

**Huawei Cloud Flexus RDS**

# **API Reference**

**Issue**            01  
**Date**             2024-07-30



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# Contents

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<b>1 Before You Start.....</b>	<b>1</b>
1.1 Overview.....	1
1.2 API Calling.....	1
1.3 Endpoints.....	1
1.4 Constraints.....	2
1.5 Concepts.....	2
<b>2 API Overview.....</b>	<b>4</b>
<b>3 Calling APIs.....</b>	<b>5</b>
3.1 Making an API Request.....	5
3.2 Authentication.....	9
3.3 Response.....	11
<b>4 API v3.....</b>	<b>13</b>
4.1 DB Instance Management.....	13
4.1.1 Creating a DB Instance.....	13
4.1.2 Querying Database Specifications.....	35
4.1.3 Upgrading a FlexusRDS Instance to an RDS Instance.....	39
4.1.4 Configuring an Autoscaling Policy.....	43
4.1.5 Querying an Autoscaling Policy.....	47
4.1.6 Rebooting a DB Instance.....	49
4.1.7 Querying DB Instances.....	52
4.1.8 Upgrading the Minor Version of a DB Instance.....	69
4.1.9 Resetting the Password for User root.....	71
4.2 Backup and Restoration.....	74
4.2.1 Creating a Manual Backup.....	74
4.2.2 Obtaining Backups.....	78
4.2.3 Deleting a Manual Backup.....	86
4.2.4 Querying the Restoration Time Range.....	87
4.2.5 Restoring Data to a New DB Instance.....	89
4.2.6 Querying Tables That Can Be Restored to a Specified Point in Time.....	115
4.3 Parameter Management.....	119
4.3.1 Modifying Parameters of a Specified DB Instance.....	119
4.3.2 Obtaining the Parameter Template of a Specified DB Instance.....	123

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<b>5 Appendix.....</b>	<b>127</b>
5.1 Abnormal Request Results.....	127
5.2 Status Codes.....	127
5.3 Obtaining a Project ID.....	131
<b>A Change History.....</b>	<b>133</b>

# 1 Before You Start

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## 1.1 Overview

Welcome to *FlexusRDS API Reference*. Based on the open-source MySQL kernel, FlexusRDS is a lightweight relational database service developed for startups and individuals. It allows you to easily set up and manage DB instances and frees you to focus on your core business.

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

## 1.2 API Calling

FlexusRDS 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](#).

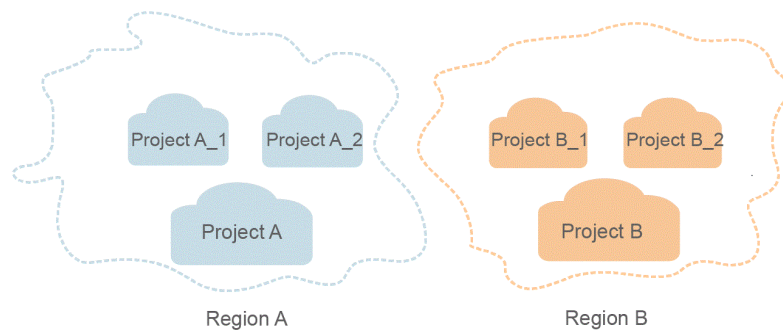
## 1.4 Constraints

- The numbers of 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](#).

# 2 API Overview

By using FlexusRDS APIs, you can create DB instances, back up and restore data, and modify parameters.

Type	Subtype	Description
RDS APIs (v3)	<a href="#">Querying Database Specifications</a>	Query the DB specifications of a specified DB engine version.
RDS APIs (v3)	<a href="#">DB Instance Management</a>	Create a DB instance, adjust instance specifications, reboot a DB instance, obtain a DB instance list, and obtain detailed information of a specified DB instance.
RDS APIs (v3)	<a href="#">Backup and Restoration</a>	Create and delete manual backups, and restore data to a new instance.
RDS APIs (v3)	<a href="#">Parameter Management</a>	Modify parameters and obtain parameter templates.



# 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>MIIPAgYJKoZlhvcNAQc-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.
fj3Kjs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5tdfdq4lqHCYb8P4NaYONyejAgzJVeFYtLWT1GSO0zxKZmlQHJQ82HBqHdglZO9fuEbl5dMhdavj+33wEI
xHRCe9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXlIjipPEGA270g1FruooL6jqglFKNPQuFSOU8+uSsttVwRtnfsC+qTp22Rkd5MCqFGQ8LcuUx3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUUbpvGw-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

---

## 4.1 DB Instance Management

### 4.1.1 Creating a DB Instance

#### Function

This API is used to create a single-node or primary/standby FlexusRDS instance.

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

#### URI

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

**Table 4-1** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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>

## Request

**Table 4-2** Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Explanation:</b> Instance name.</p> <p><b>Constraints:</b> Instances of the same type can have the same name under the same tenant.</p> <p><b>Value range:</b> The instance name must start with a letter and consist of 4 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
datastore	Yes	Object	<p><b>Explanation:</b> Database information. For details, see <a href="#">Table 4-3</a>.</p> <p><b>Constraints:</b> N/A</p>
flavor_ref	Yes	String	<p><b>Explanation:</b> Specification code.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">spec_code</a> in <a href="#">Table 4-18 of Querying Database Specifications</a>.</p> <p><b>Default value:</b> N/A</p>
volume	Yes	Object	<p><b>Explanation:</b> Instance storage. For details, see <a href="#">Table 4-6</a>.</p> <p><b>Constraints:</b> N/A</p>
region	Yes	String	<p><b>Explanation:</b> Region ID.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a>.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	<p><b>Explanation:</b> AZ ID.</p> <p><b>Constraints:</b> 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 (,).</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a>.</p> <p><b>Default value:</b> N/A</p>
ha	No	Object	<p><b>Explanation:</b> HA configuration. For details, see <a href="#">Table 4-4</a>.</p> <p><b>Constraints:</b> This parameter is used only when you create a primary/standby instance.</p>

Parameter	Mandatory	Type	Description
port	No	String	<p><b>Explanation:</b> Database port.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• If this parameter is not specified, the default value is <b>3306</b>.</li> <li>• If this parameter is specified, the value range is from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used).</li> </ul> <p><b>Default value:</b> 3306</p>

Parameter	Mandatory	Type	Description
password	No	String	<p><b>Explanation:</b> Database password.</p> <p><b>Constraints:</b> 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> <p><b>Value range:</b> 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. The allowed special characters include ~!@#\$%^*_-=+?,()&amp;.</p> <p><b>Default value:</b> N/A</p>
backup_strategy	No	Object	<p><b>Explanation:</b> Advanced backup policy. For details, see <a href="#">Table 4-5</a>.</p> <p><b>Constraints:</b> N/A</p>
charge_info	Yes	Object	<p><b>Explanation:</b> Yearly/Monthly billing information. For details, see <a href="#">Table 4-7</a>.</p> <p><b>Constraints:</b> N/A</p>

Parameter	Mandatory	Type	Description
time_zone	No	String	<p><b>Explanation:</b> UTC time zone.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>If this parameter is not specified, the UTC time is used by default.</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 value can be UTC+08:00 rather than UTC+08:30.</li> </ul> <p><b>Default value:</b> UTC+08:00</p>
tags	No	Array of objects	<p><b>Explanation:</b> Tag list. Each DB instance can be associated with tag key-value pairs while being created. For details, see <a href="#">Table 4-8</a>.</p> <p><b>Constraints:</b> 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 for an instance.</p>

Parameter	Mandatory	Type	Description
is_flexus	Yes	boolean	<p><b>Explanation:</b> Whether to create a FlexusRDS instance.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> true</p> <p><b>Default value:</b> N/A</p>

**Table 4-3** datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p><b>Explanation:</b> DB engine.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> MySQL</p> <p><b>Default value:</b> N/A</p>
version	Yes	String	<p><b>Explanation:</b> DB engine version.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> 5.7 or 8.0</p> <p><b>Default value:</b> N/A</p>



**Table 4-4** ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	<p><b>Explanation:</b> Instance type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> HA (case-insensitive)</p> <p><b>Default value:</b> N/A</p>
replication_mode	Yes	String	<p><b>Explanation:</b> Replication mode for the standby instance.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>async:</b> asynchronous replication</li> <li>• <b>semisync:</b> semi-synchronous replication</li> </ul> <p><b>Default value:</b> N/A</p>

**Table 4-5** backup\_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	<p><b>Explanation:</b> Backup time window. Automated backups will be triggered during the backup time window.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is the UTC time.</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 <b>00</b>, <b>15</b>, <b>30</b>, or <b>45</b>.</li> </ul> <p>Example:</p> <ul style="list-style-type: none"> <li>08:15-09:15</li> <li>23:00-00:00</li> </ul> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
keep_days	No	Integer	<p><b>Explanation:</b> Retention days for backups.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• If this parameter is not specified, the default value <b>7</b> is used.</li> <li>• If this parameter is specified, the value range is from 0 to 732. <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.</li> </ul> <p><b>Default value:</b> 7</p>

**Table 4-6** volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p><b>Explanation:</b> Storage type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> <b>CLOUDSSD</b> (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
size	Yes	Integer	<p><b>Explanation:</b> Storage space.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> 40–4000, in GB. The value must be a multiple of 10.</p> <p><b>Default value:</b> N/A</p>

**Table 4-7** charge\_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	<p><b>Explanation:</b> Billing mode.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> <b>prePaid:</b> indicates the yearly/monthly billing mode.</p> <p><b>Default value:</b> N/A</p>
period_type	Yes	String	<p><b>Explanation:</b> Subscription type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
period_num	Yes	Integer	<p><b>Explanation:</b> Subscription period.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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>.</li> </ul> <p><b>Default value:</b> N/A</p>
is_auto_renew	No	boolean	<p><b>Explanation:</b> 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.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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> <p><b>Default value:</b> false</p>

Parameter	Mandatory	Type	Description
is_auto_pay	No	boolean	<p><b>Explanation:</b> Whether the order will be automatically paid. This parameter does not affect the payment method of automatic renewal.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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> <p><b>Default value:</b> false</p>

**Table 4-8** tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	<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>

Parameter	Mandatory	Type	Description
value	Yes	String	<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>

## Example Request

### NOTE

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

- Create a single-node FlexusRDS instance.

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

```
{
  "name": "flexusrds-instance",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "flavor_ref": "rds.mysql.y1.large.2",
  "volume": {
    "type": "CLOUDSSD",
    "size": 100
  },
  "region": "aaa",
  "availability_zone": "bbb",
  "port": 3306,
  "backup_strategy": {
    "start_time": "08:15-09:15",
    "keep_days": 12
  },
  "charge_info": {
    "charge_mode": "prePaid"
  },
  "password": "****",
  "time_zone": "UTC+04:00",
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value2"
    }
  ],
  "is_flexus": true
}
```

- Create a primary/standby FlexusRDS instance.

```
{
  "name": "flexusrds-instance-ha",
  "datastore": {
    "type": "MySQL",
    "version": "5.7"
  },
  "ha": {
    "mode": "ha",
    "replication_mode": "semisync"
  },
  "flavor_ref": "rds.mysql.y1.xlarge.2.ha",
  "volume": {
    "type": "CLOUDSSD",
    "size": 100
  },
  "region": "aaa",
  "availability_zone": "bbb",
  "port": 3306,
  "backup_strategy": {
    "start_time": "08:15-09:15",
    "keep_days": 12
  },
  "charge_info": {
    "charge_mode": "prePaid"
  },
  "password": "*****",
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value2"
    }
  ],
  "is_flexus": true
}
```

## Response

- Normal response

**Table 4-9** Parameters

Parameter	Type	Description
instance	Object	<b>Explanation:</b> Instance information. For details, see <a href="#">Table 4-10</a> .
order_id	String	<b>Explanation:</b> Order ID. <b>Value range:</b> N/A



**Table 4-10** instance field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> Instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Instance name. Instances of the same type can have the same name under the same tenant. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
status	String	<b>Explanation:</b> Instance status. <b>Value range:</b> <b>BUILD:</b> indicates that the instance is being created.
datastore	Object	<b>Explanation:</b> Database information. For details, see <a href="#">Table 4-11</a> .
ha	Object	<b>Explanation:</b> HA configuration. This parameter is returned only when primary/standby instances are created. For details, see <a href="#">Table 4-12</a> .
port	String	<b>Explanation:</b> Database port. <b>Value range:</b> The value is the same as that of the corresponding request parameter.

Parameter	Type	Description
backup_strategy	Object	<b>Explanation:</b> Automated backup policy. For details, see <a href="#">Table 4-13</a> .
flavor_ref	String	<b>Explanation:</b> Specification code. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
volume	Object	<b>Explanation:</b> Volume information. For details, see <a href="#">Table 4-14</a> .
region	String	<b>Explanation:</b> Region ID. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
availability_zone	String	<b>Explanation:</b> AZ ID. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
vpc_id	String	<b>Explanation:</b> VPC ID. <b>Value range:</b> vpc-default-smb
subnet_id	String	<b>Explanation:</b> Subnet ID. <b>Value range:</b> subnet-default-smb

Parameter	Type	Description
security_group_id	String	<b>Explanation:</b> Security group which the instance is associated with. <b>Value range:</b> sg-default-smb
charge_info	Object	<b>Explanation:</b> Billing information. For details, see <a href="#">Table 4-15</a> .

**Table 4-11** datastore field data structure description

Parameter	Type	Description
type	String	<b>Explanation:</b> DB engine. <b>Value range:</b> MySQL
version	String	<b>Explanation:</b> DB engine version. <b>Value range:</b> 5.7 or 8.0

**Table 4-12** ha field data structure description

Parameter	Type	Description
mode	String	<b>Explanation:</b> Instance type. <b>Value range:</b> HA (case-insensitive)
replication_mode	String	<b>Explanation:</b> Replication mode for the standby instance. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>async</b>: asynchronous replication</li> <li>• <b>semisync</b>: semi-synchronous replication</li> </ul>

**Table 4-13** backupStrategy field data structure description

Parameter	Type	Description
start_time	String	<p><b>Explanation:</b> Backup time window. Automated backups will be triggered during the backup time window.</p> <p><b>Value range:</b> The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is the UTC time.</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 <b>00</b>, <b>15</b>, <b>30</b>, or <b>45</b>.</li> </ul> <p>Example:</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><b>Explanation:</b> Retention days for backups.</p> <p><b>Value range:</b> 0-732. <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>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 4-14** volume field data structure description

Parameter	Type	Description
type	String	<b>Explanation:</b> Storage type. <b>Value range:</b> <b>CLOUDSSD</b> (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.
size	Integer	<b>Explanation:</b> Storage space. <b>Value range:</b> 40–4000, in GB. The value must be a multiple of 10.

**Table 4-15** chargeInfo field data structure description

Parameter	Type	Description
charge_mode	String	<b>Explanation:</b> Billing mode. <b>Value range:</b> <b>prePaid</b> : indicates the yearly/monthly billing mode.
period_num	Integer	<b>Explanation:</b> Subscription period. <b>Value range:</b> The value is the same as that of the corresponding request parameter.

 **NOTE**

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

- Example normal response

Single-node FlexusRDS instance created.

```
{
  "instance": {
    "id": "dsfae23fsfdsae3435in01",
    "name": "flexusrds-instance",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "flavor_ref": "rds.mysql.y1.large.2",
    "volume": {
      "type": "CLOUDSSD",
```

```
    "size": 100
  },
  "region": "aaa",
  "availability_zone": "bbb",
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
  "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
  "port": "3306",
  "backup_strategy": {
    "start_time": "08:15-09:15",
    "keep_days": 3
  },
  "charge_info": {
    "charge_mode": "postPaid"
  }
},
"job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Primary/standby FlexusRDS instance created.

```
{
  "instance": {
    "id": "dsfae23fsfdsae3435in01",
    "name": "flexusrds-instance-ha",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "ha": {
      "mode": "ha",
      "replication_mode": "semisync"
    },
    "flavor_ref": "rds.mysql.y1.xlarge.2.ha",
    "volume": {
      "type": "CLOUDSSD",
      "size": 100
    },
    "region": "aaa",
    "availability_zone": "bbb,ccc",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "port": "3306",
    "backup_strategy": {
      "start_time": "08:15-09:15",
      "keep_days": 3
    },
    "charge_info": {
      "charge_mode": "postPaid"
    }
  },
  "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](#).

## 4.1.2 Querying Database Specifications

### Function

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

### URI

- URI format  
GET /v3/{project\_id}/flavors/{database\_name}?  
version\_name={version\_name}&spec\_code={spec\_code}&is\_flexus={is\_flexus}
- Parameter description

**Table 4-16** 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>
database_name	Yes	<p><b>Explanation:</b> DB engine.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> MySQL (case-insensitive)</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Description
version_name	No	<p><b>Explanation:</b> DB engine version. You can enter a minor version number.</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_flexus	Yes	<p><b>Explanation:</b> Whether to query FlexusRDS instance 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> Query FlexusRDS instance specifications.</li> <li>• <b>false</b> (default value): Query instance specifications other than FlexusRDS.</li> </ul> <p><b>Default value:</b> false</p>
spec_code	No	<p><b>Explanation:</b> Specification code.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• Single-node instance: rds.mysql.y1.medium.2 rds.mysql.y1.large.2 rds.mysql.y1.large.4 rds.mysql.y1.xlarge.2 rds.mysql.y1.xlarge.4</li> <li>• Primary/standby instance: rds.mysql.y1.large.2.ha rds.mysql.y1.large.4.ha rds.mysql.y1.xlarge.2.ha rds.mysql.y1.xlarge.4.ha</li> </ul> <p><b>Default value:</b> N/A</p>



## Request Parameters

None

## Example Request

```
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/flavors/mysql?
version_name=5.7&spec_code=rds.mysql.y1.xlarge.2
```

## Response

- Normal response

**Table 4-17** Parameters

Parameter	Type	Description
flavors	Array of objects	<b>Explanation:</b> Instance specifications. For details, see <a href="#">Table 4-18</a> .

**Table 4-18** flavors field data structure description

Parameter	Type	Description
vcpus	String	<b>Explanation:</b> Number of vCPUs. For example, the value <b>1</b> indicates 1 vCPU. <b>Value range:</b> N/A
ram	Integer	<b>Explanation:</b> Memory size in GB. <b>Value range:</b> N/A
id	String	<b>Explanation:</b> Specification ID, which is unique. <b>Value range:</b> N/A

Parameter	Type	Description
spec_code	String	<p><b>Explanation:</b> Resource specification code, for example, rds.mysql.y1.xlarge.2.ha.</p> <p><b>Value range:</b></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>y1.xlarge</b>: indicates the performance specifications, which are lightweight specifications.</li> <li>• <b>ha</b>: indicates primary/standby instances.</li> </ul>
version_name	Array	<p><b>Explanation:</b> DB engine version.</p>
instance_mode	String	<p><b>Explanation:</b> 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>single</b>: indicates single-node instances.</li> </ul>
az_status	Map<String, String>	<p><b>Explanation:</b> 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 specification is available in the AZ.</li> <li>• <b>unsupported</b>: indicates that the specification is not supported by the AZ.</li> <li>• <b>sellout</b>: indicates that the specification is sold out in the AZ.</li> </ul>
az_desc	Map<String, String>	<p><b>Explanation:</b> Description of the AZ to which the specification belongs.</p> <p><b>Value range:</b> N/A</p>
group_type	String	<p><b>Explanation:</b> FlexusRDS performance specifications.</p> <p><b>Value range:</b> <b>yunyao</b>: lightweight Flexus</p>

- Example normal response

```
{
  "flavors": [{
    "vcpus": "1",
```

```
"ram": 2,
  "id": "2988b9cc-2aac-3a94-898c-14666702f129",
  "spec_code": "rds.mysql.y1.xlarge.2.ha",
  "version_name": ["5.7", "8.0"],
  "instance_mode": "ha",
  "az_status": {
    "az1": "normal",
    "az2": "normal"
  },
  "az_desc": {
    "az1": "az1",
    "az2": "az2"
  },
  "group_type": "yunyao"
}
]
```

## Status Code

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

## 4.1.3 Upgrading a FlexusRDS Instance to an RDS Instance

### Function

This API is used to change DB instance specifications.

#### 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-node instance cannot be changed to those of primary/standby instances.)

### URI

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

**Table 4-19** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

**Table 4-20** Parameters

Parameter	Mandatory	Type	Description
resize_flavor	Yes	Object	<p><b>Explanation:</b> Specification information. For details, see <a href="#">Table 4-21</a>.</p> <p><b>Constraints:</b> N/A</p>

**Table 4-21** resize\_flavor field data structure description

Parameter	Mandatory	Type	Description
spec_code	Yes	String	<p><b>Explanation:</b> Resource specification code.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> Example value: <b>rds.mysql.y1.xlarge.2</b>. <b>rds</b> indicates the RDS product, <b>mysql</b> indicates the DB engine, and <b>y1.xlarge</b> indicates the lightweight performance specifications.</p> <p><b>Default value:</b> N/A</p>
is_auto_pay	No	Boolean	<p><b>Explanation:</b> Whether the order will be automatically paid.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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.</li> </ul> <p><b>Default value:</b> false</p>

Parameter	Mandatory	Type	Description
is_delay	No	Boolean	<p><b>Explanation:</b> Whether to change the specifications at the scheduled time.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>true:</b> The specifications will be changed in the maintenance window.</li> <li>• <b>false:</b> The specifications will be changed immediately upon the request submission.</li> </ul> <p><b>Default value:</b> false</p>

## Example Request

Change the specifications of a FlexusRDS instance to rds.mysql.m1.xlarge.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/action
{
  "resize_flavor": {
    "spec_code": "rds.mysql.m1.xlarge",
    "is_auto_pay": true,
    "is_delay": true
  }
}
```

## Response

- Normal response

**Table 4-22** Parameters

Parameter	Type	Description
order_id	String	<b>Explanation:</b> Order ID. <b>Value range:</b> N/A

- Example normal response

```
{
  "order_id": "CS2009151216NO2U1"
}
```

- Abnormal response

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

## Status Code

- Normal

202

- Abnormal

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

## 4.1.4 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.

### Constraints

- This API is in OBT. To use this API, contact customer service.
- Your account balance must be greater than or equal to \$0 USD. If your account balance is insufficient, autoscaling will fail.
- This API is only available to instances whose storage type is cloud SSDs and storage space is at least 40 GB.
- Storage autoscaling is unavailable when the instance is in any of the following statuses: upgrading to RDS, upgrading a minor version, 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 4-23** Parameters

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



## Request

**Table 4-24** Parameters

Parameter	Mandatory	Type	Description
switch_option	Yes	Boolean	<p><b>Explanation:</b> Whether to enable autoscaling.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <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> <p><b>Default value:</b> N/A</p>
limit_size	No	Integer	<p><b>Explanation:</b> Upper limit for autoscaling, in GB.</p> <p><b>Constraints:</b> This parameter is mandatory when <b>switch_option</b> is set to <b>true</b>.</p> <p><b>Value range:</b> 40 to 4000, in GB. The limit must be no less than the storage of the DB instance.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
trigger_thres hold	No	Integer	<p><b>Explanation:</b> Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered.</p> <p><b>Constraints:</b> This parameter is mandatory when <b>switch_option</b> is set to <b>true</b>.</p> <p><b>Value range:</b> Enumerated values:</p> <ul style="list-style-type: none"> <li>• 10</li> <li>• 15</li> <li>• 20</li> </ul> <p><b>Default value:</b> N/A</p>
step_percent	No	Integer	<p><b>Explanation:</b> Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time.</p> <p><b>Constraints:</b> 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.</p> <p><b>Value range:</b> 5%–50%</p> <p><b>Default value:</b> 20%</p>

## Example Request

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](#).

## 4.1.5 Querying an Autoscaling Policy

### Function

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

### Constraints

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

### URI

- URI format  
GET /v3/{*project\_id*}/instances/{*instance\_id*}/disk-auto-expansion
- Parameter description

**Table 4-25** Parameters

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

## Request

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

## Response

- Normal response

**Table 4-26** Parameters

Parameter	Type	Description
switch_option	Boolean	<b>Explanation:</b> Whether to enable autoscaling. <b>Value range:</b> <ul style="list-style-type: none"> <li><b>true:</b> Enable storage autoscaling.</li> <li><b>false:</b> Disable storage autoscaling.</li> </ul>
limit_size	Integer	<b>Explanation:</b> Upper limit for autoscaling, in GB. <b>Value range:</b> 0–4000, in GB

Parameter	Type	Description
trigger_threshold	Integer	<p><b>Explanation:</b> Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered.</p> <p><b>Value range:</b> Enumerated values:</p> <ul style="list-style-type: none"> <li>• 10</li> <li>• 15</li> <li>• 20</li> </ul>
step_percent	Integer	<p><b>Explanation:</b> Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time.</p> <p><b>Value range:</b> 5%–50%</p>

- Example normal response  
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](#).

## 4.1.6 Rebooting a DB Instance

### Function

This API is used to reboot a DB instance.

#### NOTICE

The FlexusRDS instance will be unavailable during the reboot. Exercise caution when performing this operation.

## Constraints

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

## URI

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

**Table 4-27** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

**Table 4-28** Parameters

Parameter	Mandatory	Type	Description
restart	Yes	None	<b>Explanation:</b> Whether to reboot the instance. <b>Value range:</b> Left blank

## Example Request

Reboot a DB instance.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsdsae3435in01/action
{
  "restart": {}
}
```

## Response

- Normal response

**Table 4-29** Parameters

Parameter	Type	Description
job_id	String	<b>Explanation:</b> Task ID. <b>Value range:</b> N/A

- Example normal response

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

- Abnormal response

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

## Status Code

- Normal

202

- Abnormal

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

## 4.1.7 Querying DB Instances

### Function

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

### URI

- URI format  
GET /v3/{project\_id}/instances?  
id={id}&name={name}&type={type}&datastore\_type={datastore\_type}&group\_type={group\_type}&offset={offset}&limit={limit}&tags={key}={value}
- Parameter description

**Table 4-30** Parameters

Parameter	Type	Mandatory	Description
project_id	Yes	String	<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>
id	String	No	<p><b>Explanation:</b> Instance ID. The asterisk (*) is reserved for the system. If the instance ID starts with *, 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>



Parameter	Type	Mandatory	Description
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>
type	String	No	<p><b>Explanation:</b> Instance type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value can be <b>Single</b> or <b>Ha</b>, indicating single-node instances or primary/standby instances, respectively.</p> <p><b>Default value:</b> N/A</p>
datastore_type	String	No	<p><b>Explanation:</b> DB engine.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> MySQL (case-sensitive)</p> <p><b>Default value:</b> N/A</p>

Parameter	Type	Mandatory	Description
offset	Integer	No	<p><b>Explanation:</b> Index offset.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</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 cannot be a negative number.</p> <p><b>Default value:</b> 0</p>
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. For details, see <a href="#">Table 4-31</a>.</p> <p><b>Constraints:</b> To query instances with multiple tag keys and values, separate key-value pairs with commas (,). A maximum of 20 key-value pairs are supported.</p>

Parameter	Type	Mandatory	Description
group_type	String	Yes	<p><b>Explanation:</b> Querying FlexusRDS instances.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> flexus</p> <p><b>Default value:</b> N/A</p>

**Table 4-31** tags field data structure description

Parameter	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> The value 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 Parameters

None

## Example Request

- Query all instances.  
GET https://{endpoint}/v3/97b026aa9cc4417888c14c84a1ad9860/instances
- Query instances based on search criteria.  
GET https://{endpoint}/v3/97b026aa9cc4417888c14c84a1ad9860/instances?id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore\_type=MySQL&offset=0&limit=10&tags=rds001=001,rds002=002&group\_type=flexus

## Response

- Normal response

**Table 4-32** Parameter description

Parameter	Type	Description
instances	Array of objects	<b>Explanation:</b> Instance information. For details, see <a href="#">Table 4-33</a> .
total_count	Integer	<b>Explanation:</b> Total number of records. <b>Value range:</b> N/A

**Table 4-33** instances field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> Instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Instance name. <b>Value range:</b> N/A

Parameter	Type	Description
status	String	<p><b>Explanation:</b> 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>ACTIVE:</b> The instance is running properly.</li> <li>• <b>FAILED:</b> The instance is abnormal.</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>BACKING UP:</b> The instance is being backed up.</li> <li>• <b>STORAGE FULL:</b> The instance storage space is full.</li> </ul>
alias	String	<p><b>Explanation:</b> Instance description.</p> <p><b>Value range:</b> N/A</p>
private_ips	List<String>	<p><b>Explanation:</b> Private IP addresses. It is a blank string until an instance is created.</p>
private_dns_names	List<String>	<p><b>Explanation:</b> Private domain names. 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>
public_dns_names	List<String>	<p><b>Explanation:</b> 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>
public_ips	List<String>	<p><b>Explanation:</b> Public IP addresses.</p>

Parameter	Type	Description
port	Integer	<p><b>Explanation:</b> Database port.</p> <p><b>Value range:</b> If this parameter is not specified, the default port number <b>3306</b> is used.</p>
enable_ssl	Boolean	<p><b>Explanation:</b> 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>
type	String	<p><b>Explanation:</b> Instance type.</p> <p><b>Value range:</b> The value can be <b>Single</b> or <b>Ha</b>, indicating single-node instances or primary/standby instances, respectively.</p>
ha	Object	<p><b>Explanation:</b> HA information. This parameter is returned only for HA instances. For details, see <a href="#">Table 4-34</a>.</p>
region	String	<p><b>Explanation:</b> Region where the instance is deployed.</p> <p><b>Value range:</b> N/A</p>
datastore	Object	<p><b>Explanation:</b> Database information. For details, see <a href="#">Table 4-35</a>.</p>

Parameter	Type	Description
created	String	<p><b>Explanation:</b> 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>.</p> <p>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.</p>
updated	String	<p><b>Explanation:</b> Update 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>.</p> <p>The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.</p>
db_user_name	String	<p><b>Explanation:</b> Default username.</p> <p><b>Value range:</b> N/A</p>
vpc_id	String	<p><b>Explanation:</b> VPC ID.</p> <p><b>Value range:</b> N/A</p>
subnet_id	String	<p><b>Explanation:</b> Subnet ID.</p> <p><b>Value range:</b> N/A</p>

Parameter	Type	Description
security_group_id	String	<b>Explanation:</b> Security group ID. <b>Value range:</b> N/A
flavor_ref	String	<b>Explanation:</b> Specification code. <b>Value range:</b> N/A
cpu	String	<b>Explanation:</b> Number of vCPUs. For example, the value <b>1</b> indicates 1 vCPU. <b>Value range:</b> N/A
mem	String	<b>Explanation:</b> Memory size in GB. <b>Value range:</b> N/A
volume	Object	<b>Explanation:</b> Instance storage. For details, see <a href="#">Table 4-36</a> .
switch_strategy	String	<b>Explanation:</b> Database failover priority. <b>Value range:</b> The value can be <b>reliability</b> or <b>availability</b> , indicating that the reliability or availability is given priority during the failover, respectively.
db_read_only_from_tenant	String	<b>Explanation:</b> Whether the database is read-only. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>true:</b> The database is read-only.</li> <li>• <b>false:</b> The database is not read-only.</li> </ul>



Parameter	Type	Description
read_only_by_user	Boolean	<p><b>Explanation:</b> Whether the instance is set to read-only.</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>true:</b> The instance is set to read-only.</li> <li>• <b>false:</b> The instance is not set to read-only.</li> </ul>
backup_strategy	Object	<p><b>Explanation:</b> Backup policy. For details, see <a href="#">Table 4-37</a>.</p>
maintenance_window	String	<p><b>Explanation:</b> Maintenance window, in the UTC format.</p> <p><b>Value range:</b> N/A</p>
nodes	Array of objects	<p><b>Explanation:</b> Primary/standby instance information. For details, see <a href="#">Table 4-38</a>.</p>
related_instance	Array of objects	<p><b>Explanation:</b> All associated DB instances. For details, see <a href="#">Table 4-39</a>.</p>
disk_encryption_id	String	<p><b>Explanation:</b> Disk encryption key ID.</p> <p><b>Value range:</b> N/A</p>
enterprise_project_id	String	<p><b>Explanation:</b> Enterprise project ID.</p> <p><b>Value range:</b> N/A</p>
time_zone	String	<p><b>Explanation:</b> Time zone.</p> <p><b>Value range:</b> N/A</p>
charge_info	Object	<p><b>Explanation:</b> Billing information. For details, see <a href="#">Table 4-40</a>.</p>

Parameter	Type	Description
tags	Array of objects	<b>Explanation:</b> Tag list. If there is no tag added for the instance, an empty array is returned. For details, see <a href="#">Table 4-41</a> .
order_id	String	<b>Explanation:</b> Order ID. <b>Value range:</b> N/A
associated_with_ddm	Boolean	<b>Explanation:</b> Whether this instance is associated with a DDM instance. <b>Value range:</b> N/A
expiration_time	String	<b>Explanation:</b> Instance expiration time. <b>Value range:</b> The value is in the "yyyy-mm-ddThh:mm:ssZ" format. This field is returned only for yearly/monthly instances.

**Table 4-34** ha field data structure description

Parameter	Type	Description
replication_mode	String	<b>Explanation:</b> Replication mode for the standby instance. <b>Value range:</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> </ul>

**Table 4-35** datastore field data structure description

Parameter	Type	Description
type	String	<b>Explanation:</b> DB engine. <b>Value range:</b> MySQL (case-insensitive)
version	String	<b>Explanation:</b> DB engine version. <b>Value range:</b> 5.7 or 8.0
complete_version	String	<b>Explanation:</b> Complete database version number. <b>Value range:</b> N/A

**Table 4-36** volume field data structure description

Parameter	Type	Description
type	String	<b>Explanation:</b> Storage type. <b>Value range:</b> <b>CLOUDSSD</b> (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.
size	Integer	<b>Explanation:</b> Storage space. <b>Value range:</b> 40–4000, in GB. The value must be a multiple of 10.

**Table 4-37** backup\_strategy field data structure description

Parameter	Type	Description
start_time	String	<p><b>Explanation:</b> Backup time window. Automated backups will be triggered during the backup time window.</p> <p><b>Value range:</b> The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is the UTC time.</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 <b>00</b>, <b>15</b>, <b>30</b>, or <b>45</b>.</li> </ul> <p>Example:</p> <ul style="list-style-type: none"> <li>08:15-09:15</li> <li>23:00-00:00</li> </ul>
keep_days	Integer	<p><b>Explanation:</b> Retention days for backups.</p> <p><b>Value range:</b> 0-732. <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>

**Table 4-38** nodes field data structure description

Parameter	Type	Description
id	String	<p><b>Explanation:</b> Node ID.</p> <p><b>Value range:</b> N/A</p>
name	String	<p><b>Explanation:</b> Node name.</p> <p><b>Value range:</b> N/A</p>

Parameter	Type	Description
role	String	<b>Explanation:</b> Node type. <b>Value range:</b> <b>master</b> (primary node) or <b>slave</b> (standby node)
status	String	<b>Explanation:</b> Node status. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>creating:</b> The node is being created.</li> <li>• <b>active</b> or <b>normal:</b> The node is normal.</li> <li>• <b>abnormal:</b> The node is abnormal.</li> <li>• <b>createfail:</b> The node failed to be created.</li> <li>• <b>enlargefail:</b> The node failed to be expanded.</li> <li>• <b>restarting:</b> The node is being restarted.</li> <li>• <b>resizing:</b> The node specifications are being changed.</li> <li>• <b>resizefailed:</b> The node specifications failed to be changed.</li> <li>• <b>data_disk_full:</b> The storage space is full.</li> </ul>
availability_zone	String	<b>Explanation:</b> AZ. <b>Value range:</b> N/A

**Table 4-39** related\_instance field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> ID of the associated instance. <b>Value range:</b> N/A

Parameter	Type	Description
type	String	<b>Explanation:</b> Type of the associated instance. <b>Value range:</b> <b>replica_of:</b> primary instance

**Table 4-40** chargeInfo field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	<b>Explanation:</b> Billing mode. <b>Value range:</b> <b>prePaid:</b> yearly/monthly billing

**Table 4-41** tags field data structure description

Parameter	Type	Description
key	String	<b>Explanation:</b> Tag key. <b>Value range:</b> N/A
value	String	<b>Explanation:</b> Tag value. <b>Value range:</b> N/A

 **NOTE**

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

- Example normal response

Query DB instances based on search criteria.

```
{
  "instances": [{
    "id": "ed7cc6166ec24360a5ed5c9c2ed726in01",
    "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.cn-
xianhz-1.mysql.rds.myhuaweicloud.com"],
    "public_ips": ["10.10.10.1"],
    "db_user_name": "root",
    "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
    "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
    "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
    "flavor_ref": "rds.mysql.s1.large",
    "switch_strategy": "",
    "backup_strategy": {
        "start_time": "19:00-20:00",
        "keep_days": 7
    },
    "maintenance_window": "02:00-06:00",
    "related_instance": [],
    "disk_encryption_id": "",
    "time_zone": "",
    "tags": [
        {
            "key": "rds001",
            "value": "001"
        },
        {
            "key": "rds002",
            "value": "002"
        }
    ]
    }],
    "total_count": 1
}

```

- Query all DB instances.

```

{
  "instances": [{
    "id": "ed7cc6166ec24360a5ed5c5c9c2ed726in01",
    "status": "ACTIVE",
    "name": "mysql-0820-022709-01",
    "port": 3306,
    "type": "Single",
    "region": "aaa",
    "datastore": {
      "type": "MySQL",
      "version": "5.7"
    },
    "created": "2018-08-20T02:33:49+0800",
    "updated": "2018-08-20T02:33:50+0800",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 100
    },
    "nodes": [{
      "id": "06f1c2ad57604ae89e153e4d27f4e4b8no01",

```

```
    "name": "mysql-0820-022709-01_node0",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "bbb"
  }],
  "alias": "description",
  "private_ips": ["192.168.0.1"],
  "private_dns_names": ["ed7cc6166ec24360a5ed5c5c9c2ed726in01.internal.cn-
xianhz-1.mysql.rds.myhuaweicloud.com"],
  "public_ips": ["10.10.10.1"],
  "db_user_name": "root",
  "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
  "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
  "security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
  "flavor_ref": "rds.mysql.s1.large",
  "cpu": "2",
  "mem": "4",
  "switch_strategy": "",
  "backup_strategy": {
    "start_time": "19:00-20:00",
    "keep_days": 7
  },
  "maintenance_window": "02:00-06:00",
  "related_instance": [],
  "disk_encryption_id": "",
  "time_zone": "",
  "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": "5.6"
  },
  "created": "2019-08-20T02:33:49+0800",
  "updated": "2019-08-20T02:33:50+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.cn-
xianhz-1.mysql.rds.myhuaweicloud.com"],
  "public_ips": ["10.10.10.1"],
  "db_user_name": "root",
  "vpc_id": "b21630c1-e7d3-450d-907d-39ef5f445ae7",
  "subnet_id": "45557a98-9e17-4600-8aec-999150bc4eef",
```



```
"security_group_id": "38815c5c-482b-450a-80b6-0a301f2afd97",
"flavor_ref": "rds.mysql.s1.large",
  "cpu": "2",
  "cpu": "4",
"switch_strategy": "",
"backup_strategy": {
  "start_time": "19:00-20:00",
  "keep_days": 7
},
"maintenance_window": "02:00-06:00",
"related_instance": [],
"disk_encryption_id": "",
"time_zone": "",
  "tags": [
    {
      "key": "rds001",
      "value": "001"
    },
    {
      "key": "rds002",
      "value": "002"
    }
  ],
  "associated_with_ddm": false
}],
"total_count": 2
}
```

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

## Status Code

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

## 4.1.8 Upgrading the Minor Version of a DB Instance

### Function

This API is used to upgrade the minor version of a DB instance.

### URI

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

**Table 4-42** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

**Table 4-43** Parameters

Parameter	Mandatory	Type	Description
is_delayed	No	Boolean	<p><b>Explanation:</b> Upgrade mode.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> <b>false</b> (default): The instance is upgraded immediately.</p> <p><b>Default value:</b> false</p>

## 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 4-44** Parameters

Parameter	Type	Description
job_id	String	<b>Explanation:</b> Task ID. <b>Value range:</b> N/A

- 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](#).

## 4.1.9 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 FlexusRDS. 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.

### Constraints

The password cannot be reset if the DB instance is in any of the following statuses: creating, rebooting, upgrading, changing instance class, creating users, or deleting users.

## URI

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

**Table 4-45** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

**Table 4-46** Parameters

Parameter	Mandatory	Type	Description
db_user_pwd	Yes	String	<p><b>Explanation:</b> Database password.</p> <p><b>Constraints:</b> You are advised to enter a strong password to improve security, preventing security risks such as brute force cracking.</p> <p><b>Value range:</b> 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. The allowed special characters include ~!@#\$%^*-_+=?,&amp;().</p> <p><b>Default value:</b> N/A</p>

## Example Request

Reset the password for user **root**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsdfsae3435in01/
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](#).

## 4.2 Backup and Restoration

### 4.2.1 Creating a Manual Backup

#### Function

This API is used to create a manual backup.

#### Constraints

The backup name must be unique.

#### URI

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

**Table 4-47** Parameters

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

## Request

**Table 4-48** Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<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>
name	Yes	String	<p><b>Explanation:</b> Backup name.</p> <p><b>Constraints:</b> The backup name must be unique.</p> <p><b>Value range:</b> It must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).</p> <p><b>Default value:</b> N/A</p>
description	No	String	<p><b>Explanation:</b> Backup description.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> It contains a maximum of 256 characters and cannot contain the special characters &gt;! &lt;"&amp;'=.</p> <p><b>Default value:</b> N/A</p>

## Example Request

Create a manual backup named **mybackup** for a FlexusRDS instance.

POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/backups

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

## Response

- Normal response

**Table 4-49** Parameters

Parameter	Type	Description
backup	Object	<b>Explanation:</b> Backup information. For details, see <a href="#">Table 4-50</a> .

**Table 4-50** backup field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> Backup ID. <b>Value range:</b> N/A
instance_id	String	<b>Explanation:</b> Instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Backup name. <b>Value range:</b> It must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).



Parameter	Type	Description
description	String	<p><b>Explanation:</b> Backup description.</p> <p><b>Value range:</b> It contains a maximum of 256 characters and cannot contain the special characters &gt;! &lt;"&amp;'=.</p>
begin_time	String	<p><b>Explanation:</b> 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.</p> <p><b>Value range:</b> N/A</p>
status	String	<p><b>Explanation:</b> Backup status.</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> <li>● <b>DELETING:</b> backup being deleted</li> </ul>
type	String	<p><b>Explanation:</b> Backup type.</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>

- Example normal response

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

- Abnormal response

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

## Status Code

- Normal  
200

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

## 4.2.2 Obtaining Backups

### Function

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

### Constraints

This API supports queries of full and incremental backups of a DB instance.

### 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 4-51** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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	String	<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>

Parameter	Mandatory	Type	Description
backup_type	No	String	<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	String	<p><b>Explanation:</b> Backup status.</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	Integer	<p><b>Explanation:</b> Index offset.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</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 cannot be a negative number.</p> <p><b>Default value:</b> 0</p>

Parameter	Mandatory	Type	Description
limit	No	Integer	<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>
begin_time	No	String	<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>

Parameter	Mandatory	Type	Description
end_time	No	String	<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 Parameters

None

## Example Request

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

## Response

- Normal response

**Table 4-52** Parameters

Parameter	Type	Description
backups	Array of objects	<p><b>Explanation:</b> Backup list. For details, see <a href="#">Table 4-53</a>.</p>
total_count	Integer	<p><b>Explanation:</b> Total number of records.</p> <p><b>Value range:</b> N/A</p>

**Table 4-53** backups field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> Backup ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Backup name. <b>Value range:</b> N/A
type	String	<b>Explanation:</b> 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> Backup size, in KB. <b>Value range:</b> N/A
status	String	<b>Explanation:</b> 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>

Parameter	Type	Description
begin_time	String	<p><b>Explanation:</b> 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 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 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>
end_time	String	<p><b>Explanation:</b> 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 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> Database version. For details, see <a href="#">Table 4-54</a>.</p>
instance_id	String	<p><b>Explanation:</b> ID of the instance for which the backup is created.</p> <p><b>Value range:</b> N/A</p>



Parameter	Type	Description
associated_with_ddm	Boolean	<b>Explanation:</b> Whether this instance is associated with a DDM instance. <b>Value range:</b> N/A

**Table 4-54** datastore field data structure description

Parameter	Type	Description
type	String	<b>Explanation:</b> DB engine. <b>Value range:</b> MySQL
version	String	<b>Explanation:</b> DB engine version. <b>Value range:</b> 5.7 or 8.0

- Example normal response

```
{
  "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
}
```

- Abnormal response

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

## Status Code

- Normal

200

- Abnormal

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

## 4.2.3 Deleting a Manual Backup

### Function

This API is used to delete a manual backup.

### URI

- URI format  
DELETE /v3/{project\_id}/backups/{backup\_id}
- Parameter description

**Table 4-55** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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>
backup_id	Yes	String	<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>

### 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](#).

## 4.2.4 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 4-56](#).

### URI

- URI format  
GET /v3/{project\_id}/instances/{instance\_id}/restore-time?date=2020-12-26
- Parameter description

**Table 4-56** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	Type	Description
instance_id	Yes	String	<b>Explanation:</b> Instance ID. <b>Constraints:</b> N/A <b>Value range:</b> N/A <b>Default value:</b> N/A
date	No	String	<b>Explanation:</b> Date to be queried. The value is in the "yyyy-mm-dd" format, and the time zone is UTC. <b>Constraints:</b> N/A <b>Value range:</b> N/A <b>Default value:</b> N/A

## Request

- Request parameters  
None
- URI example
  - Query all restoration time ranges of an instance.  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/restore-time
  - Query the restoration time range based on a specified date.  
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/restore-time?date=2020-12-26

## Response

- Normal response

**Table 4-57** Parameters

Parameter	Type	Description
restore_time	Array of objects	<b>Explanation:</b> Restoration time ranges. For details, see <a href="#">Table 4-58</a> .

**Table 4-58** restore\_time field data structure description

Parameter	Type	Description
start_time	Integer	<b>Explanation:</b> Start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC. <b>Value range:</b> N/A
end_time	Integer	<b>Explanation:</b> End time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC. <b>Value range:</b> N/A

- 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](#).

## 4.2.5 Restoring Data to a New DB Instance

### Function

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

## Constraints

- The DB engine of the original DB instance must be the same as that of the target DB instance. For example, if the original DB instance is running MySQL, the target DB instance must also run MySQL.
- The DB engine versions of the original and target DB instances must be the same.
- The storage space 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 4-59** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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>

## Request

**Table 4-60** Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	<p><b>Explanation:</b> Instance name.</p> <p><b>Constraints:</b> Instances of the same type can have the same name under the same tenant.</p> <p><b>Value range:</b> The instance name must start with a letter and consist of 4 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
password	No	String	<p><b>Explanation:</b> Database password.</p> <p><b>Constraints:</b> 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> <p><b>Value range:</b> 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. The allowed special characters include ~!@#\$\$%^*_-=+?, ()&amp;.</p> <p><b>Default value:</b> N/A</p>



Parameter	Mandatory	Type	Description
flavor_ref	Yes	String	<p><b>Explanation:</b> Specification code.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">spec_code</a> in <a href="#">Table 4-18</a> of <a href="#">Querying Database Specifications</a>.</p> <p><b>Default value:</b> N/A</p>
volume	Yes	Object	<p><b>Explanation:</b> Instance storage. For details, see <a href="#">Table 4-63</a>.</p> <p><b>Constraints:</b> N/A</p>
availability_zone	Yes	String	<p><b>Explanation:</b> AZ ID.</p> <p><b>Constraints:</b> 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 (,).</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a>.</p> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
restore_point	Yes	Object	<p><b>Explanation:</b> Restoration information. For details, see <a href="#">Table 4-64</a>.</p> <p><b>Constraints:</b> N/A</p>
ha	No	Object	<p><b>Explanation:</b> HA configuration. For details, see <a href="#">Table 4-61</a>.</p> <p><b>Constraints:</b> This parameter is used only when you create a primary/standby instance.</p>
port	No	String	<p><b>Explanation:</b> Database port.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• If this parameter is not specified, the default value is <b>3306</b>.</li> <li>• If this parameter is specified, the value range is from 1024 to 65535 (excluding 12017 and 33071, which are occupied by the RDS system and cannot be used).</li> </ul> <p><b>Default value:</b> 3306</p>

Parameter	Mandatory	Type	Description
backup_strategy	No	Object	<p><b>Explanation:</b> Advanced backup policy. For details, see <a href="#">Table 4-62</a>.</p> <p><b>Constraints:</b> N/A</p>
region	No	String	<p><b>Explanation:</b> Region ID.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. For details, see <a href="#">Regions and Endpoints</a>.</p> <p><b>Default value:</b> N/A</p>
charge_info	Yes	Object	<p><b>Explanation:</b> Yearly/Monthly billing information. For details, see <a href="#">Table 4-65</a>.</p> <p><b>Constraints:</b> N/A</p>

Parameter	Mandatory	Type	Description
time_zone	No	String	<p><b>Explanation:</b> UTC time zone.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• If this parameter is not specified, the UTC time is used by default.</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 value can be UTC+08:00 rather than UTC+08:30.</li> </ul> <p><b>Default value:</b> UTC+08:00</p>

Parameter	Mandatory	Type	Description
tags	No	Array of objects	<p><b>Explanation:</b> Tag list. Each DB instance can be associated with tag key-value pairs while being created. For details, see <a href="#">Table 4-66</a>.</p> <p><b>Constraints:</b> 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 for an instance.</p>
is_flexus	Yes	boolean	<p><b>Explanation:</b> Whether to create a FlexusRDS instance.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> true</p> <p><b>Default value:</b> N/A</p>

**Table 4-61** ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	<p><b>Explanation:</b> Instance type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> HA (case-insensitive)</p> <p><b>Default value:</b> N/A</p>
replication_mode	Yes	String	<p><b>Explanation:</b> Replication mode for the standby instance.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>async:</b> asynchronous replication</li> <li>• <b>semisync:</b> semi-synchronous replication</li> </ul> <p><b>Default value:</b> N/A</p>

**Table 4-62** backup\_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	<p><b>Explanation:</b> Backup time window. Automated backups will be triggered during the backup time window.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is the UTC time.</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 <b>00</b>, <b>15</b>, <b>30</b>, or <b>45</b>.</li> </ul> <p>Example:</p> <ul style="list-style-type: none"> <li>• 08:15-09:15</li> <li>• 23:00-00:00</li> </ul> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
keep_days	No	Integer	<p><b>Explanation:</b> Retention days for backups.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• If this parameter is not specified, the default value <b>7</b> is used.</li> <li>• If this parameter is specified, the value range is from 0 to 732. <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.</li> </ul> <p><b>Default value:</b> 7</p>



**Table 4-63** volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p><b>Explanation:</b> Storage type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> <b>CLOUDSSD</b> (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.</p> <p><b>Default value:</b> N/A</p>
size	Yes	Integer	<p><b>Explanation:</b> Storage space.</p> <p><b>Constraints:</b> The storage space of the new DB instance must be greater than or equal to that of the original DB instance.</p> <p><b>Value range:</b> 40–4000, in GB. The value must be a multiple of 10.</p> <p><b>Default value:</b> N/A</p>

**Table 4-64** restore\_point field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	<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>
type	Yes	String	<p><b>Explanation:</b> Restoration mode.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <ul style="list-style-type: none"> <li>• <b>backup:</b> indicates restoration from backups. In this mode, <b>backup_id</b> is mandatory when <b>type</b> is not mandatory.</li> <li>• <b>timestamp:</b> indicates point-in-time restoration. In this mode, <b>restore_time</b> is mandatory when <b>type</b> is mandatory.</li> </ul> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
backup_id	No	String	<p><b>Explanation:</b> ID of the backup used to restore data. This parameter must be specified when backups are used for restoration.</p> <p><b>Constraints:</b> When <b>type</b> is not mandatory, <b>backup_id</b> is mandatory.</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>
restore_time	No	Integer	<p><b>Explanation:</b> Time point of data restoration in the UNIX timestamp format. The unit is millisecond and the time zone is UTC.</p> <p><b>Constraints:</b> When <b>type</b> is mandatory, <b>restore_time</b> is mandatory.</p> <p><b>Value range:</b> N/A</p> <p><b>Default value:</b> N/A</p>

**Table 4-65** charge\_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	<p><b>Explanation:</b> Billing mode.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> <b>prePaid:</b> yearly/monthly billing</p> <p><b>Default value:</b> N/A</p>
period_type	Yes	String	<p><b>Explanation:</b> Subscription type.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></p> <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>Default value:</b> N/A</p>
period_num	No	Integer	<p><b>Explanation:</b> Subscription period.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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>.</li> </ul> <p><b>Default value:</b> N/A</p>

Parameter	Mandatory	Type	Description
is_auto_renew	No	boolean	<p><b>Explanation:</b> 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.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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> <p><b>Default value:</b> false</p>
is_auto_pay	No	boolean	<p><b>Explanation:</b> Whether the order will be automatically paid. This parameter does not affect the payment method of automatic renewal.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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> <p><b>Default value:</b> false</p>

**Table 4-66** tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	<p><b>Explanation:</b> Tag key.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value 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	Yes	String	<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>

## Example Request

- Restore data to a new instance from FlexusRDS backups.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "targetInst",
  "availability_zone": "bbb,ccc",
  "ha": {
    "mode": "ha",
    "replication_mode": "async"
  },
  "flavor_ref": "rds.mysql.y1.xlarge.2.ha",
  "volume": {
    "type": "CLOUDSSD",
    "size": 40
  },
  "region": "aaa",
  "backup_strategy": {
    "keep_days": 2,
    "start_time": "19:00-20:00"
  },
}
```

```
"password": "Demo@12345678",
"time_zone": "UTC+04:00",
"restore_point": {
  "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
  "type": "backup",
  "backup_id": "2f4ddb93-b901-4b08-93d8-1d2e472f30fe"
}
}
```

- Restore data of a FlexusRDS instance to a specific point in time.

```
{
  "name": "targetInst",
  "availability_zone": "bbb,ccc",
  "ha": {
    "mode": "ha",
    "replication_mode": "async"
  },
  "flavor_ref": "rds.mysql.y1.xlarge.2.ha",
  "volume": {
    "type": "CLOUDSSD",
    "size": 40
  },
  "backup_strategy": {
    "keep_days": 2,
    "start_time": "19:00-20:00"
  },
  "password": "Demo@12345678",
  "time_zone": "UTC+04:00",
  "restore_point": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin01",
    "type": "timestamp",
    "restore_time": 1532001446987
  }
}
```

## Response

- Normal response

**Table 4-67** Parameters

Parameter	Type	Description
instance	Object	<b>Explanation:</b> Instance information. For details, see <a href="#">Table 4-68</a> .
job_id	String	<b>Explanation:</b> Instance creation task ID. This parameter is returned only for the restoration to a new DB instance billed on the pay-per-use basis. <b>Value range:</b> N/A

**Table 4-68** instance description

Parameter	Type	Description
id	String	<b>Explanation:</b> Instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Instance name. Instances of the same type can have the same name under the same tenant. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
status	String	<b>Explanation:</b> Instance status. <b>Value range:</b> <b>BUILD:</b> indicates that the instance is being created.
datastore	Object	<b>Explanation:</b> Database information. For details, see <a href="#">Table 4-69</a> .
ha	Object	<b>Explanation:</b> HA configuration. This parameter is returned only when primary/standby instances are created. For details, see <a href="#">Table 4-70</a> .
port	String	<b>Explanation:</b> Database port. <b>Value range:</b> The value is the same as that of the corresponding request parameter.



Parameter	Type	Description
backup_strategy	Object	<b>Explanation:</b> Automated backup policy. For details, see <a href="#">Table 4-71</a> .
flavor_ref	String	<b>Explanation:</b> Specification ID. For details, see <b>spec_code</b> in <a href="#">Table 4-18</a> of <a href="#">Querying Database Specifications</a> .
volume	Object	<b>Explanation:</b> Volume information. For details, see <a href="#">Table 4-72</a> .
region	String	<b>Explanation:</b> Region ID. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
availability_zone	String	<b>Explanation:</b> AZ ID. <b>Value range:</b> The value is the same as that of the corresponding request parameter.
vpc_id	String	<b>Explanation:</b> VPC ID. <b>Value range:</b> vpc-default-smb
subnet_id	String	<b>Explanation:</b> Subnet ID. <b>Value range:</b> subnet-default-smb

Parameter	Type	Description
security_group_id	String	<b>Explanation:</b> Security group which the instance is associated with. <b>Value range:</b> sg-default-smb
charge_info	Object	<b>Explanation:</b> Billing information. For details, see <a href="#">Table 4-65</a> .

**Table 4-69** datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<b>Explanation:</b> DB engine. <b>Value range:</b> MySQL
version	Yes	String	<b>Explanation:</b> DB engine version. <b>Value range:</b> 5.7 or 8.0

**Table 4-70** ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	<b>Explanation:</b> Instance type. <b>Value range:</b> HA (case-insensitive)

Parameter	Mandatory	Type	Description
replication_mode	Yes	String	<b>Explanation:</b> Replication mode for the standby instance. <b>Value range:</b> <ul style="list-style-type: none"><li>• <b>async:</b> asynchronous replication</li><li>• <b>semisync:</b> semi-synchronous replication</li></ul>

**Table 4-71** backupStrategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	<p><b>Explanation:</b> Backup time window. Automated backups will be triggered during the backup time window.</p> <p><b>Value range:</b> The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is the UTC time.</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 <b>00, 15, 30,</b> or <b>45.</b></li> </ul> <p>Example:</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	Mandatory	Type	Description
keep_days	No	Integer	<p><b>Explanation:</b> Retention days for backups.</p> <p><b>Value range:</b> 0–732. <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>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 4-72** volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	<p><b>Explanation:</b> Storage type.</p> <p><b>Value range:</b> <b>CLOUDSSD</b> (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.</p>

Parameter	Mandatory	Type	Description
size	Yes	Integer	<b>Explanation:</b> Storage space. <b>Value range:</b> 40–4000, in GB. The value must be a multiple of 10.

 **NOTE**

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

- Example normal response

Restore data to a new instance from FlexusRDS backups.

```
{
  "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"
}
```

- Abnormal response

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

## Status Code

- Normal

202

- Abnormal

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

## 4.2.6 Querying Tables That Can Be Restored to a Specified Point in Time

### Function

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

### URI

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

**Table 4-73** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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>
engine	Yes	String	<p><b>Explanation:</b> DB engine.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> mysql (case-insensitive)</p> <p><b>Default value:</b> N/A</p>

### Request

- Parameter description

**Table 4-74** Parameters

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	<b>Explanation:</b> Instance IDs. <b>Constraints:</b> N/A
restore_time	Yes	Long	<b>Explanation:</b> Restoration time point. <b>Constraints:</b> N/A <b>Value range:</b> N/A <b>Default value:</b> N/A
database_name_like	No	String	<b>Explanation:</b> Database name, which can be used for fuzzy search. <b>Constraints:</b> N/A <b>Value range:</b> The value can contain 1 to 64 characters. Only letters, digits, dollar signs (\$), hyphens (-), periods (.), and underscores (_) are allowed. <b>Default value:</b> N/A
table_name_like	No	String	<b>Explanation:</b> Table name, which can be used for fuzzy search. <b>Constraints:</b> N/A <b>Value range:</b> The value cannot contain the characters ' " \ /. <b>Default value:</b> N/A



Parameter	Mandatory	Type	Description
instance_name_like	No	String	<p><b>Explanation:</b> Instance name, which can be used for fuzzy query.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b> The value can contain 1 to 64 characters. Only letters, digits, hyphens (-), periods (.), and underscores (_) are allowed.</p> <p><b>Default value:</b> N/A</p>

- Example request

```
POST https://{Endpoint}/v3/4879de6859e345c780f1a22d8bc6f229/mysql/instances/history/tables
{
  "instance_ids": [ "e38d120bb5a640519fb2a1613140afd9in01" ],
  "restore_time": 1688554112000,
  "database_name_like": "",
  "table_name_like": "",
  "instance_name_like": ""
}
```

## Response

- Normal response

**Table 4-75** Parameters

Parameter	Type	Description
table_limit	Integer	<p><b>Explanation:</b> Maximum number of tables that can be restored.</p> <p><b>Value range:</b> N/A</p>
instances	Array of objects	<p><b>Explanation:</b> Instance information. For details, see <a href="#">Table 4-76</a>.</p>

**Table 4-76** instances field data structure description

Parameter	Type	Description
id	String	<b>Explanation:</b> Instance ID. <b>Value range:</b> N/A
name	String	<b>Explanation:</b> Instance name. <b>Value range:</b> N/A
total_tables	Integer	<b>Explanation:</b> Number of tables that can be restored. <b>Value range:</b> N/A
databases	Array of objects	<b>Explanation:</b> Database information. For details, see <a href="#">Table 4-77</a> .

**Table 4-77** database field data structure description

Parameter	Type	Description
name	String	<b>Explanation:</b> Schema name. <b>Value range:</b> N/A
total_tables	Integer	<b>Explanation:</b> Number of tables that can be restored. <b>Value range:</b> N/A
tables	Array of objects	<b>Explanation:</b> Table information. For details, see <a href="#">Table 4-78</a> .

**Table 4-78** tables field data structure description

Parameter	Type	Description
name	String	<b>Explanation:</b> Table name. <b>Value range:</b> N/A

- Example normal response

```
{
  "instances": [
    {
      "id": "e38d120bb5a640519fb2a1613140afd9in01",
      "name": "rds-abc",
      "total_tables": 1,
      "databases": [
        {
          "name": "test",
          "total_tables": 1,
          "tables": [
            {
              "name": "t1"
            }
          ]
        }
      ]
    }
  ],
  "table_limit": 2000
}
```

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

## Status Code

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

## 4.3 Parameter Management

### 4.3.1 Modifying Parameters of a Specified DB Instance

#### Function

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

#### URI

- URI format

PUT /v3/{project\_id}/instances/{instance\_id}/configurations

- Parameter description

**Table 4-79** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

**Table 4-80** Parameters

Parameter	Mandatory	Type	Description
values	Yes	Map<String,String>	<p><b>Explanation:</b> Parameter values defined by users based on a default parameter template.</p> <p><b>Constraints:</b> N/A</p> <p><b>Value range:</b></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> <p><b>Default value:</b> N/A</p>

## Example Request

Modify parameters of a specified instance.

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

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

## Response

- Normal response

**Table 4-81** Parameters

Parameter	Type	Description
job_id	String	<b>Explanation:</b> Task ID. <b>Value range:</b> N/A
restart_required	Boolean	<b>Explanation:</b> Whether a reboot is required. <b>Value range:</b> <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	<b>Explanation:</b> 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> . <b>Value range:</b> N/A

- 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](#).

## 4.3.2 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.

### URI

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

**Table 4-82** Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	<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	String	<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

- Request parameters  
None
- URI example

GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/configurations

## Response

- Normal response

**Table 4-83** Parameters

Parameter	Type	Description
datastore_version_name	String	<b>Explanation:</b> Database version name. <b>Value range:</b> N/A
datastore_name	String	<b>Explanation:</b> Database name. <b>Value range:</b> N/A
created	String	<b>Explanation:</b> 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> . <b>Value range:</b> N/A
updated	String	<b>Explanation:</b> 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> . <b>Value range:</b> N/A
configuration_parameters	Array of objects	<b>Explanation:</b> Parameters defined by users based on a default parameter template. For details, see <a href="#">Table 4-84</a> .



**Table 4-84** configuration\_parameters field data structure description

Parameter	Type	Description
name	String	<b>Explanation:</b> Parameter name. <b>Value range:</b> N/A
value	String	<b>Explanation:</b> Parameter value. <b>Value range:</b> N/A
restart_required	Boolean	<b>Explanation:</b> Whether a reboot is required. <b>Value range:</b> <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	<b>Explanation:</b> Whether the parameter is read-only. <b>Value range:</b> <ul style="list-style-type: none"> <li>• <b>false:</b> The parameter is not read-only.</li> <li>• <b>true:</b> The parameter is read-only.</li> </ul>
value_range	String	<b>Explanation:</b> Parameter value range. <b>Value range:</b> For example, if the parameter 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	<b>Explanation:</b> Parameter type. <b>Value range:</b> The value can be <b>string</b> , <b>integer</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .
description	String	<b>Explanation:</b> Parameter description. <b>Value range:</b> N/A

- 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](#).

# 5 Appendix

## 5.1 Abnormal Request Results

### Abnormal response description

**Table 5-1** Abnormal response description

Parameter	Type	Description
error_code	String	Specifies the error returned when a task submission exception occurs.
error_msg	String	Specifies the description of the error returned when a task submission exception occurs.

### Response example

```
{  
  "error_code": "DBS.200022",  
  "error_msg": "The DB instance name already exists."  
}
```

## 5.2 Status Codes

[Table 5-2](#) describes status codes.

**Table 5-2** Status codes

Status Code	Message	Description
100	Continue	The client should continue with its request. This interim response is used to inform the client that the initial part of the request has been received and has not yet been rejected by the server.
101	Switching Protocols	The protocol should be switched. The protocol can only be switched to a more advanced protocol. For example, the current HTTP protocol is switched to a later version.
200	OK	Request succeeded.
201	Created	The request for creating a resource or task has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Unauthorized information. The request is successful.
204	NoContent	The server has successfully processed the request, but has not returned any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
300	Multiple Choices	There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which the user or user agent (such as a browser) can choose the most appropriate one.
301	Moved Permanently	The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.
302	Found	The requested resource was temporarily moved.
303	See Other	The response to the request can be found under a different URI and should be retrieved using a GET or POST method.

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.

## 5.3 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
    }
  ]
}
```

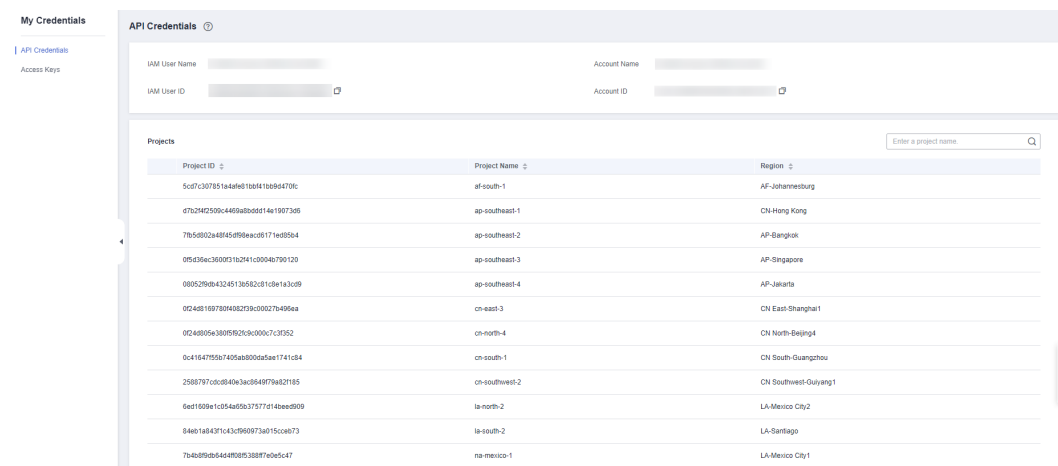
```
    }  
  ],  
  "links": {  
    "next": null,  
    "previous": null,  
    "self": "https://www.example.com/v3/projects"  
  }  
}
```

## 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 5-1 Viewing project IDs



----End



# A Change History

---

Release Date	Description
2024-07-30	This issue is the first official release.