indicates that the service is subscribed by year.</li> </ul> <p><b>NOTE</b> This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b>.</p>
period_num	No	Integer	Specifies the subscription period. This parameter is valid and mandatory if <b>charge_mode</b> is set to <b>prePaid</b> . Value range: <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>.</li> </ul>
is_auto_renew	No	boolean	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. <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that automatic renewal is enabled.</li> <li>• <b>false</b>: indicates that automatic renewal is disabled. The default value is <b>false</b>.</li> </ul>



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"> <li>• <b>true</b>: indicates the order will be automatically paid.</li> <li>• <b>false</b>: indicates the order will be manually paid. The default value is <b>false</b>.</li> </ul>

**Table 5-235** tags field data structure description

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

## Example Request

- Restore 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": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
  "type": "backup",
  "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
}
}

```

- Restore 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": "d8e6ca5a624745bcb546a227aa3ae1cfin04",
    "type": "backup",
    "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe",
    "database_name": {
      "db1": "dbtest1,dbtest2",
      "db2": "db2,db002",
      "db3": ""
    }
  }
}
}

```

- Restore 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": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
    "type": "timestamp",
    "restore_time": 1532001446987
  }
}
```

- Restore 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
  },
  "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": "d8e6ca5a624745bcb546a227aa3ae1cfin04",
  "type": "timestamp",
  "restore_time": 1532001446987,
  "database_name": {
    "db1": "dbtest1,dbtest2",
    "db2": "db2,db02",
    "db3": ""
  }
}
}
}

```

- Restore 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-9fec4ea9ca4",
  "subnet_id": "53cdf568-6f56-4944-a996-4afcaff994e",
  "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"
    }
  ],
  "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 5-236** Parameter description

Name	Type	Description
instance	Object	Indicates the DB instance information. For details, see <a href="#">Table 5-237</a> .
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 5-237** instance description

Name	Type	Description
id	String	Indicates the DB instance ID.
name	String	Indicates the DB instance name. DB instances of the same type can have same names under the same tenant.
status	String	Indicates the DB instance status. For example, <b>BUILD</b> indicates that the DB instance is being created.
datastore	Object	Indicates the database information. For details, see <a href="#">Table 5-238</a> .

Name	Type	Description
ha	Object	<p>Indicates the HA configuration parameters. This parameter is returned only when primary/standby DB instances are created.</p> <p>For details, see <a href="#">Table 5-239</a>.</p>
configuration_id	String	<p>Indicates the parameter template ID. This parameter is returned only when a custom parameter template is used during DB instance creation.</p>

Name	Type	Description
port	String	<p>Indicates 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, 5985, and 5986).</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>

Name	Type	Description
backup_strategy	Object	Indicates the automated backup policy. For details, see <a href="#">Table 5-240</a> .
enterprise_project_tag	String	Indicates the project ID.
flavor_ref	String	Indicates the specification ID. For details, see <b>spec_code</b> in <a href="#">Table 5-13</a> in section <a href="#">Querying Database Specifications</a> .
volume	Object	Indicates the volume information. For details, see <a href="#">Table 5-241</a> .
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"> <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>



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"> <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>
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"> <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>
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 <a href="#">Table 5-234</a> .

**Table 5-238** 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"> <li>• MySQL</li> <li>• PostgreSQL</li> <li>• SQLServer</li> </ul>
version	Yes	String	Indicates the database version. For details about supported database versions, see section <a href="#">Querying Version Information About a DB Engine</a> .
complete_version	No	String	Indicates the complete version number. This parameter is returned only when the DB engine is PostgreSQL.

**Table 5-239** ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Indicates the primary/standby instance type. The value is <b>Ha</b> .
replication_mode	Yes	String	<p>Indicates the replication mode for the standby DB instance. The value cannot be empty.</p> <ul style="list-style-type: none"> <li>• RDS for MySQL: The value is <b>async</b> or <b>semisync</b>.</li> <li>• RDS for PostgreSQL: The value is <b>async</b> or <b>sync</b>.</li> <li>• 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 5-240** 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"> <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>

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 <b>0</b>, 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 5-241** 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"> <li>● <b>ULTRAHIGH:</b> ultra-high I/O type.</li> <li>● <b>LOCALSSD:</b> indicates the local SSD type.</li> <li>● <b>CLOUDSSD:</b> indicates the cloud SSD type.</li> <li>● <b>ESSD:</b> indicates the extreme SSD type.</li> </ul>

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

### RDS for PostgreSQL

```
{
  "instance": {
    "id": "f5ffdd8b1c98434385eb001904209eacin01",
    "name": "demoname",
    "status": "BUILD",
    "datastore": {
      "type": "PostgreSQL",
      "version": "9.6.13"
    },
    "port": "5432",
    "volume": {
      "type": "ULTRAHIGH",
      "size": "40"
    },
    "region": "aaa",
    "backup_strategy": {
      "start_time": "02:00-03:00",
      "keep_days": "7"
    },
    "flavor_ref": "rds.pg.s1.large",
    "availability_zone": "bbb",
    "vpc_id": "19e5d45d-70fd-4a91-87e9-b27e71c9891f",
  }
}
```

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

### 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": "53cdf568-6f56-4944-a996-4afcaff994e",
    "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](#).

## 5.9.14 Stopping a Backup (RDS for PostgreSQL)

### Function

This API is used to stop a backup for a DB instance.

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

### URI

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

**Table 5-242** Parameters

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

### Request

- Parameter description  
None
- Example request  
POST <https://{{Endpoint}}/v3/8b3d99b2fb1148c69be8fe37bb896f27/instances/51986c9a48df43839a3ba300d6c5e91fin03/backups/stop>



## Response

- Normal response

**Table 5-243** Parameters

Parameter	Type	Description
job_id	String	Workflow ID.

- Example normal response

```
{
  "job_id" : "27b449ae-3d7c-6485-fc59-0ff2c8d9d8c8"
}
```

- Abnormal response

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

## Status Code

- Normal

202

- Abnormal

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

## Error Code

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

## 5.9.15 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 5-244** 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 <a href="#">Obtaining a Project ID</a> .

## Request

**Table 5-245** 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. <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> .
instance_ids	Yes	Array of strings	Instance IDs.

## Example Request

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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/fast-restore
{
  "restore_time" : "2023-06-25T11:35:40+0800",
  "instance_ids" : [ "14fc6c06d7e842829ee91d11c6b88b3ain01" ]
}
```

## Response

- Normal response

**Table 5-246** 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 <a href="#">Table 5-247</a> .

**Table 5-247** support\_fast\_restore\_list field data structure description

Parameter	Type	Description
instance_id	String	Instance ID.
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](#).

## 5.9.16 Querying Tables That Can Be Restored to a Specified Point in Time (RDS for PostgreSQL)

### Function

This API is used to query tables 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}/{database\_name}/instances/history/tables
- Parameter description

**Table 5-248** 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 <a href="#">Obtaining a Project ID</a> .
database_name	Yes	DB engine. The value is <b>postgresql</b> (case-insensitive).

## Request

- Parameter description

**Table 5-249** Parameters

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Instance IDs.
restore_time	Yes	Long	Restoration time point.
database_name_like	No	String	Database name, which can be used for fuzzy search.
table_name_like	No	String	Table name, which can be used for fuzzy search.
instance_name_like	No	String	Instance name, which can be used for fuzzy search.

- Example request

```
POST https://{endpoint}/v3/4879de6859e345c780f1a22d8bc6f229/postgresql/instances/history/tables
{
  "instance_ids": [ "f9e0b25a7b984a5cb193bebc98029914in03" ],
  "restore_time": 1688554112000,
  "database_name_like": "",
  "table_name_like": "",
  "instance_name_like": ""
}
```

## Response

- Normal response

**Table 5-250** Parameters

Parameter	Type	Description
table_limit	Integer	Maximum number of tables that can be restored.
instances	Array of objects	Instance information. For details, see <a href="#">Table 5-251</a> .

**Table 5-251** Data structure of the instances field

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.
total_tables	Integer	Number of tables that can be restored.
databases	Array of objects	Database information. For details, see <a href="#">Table 5-252</a> .

**Table 5-252** Data structure of the databases field

Parameter	Type	Description
name	String	Database name.
total_tables	Integer	Number of tables that can be restored.
schemas	Array of objects	Schema information. For details, see <a href="#">Table 5-253</a> .

**Table 5-253** Data structure of the schemas field

Parameter	Type	Description
name	String	Schema name.
total_tables	Integer	Number of tables that can be restored.
tables	Array of objects	Table information. For details, see <a href="#">Table 5-254</a> .

**Table 5-254** Data structure of the tables field

Parameter	Type	Description
name	String	Table name.

- Example normal response

```
{
  "instances": [ {
    "id": "70f639ffa8e343e1b7797c1705d4fe71in03",
    "name": "rds-e1c8",
    "databases": [ {
      "name": "db1",
      "schemas": [ {
        "name": "public",
        "tables": [ {
          "name": "tb1"
        } ],
        "total_tables": 1
      }, {
        "name": "schema1",
        "tables": [ {
          "name": "tb1"
        } ],
        "total_tables": 1
      } ],
      "total_tables": 2
    } ],
    "total_tables": 2
  } ],
  "table_limit": 2000
}
```

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

## 5.9.17 Querying Databases That Can Be Restored to a Specified Point in Time

### 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](#).

## Constraints

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

## URI

- URI format  
POST /v3/{project\_id}/{engine}/instances/history/databases
- Parameter description

**Table 5-255** Parameters

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

## Request

**Table 5-256** 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 can be used for fuzzy query. The database name cannot contain Chinese characters.
instance_name_like	No	String	Instance name, which can be used for fuzzy query.

## Example Request

Query the databases that can be restored to a specified point in time of an RDS for MySQL instance.

```
{
  "instance_ids" : [ "5d742eda6e574ff3a003191638ef8c51in01" ],
```

```
"restore_time" : 1688554422000,
"database_name_like" : "",
"instance_name_like" : ""
}
```

## Response

- Normal response

**Table 5-257** 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 <a href="#">Table 5-258</a> .

**Table 5-258** Data structure of the instances field

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 <b>table_limit</b> .
databases	Array of objects	Database information. For details, see <a href="#">Table 5-259</a> .



**Table 5-259** Data structure of the databases field

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 <b>table_limit</b> .

- 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](#).

## 5.9.18 Restoring Tables to a Specified Point in Time (RDS for PostgreSQL)

### Function

This API is used to restore tables of a DB instance to a point in time.

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

## URI

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

**Table 5-260** 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 <a href="#">Obtaining a Project ID</a> .

## Request

- Parameter description

**Table 5-261** Parameters

Parameter	Mandatory	Type	Description
instances	No	Array of objects	Table information. For details, see <a href="#">Table 5-262</a> .

**Table 5-262** Data structure of the instances field

Parameter	Mandatory	Type	Description
restore_time	No	Long	Point in time to which the tables are restored.
instance_id	No	String	Instance ID.
databases	No	Array of objects	Database information. For details, see <a href="#">Table 5-263</a> .

**Table 5-263** Data structure of the databases field

Parameter	Mandatory	Type	Description
database	No	String	Database name.
schemas	No	Array of objects	Schema information For details, see <a href="#">Table 5-264</a> .

**Table 5-264** Data structure of the schemas field

Parameter	Mandatory	Type	Description
schema	No	String	Schema information.
tables	No	Array of objects	Table information. For details, see <a href="#">Table 5-265</a> .

**Table 5-265** Data structure of the tables field

Parameter	Mandatory	Type	Description
old_name	No	String	Original table name before the restoration.
new_name	No	String	Table name after the restoration.

- Example request

POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/batch/restore/tables

```
{
  "instances": [{
    "restore_time": 1688556737000,
    "instance_id": "df29b535eec64ee1b286bd2c62871a9cin03",
    "databases": [{
      "database": "data1",
      "schemas": [{
        "schema": "schema1",
        "tables": [{
          "old_name": "table1",
          "new_name": "table1_1688556737000"
        }]
      }]
    }]
  }]
}
```

## Response

- Normal response

**Table 5-266** Parameters

Parameter	Type	Description
restore_result	Array of objects	Table information. For details, see <a href="#">Table 5-267</a> .

**Table 5-267** Data structure of the restore\_result field

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

- Example normal response

```
{
  "restore_result": [ {
    "instance_id": "df29b535eec64ee1b286bd2c62871a9cin03",
    "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](#).

## 5.9.19 Restoring Databases to a Specified Point in Time

### 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 and RDS for PostgreSQL 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 5-268** Parameters

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

## Request

**Table 5-269** Parameters

Parameter	Mandatory	Type	Description
instances	Yes	Array of objects	Instance information. For details, see <a href="#">Table 5-270</a> .

**Table 5-270** 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 <a href="#">Table 5-271</a> .

Parameter	Mandatory	Type	Description
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 5-271** 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.
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

Restore databases of an RDS for MySQL instance 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 5-272** Parameters

Parameter	Type	Description
restore_result	Array of objects	Database-level PITR task details. For details, see <a href="#">Table 5-273</a> .

**Table 5-273** 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](#).

## 5.10 Upgrading a Major Version

### 5.10.1 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 5-274** Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
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 5-275** 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](#).

## 5.10.2 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 5-276** Parameter description

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

## Request

- Request parameters

**Table 5-277** 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 5-278** 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](#).

## 5.10.3 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.

The major version check status is valid within seven days. During this period, if you modify the instance configurations, you need to check the upgrade status again.

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/major-version/status? action={current\_action}
- Parameters

**Table 5-279** Parameters

Parameter	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
instance_id	String	Yes	Instance ID.
action	String	Yes	The status to be queried. <ul style="list-style-type: none"> <li>• <b>check</b>: Check the pre-upgrade check status.</li> <li>• <b>upgrade</b>: Check the major version upgrade status.</li> </ul>

### Request

- Request parameters  
None
- URI example  
`https://{Endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/status?action=upgrade`

## Response

- Normal response

**Table 5-280** Parameters

Parameter	Type	Description
status	String	Major version upgrade status of the instance <ul style="list-style-type: none"> <li>• <b>running</b>: The pre-check or major version upgrade is in progress.</li> <li>• <b>success</b>: The pre-check or major version upgrade is successful.</li> <li>• <b>failed</b>: The pre-check or major version upgrade fails.</li> </ul>
target_version	String	Target version.
start_time	String	Start time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
check_expiration_time	String	Time when a check report expires. The format is yyyy-mm-ddThh:mm:ssZ. <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> .
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
begin
2023-03-06 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](#).

## 5.10.4 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 5-281** Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
instance_id	String	Yes	Instance ID.
offset	Integer	No	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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	Integer	No	Number of query records. The default value is <b>10</b> . The value must be a positive integer. The minimum value is <b>1</b> and the maximum value is <b>100</b> .

Name	Type	Mandator y	Description
order	String	No	Sorting order. <ul style="list-style-type: none"> <li>• <b>DESC</b>: descending order</li> <li>• <b>ASC</b>: ascending order</li> <li>• Default value: <b>desc</b></li> </ul>
sort_field	String	No	Sorting field. <ul style="list-style-type: none"> <li>• <b>check_time</b>: check time</li> <li>• <b>expiration_time</b>: expiration time</li> <li>• <b>check_time</b> is the default value.</li> </ul>
target_ver sion	String	No	Target version.
is_availabl e	Boolean	No	Whether the check is valid. <ul style="list-style-type: none"> <li>• <b>true</b>: valid</li> <li>• <b>false</b>: invalid</li> </ul>

## Request

- Request parameters

None

- URI example

`https://{Endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/inspection-histories?offset=0&limit=10`

## Response

- Normal response

**Table 5-282** Parameter description

Name	Type	Description
total_count	Integer	Total number of records.
inspection_reports	Array of objects	Check report details. For details, see <a href="#">Table 5-283</a> .

**Table 5-283** inspection\_report field data structure description

Name	Type	Description
id	String	Check report ID.

Name	Type	Description
check_time	String	Check time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
expiration_time	String	Expiration time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
target_version	String	Target version.
result	String	Check results. <ul style="list-style-type: none"> <li>● <b>success</b>: The check is successful.</li> <li>● <b>failed</b>: The check fails.</li> <li>● <b>running</b>: The check is in progress.</li> </ul>
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](#).

## 5.10.5 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 5-284** Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
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"> <li><b>true:</b> After the upgrade, the floating IP address is switched to the target instance.</li> <li><b>false:</b> After the upgrade, the floating IP address of the source instance remains unchanged, and the target instance uses a new floating IP address.</li> </ul>
statistics_collection_mode	String	No	Mode of collecting statistics. It is mandatory if <b>is_change_private_ip</b> is set to <b>true</b> . <ul style="list-style-type: none"> <li><b>before_change_private_ip:</b> Statistics are collected before the floating IP address of the source instance is switched to the target instance.</li> <li><b>after_change_private_ip:</b> Statistics are collected after the floating IP address of the source instance is switched to the target instance.</li> </ul>

- 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 5-285** 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](#).

## 5.10.6 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 5-286** Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
instance_id	String	Yes	Instance ID.
offset	Integer	No	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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	Integer	No	Number of query records. The default value is <b>10</b> . The value must be a positive integer. The minimum value is <b>1</b> and the maximum value is <b>100</b> .
order	String	No	Sorting order. <ul style="list-style-type: none"> <li>• <b>DESC</b>: descending order</li> <li>• <b>ASC</b>: ascending order</li> <li>• Default value: <b>desc</b></li> </ul>
sort_field	String	No	Sorting field. <ul style="list-style-type: none"> <li>• <b>start_time</b>: specifies the start time.</li> <li>• <b>end_time</b>: specifies the end time.</li> <li>• <b>start_time</b> is the default value.</li> </ul>

## Request

- Request parameters

None

- URI example

<https://{Endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3aa441c4c98a4b36b100a7e3e87d17cein03/major-version/upgrade-histories?offset=0&limit=10>

## Response

- Normal response

**Table 5-287** Parameter description

Name	Type	Description
total_count	Integer	Total number of records.

Name	Type	Description
upgrade_reports	Array of objects	Upgrade report details. For details, see <a href="#">Table 5-288</a> .

**Table 5-288** upgrade\_report field data structure description

Name	Type	Description
id	String	Upgrade report ID.
start_time	String	Upgrade start time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
end_time	String	Upgrade end time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
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"> <li>• <b>success</b>: The upgrade is successful.</li> <li>• <b>failed</b>: The upgrade fails.</li> <li>• <b>running</b>: The upgrade is in progress.</li> </ul>

Name	Type	Description
is_private_ip_changed	Boolean	Whether to switch the floating IP address of the source instance to the target instance. <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the floating IP address of the source instance will be switched to the target instance.</li> <li>• <b>false</b>: indicates that the floating IP address of the source instance will not be switched to the target instance.</li> </ul>
private_ip_change_time	String	Time when the floating IP address is changed. The format is yyyy-mm-ddThh:mm:ssZ. <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> .
statistics_collection_mode	String	When to collect statistics. <ul style="list-style-type: none"> <li>• <b>before_change_private_ip</b>: Statistics are collected before the floating IP address is changed.</li> <li>• <b>after_change_private_ip</b>: Statistics are collected after the floating IP address is changed.</li> </ul>
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": "6b5750504be1403191c4f00e4ffaae5ein03",
      "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"
    }
}
begin"
    ]
}

```

- Abnormal 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 Log Information Queries

## 5.11.1 Showing Original Logs

### 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 available only to RDS for MySQL and RDS for PostgreSQL.

### URI

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

**Table 5-289** 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 <a href="#">Obtaining a Project ID</a> .

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 <b>on</b> or <b>off</b> . <ul style="list-style-type: none"> <li>• <b>on</b>: Enable this function.</li> <li>• <b>off</b>: Disable this function.</li> </ul>

## 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](#).

## 5.11.2 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 5-290** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	ID of the instance to be queried.
offset	No	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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 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 <b>10</b> by default if it is not specified.

## Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/slowlog-files

## Response

- Normal response

**Table 5-291** Parameter description

Name	Type	Description
list	Array of objects	Slow log file information. For details, see <a href="#">Table 5-292</a> .
total_count	Integer	Total number of files.



**Table 5-292** 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](#).

## 5.11.3 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 5-293** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	ID of the instance to be queried.
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 on each page. Its value ranges from 1 to 100. The default value is <b>10</b> .

## Request

- Request parameters

None

- URI example

GET <https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/xellog-files>

## Response

- Normal response

**Table 5-294** Parameters

Parameter	Type	Description
list	Array of objects	Extended log file information. For details, see <a href="#">Table 5-295</a> .
count	Integer	Total number of files.

**Table 5-295** 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](#).

## 5.11.4 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}/xellog-download
- Parameter description

**Table 5-296** 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 <a href="#">Obtaining a Project ID</a> .

Parameter	Mandatory	Description
instance_id	Yes	ID of the instance to be queried.

## Request

**Table 5-297** 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 <b>.xel</b> . You can obtain the file name from <a href="#">Querying Extended Logs (RDS for SQL Server)</a> .

## Example Request

Obtain links for downloading extended logs.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/xellog-download
{
  "file_name": "sqlserver_xellog_name.xel"
}
```

## Response

- Normal response

**Table 5-298** Parameters

Parameter	Type	Description
list	List	List of links for downloading extended logs. For details, see <a href="#">Table 5-299</a> .
count	Integer	Number of extended log links.

**Table 5-299** 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"> <li>● <b>FINISH</b>: The download link has been generated.</li> <li>● <b>EXPORTING</b>: The file is being generated.</li> <li>● <b>FAILED</b>: The log file fails to be prepared.</li> </ul>
file_size	String	File size in KB.
file_link	String	Download link. If the link generation status is <b>EXPORTING</b> or <b>FAILED</b> , 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](#).

# 5.11.5 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\_date}&end\_date={end\_date}&sort={sort}
- Parameter description

**Table 5-300** 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 <a href="#">Obtaining a Project ID</a> .
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	Specifies the start date in the "yyyy-mm-ddThh:mm:ssZ" format. <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	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format. <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> .
type	Yes	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: <ul style="list-style-type: none"> <li>• INSERT</li> <li>• UPDATE</li> <li>• SELECT</li> <li>• DELETE</li> <li>• CREATE</li> <li>• ALL</li> </ul>
sort	No	Specifies the sorting mode. <ul style="list-style-type: none"> <li>• <b>executeTime</b>: indicates sorting slow query logs by execution time in descending order.</li> <li>• If this parameter is left empty or set to other values, the slow query logs are sorted by executions in descending order.</li> </ul>

## Request

- Request parameters  
None
- URI example

```
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567d/in01/slowlog/statistics?
cur_page=1&per_page=2&type=INSERT&start_date=2020-02-06T10:41:14+080
0&end_date=2020-02-07T10:41:14+0800&sort=executeTime
```

## Response

- Normal response

**Table 5-301** Description

Name	Type	Description
pageNumber	Integer	Indicates the current page number.
pageRecord	Integer	Indicates the number of records on each page.
slowLogList	List	See <a href="#">Table 5-302</a> .
totalRecord	Integer	Indicates the total number of records.
startTime	Long	Indicates the start time.
endTime	Long	Indicates the end time.

**Table 5-302** 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](#).

## 5.11.6 Obtaining Links for Downloading Slow Query Logs

### Function

This API is used to obtain links for downloading slow query logs. The downloaded logs contain only the logs of the primary node.

- 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 5-303** Parameter description

Name	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Name	Mandatory	Description
instance_id	Yes	<p><b>Explanation:</b> ID of the instance to be queried.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## Request

**Table 5-304** Parameter description

Name	Mandatory	Type	Description
file_name	No	String	<p><b>Explanation:</b> Name of the file to be downloaded. To obtain the file name, click the instance name on the console and choose <b>Logs &gt; Slow Query Logs</b>.</p> <p><b>Constraints:</b> This parameter is mandatory for Microsoft SQL Server.</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## Example Request

Obtain 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 5-305** Parameter description

Name	Type	Description
list	List	<b>Explanation:</b> Indicates the links for downloading slow query logs. For details, see <a href="#">Table 5-306</a> .
status	String	<b>Explanation:</b> Indicates the status of generating links for downloading slow query logs. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>FINISH:</b> The download link has been generated.</li> <li>• <b>CREATING:</b> A file is being generated and the download link is to be prepared.</li> <li>• <b>FAILED:</b> Log files fail to be prepared.</li> </ul>
count	Integer	<b>Explanation:</b> Indicates the number of links for downloading slow query logs. <b>Value range:</b> N/A

**Table 5-306** linkInfo field data structure description

Name	Type	Description
workflow_id	String	<b>Explanation:</b> Task ID. <b>Value range:</b> For the MySQL DB engine, the value is always "".

Name	Type	Description
file_name	String	<p><b>Explanation:</b> Indicates the name of the generated file for downloading slow query logs.</p> <p><b>Value range:</b> N/A</p>
status	String	<p><b>Explanation:</b> Indicates the generation status of the current link.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>● <b>EXPORTING:</b> indicates that the download link is being generated.</li> <li>● <b>SUCCESS:</b> indicates that the download link is successfully generated.</li> <li>● <b>FAILED:</b> indicates that the download link failed to be generated.</li> </ul>
file_size	String	<p><b>Explanation:</b> Indicates the file size in KB.</p> <p><b>Value range:</b> N/A</p>
file_link	String	<p><b>Explanation:</b> Indicates the download link. The link is valid for 5 minutes.</p> <p><b>Value range:</b> N/A</p>
create_at	Long	<p><b>Explanation:</b> Indicates the generation time.</p> <p><b>Value range:</b> N/A</p>

Name	Type	Description
update_at	Long	<p><b>Explanation:</b> Indicates the update time.</p> <p><b>Value range:</b> N/A</p>

- 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_20200515
080614589?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](#).

## 5.11.7 Obtaining Links for Downloading Error Logs (RDS for PostgreSQL)

### Function

This API is used to obtain links for downloading error logs of a DB instance.

You need to call this API repeatedly until **FINISH** is returned for **status**.

Or, you can use the **workflow\_id** value returned by the first API call to query the task status. After the task is successfully executed, call the API again to obtain the download link.

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

## Constraints

This API can only be used to obtain links for downloading error logs of an instance that is working properly.

## URI

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

**Table 5-307** Parameters

Parameter	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
instance_id	Yes	<p><b>Explanation:</b> ID of the instance to be queried.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## Request

- Parameter description  
None
- URI example  
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/3d39c18788b54a919bab633874c159dfin01/errorlog-download

## Response

- Normal response

**Table 5-308** Parameters

Parameter	Type	Description
list	Array of objects	<b>Explanation:</b> List of links for downloading error logs. For details, see <a href="#">Table 5-309</a> .
status	String	<b>Explanation:</b> Status of the error log download link. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>FINISH:</b> The download link has been generated.</li> <li>• <b>CREATING:</b> A file is being generated and the download link is being prepared.</li> <li>• <b>FAILED:</b> The log file fails to be prepared.</li> </ul>
count	Integer	<b>Explanation:</b> Number of error log links. <b>Value range:</b> N/A

**Table 5-309** Data structure description of the list field

Parameter	Type	Description
workflow_id	String	<b>Explanation:</b> Task ID. <b>Value range:</b> N/A
file_name	String	<b>Explanation:</b> Name of the generated file for downloading. <b>Value range:</b> N/A

Parameter	Type	Description
status	String	<b>Explanation:</b> Status of the current link. <b>Value range:</b> N/A
file_size	String	<b>Explanation:</b> File size. <b>Value range:</b> N/A
file_link	String	<b>Explanation:</b> Download link. <b>Value range:</b> N/A
create_at	Long	<b>Explanation:</b> Generation time. <b>Value range:</b> N/A
update_at	Long	<b>Explanation:</b> Update time. <b>Value range:</b> N/A

- Example normal response

Link for downloading error logs obtained successfully.

```
{
  "list": [ {
    "workflow_id": "44fb1d85-2fcc-4d63-ad3b-c3d1ecd7000e",
    "file_name": "054bc9c1f680d55c1f36c006e5a9f67b_errorlog_download_20200515080614589",
    "file_size": "0",
    "file_link": "https://
rdsbucket.xxx.myhuaweicloud.com:443/054bc9c1f680d55c1f36c006e5a9f67b_errorlog_download_2020
0515080614589?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](#).

## 5.11.8 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 5-310** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-311** Parameter description

Name	Mandatory	Type	Description
keep_days	Yes	Integer	Number of days for storing audit logs. The value range is from 0 to 732. <ul style="list-style-type: none"> <li>• <b>0</b>: indicates that SQL audit is disabled.</li> <li>• <b>1 to 732</b>: indicates the retention days for audit logs after SQL audit is enabled.</li> </ul>
reserve_auditlogs	No	Boolean	This parameter is valid only when SQL audit is disabled. <ul style="list-style-type: none"> <li>• <b>true</b> (default): indicates that historical audit logs will be reserved for some time when SQL audit is disabled.</li> <li>• <b>false</b>: indicates that historical audit logs will be deleted immediately when SQL audit is disabled.</li> </ul>

Name	Mandatory	Type	Description
audit_types	No	Array of strings	<p>This parameter applies only to RDS for MySQL.</p> <p>Operation types recorded in audit logs. This parameter is valid only when audit logging is enabled. If this parameter is left blank, all operation types will be recorded by default.</p> <ul style="list-style-type: none"> <li>• CREATE_USER, DROP_USER, RENAME_USER, GRANT, REVOKE, ALTER_USER, ALTER_USER_DEFAULT_ROLE</li> <li>• CREATE, ALTER, DROP, RENAME, TRUNCATE, REPAIR, OPTIMIZE</li> <li>• INSERT, DELETE, UPDATE, REPLACE, SELECT</li> <li>• 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</li> </ul>

### Example Request

- Enable SQL Audit and set the audit log retention period to 5 days.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/cee5265e1e5845649e354841234567dfin01/auditlog-policy
```

```
{
  "keep_days":5,
  "audit_types": [
    "CREATE_USER"
  ]
}
```

- Disable SQL Audit and delete existing historical audit logs.

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

## Response

- Normal response

**Table 5-312** Parameters

Parameter	Type	Description
status	String	<b>Explanation:</b> Result of setting SQL audit. <b>Value range:</b> COMPLETED

- Example normal response

```
{
  "status":"COMPLETED"
}
```

- Abnormal response

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

## Status Code

- Normal  
200

- Abnormal

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

## Error Code

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

## 5.11.9 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 5-313** 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 <a href="#">Obtaining a Project ID</a> .
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 5-314** Parameter description

Name	Type	Description
keep_days	Integer	Number of days for storing audit logs. The value is <b>0</b> 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](#).

## 5.11.10 Obtaining Audit Logs

### Function

This API is used to obtain 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?  
start\_time={start\_time}&end\_time={end\_time}&offset={offset}&limit={limit}
- Parameter description

**Table 5-315** Parameters

Parameter	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Description
instance_id	Yes	<p><b>Explanation:</b> ID of the instance to be queried.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
start_time	Yes	<p><b>Explanation:</b> Query start time.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. <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> <p><b>Default value:</b> N/A</p>
end_time	Yes	<p><b>Explanation:</b> Query end time.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. The end time must be later than the start time and the time span cannot be longer than 30 days. <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> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Description
offset	Yes	<p><b>Explanation:</b> Index offset. If <b>offset</b> is set to <math>N</math>, the query starts from the <math>N+1</math> piece of data. The value <b>0</b> indicates that the query starts from the first piece of data.</p> <p><b>Constraints:</b> The value must be a non-negative number.</p> <p><b>Value range:</b> An integer greater than or equal to 0</p> <p><b>Default value:</b> 0</p>
limit	Yes	<p><b>Explanation:</b> Number of records to be queried.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> [1, 50]</p> <p><b>Default value:</b> N/A</p>

## 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 5-316** Parameters

Parameter	Type	Description
auditlogs	Array of objects	<p><b>Explanation:</b> Indicates detailed information. For details, see <a href="#">Table 5-317</a>.</p>



Parameter	Type	Description
total_record	Integer	<p><b>Explanation:</b> Indicates the total number of records.</p> <p><b>Value range:</b> N/A</p>

**Table 5-317** auditlogs field data structure description

Parameter	Type	Description
id	String	<p><b>Explanation:</b> Indicates the audit log ID. For the SQL Server engine, the ID is the audit log file name.</p> <p><b>Value range:</b> N/A</p>
name	String	<p><b>Explanation:</b> Indicates the audit log file name.</p> <p><b>Value range:</b> N/A</p>
size	Long	<p><b>Explanation:</b> Indicates the size in KB of the audit log.</p> <p><b>Value range:</b> N/A</p>
begin_time	String	<p><b>Explanation:</b> Indicates the start time of the audit log.</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. <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>

Parameter	Type	Description
end_time	String	<p><b>Explanation:</b> Indicates the end time of the audit log.</p> <p><b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. <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>

- 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](#).

## 5.11.11 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 5-318** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the ID of the queried DB instance.

### Request

**Table 5-319** 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

Obtain the links for downloading audit logs.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
cee5265e1e5845649e354841234567dfin01/auditlog-links
```

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

## Response

- Normal response

**Table 5-320** 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](#).

## 5.11.12 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 5-321** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-322** Parameter description

Name	Mandatory	Type	Description
binlog_retention_hours	Yes	Integer	Specifies the binlog retention period. Value range: 0 to 168 (7x24)

## Example Request

Set the local retention period of binlogs to 3 hours.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
fa60258325f6424ca1ba28653629d7b1in01/binlog/clear-policy
{
  "binlog_retention_hours": 3
}
```

## Response

- Normal response

**Table 5-323** 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](#).

## 5.11.13 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 5-324** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

- Request parameters  
None
- URI example  
GET https://{*endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/instances/fa60258325f6424ca1ba28653629d7b1in01/binlog/clear-policy

### Response

- Normal response

**Table 5-325** Parameter description

Name	Mandatory	Type	Description
binlog_retention_hours	Yes	Integer	Binlog retention period.
binlog_clear_type	No	String	Binlog retention policy. The value can be <b>time</b> or <b>fast</b> . <ul style="list-style-type: none"> <li><b>time</b>: indicates that binlogs are retained by time.</li> <li><b>fast</b>: indicates that binlogs are not retained.</li> </ul>

- Example normal response

```
{
  "binlog_retention_hours": 3,
  "binlog_clear_type": "time"
}
```

- Abnormal 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 Instance Diagnosis

## 5.12.1 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 5-326** Parameter description

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

**Table 5-327** Request parameters

Parameter	Mandatory	Type	Description
engine	Yes	String	Engine type. Enumerated values: <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}/v3/0483b6b16e954cb88930a360d2c4e663/instances/diagnosis?engine=sqlserver>

## Response

- Normal response

**Table 5-328** Parameter description

Name	Type	Description
diagnosis	Array of objects	Diagnosis details. For details, see <a href="#">Table 5-329</a> .

**Table 5-329** 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](#).

## 5.12.2 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 5-330** Parameter description

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

**Table 5-331** Request parameters

Parameter	Mandatory	Type	Description
engine	Yes	String	Engine type. Enumerated values: <ul style="list-style-type: none"> <li>mysql</li> <li>postgresql</li> <li>sqlserver</li> </ul>
diagnosis	Yes	String	Diagnosis item. Enumerated values: <ul style="list-style-type: none"> <li>high_pressure</li> <li>lock_wait</li> <li>insufficient_capacity</li> <li>slow_sql_frequency</li> <li>disk_performance_cap</li> <li>mem_overrun</li> <li>age_exceed</li> <li>connections_exceed</li> </ul>
offset	No	Integer	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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	Integer	Number of returned results. Default value: <b>10</b>

## Request

- Request parameters  
None
- URI example  
GET [https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/diagnosis/info?engine=sqlserver&diagnosis=high\\_pressure&offset=1&limit=10](https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/diagnosis/info?engine=sqlserver&diagnosis=high_pressure&offset=1&limit=10)

## Response

- Normal response

**Table 5-332** Parameter description

Parameter	Type	Description
diagnosis	String	Diagnosis item. Enumerated values: <ul style="list-style-type: none"> <li>• high_pressure</li> <li>• lock_wait</li> <li>• insufficient_capacity</li> <li>• slow_sql_frequency</li> <li>• disk_performance_cap</li> <li>• mem_overrun</li> <li>• age_exceed</li> <li>• connections_exceed</li> </ul>
total_count	Integer	Number of instances.
instances	Array of objects	Specifies the DB instance ID. For details, see <a href="#">Table 5-333</a> .

**Table 5-333** 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](#).

## 5.13 SQL Statement Concurrency Control (RDS for PostgreSQL)

### 5.13.1 Adding a SQL Statement Concurrency Control Rule for a Database

#### Function

This API is used to add a SQL statement concurrency control rule for a database.

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

#### URI

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

**Table 5-334** Parameters

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

#### Request

**Table 5-335** Parameters

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
query_id	No	Long	Internal hash code calculated by the SQL parse tree. The default value is <b>0</b> . The value range is from -9223372036854775808 to 9223372036854775807.
query_string	No	String	Text format of an SQL statement. Only either <b>query_id</b> or <b>query_string</b> can be specified.

Parameter	Mandatory	Type	Description
max_concurrency	Yes	Integer	Number of SQL statements that can be executed at the same time. If the value is less than or equal to 0, the number is not limited. The default value is <b>0</b> . The value range is from -1 to 50000.
max_waiting	Yes	Integer	Maximum waiting time, in seconds.
search_path	No	String	Schema search order set for names that are not schema-qualified. The default value is <b>public</b> .

## Example Request

Add a SQL statement concurrency control rule for a database.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52eb03/sql-limit
{
  "db_name": "postgres",
  "query_id": 1,
  "max_concurrency": 10,
  "max_waiting": 10,
  "search_path": "public"
}
```

## Response

- Normal response

**Table 5-336** Parameters

Parameter	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](#).

## 5.13.2 Deleting a SQL Statement Concurrency Control Rule

### Function

This API is used to delete a SQL statement concurrency control rule.

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

### URI

- URI format  
DELETE /v3/{project\_id}/instances/{instance\_id}/sql-limit
- Parameter description

**Table 5-337** Parameters

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

### Request

**Table 5-338** Parameters

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
id	Yes	String	Concurrency control rule ID.

### Example Request

```
DELETE https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbdd2e52eb03/sql-limit
{
  "db_name": "postgres",
```

```
"id" : "1"
}
```

## Response

- Normal response

**Table 5-339** Parameters

Parameter	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](#).

## 5.13.3 Modifying a SQL Statement Concurrency Control Rule

### Function

This API is used to modify a SQL statement concurrency control rule.

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

### URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/sql-limit/update
- Parameter description

**Table 5-340** Parameters

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

## Request

**Table 5-341** Parameters

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
id	Yes	String	Concurrency control rule ID.
max_concurrency	Yes	Integer	Number of SQL statements that can be executed at the same time. If the value is less than or equal to 0, the number is not limited. The default value is 0. The value range is from -1 to 50000.
max_waiting	Yes	Integer	Maximum waiting time, in seconds.

## Example Request

Modify a SQL statement concurrency control rule.

```
PUT https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52eb03/sql-limit/update
```

```
{
  "db_name": "postgres",
  "id": "1",
  "max_concurrency": 10,
  "max_waiting": 10
}
```

## Response

- Normal response



**Table 5-342** Parameters

Parameter	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](#).

## 5.13.4 Querying SQL Statement Concurrency Control Rules

### Function

This API is used to query SQL statement concurrency control rules.

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

### URI

- URI format

```
GET /v3/{project_id}/instances/{instance_id}/sql-limit?
db_name={db_name}&offset={offset}&limit={limit}
```

- Parameter description

**Table 5-343** Parameters

Parameter	Man dato ry	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain it, refer to <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	Instance ID.

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
offset	No	Integer	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	Integer	Number of query records. The default value is <b>10</b> . The value must be a positive integer. The minimum value is <b>1</b> and the maximum value is <b>100</b> .

## Request

None

## Example Request

```
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52ebin03/sql-limit?db_name=postgres&offset=0&limit=10
```

## Response

- Normal response

**Table 5-344** Parameters

Parameter	Type	Description
count	Integer	Number of SQL statement concurrency control rules.
sql_limit_objects	Array of objects	Concurrency control rule details. For details, see <a href="#">Table 5-345</a> .

**Table 5-345** sql\_limit\_objects field data structure description

Parameter	Type	Description
id	String	Concurrency control rule ID.

Parameter	Type	Description
query_id	String	Internal hash code calculated by the SQL parse tree. The default value is <b>0</b> . The value range is from -9223372036854775808 to 9223372036854775807.
query_string	String	Text format of an SQL statement.
max_concurrency	Integer	Number of SQL statements that can be executed at the same time. If the value is less than or equal to 0, the number is not limited. The default value is <b>0</b> . The value range is from -1 to 50000.
is_effective	Boolean	Whether the rule is effective.
max_waiting	Integer	Maximum waiting time, in seconds.
search_path	String	Schema search order set for names that are not schema-qualified. The default value is <b>public</b> .

- Example normal response

```
{
  "count": 2,
  "sql_limit_objects": [
    {
      "id": "3",
      "query_id": "1147616880456321454",
      "query_string": "select 1;",
      "max_concurrency": 10,
      "is_effective": false,
      "max_waiting": 10,
      "search_path": "public"
    },
    {
      "id": "4",
      "query_id": "-7472493489976133824",
      "query_string": "select * from pg_type;",
      "max_concurrency": 10,
      "is_effective": false,
      "max_waiting": 10,
      "search_path": "public"
    }
  ]
}
```

- Abnormal 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 Enabling or Disabling a SQL Statement Concurrency Control Rule or Disabling All SQL Statement Concurrency Control Rules

### Function

This API is used to enable or disable a SQL statement concurrency control rule or disable all SQL statement concurrency control rules.

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

### URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/sql-limit/switch
- Parameter description

**Table 5-346** Parameters

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

### Request

**Table 5-347** Parameters

Parameter	Mandatory	Type	Description
db_name	Yes	String	Database name.
id	Yes	String	Concurrency control rule ID.
action	Yes	String	Action applied to the concurrency control rule. <ul style="list-style-type: none"> <li>• <b>open</b>: enables the concurrency control rule.</li> <li>• <b>close</b>: disables the concurrency control rule.</li> <li>• <b>disable_all</b>: disables all concurrency control rules.</li> </ul>

## Example Request

Open a SQL statement concurrency control rule.

```
PUT https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52eb03/sql-limit/switch
{
  "db_name": "postgres",
  "id": "1",
  "action": "open"
}
```

## Response

- Normal response

**Table 5-348** Parameters

Parameter	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](#).

# 5.14 Database Proxy (RDS for MySQL)

## 5.14.1 Enabling Database Proxy

### Function

This API is used to enable database proxy for a DB instance.

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

## URI

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

**Table 5-349** Parameters

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

## Request

**Table 5-350** Parameters

Parameter	Mandatory	Type	Description
flavor_ref	Yes	String	Specification code of the database proxy. <ul style="list-style-type: none"> <li>• When the site supports the database proxy in primary/standby mode, this parameter does not take effect.</li> <li>• When the site supports the database proxy in cluster mode, set this parameter to the value of <b>code</b> in the response body in <a href="#">Querying Database Proxy Specifications</a>.</li> </ul>
node_num	Yes	Integer	Number of database proxy nodes. <ul style="list-style-type: none"> <li>• When the site supports the database proxy in primary/standby mode, set this parameter to <b>2</b>.</li> <li>• When the site supports the database proxy in cluster mode, the minimum value of this parameter is <b>2</b>. For the maximum value, see the value of <b>max_proxy_node_num</b> in the response body in <a href="#">Querying Database Proxies</a>.</li> </ul>

Parameter	Mandatory	Type	Description
proxy_name	No	String	<p>Name of the database proxy. Database proxies of the same type can have the same name under the same tenant.</p> <p>The name must start with a letter and consist of 4 to 64 characters. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed.</p> <p>If this parameter is not specified or the site supports only the database proxy in primary/standby mode, a random name will be generated.</p>
proxy_mode	No	String	<p>Read/write mode of the database proxy. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>readwrite</b> (default value): readable and writable</li> <li>• <b>readonly</b>: read-only</li> </ul>
route_mode	No	Integer	<p>Routing policy of the database proxy. Valid values:</p> <ul style="list-style-type: none"> <li>• <b>0</b>: weighted</li> <li>• <b>1</b>: load balancing (The primary node does not process read requests.)</li> <li>• <b>2</b>: load balancing (The primary node processes read requests.)</li> </ul> <p>To use load balancing, contact customer service to apply for required permissions.</p>
nodes_read_weight	Yes	Array of objects	<p>Read weights of database nodes. For details, see <a href="#">Table 5-351</a>.</p> <ul style="list-style-type: none"> <li>• If <b>proxy_mode</b> is set to <b>readonly</b>, you need to configure a weight for at least one read replica.</li> <li>• If <b>route_mode</b> is set to a value greater than 0, the weight configured for the primary instance does not take effect.</li> </ul>
subnet_id	No	String	<p>Subnet ID in the VPC hosting the DB instance. The value can be any subnet ID in the VPC to which the instance belongs.</p> <ul style="list-style-type: none"> <li>• To use this parameter, contact customer service.</li> <li>• On the subnet details page of the VPC console, obtain the network ID of the subnet.</li> </ul>

**Table 5-351** nodes\_read\_weight field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
weight	Yes	Integer	Read weight assigned.

## Example Request

Enable database proxy for a DB instance.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/23a50154cf494ec9ad6883979a12db0a/instances/920ec36cef814a8b830a5bed50d9a088in01/proxy/open
{
  "flavor_ref": "rds.proxy.xlarge.2",
  "node_num": 2,
  "proxy_name": "proxy-test",
  "nodes_read_weight": [
    {
      "instance_id": "917c67424dd54af3addf537a069e5b20in01",
      "weight": 1
    }
  ]
}
```

## Response

- Normal response

**Table 5-352** Parameters

Parameter	Type	Description
job_id	String	Task ID.

- Example normal response

```
{
  "job_id" : "09908118-8e32-4742-982a-7be194f59e1d"
}
```

- Abnormal 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 Querying Database Proxies

### Function

This API is used to query database proxies 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}/proxy-list
- Parameter description

**Table 5-353** Parameters

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

### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/23a50154cf494ec9ad6883979a12db0a/instances/920ec36cef814a8b830a5bed50d9a088in01/proxy-list

### Response

- Normal response

**Table 5-354** Parameters

Parameter	Type	Description
proxy_query_info_list	Array of objects	List of database proxies under a DB instance. For details, see <a href="#">Table 5-355</a> .
max_proxy_num	Integer	Maximum number of database proxies that can be enabled at the same time.

Parameter	Type	Description
max_proxy_node_num	Integer	Maximum number of nodes allowed for one database proxy.
support_balance_route_mode_for_favored_version	Boolean	Whether load balancing can be configured when a database proxy is created.

**Table 5-355** proxy\_query\_info\_list field data structure description

Parameter	Type	Description
proxy	Object	Database proxy information. For details, see <a href="#">Table 5-356</a> .
master_instance	Object	Primary instance information. For details, see <a href="#">Table 5-359</a> .
readonly_instances	Array of objects	Read replica information. For details, see <a href="#">Table 5-359</a> .
proxy_security_group_check_result	Boolean	Whether the security group allows the database proxy to access the DB instance.

**Table 5-356** proxy field data structure description

Parameter	Type	Description
pool_id	String	Database proxy ID.

Parameter	Type	Description
status	String	<p>Database proxy status. Valid values:</p> <ul style="list-style-type: none"> <li>● <b>ENABLING</b>: The database proxy is being enabled.</li> <li>● <b>DISABLING</b>: The database proxy is being disabled.</li> <li>● <b>CHANGING_NODE_NUM</b>: The number of nodes is being changed for the database proxy.</li> <li>● <b>SCALING</b>: The specifications of the database proxy are being changed.</li> <li>● <b>UPGRADING</b>: The kernel version of the database proxy is being upgraded.</li> <li>● <b>IPMODIFYING</b>: The read/write splitting address of the database proxy is being changed.</li> <li>● <b>RESTARTING</b>: The database proxy is being restarted.</li> <li>● <b>TRANSACTION_SPLITTING</b>: Transaction splitting is being enabled or disabled for the database proxy.</li> <li>● <b>CONNECTION_POOL_SWITCH_OPERATING</b>: The session connection pool type is being changed for the database proxy.</li> <li>● <b>PORT_MODIFYING</b>: The port of the database proxy is being changed.</li> <li>● <b>PROXY_SSL_SWITCHING</b>: The SSL status is being changed for the database proxy.</li> <li>● <b>ALT_SWITCH_OPERATING</b>: The ALT status is being changed for the database proxy.</li> <li>● <b>CHANGING_RESOURCES</b>: Resources are being changed for the database proxy.</li> <li>● <b>NORMAL</b>: The database proxy is running properly.</li> <li>● <b>ABNORMAL</b>: The database proxy is not running properly.</li> <li>● <b>FAILED</b>: The database proxy failed to be created.</li> <li>● <b>FROZEN</b>: The database proxy is frozen.</li> </ul>
address	String	Read/write splitting address.
port	Integer	Port number.

Parameter	Type	Description
delay_thresh old_in_seconds	Integer	Delay threshold, in seconds.
cpu	String	vCPUs of the database proxy.
mem	String	Memory size of the database proxy.
node_num	Integer	Number of database proxy nodes.
nodes	Array of objects	List of database proxy nodes. For details, see <a href="#">Table 5-357</a> .
mode	String	Database proxy mode. Valid values: <ul style="list-style-type: none"> <li>● <b>Cluster</b></li> <li>● <b>Ha</b>: primary/standby</li> </ul>
flavor_info	Object	Database proxy specifications. For details, see <a href="#">Table 5-358</a> .
transaction_s plit	String	Status of transaction splitting for the database proxy. <ul style="list-style-type: none"> <li>● <b>true</b>: enabled</li> <li>● <b>false</b>: disabled</li> </ul>
connection_p ool_type	String	Connection pool type. Valid values: <ul style="list-style-type: none"> <li>● <b>CLOSED</b>: The connection pool is closed.</li> <li>● <b>SESSION</b>: The session-level connection pool is enabled.</li> </ul>
pay_mode	String	Billing mode of the database proxy. Valid values: <ul style="list-style-type: none"> <li>● <b>0</b>: pay-per-use billing</li> <li>● <b>1</b>: yearly/monthly billing</li> </ul>
name	String	Name of the database proxy.
proxy_mode	String	Read/write mode of the database proxy. Valid values: <ul style="list-style-type: none"> <li>● <b>readwrite</b>: readable and writable</li> <li>● <b>readonly</b>: read-only</li> </ul>
dns_name	String	Private domain name for the read/write splitting address of the database proxy. If this parameter is left blank, no private domain name has been requested.
subnet_id	String	ID of the subnet to which the database proxy belongs.

Parameter	Type	Description
seconds_level_monitor_function_status	String	Status of Monitoring by Seconds of the database proxy. Enumerated values: <ul style="list-style-type: none"> <li>• <b>off</b></li> <li>• <b>on</b></li> </ul>
alt_flag	Boolean	ALT switch status.
force_read_only	Boolean	Whether to forcibly route read requests to read replicas.
route_mode	Integer	Routing policy of the database proxy. Valid values: <ul style="list-style-type: none"> <li>• <b>0</b>: weighted</li> <li>• <b>1</b>: load balancing (The primary instance does not process read requests.)</li> <li>• <b>2</b>: load balancing (The primary instance processes read requests.)</li> </ul>
ssl_option	Boolean	SSL switch status.
support_balance_route_mode	Boolean	Whether load balancing can be enabled for the database proxy.
support_proxy_ssl	Boolean	Whether SSL can be enabled for the database proxy.
support_switch_connection_pool_type	Boolean	Whether the session connection pool type can be changed for the database proxy.
support_transaction_split	Boolean	Whether transaction splitting can be enabled for the database proxy.

**Table 5-357** nodes field data structure description

Parameter	Type	Description
id	String	ID of the database proxy node.
status	String	Status of the database proxy node. Valid values: <ul style="list-style-type: none"> <li>• <b>NORMAL</b>: The node is normal.</li> <li>• <b>ABNORMAL</b>: The node is abnormal.</li> <li>• <b>CREATING</b>: The node is being created.</li> <li>• <b>CREATEFAIL</b>: The node failed to be created.</li> </ul>

Parameter	Type	Description
role	String	Role of the database proxy node. <ul style="list-style-type: none"> <li>• <b>master</b>: primary node</li> <li>• <b>slave</b>: standby node</li> </ul>
az_code	String	AZ where the database proxy node is located.
frozen_flag	Integer	Whether the database proxy node is frozen. Valid values: <ul style="list-style-type: none"> <li>• <b>0</b>: unfrozen</li> <li>• <b>1</b>: frozen</li> </ul>

**Table 5-358** flavor\_info field data structure description

Parameter	Type	Description
group_type	String	CPU architecture. Enumerated values: <ul style="list-style-type: none"> <li>• <b>X86</b></li> <li>• <b>ARM</b></li> </ul>
code	String	Specification code.

**Table 5-359** readonly\_instances field data structure description

Parameter	Type	Description
id	String	ID of the primary instance or read replica.
status	String	Node status.
name	String	Instance name.
weight	Integer	Read weight of the instance.
available_zones	Array of objects	AZ information. For details, see <a href="#">Table 5-360</a> .

**Table 5-360** available\_zones field data structure description

Parameter	Type	Description
code	String	AZ code.
description	String	AZ description.

- Example normal response

```
{
  "proxy_query_info_list": [ {
    "proxy": {
      "pool_id": "e06ecf4dfea8409690c87a9ee6582b0dpo01",
      "status": "NORMAL",
      "address": "192.168.0.1",
      "port": 3306,
      "delay_threshold_in_seconds": 30,
      "cpu": "2",
      "mem": "4",
      "node_num": 2,
      "nodes": [ {
        "id": "3079919890f24fb8ab284571fc409058pn01",
        "status": "NORMAL",
        "role": "master",
        "az_code": "aaa",
        "frozen_flag": 0
      }, {
        "id": "804430ac9068419fa5e49d5ca0684172pn01",
        "status": "NORMAL",
        "role": "master",
        "az_code": "aaa",
        "frozen_flag": 0
      } ],
      "mode": "Cluster",
      "flavor_info": {
        "group_type": "X86",
        "code": "rds.proxy.large.2"
      },
      "transaction_split": "false",
      "connection_pool_type": "CLOSED",
      "pay_mode": "0",
      "name": "test-hll",
      "proxy_mode": "readwrite",
      "route_mode": 1,
      "dns_name": "",
      "subnet_id": "2f75f35c-62ca-43b7-9954-8fd1e6be4641",
      "ssl_option": false,
      "force_read_only": false,
      "seconds_level_monitor_fun_status": "off",
      "alt_flag": false,
      "support_transaction_split": true,
      "support_switch_connection_pool_type": true,
      "support_balance_route_mode": true,
      "support_proxy_ssl": true
    },
    "master_instance": {
      "id": "920ec36cef814a8b830a5bed50d9a088in01",
      "status": "normal",
      "name": "rds-2c54",
      "weight": 0,
      "available_zones": [ {
        "code": "aaa",
        "description": "az3"
      } ]
    },
    "readonly_instances": [ {
      "id": "f9462b58982d484fb64fd9880504d863in01",
      "status": "abnormal",
      "name": "replica-f966",
      "weight": 0,
      "available_zones": [ {
        "code": "aaa",
        "description": "az3"
      } ]
    } ]
  },
  "proxy_security_group_check_result": false
}],
}
```

```
"max_proxy_num" : 4,
"max_proxy_node_num" : 4,
"support_balance_route_mode_for_favored_version" : 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](#).

## 5.14.3 Querying Database Proxy Specifications

### Function

This API is used to query database proxy specifications of a DB instance.

- 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.

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/proxy/flavors
- Parameter description

**Table 5-361** Parameters

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



**Table 5-362** Request parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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	Integer	Number of query records. 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://rds.ap-southeast-1.myhuaweicloud.com/v3/23a50154cf494ec9ad6883979a12db0a/instances/ba0fd7c13cca4655820e0f858d5d467bin01/proxy/flavors?offset=0&limit=100`

## Response

- Normal response

**Table 5-363** Parameters

Parameter	Type	Description
compute_flavor_groups	Array of objects	Specification group information. For details, see <a href="#">Table 5-364</a> .

**Table 5-364** compute\_flavor\_groups element structure description

Parameter	Type	Description
group_type	String	Specification group type. Enumerated values: <ul style="list-style-type: none"> <li><b>X86</b></li> <li><b>ARM</b></li> </ul>

Parameter	Type	Description
compute_flavors	Array of objects	Specification information. For details, see <a href="#">Table 5-365</a> .

**Table 5-365** compute\_flavors element structure description

Parameter	Type	Description
id	String	Specification ID of the database proxy.
code	String	Specification code of the database proxy.
cpu	String	Number of vCPUs. For example, the value <b>1</b> indicates one vCPU.
mem	String	Memory size in GB.
db_type	String	Database type.
az_status	Object	AZ information. <b>key</b> indicates the AZ associated with the specification, and <b>value</b> indicates the specification status in the AZ. Only the specification status in the AZ where the primary instance is located is displayed.  Valid values: <ul style="list-style-type: none"> <li>• <b>normal</b>: The specification is normal.</li> <li>• <b>abandon</b>: The specification is abandoned.</li> </ul>

- Example normal response

```
{
  "compute_flavor_groups": [ {
    "group_type": "X86",
    "compute_flavors": [ {
      "id": "3208f282-7815-4ff8-9466-90a6fedd6b52",
      "code": "rds.proxy.large.2",
      "cpu": "2",
      "mem": "4",
      "db_type": "Proxy",
      "az_status": {
        "aaa": "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](#).

## 5.14.4 Configuring the Routing Policy for a Database Proxy

### Function

This API is used to configure the routing policy for a database proxy.

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

### URI

- URI format  
POST /v3/{project\_id}/instances/{instance\_id}/proxy/{proxy\_id}/route-mode
- Parameter description

**Table 5-366** Parameters

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

### Request

**Table 5-367** Parameters

Parameter	Mandatory	Type	Description
master_weight	Yes	Integer	Read weight of the primary instance. <ul style="list-style-type: none"> <li>When <b>route_mode</b> is set to <b>0</b>, the value of this parameter ranges from 0 to 1000.</li> <li>When <b>route_mode</b> is set to a value other than 0, this parameter does not take effect.</li> </ul>

Parameter	Mandatory	Type	Description
readonly_instances	Yes	Array of objects	Read weights of database nodes. For details, see <a href="#">Table 5-368</a> . <ul style="list-style-type: none"> <li>You can only configure weights for read replicas.</li> <li>This parameter can be left blank.</li> </ul>
route_mode	Yes	Integer	Routing policy of the database proxy. Valid values: <ul style="list-style-type: none"> <li><b>0</b>: weighted</li> <li><b>1</b>: load balancing (The primary instance does not process read requests.)</li> <li><b>2</b>: load balancing (The primary instance processes read requests.)</li> </ul> To use load balancing, contact customer service to apply for required permissions.

**Table 5-368** readonly\_instances field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.
weight	Yes	Integer	Read weight assigned.

## Example Request

Configure the routing policy for a database proxy.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/23a50154cf494ec9ad6883979a12db0a/instances/ba0fd7c13cca4655820e0f858d5d467bin01/proxy/4e2a0c70f70f4807940db73a30b5b522po01/route-mode
{
  "master_weight" : 0,
  "readonly_instances" : [ {
    "instance_id" : "2edc88e921bb4129bb4d9b76be66811dno07",
    "weight" : 1
  } ],
  "route_mode" : 2
}
```

## Response

- Normal response

**Table 5-369** Parameters

Parameter	Type	Description
result	String	Result of changing the routing policy of the database proxy. Valid values: <ul style="list-style-type: none"> <li>failed</li> <li>success</li> </ul>

- 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](#).

## 5.14.5 Disabling Database Proxy

### Function

This API is used to disable database proxy of 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}/proxy/{proxy\_id}
- Parameter description

**Table 5-370** Parameters

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

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.
proxy_id	Yes	Database proxy ID.

## Request

- Parameter description  
None
- URI example  
DELETE https://rds.ap-southeast-1.myhuaweicloud.com/v3/23a50154cf494ec9ad6883979a12db0a/instances/ba0fd7c13cca4655820e0f858d5d467bin01/proxy/4e2a0c70f70f4807940db73a30b5b522po01

## Response

- Normal response

**Table 5-371** Parameters

Parameter	Type	Description
job_id	String	Task ID.

- Example normal response  

```
{
  "job_id" : "09908118-8e32-4742-982a-7be194f59e1d"
}
```
- Abnormal 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 Database and Account Management (MySQL)

## 5.15.1 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.

## 5.15.2 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-372** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-373** Parameter description

Name	Mandatory	Type	Description
name	Yes	String	<p>Specifies the database name.</p> <p>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 (\$).</p>
character_set	Yes	String	<p>Specifies the character set used by the database, such as utf8, gbk, and ascii.</p>
comment	No	String	<p>Specifies the database remarks.</p> <p>The value can contain 0 to 512 characters.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>To use this function, contact customer service to apply for the required permissions.</li> <li>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 <a href="#">Upgrading a Minor Version</a>.</li> </ul>



## Example Request

Create a database named **rds-test**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/  
database  
  
{  
  "name": "rds-test",  
  "character_set": "utf8",  
  "comment": "comment"  
}
```

## Response

- Normal response

**Table 5-374** 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  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Code

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

## 5.15.3 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 5-375** 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 <a href="#">Obtaining a Project ID</a> .
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 5-376** Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see <a href="#">Table 5-377</a> .

**Table 5-377** databases element structure description

Name	Type	Description
name	String	Indicates the database name.

Name	Type	Description
character_set	String	Indicates the character set used by the database, such as utf8, gbk, and ascii.
users	Array of objects	Each element in the list indicates an account associated with the database.  For details, see <a href="#">Table 5-378</a> .

**Table 5-378** 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"> <li>• <b>true</b>: read-only</li> <li>• <b>false</b>: read/write</li> </ul>

- Example normal response

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

- Abnormal response

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

## Status Code

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

## Error Code

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

## 5.15.4 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 5-379** 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 <a href="#">Obtaining a Project ID</a> .
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 5-380** Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see <a href="#">Table 5-381</a> .
total_count	Integer	Indicates the total number of databases.

**Table 5-381** 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.
comment	String	Specifies the database remarks. <b>NOTE</b> 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](#).

# 5.15.5 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.
- If you delete a database using SQL statements, the deleted database will be displayed when you query the authorized databases through the API or RDS console.
- 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 5-382** 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 <a href="#">Obtaining a Project ID</a> .
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 <b>1</b> .
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 5-383** Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see <a href="#">Table 5-384</a> .
total_count	Integer	Indicates the total number of databases.

**Table 5-384** databases element structure description

Name	Type	Description
name	String	Indicates the database name.

Name	Type	Description
readonly	Boolean	Indicates the read-only permission. <ul style="list-style-type: none"> <li>• <b>true</b>: indicates the database is read-only.</li> <li>• <b>false</b>: indicates the database is readable and writable.</li> </ul>

- 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](#).

## 5.15.6 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-385** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-386** 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

Modify the database remarks of a DB instance.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdsae3435in01/database/update
{
  "name": "rds",
  "comment": "this is a comment"
}
```

## Response

- Normal response

**Table 5-387** 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](#).

## 5.15.7 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-388** 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 <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

Empty request body.

## Example Request

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/  
database/rds-test  
  
{}
```

## Response

- Normal response

**Table 5-389** 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

202

- Abnormal

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

## Error Code

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

## 5.15.8 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-390** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-391** Parameter 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"> <li>• If the database version is MySQL 5.6, the username consists of 1 to 16 characters.</li> <li>• If the database version is MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.</li> </ul>
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 (~!@#\$\$%^*_-=+?,()&amp;).</p> <p>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>

Name	Mandatory	Type	Description
comment	No	String	Specifies remarks of the database account. The parameter must be 1 to 512 characters long and is supported only for MySQL 8.0.25 and later versions.
hosts	No	Array of strings	IP addresses that are allowed to access your DB instance. <ul style="list-style-type: none"> <li>• If the IP address is set to %, all IP addresses are allowed to access your instance.</li> <li>• 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.</li> <li>• Multiple IP addresses can be added.</li> </ul>
databases	No	Array of objects	Databases that you can log in using the account. For details, see <a href="#">Table 5-392</a> .

**Table 5-392** databases element structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Database name.
readonly	No	Boolean	Whether the database is read-only. <ul style="list-style-type: none"> <li>• <b>true</b>: indicates the database is read-only.</li> <li>• <b>false</b>: indicates the database is readable and writable.</li> </ul>

## 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 5-393** 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  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Code

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



## 5.15.9 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 5-394** 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 <a href="#">Obtaining a Project ID</a> .
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 5-395** Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see <a href="#">Table 5-396</a> .

**Table 5-396** users element structure description

Name	Type	Description
name	String	Account name.
databases	Array of objects	Each element in the list indicates a database associated with the account. For details, see <a href="#">Table 5-397</a> .

**Table 5-397** 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"> <li>• <b>true</b>: indicates the read-only permission.</li> <li>• <b>false</b>: indicates the read and write permission.</li> </ul>

- 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](#).

## 5.15.10 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 5-398** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

Name	Mandatory	Description
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 5-399** Parameter description

Name	Type	Description
users	Array of objects	Database account information. For details, see <a href="#">Table 5-400</a> .
total_count	Integer	Total number of database accounts.

**Table 5-400** 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.

Name	Type	Description
databases	Array of objects	Databases authorized to the account. For details, see <a href="#">Table 5-401</a> .
hosts	Array of strings	Hosts configured for the account.

**Table 5-401** 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": false
        }
      ],
      "hosts": [
        "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](#).

## 5.15.11 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 5-402** 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 <a href="#">Obtaining a Project ID</a> .
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 <b>1</b> .
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 5-403** Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see <a href="#">Table 5-404</a> .
total_count	Integer	Indicates the total number of database users.

**Table 5-404** 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"> <li><b>true</b>: read-only</li> <li><b>false</b>: read/write</li> </ul>

- 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](#).

## 5.15.12 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-405** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.
user_name	Yes	Database username.

## Request

**Table 5-406** Parameters

Parameter	Mandatory	Type	Description
comment	No	String	Remarks of the database username. Value range: 1 to 512 characters.

## Example Request

Modify 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 5-407** Parameters

Parameter	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  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Code

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

# 5.15.13 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-408** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.
user_name	Yes	Specifies the username of the account to be deleted.

## Request

Empty request body.

## Example Request

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/db_user/rds
{}
```

## Response

- Normal response

**Table 5-409** 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

202

- Abnormal

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

## Error Code

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

## 5.15.14 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-410** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-411** Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account.
password	Yes	String	Specifies the password of the database account.  Valid value: The value must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!@#%\$%^*_-=+?,()&). The value must be different from the account name or account name spelled backwards.  You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

## Example Request

Set a password for user **rds**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/db_user/resetpwd
{
  "name": "rds",
  "password": "*****"
}
```

## Response

- Normal response

**Table 5-412** 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](#).

# 5.15.15 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-413** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-414** 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 <a href="#">Table 5-415</a> .

**Table 5-415** 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"> <li>• If the database version is MySQL 5.6, the username consists of 1 to 16 characters.</li> <li>• If the database version is MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.</li> </ul>
readonly	Yes	Boolean	<p>Specifies the read-only permission.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: indicates the read-only permission.</li> <li>• <b>false</b>: indicates the read and write permission.</li> </ul>

## Example Request

Grant read and write permissions to **rds** and read-only permissions to **rds001**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfcae23fsfsdae3435in01/db_privilege
```

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



## Response

- Normal response

**Table 5-416** 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](#).

## 5.15.16 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and

account naming rules (see [Table 5-391](#)), 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 5-417** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-418** 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 <a href="#">Table 5-419</a> .

**Table 5-419** 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"> <li>• If the database version is RDS for MySQL 5.6, the username consists of 1 to 16 characters.</li> <li>• If the database version is RDS for MySQL 5.7 or 8.0, the username consists of 1 to 32 characters.</li> </ul>

### Example Request

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01/db_privilege

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

### Response

- Normal response

**Table 5-420** 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](#).

## 5.15.17 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 5-421** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-422** Parameter description

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

## Example Request

Reset 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](#).

# 5.16 Database and Account Management (PostgreSQL)

## 5.16.1 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 5-423** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-424** Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the database name. The database name can contain 1 to 63 characters. Only letters, digits, and underscores (_) are allowed. It cannot start with <b>pg</b> or a digit and cannot be the same as RDS for PostgreSQL template database names. RDS for PostgreSQL template databases include <b>postgres</b> , <b>template0</b> , and <b>template1</b> .
owner	No	String	Specifies the database user. The default value is <b>root</b> . The value must be an existing username and must be different from system usernames. System users include <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , <b>rdsProxy</b> , and <b>rdsDdm</b> .

Name	Mandatory	Type	Description
template	No	String	Specifies the name of the database template. The value can be <b>template0</b> or <b>template1</b> (default value).
character_set	No	String	Specifies the database character set. The default value is <b>UTF8</b> .
lc_collate	No	String	<p>Specifies the database collation. The default value is <b>en_US.UTF-8</b>.</p> <p><b>NOTICE</b></p> <p>For different collation rules, the execution result of a statement may be different.</p> <p>For example, the execution result of <b>select 'a'&gt;'A'</b>; is <b>false</b> when this parameter is set to <b>en_US.utf8</b> and is <b>true</b> when this parameter is set to <b>'C'</b>. If a database is migrated from "O" to PostgreSQL, this parameter needs to be set to <b>'C'</b> to meet your expectations. You can query the supported collation rules from the <b>pg_collation</b> table.</p>
lc_ctype	No	String	Specifies the database classification. The default value is <b>en_US.UTF-8</b> .



Name	Mandator y	Type	Description
is_revoke_public_privilege	No	Boolean	<p>Specifies whether to revoke the <b>PUBLIC CREATE</b> permission of the public schema.</p> <ul style="list-style-type: none"> <li>• <b>true</b>: indicates that the permission will be revoked.</li> <li>• <b>false</b>: indicates that the permission will not be revoked.</li> </ul> <p>If this parameter is not specified, the default value is <b>false</b>.</p>

## Example Request

Create 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 5-425** 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](#).

## 5.16.2 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 5-426** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-427** Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Specifies the username of the database account. The username contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with <b>pg</b> or a digit and must be different from system usernames. System users include <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , <b>rdsProxy</b> , and <b>rdsDdm</b> .
password	Yes	String	Specifies the password of the database account. The value must be 8 to 32 characters long and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*_-=+?,.). The value cannot contain the username or the username spelled backwards. You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.

## Example Request

Creating a database account named **rds**

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
f569f1358436479dbcba8603c32cc4aein03/db_user

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

## Response

- Normal response

**Table 5-428** 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  
202

- Abnormal

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

## Error Code

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

## 5.16.3 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 5-429** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-430** Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Specifies the database name. The database name can contain 1 to 63 characters. Only letters, digits, and underscores (_) are allowed. It cannot start with <b>pg</b> or a digit and cannot be the same as RDS for PostgreSQL template database names. RDS for PostgreSQL template databases include postgres, template0, and template1.
schemas	Yes	Array of objects	Each element is the schema information associated with the database. A single request supports a maximum of 20 elements. For details on the element structure, see <a href="#">Table 5-431</a> .

**Table 5-431** 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 <b>pg</b> or a digit, and must be different from RDS for PostgreSQL template database names and existing schema names.</p> <p>RDS for PostgreSQL template databases 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 <b>pg</b> or a digit, and must be different from system usernames.</p> <p>System users include <b>rdsAdmin</b>, <b>rdsMetric</b>, <b>rdsBackup</b>, <b>rdsRepl</b>, <b>rdsProxy</b>, and <b>rdsDdm</b>.</p>

## Example Request

Create 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 5-432** 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](#).

# 5.16.4 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 5-433** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-434** Parameter description

Name	Mandatory	Type	Description
db_name	Yes	String	Database name. The database name can contain 1 to 63 characters. Only letters, digits, and underscores (_) are allowed. It cannot start with <b>pg</b> or a digit and cannot be the same as RDS for PostgreSQL template database names. RDS for PostgreSQL template databases include postgres, template0, and template1.



Name	Mandatory	Type	Description
users	Yes	Array of objects	Database accounts. Each element is a database account. A single request supports a maximum of 50 elements.  For details on the element structure, see <a href="#">Table 5-435</a> .

**Table 5-435** users field data structure description

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

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 <b>pg</b> or a digit, and must be different from RDS for PostgreSQL template database names and existing schema names. This parameter is mandatory.</p> <p>RDS for PostgreSQL template databases include postgres, template0, and template1.</p>

## Example Request

Grant 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 5-436** 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](#).

# 5.16.5 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 5-437** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-438** 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

Reset the password of **rds**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
f569f1358436479dbcba8603c32cc4aein03/db_user/resetpwd
{
  "name": "rds",
  "password": "*****"
}
```

## Response

- Normal response

**Table 5-439** 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](#).

## 5.16.6 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?
db={db}&page={page}&limit={limit}
```

- Parameter description

**Table 5-440** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.
db	No	Database name, which is case-insensitive for fuzzy search.
page	Yes	Page number. The value starts from 1.
limit	Yes	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 5-441** Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see <a href="#">Table 5-442</a> .
total_count	Integer	Indicates the total number of databases.

**Table 5-442** databases element structure description

Name	Type	Description
name	String	Indicates the database name.

Name	Type	Description
owner	String	Indicates the database owner.
character_set	String	Indicates the character set used by the database, such as <b>UTF8</b> .
collate_set	String	Indicates the database collation, such as <b>en_US.UTF-8</b> .
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](#).

## 5.16.7 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-373](#)) and account naming rules (see [Table 5-391](#)), 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 5-443** 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 <a href="#">Obtaining a Project ID</a> .
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 5-444** Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see <a href="#">Table 5-445</a> .
total_count	Integer	Indicates the total number of database users.

**Table 5-445** users element structure description

Name	Type	Description
name	String	Indicates the account name.
attributes	Object	Indicates permission attributes of a user. For details, see <a href="#">Table 5-446</a> .
memberof	Array of strings	Indicates default rights of a user.

**Table 5-446** attributes element structure description

Name	Type	Description
rolsuper	Boolean	Indicates whether a user has the super user permission. The value is <b>false</b> .

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 <b>true</b> or <b>false</b> .
rolcreatorole	Boolean	Indicates whether a user can create other sub-users. The value can be <b>true</b> or <b>false</b> .
rolcreatedb	Boolean	Indicates whether a user can create a database. The value can be <b>true</b> or <b>false</b> .
rolcanlogin	Boolean	Indicates whether a user can log in to the database. The value can be <b>true</b> or <b>false</b> .
rolconlimit	Integer	Indicates the maximum number of concurrent connections to a DB instance. The value <b>-1</b> 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 <b>true</b> or <b>false</b> .
rolbypassrls	Boolean	Indicates whether a user bypasses each row-level security policy. The value can be <b>true</b> or <b>false</b> .

- Example normal response

```
{
  "users": [
    {
      "name": "rdsuser",
      "attributes": {
        "rolsuper": false,
        "rolinherit": true,
        "rolcreatorole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconlimit": -1,
        "rolreplication": true,
```

```
"rolbypassrls": false
},
"memberof": ["pg_monitor", "pg_read_all_stats", "pg_stat_scan_tables", "pg_signal_backend"]
},
{
  "name": "rdsuser1",
  "attributes": {
    "rolsuper": false,
    "rolinherit": true,
    "rolcreatorole": true,
    "rolcreatedb": true,
    "rolcanlogin": true,
    "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](#).

## 5.16.8 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 5-447** 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 <a href="#">Obtaining a Project ID</a> .
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 database names. RDS for PostgreSQL template databases 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](https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/f569f1358436479dbcba8603c32cc4aein03/schema/detail?db_name=rds_test&page=1&limit=10)

## Response

- Normal response

**Table 5-448** Parameter description

Name	Type	Description
database_schemas	Array of objects	Each element in the list indicates a database schema. For details, see <a href="#">Table 5-449</a> .
total_count	Integer	Indicates the total number of database schemas.

**Table 5-449** 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](#).

## 5.16.9 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 5-450** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-451** Parameters

Parameter	Mandatory	Type	Description
all_users	Yes	Boolean	Whether to configure permissions for all database accounts. <ul style="list-style-type: none"> <li><b>true</b>: Configure permissions for all database accounts. The <b>user_name</b> parameter is ignored.</li> <li><b>false</b>: Configure permissions only for the account specified by <b>user_name</b>.</li> </ul>
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 <b>pg</b> or a digit and must be different from system usernames. System usernames include <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , <b>rdsProxy</b> , and <b>rdsDdm</b> .
readonly	Yes	Boolean	Whether to set the permissions to read-only. <ul style="list-style-type: none"> <li><b>true</b>: Set the permissions to read-only.</li> <li><b>false</b>: Set the permissions to read/write.</li> </ul>

## Example Request

- Set all database accounts to read-only.

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

```
f569f1358436479dbcba8603c32cc4aein03/user-privilege
```

```
{  
  "all_users": true,  
  "readonly": true  
}
```

- Set all database accounts to readable and writable.

```
{  
  "all_users": true,  
  "readonly": false  
}
```

- Set a single database account to read-only.

```
{  
  "all_users": false,  
  "user_name": "test1234",  
  "readonly": true  
}
```

- Set 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](#).

## 5.16.10 Changing the Database Owner

### Function

This API is used to change the owner of a 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.

## URI

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

**Table 5-452** Parameters

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

## Request

**Table 5-453** Parameters

Parameter	Mandatory	Type	Description
owner	Yes	String	New username. The username must be different from the name of the built-in user.
database	Yes	String	Database name. The database name cannot be <b>template0</b> , <b>template1</b> , or <b>postgres</b> .

## Example Request

Change the owner of the **db1** database to **username1**.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in03/database/owner
{
  "owner" : "username1",
  "database" : "db1"
}
```



## Response

- Normal response

**Table 5-454** Parameters

Parameter	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](#).

## 5.16.11 Granting a Role to a User

### Function

This API is used to grant a role to a user.

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

### Constraints

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

Role granting in a circle is not allowed.

### URI

- URI format

POST /v3/{project\_id}/instances/{instance\_id}/db-user-role

- Parameter description

**Table 5-455** Parameters

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

## Request

**Table 5-456** Parameters

Parameter	Mandatory	Type	Description
user	Yes	String	Username. The username must be different from the name of the built-in user.
roles	Yes	Array of strings	Role name. The role name must be different from the names of built-in user roles.

## Example Request

Grant roles **user3** and **user4** to the user **user1**.

```
POST https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in03/db-user-role
```

```
{
  "user": "user1",
  "roles": [ "user3", "user4" ]
}
```

## Response

- Normal response

**Table 5-457** Parameters

Parameter	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](#).

## 5.16.12 Revoking a Role from a User

### Function

This API is used to revoke a role from a user.

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

### Constraints

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

### URI

- URI format  
DELETE /v3/{project\_id}/instances/{instance\_id}/db-user-role
- Parameter description

**Table 5-458** Parameters

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

## Request

**Table 5-459** Parameters

Parameter	Mandatory	Type	Description
user	Yes	String	Username. The username must be different from the name of the built-in user.
roles	Yes	Array of strings	Role name. The role name must be different from the names of built-in user roles.

## Example Request

Revoke roles **user3** and **user4** from the user **user1**.

```
DELETE https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in03/db-user-role
{
  "user": "user1",
  "roles": [ "user3", "user4" ]
}
```

## Response

- Normal response

**Table 5-460** Parameters

Parameter	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](#).

## 5.16.13 Querying Roles

### Function

This API is used to query roles of users.

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

### URI

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

**Table 5-461** Parameters

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

**Table 5-462** Query parameters

Parameter	Mandatory	Type	Description
user_name	No	String	Username. If this parameter is specified, the set of roles that can be granted to the user is returned.

### Request

None

### Example Request

Query roles of a user.

```
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/8b3d99b2fb1148c69be8fe37bb896f27/instances/51986c9a48df43839a3ba300d6c5e91fin03/roles?user_name=user1
```

## Response

- Normal response

**Table 5-463** Parameters

Parameter	Type	Description
roles	Array of strings	Role information.

- Example normal response

```
{
  "roles" : [ "user3", "user4" ]
}
```

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

## 5.16.14 Querying pg\_hba.conf 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 5-464** 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 <a href="#">Obtaining a Project ID</a> .

Parameter	Mandatory	Description
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 5-465** Parameters

Parameter	Type	Description
Array elements	Array of objects	Parameter list. For details, see <a href="#">Table 5-466</a> .

**Table 5-466** Parameters

Parameter	Type	Description
type	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnoss</b>
database	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.
user	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li><b>all</b> indicates all database users of the DB instance.</li> <li>Use commas (,) to separate usernames.</li> </ul>
address	String	Client IP address. <b>0.0.0.0/0</b> indicates that the user can access the database from any IP address.

Parameter	Type	Description
mask	String	Subnet mask. The default value is an empty string.
method	String	Authentication mode. Enumerated values: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
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](#).

## 5.16.15 Modifying or Adding One or More Records in pg\_hba.conf

### 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 5-467** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-468** Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see <a href="#">Table 5-469</a> .

**Table 5-469** Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnoss</b>
database	Yes	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li><b>all</b> indicates all database users of the DB instance.</li> <li>Use commas (,) to separate multiple user names.</li> </ul>
address	Yes	String	Client IP address. <b>0.0.0.0/0</b> indicates that the user can access the database from any IP address.
mask	No	String	Subnet mask. The default value is an empty string.

Parameter	Mandatory	Type	Description
method	Yes	String	Authentication mode. Enumerated values: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
priority	Yes	Integer	Configuration priority. The priority you specified determines whether to modify or add a record in the <b>pg_hba.conf</b> file. <ul style="list-style-type: none"> <li>• If the priority you specified does not exist, a new record will be added to the <b>pg_hba.conf</b> file.</li> <li>• If the priority you specified already exists, the record will be modified in the <b>pg_hba.conf</b> file.</li> </ul>

## 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 5-470** 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](#).

## 5.16.16 Overwriting pg\_hba.conf

### 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 5-471** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

**Table 5-472** Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see <a href="#">Table 5-473</a> .

**Table 5-473** Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnossl</b>
database	Yes	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li>• <b>all</b> indicates all database users of the DB instance.</li> <li>• Use commas (,) to separate multiple user names.</li> </ul>
address	Yes	String	Client IP address. <b>0.0.0.0/0</b> 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: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
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 5-474** 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](#).

## 5.16.17 Deleting One or More Records from pg\_hba.conf

### 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 5-475** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-476** Request parameters

Parameter	Mandatory	Type	Description
Array elements	No	Array of objects	Parameters to be modified. For details, see <a href="#">Table 5-477</a> .

**Table 5-477** Parameters

Parameter	Mandatory	Type	Description
type	Yes	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnossl</b>
database	Yes	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.
user	Yes	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li><b>all</b> indicates all database users of the DB instance.</li> <li>Use commas (,) to separate multiple user names.</li> </ul>
address	Yes	String	Client IP address. <b>0.0.0.0/0</b> indicates that the user can access the database from any IP address.
mask	No	String	Subnet mask. The default value is an empty string.

Parameter	Mandatory	Type	Description
method	Yes	String	Authentication mode. Enumerated values: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
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 5-478** 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](#).

## 5.16.18 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 5-479** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

**Table 5-480** 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 5-481** Parameters

Parameter	Type	Description
Array elements	Array of objects	Parameter list. For details, see <a href="#">Table 5-482</a> .

**Table 5-482** Parameters

Parameter	Type	Description
status	String	Change result. <ul style="list-style-type: none"> <li>• <b>success</b>: The change has taken effect.</li> <li>• <b>failed</b>: The change did not take effect.</li> <li>• <b>setting</b>: The change is in progress.</li> </ul>
time	String	Time when the change was made.
fail_reason	String	Reason for a change failure.
before_confs	Array of objects	Original values. For details, see <a href="#">Table 5-483</a> .
after_confs	Array of objects	New values. For details, see <a href="#">Table 5-484</a> .

**Table 5-483** before\_confs field description

Parameter	Type	Description
type	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnossl</b>
database	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.

Parameter	Type	Description
user	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li>• <b>all</b> indicates all database users of the DB instance.</li> <li>• Use commas (,) to separate multiple user names.</li> </ul>
address	String	Client IP address. <b>0.0.0.0/0</b> 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: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
priority	Integer	Configuration priority.

**Table 5-484** after\_confs field description

Parameter	Type	Description
type	String	Connection type. Enumerated values: <b>host</b> , <b>hostssl</b> , and <b>hostnossl</b>
database	String	Database name other than <b>template0</b> and <b>template1</b> . Use commas (,) to separate multiple names.
user	String	Name of a user other than <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>rdsProxy</b> . <ul style="list-style-type: none"> <li>• <b>all</b> indicates all database users of the DB instance.</li> <li>• Use commas (,) to separate multiple user names.</li> </ul>
address	String	Client IP address. <b>0.0.0.0/0</b> indicates that the user can access the database from any IP address.
mask	String	Subnet mask. The default value is an empty string.

Parameter	Type	Description
method	String	Authentication mode. Enumerated values: <b>reject</b> , <b>md5</b> , and <b>scram-sha-256</b>
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](#).

# 5.17 Database and Account Management (Microsoft SQL Server)

## 5.17.1 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 5-485** 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 <a href="#">Obtaining a Project ID</a> .

## Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/collations

## Response

- Normal response

**Table 5-486** 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_CP1_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](#).

## 5.17.2 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 5-487** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-488** 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

Create a database named **rds-test**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/a8abe84a41364097be7c233c39275087in04/database
{
  "name": "rds-test"
}
```

## Response

- Normal response

**Table 5-489** 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](#).

## 5.17.3 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 5-490** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.
page	Yes	Specifies the page number. The value starts from <b>1</b> .

Name	Mandatory	Description
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 <b>page</b> and <b>limit</b> 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"> <li>● <b>FULL</b>: full recovery model</li> <li>● <b>SIMPLE</b>: simple recovery model</li> <li>● <b>BULK_LOGGED</b>: bulk-logged recovery model</li> </ul>

## 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 5-491** Parameter description

Name	Type	Description
databases	Array of objects	Each element in the list indicates a database. For details, see <a href="#">Table 5-492</a> .
total_count	Integer	Indicates the total number of databases.

**Table 5-492** 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 Chinese_PRC_CI_AS.
state	String	Indicates the database status. Its value can be any of the following: <ul style="list-style-type: none"> <li>• <b>Creating:</b> The database is being created.</li> <li>• <b>Running:</b> The database is running.</li> <li>• <b>Deleting:</b> The database is being deleted.</li> <li>• <b>Not Exists:</b> The database does not exist.</li> </ul>

- 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": "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](#).

## 5.17.4 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 5-493** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-494** 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 <b>rdsadmin</b> , <b>rdsuser</b> , <b>rdsbackup</b> , and <b>rdsmirror</b> .
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 5-495** 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

202

- Abnormal

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

## Error Code

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

# 5.17.5 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 5-494](#)) and account naming rules (see [Table 5-497](#)), 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 5-496** Parameter description

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

## Request

**Table 5-497** 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 5-498** 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](#).

## 5.17.6 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 5-499** 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 <a href="#">Obtaining a Project ID</a> .
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`

## Response

- Normal response

**Table 5-500** Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see <a href="#">Table 5-501</a> .
total_count	Integer	Indicates the total number of database users.

**Table 5-501** users element structure description

Name	Type	Description
name	String	Indicates the account name.

Name	Type	Description
state	String	Indicates the database user status. <ul style="list-style-type: none"> <li>• <b>unavailable:</b> The database user is unavailable.</li> <li>• <b>available:</b> The database user is available.</li> </ul>

- 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](#).

## 5.17.7 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 5-502** 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 <a href="#">Obtaining a Project ID</a> .
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 5-503** Parameter description

Name	Type	Description
users	Array of objects	Each element in the list indicates a database account. For details, see <a href="#">Table 5-504</a> .

Name	Type	Description
total_count	Integer	Indicates the total number of database users.

**Table 5-504** 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](#).

## 5.17.8 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 5-505** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.
user_name	Yes	Specifies the username of the account to be deleted.

## Request

Empty request body.

## Example Request

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/db_user/rds
{}
```

## Response

- Normal response

**Table 5-506** 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](#).

## 5.17.9 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 5-507** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-508** 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 <a href="#">Table 5-509</a> .

**Table 5-509** 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 <b>rdsadmin</b> , <b>rdsuser</b> , <b>rdsbackup</b> , and <b>rdsmirror</b> .
readonly	No	Boolean	Whether the permission is read-only. The default value is <b>false</b> .  <ul style="list-style-type: none"> <li><b>true</b>: indicates the read-only permission.</li> <li><b>false</b>: indicates the read and write permission.</li> </ul>

## Example Request

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/
a8abe84a41364097be7c233c39275087in04/db_privilege

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

```
{
  "name": "rds001",
  "readonly": false
}
```

## Response

- Normal response

**Table 5-510** 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](#).

## 5.17.10 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 5-511** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

## Request

**Table 5-512** 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 <a href="#">Table 5-513</a> .

**Table 5-513** 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 <b>rdsadmin</b> , <b>rdsuser</b> , <b>rdsbackup</b> , and <b>rdsmirror</b> .

## Example Request

```
DELETE https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/a8abe84a41364097be7c233c39275087in04/db_privilege
```

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

## Response

- Normal response

**Table 5-514** 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](#).

## 5.17.11 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 5-515** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

**Table 5-516** Parameters

Parameter	Mandatory	Type	Description
hosts	No	Array of objects	Host information. For details on the element structure, see <a href="#">Table 5-517</a> .

**Table 5-517** hosts data structure description

Parameter	Mandatory	Type	Description
host_name	Yes	String	Host name.
ip	Yes	String	Host IP address.

## Example Request

Add 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 5-518** 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](#).

## 5.17.12 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 5-519** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	Instance ID.
offset	No	Integer	Pagination parameter. The minimum value is <b>0</b> . Default value: <b>0</b>
limit	No	Integer	Pagination parameter. The value ranges from 1 to 100. Default value: <b>10</b>

### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/054b93101a00d3a02fe3c01fb31462ac/instances/8ef19e30cbf44c79b63c7e6b2168a400in04/msdtc/hosts

### Response

- Normal response

**Table 5-520** Parameters

Parameter	Type	Description
total_count	Integer	Total number of hosts.
hosts	Array of objects	Host list. For details, see <a href="#">Table 5-521</a> .

**Table 5-521** 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](#).

# 5.18 Parameter Management

## 5.18.1 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 5-522** 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 <a href="#">Obtaining a Project ID</a> .

## Request

- Request parameters  
None
- URI example  
GET https://{*endpoint*}/v3/0483b6b16e954cb88930a360d2c4e663/  
configurations

## Response

- Normal response

**Table 5-523** Parameter description

Name	Type	Description
configurations	Array of objects	Indicates the parameter template list. For details, see <a href="#">Table 5-524</a> .

**Table 5-524** 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_v ersion_ 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. <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. <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> .
user_define d	Boolean	Indicates whether the parameter template is created by users. <ul style="list-style-type: none"> <li>• <b>false</b>: The parameter template is a default parameter template.</li> <li>• <b>true</b>: The parameter template is a custom template.</li> </ul>

- 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](#).

## 5.18.2 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 5-525** 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 <a href="#">Obtaining a Project ID</a> .

## Request

**Table 5-526** 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 5-527</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 5-527** 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>12</b></li> <li>Microsoft SQL Server: <b>2014_SE</b></li> </ul>

## Example Request

Create 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 5-528** Parameter description

Name	Type	Description
configuration	Object	Indicates the parameter template information. For details, see <a href="#">Table 5-529</a> .

**Table 5-529** 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. <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. <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](#).

## 5.18.3 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 5-530** 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 <a href="#">Obtaining a Project ID</a> .
config_id	Yes	Specifies the parameter template ID.

## Request

### NOTICE

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

**Table 5-531** 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>	Specifies the parameter values defined by users based on the default parameter templates. If this parameter is not specified, no parameter value is to be changed. <ul style="list-style-type: none"> <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

Modify 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 5-532** Parameters

Parameter	Type	Description
configuration	Object	Parameter template information. For details, see <a href="#">Table 5-533</a> .

**Table 5-533** 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> .  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](#).

# 5.18.4 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 5-534** 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 <a href="#">Obtaining a Project ID</a> .
config_id	Yes	Parameter template ID.

## Request

**Table 5-535** 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

Replicate a parameter template and name the new template **copy\_by\_v31**.

```
POST https://{endpoint}/v3/054e292c9880d4992f02c0196d3ea468/configurations/66251c9024774eeb9edd8663a4cbb0a1pr04/copy
```

```
{
  "name" : "copy_by_v31",
  "description" : "copy"
}
```

## Response

- Normal response

**Table 5-536** 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. <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> .
update_time	String	Update time in the "yyyy-MM-ddTHH:mm:ssZ" format. <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

```
{
  "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](#).

## 5.18.5 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 5-537** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	String	Instance ID.
offset	No	Integer	Pagination parameter. Default value: <b>0</b>
limit	No	Integer	Pagination parameter. 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. <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> .

Parameter	Mandatory	Type	Description
end_time	No	String	End time in the "yyyy-mm-ddThh:mm:ssZ" format. The default value is the current time.  <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> .
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 5-538** Parameters

Parameter	Type	Description
total_count	Integer	Total number of historical records.
histories	Array of objects	Parameter change history list. For details, see <a href="#">Table 5-539</a> .

**Table 5-539** histories data structure description

Parameter	Type	Description
parameter_name	String	Parameter name.
old_value	String	Old parameter value.
new_value	String	New parameter value.

Parameter	Type	Description
update_result	String	Update result. Valid Value: <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. <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](#).

## 5.18.6 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 5-540** 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 <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 5-541** 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. <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. <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. For details, see <a href="#">Table 5-542</a> .

**Table 5-542** 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>

Name	Type	Description
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](#).

## 5.18.7 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 5-543** 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 <a href="#">Obtaining a Project ID</a> .
config_id	Yes	Specifies the parameter template ID. When this parameter is empty (not space), the URL of the parameter template list is obtained. For details, see <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 5-544** 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.

Name	Type	Description
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. <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. <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. For details, see <a href="#">Table 5-545</a> .

**Table 5-545** configuration\_parameters field data structure description

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



Name	Type	Description
restart_required	Boolean	Indicates whether a restart is required. <ul style="list-style-type: none"> <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,
      "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](#).

## 5.18.8 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 5-546** 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 <a href="#">Obtaining a Project ID</a> .

Name	Mandatory	Description
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](#).

# 5.19 Extension Management (RDS for PostgreSQL)

## 5.19.1 Creating an Extension

### Function

This API is used to create an extension for 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 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 5-547** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

**Table 5-548** Parameters

Parameter	Mandatory	Type	Description
database_name	Yes	String	Database name.
extension_name	Yes	String	Extension name.

## Example Request

Create the extension **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](#).

## 5.19.2 Querying Extensions

### Function

This API is used to obtain extension information 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 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 5-549** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.
database_name	Yes	Database name.
offset	No	Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +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 5-550** Parameters

Parameter	Type	Description
extensions	Array of objects	Extension list. For details, see <a href="#">Table 5-551</a> .
total_count	Integer	Total number of extensions.

**Table 5-551** extensions element structure description

Parameter	Type	Description
name	String	Extension name.
database_name	String	Database name.
version	String	Extension version.
version_update	String	New version that the extension can be upgraded to. If the value of this parameter is different from that of <b>version</b> , the extension can be upgraded.
shared_preload_libraries	String	Dependent preloaded library.
created	Boolean	Whether the extension has been created.
description	String	Extension description.

- Example normal response

```
{
  "extensions": [ {
    "name": "pg_cron",
    "database_name": "db1",
    "version": "1.0",
    "version_update": "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",
"version_update" : "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](#).

## 5.19.3 Updating an Extension

### Function

This API is used to update an extension on 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 any of the following statuses: creating, changing instance class, changing port, frozen, or abnormal.

### URI

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

**Table 5-552** Parameters

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

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.

## Request

**Table 5-553** Parameters

Parameter	Mandatory	Type	Description
database_name	Yes	String	Database name.
extension_name	Yes	String	Extension name.

## Example Request

Update the extension **pg\_stat\_statements** for database **db1**.

```
PUT https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in03/
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](#).



## 5.19.4 Deleting an Extension

### Function

This API is used to delete an extension 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 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 5-554** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

### Request

**Table 5-555** Parameters

Parameter	Mandatory	Type	Description
database_name	Yes	String	Database name.
extension_name	Yes	String	Extension 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](#).

# 5.19.5 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 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 5-556** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

Parameter	Mandatory	Description
name	Yes	Parameter name. Only the value of <b>shared_preload_libraries</b> can be modified.

## Request

**Table 5-557** Parameters

Parameter	Mandatory	Type	Description
value	Yes	String	Parameter value.

## Example Request

Change 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 5-558** Parameters

Parameter	Type	Description
job_id	String	Task ID.
restart_required	Boolean	Whether a reboot is required. 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](#).

## 5.19.6 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 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 5-559** 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 <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 5-560** Parameter description

Name	Type	Description
name	String	Parameter name.
value	String	Parameter value.
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](#).

## 5.20 Configuring Replication Delay for a Read Replica (RDS for PostgreSQL)

### 5.20.1 Obtaining the Delayed Replay Status of WAL Logs

#### Function

This API is used to obtain the delayed WAL replay status of a read replica.

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

#### Constraints

- To use this function, contact customer service to obtain required permissions.
- This function is only available to read replicas of RDS for PostgreSQL 12 and later versions.

#### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/replay-delay/show
- Parameter description

**Table 5-561** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

#### Request

- Parameter description  
None
- URI example  
GET https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52eb03/replay-delay/show

#### Response

- Normal response

**Table 5-562** Parameters

Parameter	Type	Description
cur_delay_time_mills	int	Configured delay, in ms. The replication delay is controlled by the <b>recovery_min_apply_delay</b> parameter. You can modify this parameter to change the delay for replaying WAL logs. For details about how to modify this parameter, see <a href="#">Modifying Parameters of a Specified Instance</a> .
delay_time_value_range	String	Value range for the delay.
real_delay_time_mills	int	Actual delay, in ms.
cur_log_replay_paused	boolean	Current log replay status. <ul style="list-style-type: none"> <li><b>true</b>: The replay is paused.</li> <li><b>false</b>: The replay is normal.</li> </ul>
latest_receive_log	String	Latest received log position.
latest_replay_log	String	Latest replayed log position.

- Example normal response

```
{
  "cur_delay_time_mills" : 0,
  "delay_time_value_range" : "0-2147483647",
  "real_delay_time_mills" : 0,
  "cur_log_replay_paused" : true,
  "latest_receive_log" : "0/8000060",
  "latest_replay_log" : "0/8000060"
}
```

- Abnormal 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 Querying the Recovery Time Window of WAL Logs

### Function

This API is used to query the recovery time window of WAL logs for a read replica. After this API is called, a recovery time window (**recovery\_min\_time**, **recovery\_max\_time**] is returned. The interval is left-open and right-closed. You can change the value of **recovery\_target\_time** to a time point in the time window to set the target replay time. For details about how to modify instance parameters, see [Modifying Parameters of a Specified Instance](#).

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

### Constraints

- To use this function, contact customer service to obtain the permission required for configuring replication delay for a read replica.
- This API is only available to read replicas of RDS for PostgreSQL 12 and later versions.

### URI

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

**Table 5-563** Parameters

Parameter	Mandatory	Description
project_id	Yes	<p><b>Explanation:</b> 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>.</p> <p><b>Constraints:</b> The value cannot be empty.</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>



Parameter	Mandatory	Description
instance_id	Yes	<p><b>Explanation:</b> Instance ID.</p> <p><b>Constraints:</b> The value cannot be empty.</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

## Request

- Parameter description  
None
- URI example  
GET <https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52ebin03/recovery-time>

## Response

- Normal response

**Table 5-564** Parameters

Parameter	Type	Description
recovery_min_time	String	<p><b>Explanation:</b> Left boundary of the recovery time window (excluded).</p> <p><b>Value range:</b> N/A</p>
recovery_max_time	String	<p><b>Explanation:</b> Right boundary of the recovery time window (included).</p> <p><b>Value range:</b> N/A</p>

- Example normal response

```
{
  "recovery_min_time" : "2024-08-17 19:17:35+10",
  "recovery_max_time" : "2024-08-20 22:53:28+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](#).

## 5.20.3 Pausing or Resuming WAL Log Replay

### Function

This API is used to pause or resume WAL replay on a read replica.

If WAL replay is paused but streaming replication is still in progress, WAL data will continue to be received by the read replica and will eventually fill up the storage. This depends on how long the replay is paused for, how quick WAL logs are generated, and how much available storage there is in your instance.

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

### Constraints

- To use this function, contact customer service to obtain required permissions.
- This function is only available to read replicas of RDS for PostgreSQL 12 and later versions.

### URI

- URI format  
PUT /v3/{project\_id}/instances/{instance\_id}/log-replay/update
- Parameter description

**Table 5-565** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Instance ID.

## Request

- Parameter description

**Table 5-566** Parameters

Parameter	Mandatory	Type	Description
pause_log_replay	Yes	String	Whether to pause or resume WAL replay. <ul style="list-style-type: none"> <li><b>true</b>: Pause WAL replay.</li> <li><b>false</b>: Resume WAL replay.</li> <li>Other values or left blank: No action will be taken.</li> </ul>

- URI example

PUT <https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/49b9dd1d6f464ba4bc91df5cbd2e52eb03/log-replay/update>

- Example request

Pause WAL replay on a read replica.

```
{
  "pause_log_replay" : "true"
}
```

## Response

- Normal response

**Table 5-567** Parameters

Parameter	Type	Description
message	String	Returns <b>operate successfully</b> if the invoking is successful.

- Example normal response

```
{
  "message" : "operate successfully"
}
```

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## Error Code

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

# 5.21 Recycling a DB Instance

## 5.21.1 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 5-568** 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 <a href="#">Obtaining a Project ID</a> .

### Request

**Table 5-569** Parameter description

Name	Mandatory	Type	Description
recycle_policy	Yes	Object	Each element is associated with the recycle bin. For details on the element structure, see <a href="#">Table 5-570</a> .

**Table 5-570** recycle\_policy elements

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

## Example Request

Set 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 5-571** 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](#).

## 5.21.2 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 5-572** 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 <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 5-573** 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](#).

## 5.21.3 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 5-574** 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 <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 5-575** 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 5-576</a> .

**Table 5-576** instances field data structure description

Parameter	Type	Description
id	String	Instance ID.
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. <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. <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> .



Parameter	Type	Description
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>
volume_size	Integer	Storage space in GB. The value must be a multiple of 10 and the value range is from 40 GB to 4,000 GB.  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.  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.
data_vip	String	Floating IP address.
data_vip_v6	String	Private IPv6 address.
enterprise_project_id	String	Enterprise project ID.
retained_until	String	Retention time in the "yyyy-mm-ddThh:mm:ssZ" format.  <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> .
recycle_backup_id	String	Backup ID.
recycle_statuses	String	Backup status. The value can be any of the following (case-sensitive): <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>

Parameter	Type	Description
is_serverless	Boolean	Instance type. <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",
    "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" : "e8e3c329c20442f5aec21b95a8cdaa52br01",
    "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](#).

## 5.22 Tag Management

### 5.22.1 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 5-577** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

#### Request

**Table 5-578** 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. For details, see <a href="#">Table 5-579</a> .

**Table 5-579** tags field data structure description

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

## Example Request

Add 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](#).

## 5.22.2 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 5-580** 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 <a href="#">Obtaining a Project ID</a> .
instance_id	Yes	Specifies the DB instance ID.

### Request

**Table 5-581** 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. For details, see <a href="#">Table 5-582</a> .

**Table 5-582** tags field data structure description

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

## Example Request

Delete 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](#).

## 5.22.3 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 5-583** 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 <a href="#">Obtaining a Project ID</a> .

### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/tags

### Response

- Normal response

**Table 5-584** Parameter description

Name	Type	Description
tags	Array of objects	Specifies the tag list. If there is no tag in the list, an empty array is returned. For details, see <a href="#">Table 5-585</a> .

**Table 5-585** 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](#).

## 5.22.4 Querying Tags of a DB Instance

### Function

This API is used to query tags 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}/tags
- Parameter description



**Table 5-586** Parameters

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

## Request

- Request parameters  
None
- URI example  
GET <https://rds.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/ab67f50938cb4d189cc2163ca0098fe7in03/tags>

## Response

- Normal response

**Table 5-587** Parameters

Parameter	Type	Description
tags	Array of objects	Tag list. If there is no tag added for the instance, an empty array is returned. For details, see <a href="#">Table 5-588</a> .

**Table 5-588** tags field data structure description

Parameter	Type	Description
key	String	Tag key.
value	String	Tag value.
tag_type	String	Tag type. Enumerated values: <b>user</b> and <b>system</b>

- Example normal response

```
{
  "tags": [{
    "key": "keyName",
    "value": "keyValue",
```

```
"tag_type": "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](#).

# 5.23 Quota Management

## 5.23.1 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 5-589** 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 <a href="#">Obtaining a Project ID</a> .

### Request

- Request parameters  
None
- URI example  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/quotas

## Response

- Normal response

**Table 5-590** Parameter description

Name	Type	Description
quotas	Object	Specifies the objects in the quota list. For details, see <a href="#">Table 5-591</a> .

**Table 5-591** quotas field data structure description

Name	Type	Description
resources	Array of objects	Indicates the resource list objects. For details, see <a href="#">Table 5-592</a> .

**Table 5-592** 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](#).

# 5.24 Obtaining Task Information

## 5.24.1 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 5-593** 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 <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 5-594** Parameter description

Name	Type	Description
job	Object	Indicates the task information. For details, see <a href="#">Table 5-595</a> .

**Table 5-595** job field data structure description

Name	Type	Description
id	String	Indicates the job ID.
name	String	Indicates the task name.
status	String	Indicates the task execution status. Value: <ul style="list-style-type: none"> <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. <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
ended	String	Indicates the end time in the "yyyy-mm-ddThh:mm:ssZ" format. <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. <b>NOTE</b> The execution progress (such as "60%") is displayed only when the task is being executed. Otherwise, "" is returned.
instance	Object	Indicates information of the DB instance on which the task is executed. For details, see <a href="#">Table 5-596</a> .
entities	Object	The displayed information varies depending on the tasks. For details, see the following: <ul style="list-style-type: none"> <li>• <a href="#">Table 5-597</a></li> <li>• <a href="#">Table 5-600</a></li> <li>• <a href="#">Table 5-602</a></li> <li>• <a href="#">Table 5-603</a></li> </ul> <b>NOTE</b> For asynchronous tasks without the <b>entities</b> field description, {} is returned.
fail_reason	String	Indicates the error information displayed when a task failed.

**Table 5-596** instances field data structure description

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

**Table 5-597** entities field data structure description (creating DB instances, changing single DB instances to primary/standby, or creating read replicas)

Name	Type	Description
instance	Object	Indicates the information about the queried DB instance. For details, see <a href="#">Table 5-598</a> .
resource_ids	List<String>	Indicates the queried resource ID.

**Table 5-598** 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 5-599</a> .
replica_of	String	Indicates the primary DB instance ID. This parameter is returned only when a read replica is created.

**Table 5-599** datastore field data structure description

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

**Table 5-600** entities field data structure description (resizing a DB instance)

Name	Type	Description
volume	Object	Indicates the information about the resized disk. For details, see <a href="#">Table 5-601</a> .

Name	Type	Description
resource_ids	List<String>	Indicates the queried resource ID.

**Table 5-601** 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 5-602** 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 5-603** 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": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "name": "DO-NOT-TOUCH-mgr2-mysql-single"
    }
  }
}
```



```

    },
    "entities": {
      "instance": {
        "endpoint": "192.168.1.203:3306",
        "type": "Single",
        "datastore": {
          "type": "mysql",
          "version": "5.7"
        }
      }
    },
    "resource_ids": ["a48e43ff268f4c0e879652d65e63d0fbin01.vm",
"a48e43ff268f4c0e879652d65e63d0fbin01.volume"]
  }
}

```

#### Creating a read replica:

```

{
  "job": {
    "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
    "name": " CreateMysqlReplicaInstance",
    "status": "Completed",
    "created": "2018-08-06T10:41:14+0000",
    "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": "a48e43ff268f4c0e879652d65e63d0fbin01"
  },
  "resource_ids": ["288caaa9d05f4ec1a1f58de2e0945685in01.vm",
"288caaa9d05f4ec1a1f58de2e0945685in01.volume"]
}

```

#### Binding an EIP:

```

{
  "job": {
    "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
    "name": "MysqlBindEIP",
    "status": "Completed",
    "created": "2018-08-06T10:41:14+0000",
    "ended": "2018-08-06T16:41:14+0000",
    "process": "",
    "instance": {
      "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "name": "DO-NOT-TOUCH-mgr2-mysql-single"
    }
  },
  "entities": {
    "public_ip": "10.10.10.1"
  }
}

```

#### Rebooting a DB instance:

```

{
  "job": {
    "id": "31b8ae23-c687-4d80-b7b4-42a66c9bb886",
    "name": " RestartMysqlInstance",
    "status": "Completed",
    "created": "2018-08-06T10:41:14+0000",

```

```

"ended": "2018-08-06T16:41:14+0000",
"process": "",
"instance": {
  "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
  "name": "DO-NOT-TOUCH-mgr2-mysql-single"
},
"entities": {}
}
}

```

Task being executed:

```

{
  "job": {
    "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
    "name": "CreateMysqlSingleHAInstance", "status": "Running",
    "created": "2018-08-06T10:41:14+0000",
    "process": "60% ",
    "instance": {
      "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "name": "DO-NOT-TOUCH-mgr2-mysql-single"
    },
    "entities": {
      "instance": {
        "type": "Single",
        "datastore": {
          "type": "mysql",
          "version": "5.7"
        }
      }
    }
  }
}
}

```

Task fails to be executed:

```

{
  "job": {
    "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
    "name": "CreateMysqlSingleHAInstance",
    "status": "Failed",
    "created": "2018-08-06T10:41:14+0000",
    "ended": "2018-08-06T16:41:14+0000",
    "process": "",
    "instance": {
      "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "name": "DO-NOT-TOUCH-mgr2-mysql-single"
    },
    "entities": {
      "instance": {
        "type": "Single",
        "datastore": {
          "type": "mysql",
          "version": "5.7"
        }
      }
    },
    "fail_reason": "createVM failed."
  }
}
}
{
  "job": {
    "id": "31 b8ae23 - c687 - 4 d80 - b7b4 - 42 a66c9bb886",
    "name": "CreatePostgresqlSingleHAInstance",
    "status": "Failed",
    "created": "2018-08-06T10:41:14+0000",
    "ended": "2018-08-06T16:41:14+0000",
    "process": "",
    "instance": {
      "id": "a48e43ff268f4c0e879652d65e63d0fbin01",
      "name": "DO-NOT-TOUCH-mgr2-postgresql-single"
    },

```

```
"entities": {
  "instance": {
    "type": "Single",
    "datastore": {
      "type": "postgresql",
      "version": "9.6"
    }
  }
},
"fail_reason": "createVM failed."
}
```

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

## Status Code

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

## Error Code

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

## 5.24.2 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 5-604** 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 <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 5-605** Parameter description

Name	Type	Description
jobs	Object	Indicates the task information. For details, see <a href="#">Table 5-606</a> .
count	Integer	Indicates the total number of tasks.

**Table 5-606** jobs field data structure description

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

Name	Type	Description
status	String	<p>Indicates the task execution status.</p> <p>Value:</p> <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	<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> The execution progress (such as "60", indicating the task execution progress is 60%) 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 5-607</a>.</p>

Name	Type	Description
task_detail	String	The displayed information varies depending on the tasks. For details, see the following: <ul style="list-style-type: none"> <li>• <a href="#">Table 5-608</a></li> <li>• <a href="#">Table 5-609</a></li> </ul> <b>NOTE</b> This field is not displayed for asynchronous tasks that do not contain the <b>task_detail</b> field.
fail_reason	String	Indicates the error information displayed when a task failed.
entities	Object	The displayed information varies depending on the tasks.

**Table 5-607** instance field data structure description

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

**Table 5-608** 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.
dbName	List<String>	Indicates the database name.

**Table 5-609** 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.
dbName	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": "BackupDbSqlServerInstance",
      "status": "Completed",
      "created": "2020-07-20T16:10:07+0000",
      "ended": "2020-07-20T16:14:39+0000",
      "process": "",
      "instance": {
        "id": "9a09052dfa824caea36f583bc3e5684ein04",
        "name": "rds-8d43-0004"
      },
      "task_detail": "{\"instanceId\":\"9a09052dfa824caea36f583bc3e5684ein04\", \"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": "SingleDbRestoreSqlServerInstance",
      "status": "Failed",
      "created": "2020-07-21T01:38:00+0000",
      "ended": "2020-07-21T01:39:59+0000",
      "process": "",
      "instance": {
        "id": "9a09052dfa824caea36f583bc3e5684ein04",
        "name": "rds-8d43-0004"
      },
      "task_detail": "{\"backupId\":\"83c76e6852c145779dc153d8299ee0e1br04\", \"dbName\": \"backeeteeeee\", \"sourceInstanceid\":\"9a09052dfa824caea36f583bc3e5684ein04\", \"targetInstanceid\": \"9a09052dfa824caea36f583bc3e5684ein04\"}"
    }
  ],
  "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, 2025. 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. 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. 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. <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 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, 2025. 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. 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	Whether to delay the upgrade until the maintenance window. <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, 2025. 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. 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. 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, 2025. 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. 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/dsfae23fsfsdae3435in01/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> .  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, 2025. 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 MySQL and Microsoft SQL Server DB engines.

**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 2012 Standard Edition 2012 Enterprise Edition
2012 Standard Edition	2012 Standard Edition 2012 Enterprise Edition
2012 Enterprise Edition	2012 Enterprise Edition
2014 Standard Edition	2014 Standard Edition 2014 Enterprise Edition
2014 Enterprise Edition	2014 Enterprise Edition
2016 Standard Edition	2016 Standard Edition 2016 Enterprise Edition
2016 Enterprise Edition	2016 Enterprise Edition

Original DB Engine Version	Restore To
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/{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. 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. For details, see <a href="#">Table 6-17</a> .
target	Yes	Object	Specifies the restoration target. 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>– Check whether new database names are case sensitive based on the character set selected during instance creation and make sure each new database name is 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>Example: "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> 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": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
    "type": "backup",
    "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
  },
  "target": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01"
  }
}
```

Microsoft SQL Server:

```
{
  "source": {
    "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
    "type": "backup",
    "backup_id": "b021670e69ba4538b7b2ed07257306aibr04",
    "database_name": {
      "db1": "dbtest1",
      "db2": ""
    }
  },
  "target": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin04"
  }
}
```

Use PITR for restoration:

MySQL:

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

Microsoft SQL Server:

```
{
  "source": {
    "instance_id": "61879e6085bc44d1831b0ce62d988fd9in04",
    "type": "timestamp",
    "restore_time": 1532001446987,
    "database_name": {
      "db1": "dbtest1,dbtest2",
      "db2": "db2,db02",
      "db3": ""
    }
  },
  "target": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin04"
  }
}
```

## 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, 2025. 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	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

**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	Whether to use fast restoration. The value can be <b>true</b> or <b>false</b> . <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. 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/dsfae23fsdsae3435in01/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, 2025. 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	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 ID of the queried DB instance.

Name	Mandatory	Description
start_date	Yes	Specifies the start time in the "yyyy-mm-ddThh:mm:ssZ" format. <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	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format. <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 error logs generated within a month.
offset	No	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.
limit	No	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.
level	No	Specifies the log level. The default value is <b>ALL</b> . Valid value: <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](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. 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, 2025. 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	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 ID of the instance to be queried.
start_date	Yes	Specifies the start time in the "yyyy-mm-ddThh:mm:ssZ" format. <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	Specifies the end time in the "yyyy-mm-ddThh:mm:ssZ" format. <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.
offset	No	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.  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> .
limit	No	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.
type	No	Specifies the statement type. If it is left blank, all statement types are queried. Valid value: <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
```

## Response

- Normal response

**Table 6-29** Parameter description

Name	Type	Description
slow_log_list	Array of objects	Indicates detailed information. 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, 2025. 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. 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://{endpoint}/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 April 30, 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. 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. 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 April 30, 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. 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 April 30, 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`
- Parameter description

**Table 6-42** 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 <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. For details, see <a href="#">Table 6-44</a> .
master_instance	Object	Indicates the primary instance information. For details, see <a href="#">Table 6-45</a> .
readonly_instances	Array of objects	Indicates read replica information. 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. 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. 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. 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 April 30, 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. 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. 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 April 30, 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. 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 April 30, 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. 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 April 30, 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. 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</i> +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 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. 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>• <b>X86</b>: x86 architecture</li> <li>• <b>ARM</b>: Arm architecture</li> </ul>
compute_flavors	Array of objects	Compute flavor information 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

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## 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 (x) 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	Authorization by Instance
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	Authorization by Instance
Creating a DB instance	POST /v3/{project_id}/instances	rds:instance:create  (To create an encrypted DB instance, you need to configure the KMS Administrator permission in the project.)	√	√	×
Changing a DB instance name	PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/name	rds:instance:modify	√	√	√
Changing a DB instance description	PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/alias	rds:instance:modify	√	√	√
Applying for a private domain name	POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/create-dns	rds:instance:createDns	√	√	×
Modifying a private domain name	PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/modify-dns	rds:instance:modifyDns	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
Changing DB instance specifications	POST /v3/{project_id}/instances/{instance_id}/action	rds:instance:modifySpec	√	√	×
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 (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	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	√	√	√
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:modifySynchronizeModel	√	√	√
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	Authorization by Instance
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	√	√	√
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	Authorization by Instance
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	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	√	√	√
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	Authorization by Instance
Configuring an automated backup policy	PUT /v3/{project_id}/instances/{instance_id}/backups/policy	rds:instance:modifyBackupPolicy	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	√	√	×
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	√	√	×



Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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  (The KMS Administrator permission needs to be configured for the encrypted DB instance in the 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	Authorization by Instance
Querying error logs	GET /v3/{project_id}/instances/{instance_id}/errorlog?start_date={start_date}&end_date={end_date}	rds:log:list	√	√	√
Querying slow query logs	GET /v3/{project_id}/instances/{instance_id}/slowlog?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	√	√	√
Obtaining audit logs	GET /v3/{project_id}/instances/{instance_id}/auditlog?start_time={start_time}&end_time={end_time}&offset={offset}&limit={limit}	rds:auditlog:list	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	Authorization by Instance
Creating a database	POST /v3/{project_id}/instances/{instance_id}/database	rds:database:create	√	√	√
Querying databases	GET /v3/{project_id}/instances/{instance_id}/database/detail?page={page}&limit={limit}	rds:database:list	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
Querying authorized databases of a specified account	GET /v3/{project_id}/instances/{instance_id}/db_user/database?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?page={page}&limit={limit}	rds:databaseUser:list	√	√	√
Querying authorized users of a specified database	GET /v3/{project_id}/instances/{instance_id}/database/db_user?db-name={db-name}&page={page}&limit={limit}	rds:databaseUser:list	√	√	√
Modifying remarks of a database user	PUT /v3/{project_id}/instances/{instance_id}/db-users/{user_name}/comment	rds:databaseUser:update	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	Authorization by Instance
Creating a database	POST /v3/{project_id}/instances/{instance_id}/database	rds:database:create	√	√	√
Creating a database account	POST /v3/{project_id}/instances/{instance_id}/db_user	rds:databaseUser:create	√	√	√

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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	Authorization by Instance
Modifying the recycling policy	PUT <a href="https://{{Endpoint}}/v3/{project_id}/instances/recycle-policy">https:// {Endpoint}/v3/ {project_id}/ instances/recycle- policy</a>	rds:instance:set RecycleBin	√	×	×

**Table 7-10** Tag management actions

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
Adding or deleting tags in batches	POST <a href="https://{{Endpoint}}/v3/{project_id}/instances/{instance_id}/tags/action">/v3/ {project_id}/ instances/ {instance_id}/ tags/action</a>	rds:instance:de lTag	√	√	√
Querying project tags	GET <a href="https://{{Endpoint}}/v3/{project_id}/tags">/v3/{project_id}/ tags</a>	rds:tag:list	√	√	×

**Table 7-11** Quota management actions

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
Querying resource quotas	GET <a href="https://{{Endpoint}}/v3/{project_id}/quotas">https:// {Endpoint}/v3/ {project_id}/ quotas</a>	rds:instance:list	√	√	√

**Table 7-12** Task actions

Permission	API	Action	IAM Project	Enterprise Project	Authorization by Instance
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. This interim response is used to inform the client that the initial part of the request has been received and has not yet been rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a more advanced protocol. For example, the current HTTP protocol is switched to a later version.
200	OK	Request succeeded.
201	Created	The request for creating a resource or task has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Unauthorized information. The request is successful.
204	NoContent	The server has successfully processed the request, but has not returned any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.
302	Found	The requested resource was temporarily moved.
303	See Other	The response to the request can be found under a different URI and should be retrieved using a GET or POST method.

Status Code	Message	Description
304	Not Modified	The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.
305	Use Proxy	The requested resource must be accessed through a proxy.
306	Unused	The HTTP status code is no longer used.
400	BadRequest	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.
402	Payment Required	This status code is reserved for future use.
403	Forbidden	The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may repeat the request without modifications at any later time.

Status Code	Message	Description
409	Conflict	The request could not be processed due to a conflict.  This status code indicates that the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource is no longer available. The requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server temporarily cannot process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfied	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.

Status Code	Message	Description
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. The response will reach the client only if the request carries a timeout parameter.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

## 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
400	DBS.01010220	The DB instance is not in the read-only state.
500	DBS.01010221	Failed to remove the read-only status of the node.
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.

Status Code	Error Code	Description
403	DBS.200010	The DB instance ID or user ID may be null, or the operation is not authorized.
409	DBS.200011	Another operation is being performed on the instance, or the instance is faulty. Try again later.
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 HA replication mode.
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.

Status Code	Error Code	Description
400	DBS.200051	Invalid HA mode.
400	DBS.200052	Invalid database root password.
400	DBS.200053	The selected specifications do not exist.
400	DBS.200054	Invalid specifications.
400	DBS.200055	Invalid replica_of_id.
400	DBS.200056	The maximum number of nodes has been reached.
400	DBS.200062	Invalid database username.
400	DBS.200063	Invalid cluster mode.
400	DBS.200076	The instance and node must be in the Available 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.

Status Code	Error Code	Description
400	DBS.200405	Parameter error.
404	DBS.200408	Incorrect node information.
400	DBS.200461	The parameter value is out of range.
404	DBS.200470	The region or AZ does not exist.
404	DBS.200501	The subnet does not exist or does not belong to the VPC.
404	DBS.200503	The VPC does not exist or does not belong to the user.
400	DBS.200504	Invalid database version.
400	DBS.200506	Invalid KMS.
400	DBS.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.



Status Code	Error Code	Description
404	DBS.201010	The backup information does not exist.
400	DBS.201014	This operation is not allowed by the DB instance status.
404	DBS.201028	The DB instance does not exist.
400	DBS.201035	The database name must be different from the original and target database names.
400	DBS.201041	The operation is not allowed for tables with foreign keys.
400	DBS.201101	Invalid backup cycle.
400	DBS.201103	Invalid backup start time.
400	DBS.201106	Invalid retention days.
409	DBS.201201	The object already exists.
409	DBS.201202	Another operation is being performed on the DB instance or the DB instance is faulty.
400	DBS.201203	The backup file does not exist.
409	DBS.201205	Backup is in progress, please wait.
400	DBS.201207	The DB engine or version is not supported.
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.

Status Code	Error Code	Description
404	DBS.212013	The object does not exist.
400	DBS.212014	The node does not have a default parameter template.
400	DBS.212015	Partial success
400	DBS.212016	Parameter update failed.
400	DBS.212017	Invalid parameter.
422	DBS.212019	The parameter cannot be processed.
400	DBS.212025	Update failed.
400	DBS.212030	Parameter error
400	DBS.212032	The parameter template has been applied.
400	DBS.212037	Parameters are incorrectly set.
500	DBS.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 instance, or the instance is faulty. Try again later.
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.

Status Code	Error Code	Description
400	DBS.280239	Invalid specifications.
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	Source instance not found.
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.

Status Code	Error Code	Description
400	DBS.280461	Invalid number of added shards.
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.301051	The instance has no disaster recovery relationship.
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.

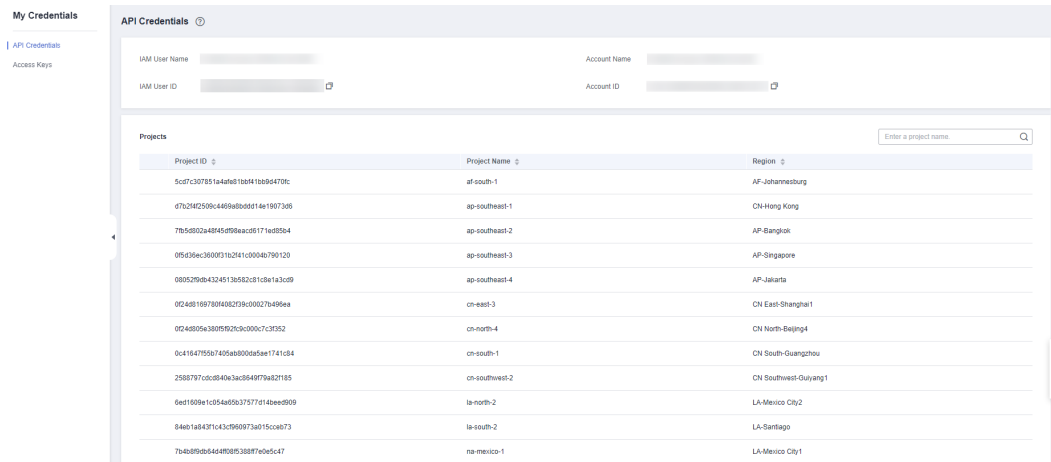
```
{
  "projects": [
    {
      "domain_id": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "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



----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_cpu_util	CPU Usage	CPU usage of the monitored object	0%–100%	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> <li>MySQL</li> <li>PostgreSQL</li> <li>Microsoft SQL Server</li> </ul>
rds002_memory_util	Memory Usage	Memory usage of the monitored object	0-100%	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> <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. 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. 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. 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 Monitored instance type: MySQL instances
rds007_conn_active_count	Current Active Connections	Number of current active connections	$\geq 0$ counts	Monitored object: database 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 Monitored instance type: MySQL instances
rds009_tps	TPS	Execution times of submitted and rollback transactions per second	$\geq 0$ times/s	Monitored object: database 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 Monitored instance type: MySQL instances
rds011_innodb_buf_hit	Buffer Pool Hit Rate	Ratio of read hits to read requests in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds012_innodb_buf_dirty	Buffer Pool Dirty Block Rate	Ratio of dirty data to used pages in the InnoDB buffer	0-1	Monitored object: database Monitored instance type: MySQL instances
rds013_innodb_reads	InnoDB Read Throughput	Number of read bytes per second in the InnoDB buffer	$\geq 0$ bytes/s	Monitored object: database 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 Monitored instance type: MySQL instances



Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds015_innodb_read_count	InnoDB File Read Frequency	Number of times that InnoDB reads data from files per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds016_innodb_write_count	InnoDB File Write Frequency	Number of times that InnoDB writes data to files per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds017_innodb_log_write_req_count	InnoDB Log Write Requests per Second	Number of InnoDB log write requests per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds018_innodb_log_write_count	InnoDB Log Physical Write Frequency	Number of InnoDB physical write times to log files per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds019_innodb_log_fsync_count	InnoDB Log fsync() Write Frequency	Number of completed fsync() write times to InnoDB log files per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds020_temp_tbl_rate	Temporary Tables Created per Second	Number of temporary tables created on hard disks per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds021_myisam_buf_usage	Key Buffer Usage	MyISAM key buffer usage	0-1	Monitored object: database Monitored instance type: MySQL instances
rds022_myisam_buf_write_hit	Key Buffer Write Hit Ratio	MyISAM key buffer write hit ratio	0-1	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds023_myisam_buffer_read_hit	Key Buffer Read Hit Ratio	MyISAM key buffer read hit ratio	0-1	Monitored object: database Monitored instance type: MySQL instances
rds024_myisam_disk_write_count	MyISAM Disk Write Frequency	Number of times that indexes are written to disks per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds025_myisam_disk_read_count	MyISAM Disk Read Frequency	Number of times that indexes are read from disks per second	≥ 0 times/s	Monitored object: database Monitored instance type: MySQL instances
rds026_myisam_buffer_write_count	MyISAM Buffer Pool Write Requests per Second	Number of requests for writing indexes into the MyISAM buffer pool per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds027_myisam_buffer_read_count	MyISAM Buffer Pool Read Requests per Second	Number of requests for reading indexes from the MyISAM buffer pool per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds028_command_delete_count	DELETE Statements per Second	Number of DELETE statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances
rds029_command_insert_count	INSERT Statements per Second	Number of INSERT statements executed per second	≥ 0 counts/s	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds030_c mdml_ins _sel_count	INSERT _SELEC T Statem ents per Second	Number of INSERT_SELECT statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds031_c mdml_rep _count	REPLAC E Statem ents per Second	Number of REPLACE statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds032_c mdml_rep _sel_count	REPLAC E_SELE CTION Statem ents per Second	Number of REPLACE_SELECTION statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds033_c mdml_sel _count	SELECT Statem ents per Second	Number of SELECT statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds034_c mdml_up d_count	UPDAT E Statem ents per Second	Number of UPDATE statements executed per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds035_in nodb_del _row_coun t	Row Delete Freque ncy	Number of rows deleted from the InnoDB table per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds036_in nodb_ins _row_coun t	Row Insert Freque ncy	Number of rows inserted into the InnoDB table per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances
rds037_in nodb_rea d_row_co unt	Row Read Freque ncy	Number of rows read from the InnoDB table per second	≥ 0 counts /s	Monitored object: database Monitored instance type: MySQL instances

Metric ID	Name	Description	Value Range	Monitored Object and Instance Type
rds038_innodb_upd_row_count	Row Update Frequency	Number of rows updated into the InnoDB table per second	$\geq 0$ counts/s	Monitored object: database Monitored instance type: MySQL instances
rds039_disk_util	Storage Space Usage	Storage space usage of the monitored object	0-100 %	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> <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 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 Monitored instance type: PostgreSQL instances
rds042_database_connections	Database Connections in Use	Number of database connections in use	$\geq 0$ counts	Monitored object: database Monitored instance type: PostgreSQL instances
rds043_maximum_used_transaction_ids	Maximum Used Transaction IDs	Maximum number of transaction IDs that have been used	$\geq 0$ counts	Monitored object: database 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 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 Monitored instance type: PostgreSQL instances
rds046_replication_lag	Replication Lag	Replication lag delay	≥ 0 ms	Monitored object: database 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 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 Monitored instance type: PostgreSQL instances
inactive_logical_replication_slot	Inactive Logical Replication Slots	Number of inactive logical replication slots	≥ 0	Monitored object: database Monitored instance type: PostgreSQL instances
pgaudit_log_size	Audit Log Size	Size of audit logs	≥ 0 GB	Monitored object: database Monitored instance type: PostgreSQL instances
rds047_disk_total_size	Total Storage Space	Total storage space of the monitored object	40–4,000 GB	Monitored object: ECS. Monitored DB instance type: <ul style="list-style-type: none"> <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. 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. 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. 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 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 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 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-
e94fdbeea391&from=1484123686000&to=1568188853000&period=300&filter=average
```

- Response:

```
{
  "datapoints": [
    {
      "average": 0.35,
      "timestamp": 1484123400000,
      "unit": "Ratio"
    },
    {
      "average": 0.11,
      "timestamp": 1484123700000,
      "unit": "Ratio"
    }
  ],
  "metric_name": "rds001_cpu_util",
  "httpcode" : 200,
  "header" : {
    "Transfer-Encoding" : "chunked",
    "Server" : "Web Server",
    "X-Request-Id" : "te-l-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.  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
2024-08-26	This issue is the sixty-second official release, which incorporates the following change: <ul style="list-style-type: none"> <li>Added <a href="#">Querying Storage Usage of a DB Instance</a>.</li> </ul>
2024-07-29	This issue is the sixty-first official release, which incorporates the following change: <ul style="list-style-type: none"> <li>Added <a href="#">Creating a DB Instance (API v5)</a>.</li> </ul>
2024-07-10	This issue is the sixtieth official release, which incorporates the following changes: <ul style="list-style-type: none"> <li>Added <a href="#">Querying Available Instance Classes for a DB Instance</a>.</li> <li>Added <a href="#">Unlocking a DB Instance from the Read-Only State</a>.</li> <li>Added <a href="#">Removing the DR Relationship from a DB Instance</a>.</li> </ul>
2024-06-14	This issue is the fifty-ninth official release, which incorporates the following changes: <ul style="list-style-type: none"> <li>Added <a href="#">Querying Tables That Can Be Restored to a Specified Point in Time (RDS for PostgreSQL)</a>.</li> <li>Added <a href="#">Restoring Tables to a Specified Point in Time (RDS for PostgreSQL)</a>.</li> </ul>
2024-06-11	This issue is the fifty-eighth official release, which incorporates the following changes: <ul style="list-style-type: none"> <li>Added <a href="#">Obtaining the Delayed Replay Status of WAL Logs</a>.</li> <li>Added <a href="#">Pausing or Resuming WAL Log Replay</a>.</li> </ul>
2024-05-29	This issue is the fifty-seventh official release, which incorporates the following change: <ul style="list-style-type: none"> <li>Added <a href="#">Obtaining Links for Downloading Error Logs (RDS for PostgreSQL)</a>.</li> </ul>

Release Date	Description
2024-03-11	<p>This issue is the fifty-sixth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>• Added <a href="#">Adding a SQL Statement Concurrency Control Rule for a Database</a>.</li> <li>• Added <a href="#">Deleting a SQL Statement Concurrency Control Rule</a>.</li> <li>• Added <a href="#">Modifying a SQL Statement Concurrency Control Rule</a>.</li> <li>• Added <a href="#">Querying SQL Statement Concurrency Control Rules</a>.</li> <li>• Added <a href="#">Enabling or Disabling a SQL Statement Concurrency Control Rule or Disabling All SQL Statement Concurrency Control Rules</a>.</li> </ul>
2024-03-05	<p>This issue is the fifty-fifth official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>• Added <a href="#">Enabling Database Proxy</a>.</li> <li>• Added <a href="#">Querying Database Proxies</a>.</li> <li>• Added <a href="#">Querying Database Proxy Specifications</a>.</li> <li>• Added <a href="#">Configuring the Routing Policy for a Database Proxy</a>.</li> <li>• Added <a href="#">Disabling Database Proxy</a>.</li> <li>• Added <a href="#">Stopping a Backup (RDS for PostgreSQL)</a>.</li> <li>• Added <a href="#">Changing the Database Owner</a>.</li> <li>• Added <a href="#">Granting a Role to a User</a>.</li> <li>• Added <a href="#">Revoking a Role from a User</a>.</li> <li>• Added <a href="#">Querying Roles</a>.</li> <li>• Added <a href="#">Updating an Extension</a>.</li> </ul>
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 <code>is_serverless</code> parameter in <a href="#">Querying Database Specifications</a>.</li> <li>• Added the <code>serverless_info</code> parameter in <a href="#">Creating a DB Instance</a>.</li> <li>• Added the <code>serverless_info</code> parameter in <a href="#">Querying DB Instances</a>.</li> <li>• Added the <code>serverless_info</code> parameter in <a href="#">Restoring Data to a New DB Instance</a>.</li> <li>• Added the <code>is_serverless</code> parameter in <a href="#">Querying Instances in the Recycle Bin</a>.</li> </ul>

Release Date	Description
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> 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>
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 pg_hba.conf of a DB Instance</a>.</li> <li>• Added <a href="#">Modifying or Adding One or More Records in pg_hba.conf</a>.</li> <li>• Added <a href="#">Overwriting pg_hba.conf</a>.</li> <li>• Added <a href="#">Deleting One or More Records from pg_hba.conf</a>.</li> <li>• Added <a href="#">Querying the pg_hba.conf Change History of a DB Instance</a>.</li> </ul>

Release Date	Description
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> 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>
2023-07-24	<p>This issue is the forty-ninth official release, which incorporates the following changes:</p> <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	<p>This issue is the forty-eighth official release, which incorporates the following change:</p> <p>Added the <code>recover_model</code> parameter in <a href="#">Querying Databases</a>.</p>
2023-03-17	<p>This issue is the forty-seventh official release, which incorporates the following changes:</p> <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	<p>This issue is the forty-sixth official release, which incorporates the following changes:</p> <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	<p>This issue is the forty-fifth official release, which incorporates the following changes:</p> <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	<p>This issue is the forty-fourth official release, which incorporates the following changes:</p> <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>

Release Date	Description
2022-12-19	<p>This issue is the forty-third official release, which incorporates the following changes:</p> <ul style="list-style-type: none"> <li>• Added <a href="#">Creating an Extension</a>.</li> <li>• Added <a href="#">Querying Extensions</a>.</li> <li>• Added <a href="#">Deleting an Extension</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>
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</a>.</p>

Release Date	Description
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> 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>
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 <code>ad_domain_info</code> and deleted parameter <code>password</code> 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>

Release Date	Description
2021-11-04	<p>This issue is the thirty-fourth official release, which incorporates the following change:</p> <ul style="list-style-type: none"> <li>Added the <b>max_iops</b> and <b>expiration_time</b> fields in the response in <a href="#">Querying DB Instances</a>.</li> </ul>
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
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
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
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
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>

Release Date	Description
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 <b>data_vip</b> 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 <b>order_id</b> field to the response in <a href="#">Querying DB Instances</a>.</li> <li>• Added the <b>tags</b> 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>

Release Date	Description
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/Standby DB Instances</a>.</li> <li>• Added <a href="#">Changing the Data Replication Mode of Primary/Standby 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>

Release Date	Description
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 Audit Logs</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>

Release Date	Description
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
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 <b>keepDays</b>.</li> <li>● Modified the value range of <b>keepday</b>.</li> </ul>
2018-05-04	<p>This issue is the first official release.</p>