

FlexusRDS

API Reference

Issue	01
Date	2025-12-15



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1 Before You Start

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.

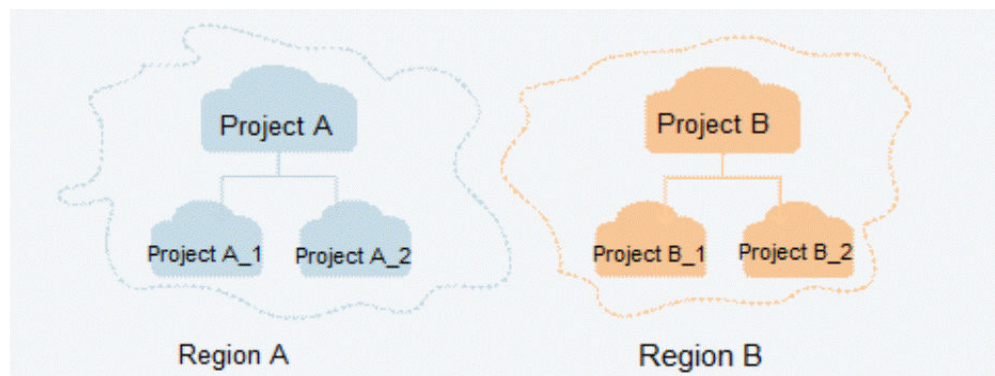
1.3 Constraints

- 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.

1.4 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 instances, back up and restore data, and modify parameters.

Type	Description
Querying Database Specifications	Query the DB specifications of a specified DB engine version.
DB Instance Management	Create a DB instance, adjust instance specifications, reboot a DB instance, obtain a DB instance list, and obtain instance details.
Backup and Restoration	Create and delete manual backups, and restore data to a new instance.
Parameter Management	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 Regions and Endpoints . For example, the endpoint of IAM in the CN-Hong Kong region is iam.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.

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

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

NOTE

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

Request Methods

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

Table 3-2 HTTP methods

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

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

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

Request Header

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

Table 3-3 lists common request header fields.

Table 3-3 Common request headers

Name	Description	Mandatory	Example
Host	Specifies the requested server information, which can be obtained from the URL of the service API. The value is in the <i>hostname[:port]</i> format. If the port number is not specified, the default port is used. The default port number for https is 443 .	No This parameter is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the MIME type of the request body. You are advised to use the default value application/json . For APIs used to upload objects or images, the value can vary depending on the flow type.	Yes	application/json
Content-Length	Specifies the length of the request body. The unit is byte.	No	3495
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No This parameter is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cb aa340f9c0f4

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

 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
```

(Optional) Request Body

The body of a request is often sent in a structured format (JSON or XML) as specified in the **Content-Type** header field. The request body transfers content except the request header. 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: ABCDEFG....
```

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 → MIIYXQYJKoZIhvcNAQcCoIIYJCCEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC.
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkjACgklQ01wi4JlGzrpd18LGXK5tdfdq4lqHCYb8P4NaY0NYejcAgzIVeFYtLWT1GSO0zxKZmlQHjQ82HBqHdglZO9fuEbl5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jqglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozvOvN--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

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](#).

Authorization Information

- Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.
- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
 - If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:create	write	-	-	-	-

URI

- URI format
POST /v3/{project_id}/instances

- Parameter description

Table 4-1 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request

Table 4-2 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Instance name. Constraints Instances of the same type can have the same name under the same tenant. Range 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. Default Value N/A

Parameter	Mandatory	Type	Description
datastore	Yes	Object	Definition Database information. For details, see Table 4-3 . Constraints N/A
flavor_ref	Yes	String	Definition Specification code. Constraints N/A Range The value cannot be empty. For details, see spec_code in Table 4-18 of Querying Database Specifications . Default Value N/A
volume	Yes	Object	Definition Instance storage. For details, see Table 4-6 . Constraints N/A
region	Yes	String	Definition Region ID. Constraints N/A Range The value cannot be empty. For details, see Regions and Endpoints . Default Value N/A

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	Definition AZ ID. Constraints 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 (,). Range The value cannot be empty. For details, see Regions and Endpoints . Default Value N/A
ha	No	Object	Definition HA configuration. For details, see Table 4-4 . Constraints This parameter is used only when you create a primary/standby instance.

Parameter	Mandatory	Type	Description
port	No	String	Definition Database port. Constraints N/A Range • If this parameter is not specified, the default value is 3306. • 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). Default Value 3306

Parameter	Mandatory	Type	Description
password	No	String	Definition Database password. Constraints Enter a strong password to improve security and prevent security risks such as brute force cracking. If the password you provide is considered weak, the system will prompt you to enter a stronger one. Range 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 ~!@#\$%^*_+=+?,()&. Default Value N/A
backup_strategy	No	Object	Definition Advanced backup policy. For details, see Table 4-5 . Constraints N/A
charge_info	Yes	Object	Definition Yearly/Monthly billing information. For details, see Table 4-7 . Constraints N/A

Parameter	Mandatory	Type	Description
time_zone	No	String	Definition UTC time zone. Constraints N/A Range - If this parameter is not specified, the UTC time is used by default. - If this parameter is specified, the value range is from UTC-12:00 to UTC+12:00 on the hour. For example, the value can be UTC+08:00 rather than UTC+08:30. Default Value UTC+08:00
tags	No	Array of objects	Definition Tag list. Each DB instance can be associated with tag key-value pairs while being created. For details, see Table 4-8 . Constraints 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.

Parameter	Mandatory	Type	Description
is_flexus	Yes	boolean	Definition Whether to create a FlexusRDS instance. Constraints N/A Range true Default Value N/A

Table 4-3 datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Definition DB engine. Constraints N/A Range MySQL Default Value N/A
version	Yes	String	Definition DB engine version. Constraints N/A Range 5.7 or 8.0 Default Value N/A

Table 4-4 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Definition Instance type. Constraints N/A Range HA (case-insensitive) Default Value N/A
replication_mode	Yes	String	Definition Replication mode for the standby instance. Constraints N/A Range • async: asynchronous replication • semisync: semi-synchronous replication Default Value N/A

Table 4-5 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Definition Backup time window. Automated backups will be triggered during the backup time window. Constraints N/A Range 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. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00, 15, 30, or 45. Example: • 08:15-09:15 • 23:00-00:00 Default Value N/A

Parameter	Mandatory	Type	Description
keep_days	No	Integer	Definition Retention days for backups. Constraints N/A Range - If this parameter is not specified, the default value 7 is used. - If this parameter is specified, the value range is from 0 to 732. 0 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. Default Value 7

Table 4-6 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Definition Storage type. Constraints N/A Range CLOUDSSD (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances. Default Value N/A

Parameter	Mandatory	Type	Description
size	Yes	Integer	Definition Storage space. Constraints N/A Range 40–4000, in GB. The value must be a multiple of 10. Default Value N/A

Table 4-7 charge_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Constraints N/A Range prePaid : yearly/monthly billing Default Value N/A
period_type	Yes	String	Definition Subscription type. Constraints N/A Range month: monthly subscription. year: yearly subscription. Default Value N/A

Parameter	Mandatory	Type	Description
period_num	Yes	Integer	Definition Subscription period. Constraints N/A Range - When period_type is set to month, the parameter value ranges from 1 to 9. - When period_type is set to year, the parameter value ranges from 1 to 3. Default Value N/A
is_auto_renew	No	boolean	Definition 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. Constraints N/A Range true: indicates that automatic renewal is enabled. false: indicates that automatic renewal is disabled. The default value is false. Default Value false

Parameter	Mandatory	Type	Description
is_auto_pay	No	boolean	Definition Whether the order will be automatically paid. This parameter does not affect the payment method of automatic renewal. Constraints N/A Range • true: indicates the order will be automatically paid. • false: indicates the order will be manually paid. The default value is false. Default Value false

Table 4-8 tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Constraints N/A Range It must consist of 1 to 128 Unicode characters. It can contain letters, digits, spaces, and special characters <code>_</code> , <code>:</code> , <code>=</code> , <code>+</code> , <code>-</code> , <code>@</code> . However, it cannot start or end with a space, or start with <code>_sys_</code> . Default Value N/A

Parameter	Mandatory	Type	Description
value	Yes	String	Definition Tag value. Constraints N/A Range It can be left blank or contain a maximum of 255 Unicode characters. It can contain letters, digits, spaces, and special characters <code>_:=+-.@</code> . Default Value N/A

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	Definition Instance information. For details, see Table 4-10 .
order_id	String	Definition Order ID. Range N/A

Table 4-10 instance field data structure description

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

Parameter	Type	Description
backup_strategy	Object	Definition Automated backup policy. For details, see Table 4-13 .
flavor_ref	String	Definition Specification code. Range The value is the same as that of the corresponding request parameter.
volume	Object	Definition Volume information. For details, see Table 4-14 .
region	String	Definition Region ID. Range The value is the same as that of the corresponding request parameter.
availability_zone	String	Definition AZ ID. Range The value is the same as that of the corresponding request parameter.
vpc_id	String	Definition VPC ID. Range vpc-default-smb
subnet_id	String	Definition Subnet ID. Range subnet-default-smb

Parameter	Type	Description
security_group_id	String	Definition Security group which the instance is associated with. Range sg-default-smb
charge_info	Object	Definition Billing information. For details, see Table 4-15 .

Table 4-11 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. Range MySQL
version	String	Definition DB engine version. Range 5.7 or 8.0

Table 4-12 ha field data structure description

Parameter	Type	Description
mode	String	Definition Instance type. Range HA (case-insensitive)
replication_mode	String	Definition Replication mode for the standby instance. Range • async: asynchronous replication • semisync: semi-synchronous replication

Table 4-13 backupStrategy field data structure description

Parameter	Type	Description
start_time	String	Definition Backup time window. Automated backups will be triggered during the backup time window. Range 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. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00, 15, 30, or 45. Example: • 08:15-09:15 • 23:00-00:00 If backup_strategy in the request body is empty, 02:00-03:00 is returned for start_time by default.
keep_days	Integer	Definition Retention days for backups. Range 0-732. 0 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. If backup_strategy in the request body is empty, 7 is returned for keep_days by default.

Table 4-14 volume field data structure description

Parameter	Type	Description
type	String	Definition Storage type. Range CLOUDSSD (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.
size	Integer	Definition Storage space. Range 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	Definition Billing mode. Range prePaid : yearly/monthly billing
period_num	Integer	Definition Subscription period. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:listFlavors	read	-	-	-	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Description
database_name	Yes	Definition DB engine. Constraints N/A Range MySQL (case-insensitive) Default Value N/A
version_name	No	Definition DB engine version. You can enter a minor version number. Constraints N/A Range N/A Default Value N/A
is_flexus	Yes	Definition Whether to query FlexusRDS instance specifications. Constraints N/A Range • true: Query FlexusRDS instance specifications. • false (default value): Query instance specifications other than FlexusRDS. Default Value false

Parameter	Mandatory	Description
spec_code	No	Definition Specification code. Constraints N/A Range - 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 - 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 Default Value N/A

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	Definition Instance specifications. For details, see Table 4-18 .

Table 4-18 flavors field data structure description

Parameter	Type	Description
vcpus	String	Definition Number of vCPUs. For example, the value 1 indicates 1 vCPU. Range N/A
ram	Integer	Definition Memory size in GB. Range N/A
id	String	Definition Specification ID, which is unique. Range N/A
spec_code	String	Definition Resource specification code, for example, rds.mysql.y1.xlarge.2.ha. Range • rds: RDS product • mysql: DB engine • y1.xlarge: performance specifications, which are lightweight specifications • ha: primary/standby instances
version_name	Array	Definition DB engine version.
instance_mode	String	Definition Instance type. Range • ha: indicates primary/standby instances. • single: indicates single-node instances.

Parameter	Type	Description
az_status	Map<String, String>	Definition Specification status in an AZ. Range • normal: indicates that the specification is available in the AZ. • unsupported: indicates that the specification is not supported by the AZ. • sellout: indicates that the specification is sold out in the AZ.
az_desc	Map<String, String>	Definition Description of the AZ to which the specification belongs. Range N/A
group_type	String	Definition FlexusRDS performance specifications. Range yunyao : lightweight Flexus

- 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 for MySQL Instance to an RDS Instance

Function

This API is used to change DB instance specifications.

NOTE

Workloads will be interrupted for 5 to 10 minutes when you change 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.)

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:modifySpecification	write	-	-	-	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-20 Parameters

Parameter	Mandatory	Type	Description
resize_flavor	Yes	Object	Definition Specification information. For details, see Table 4-21 . Constraints N/A

Table 4-21 resize_flavor field data structure description

Parameter	Mandatory	Type	Description
spec_code	Yes	String	Definition Resource specification code. Constraints N/A Range Example value: rds.mysql.y1.xlarge.2 . rds indicates the RDS product, mysql indicates the DB engine, and y1.xlarge indicates the lightweight performance specifications. Default Value N/A
is_auto_pay	No	Boolean	Definition Whether the order will be automatically paid. Constraints N/A Range • true: indicates the order will be automatically paid. • false: indicates the order will be manually paid. Default Value false

Parameter	Mandatory	Type	Description
is_delay	No	Boolean	Definition Whether to change the specifications at the scheduled time. Constraints N/A Range • true: The specifications will be changed in the maintenance window. • false: The specifications will be changed immediately upon the request submission. Default Value false

Example Request

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

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfda3435in01/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	Definition Order ID. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:setAutoEnlargePolicy	permission_management	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:instance:modifyDns	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-24 Parameters

Parameter	Mandatory	Type	Description
switch_option	Yes	Boolean	Definition Whether to enable autoscaling. Constraints N/A Range true: indicates that autoscaling will be enabled. false: indicates that autoscaling will be disabled. Default Value N/A
limit_size	No	Integer	Definition Upper limit for autoscaling, in GB. Constraints This parameter is mandatory when switch_option is set to true . Range 40 to 4000, in GB. The limit must be no less than the storage of the DB instance. Default Value N/A

Parameter	Mandatory	Type	Description
trigger_thres hold	No	Integer	Definition Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered. Constraints This parameter is mandatory when switch_option is set to true . Range Enumerated values: • 10 • 15 • 20 Default Value N/A
step_percent	No	Integer	Definition Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time. Constraints This parameter is available when switch_option is set to true and autoscaling increment customization is enabled. If this parameter is not specified, the default value 20% is used. Range 5%–50% Default Value 20%

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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:getAutoEnlargePolicy	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:instance:list	-

URI

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

- Parameter description

Table 4-25 Parameters

Parameter	Mandato ry	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value 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	Definition Whether to enable autoscaling. Range • true: Enable storage autoscaling. • false: Disable storage autoscaling.
limit_size	Integer	Definition Upper limit for autoscaling, in GB. Range 40–4000, in GB
trigger_threshold	Integer	Definition Threshold to trigger autoscaling. If the available storage drops to this threshold or 10 GB, autoscaling is triggered. Range Enumerated values: • 10 • 15 • 20
step_percent	Integer	Definition Autoscaling increment. It is the percentage of allocated storage that is automatically scaled up each time. Range 5%–50%

- 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:restart	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-28 Parameters

Parameter	Mandatory	Type	Description
restart	Yes	None	Definition Whether to reboot the instance. Range 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	Definition Task ID. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:listAll	read	-	-	rds:instance:list	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
id	String	No	Definition 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 (*). Constraints N/A Range N/A Default Value N/A

Parameter	Type	Mandatory	Description
name	String	No	Definition Instance name. The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*). Constraints N/A Range N/A Default Value N/A
type	String	No	Definition Instance type. Constraints N/A Range The value can be Single or Ha , indicating single-node instances or primary/standby instances, respectively. Default Value N/A
datastore_type	String	No	Definition DB engine. Constraints N/A Range MySQL (case-sensitive) Default Value N/A

Parameter	Type	Mandatory	Description
offset	Integer	No	Definition Index offset. Constraints N/A Range If offset is set to N , the resource query starts from the $N+1$ piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number. Default Value 0
limit	Integer	No	Definition Number of records to be queried. Constraints N/A Range The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . Default Value 100
tags	Array of objects	No	Definition Tag key-value pairs of the instance. For details, see Table 4-31 . Constraints To query instances with multiple tag keys and values, separate key-value pairs with commas (,). A maximum of 20 key-value pairs are supported.

Parameter	Type	Mandatory	Description
group_type	String	Yes	Definition Querying FlexusRDS instances. Constraints N/A Range flexus Default Value N/A

Table 4-31 tags field data structure description

Parameter	Type	Mandatory	Description
key	String	Yes	Definition Tag key. Constraints N/A Range 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> . Default Value N/A
value	String	No	Definition Tag value. Constraints N/A Range It can be left blank or contain a maximum of 255 Unicode characters. It can contain letters, digits, spaces, and special characters <code>_.:=-@</code> . Default Value N/A

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	Definition Instance information. For details, see Table 4-33 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-33 instances field data structure description

Parameter	Type	Description
id	String	Definition Instance ID. Range N/A
name	String	Definition Instance name. Range N/A

Parameter	Type	Description
status	String	Definition Instance status. Range • BUILD: The instance is being created. • ACTIVE: The instance is running properly. • FAILED: The instance is abnormal. • MODIFYING: The instance is being scaled out. • REBOOTING: The instance is being rebooted. • RESTORING: The instance is being restored. • BACKING UP: The instance is being backed up. • STORAGE FULL: The instance storage space is full.
alias	String	Definition Instance description. Range N/A
private_ips	List<String>	Definition Private IP addresses. It is a blank string until an instance is created.
private_dns_names	List<String>	Definition 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.
public_dns_names	List<String>	Definition Public domain names. After a DB instance is created, you need to manually apply for a public domain name, or the public domain name is left blank.
public_ips	List<String>	Definition Public IP addresses.

Parameter	Type	Description
port	Integer	Definition Database port. Range If this parameter is not specified, the default port number 3306 is used.
enable_ssl	Boolean	Definition Whether SSL is enabled for the instance. Range • true: SSL is enabled for the instance. • false: SSL is disabled for the instance.
type	String	Definition Instance type. Range The value can be Single or Ha , indicating single-node instances or primary/standby instances, respectively.
ha	Object	Definition HA information. This parameter is returned only for HA instances. For details, see Table 4-34 .
region	String	Definition Region where the instance is deployed. Range N/A
datastore	Object	Definition Database information. For details, see Table 4-35 .

Parameter	Type	Description
created	String	Definition Creation time. Range The value is in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, if the time zone offset is one hour, the value of Z is +0100 . The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.
updated	String	Definition Update time. Range The value is in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, if the time zone offset is one hour, the value of Z is +0100 . The value is empty when the DB instance is being created. After the DB instance is created, the value is not empty.
db_user_name	String	Definition Default username. Range N/A
vpc_id	String	Definition VPC ID. Range N/A
subnet_id	String	Definition Subnet ID. Range N/A

Parameter	Type	Description
security_group_id	String	Definition Security group ID. Range N/A
flavor_ref	String	Definition Specification code. Range N/A
cpu	String	Definition Number of vCPUs. For example, the value 1 indicates 1 vCPU. Range N/A
mem	String	Definition Memory size in GB. Range N/A
volume	Object	Definition Instance storage. For details, see Table 4-36 .
switch_strategy	String	Definition Database failover priority. Range The value can be reliability or availability , indicating that the reliability or availability is given priority during the failover, respectively.
db_read_only_from_tenant	String	Definition Whether the database is read-only. Range • true: The database is read-only. • false: The database is not read-only.

Parameter	Type	Description
read_only_by_user	Boolean	Definition Whether the instance is set to read-only. Range • true: The instance is set to read-only. • false: The instance is not set to read-only.
backup_strategy	Object	Definition Backup policy. For details, see Table 4-37 .
maintenance_window	String	Definition Maintenance window, in the UTC format. Range N/A
nodes	Array of objects	Definition Primary/standby instance information. For details, see Table 4-38 .
related_instance	Array of objects	Definition All associated DB instances. For details, see Table 4-39 .
disk_encryption_id	String	Definition Disk encryption key ID. Range N/A
enterprise_project_id	String	Definition Enterprise project ID. Range N/A
time_zone	String	Definition Time zone. Range N/A
charge_info	Object	Definition Billing information. For details, see Table 4-40 .

Parameter	Type	Description
tags	Array of objects	Definition Tag list. If there is no tag added for the instance, an empty array is returned. For details, see Table 4-41 .
order_id	String	Definition Order ID. Range N/A
associated_with_ddm	Boolean	Definition Whether this instance is associated with a DDM instance. Range N/A
expiration_time	String	Definition Instance expiration time. Range 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	Definition Replication mode for the standby instance. Range • async: asynchronous replication • semisync: semi-synchronous replication

Table 4-35 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. Range MySQL (case-insensitive)
version	String	Definition DB engine version. Range 5.7 or 8.0
complete_version	String	Definition Complete database version number. Range N/A

Table 4-36 volume field data structure description

Parameter	Type	Description
type	String	Definition Storage type. Range CLOUDSSD (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.
size	Integer	Definition Storage space. Range 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	Definition Backup time window. Automated backups will be triggered during the backup time window. Range 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. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00, 15, 30, or 45. Example: • 08:15-09:15 • 23:00-00:00
keep_days	Integer	Definition Retention days for backups. Range 0-732. 0 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.

Table 4-38 nodes field data structure description

Parameter	Type	Description
id	String	Definition Node ID. Range N/A
name	String	Definition Node name. Range N/A

Parameter	Type	Description
role	String	Definition Node type. Range master (primary node) or slave (standby node)
status	String	Definition Node status. Range • creating: The node is being created. • active or normal: The node is normal. • abnormal: The node is abnormal. • createfail: The node failed to be created. • enlargefail: The node failed to be expanded. • restarting: The node is being restarted. • resizing: The node specifications are being changed. • resizefailed: The node specifications failed to be changed. • data_disk_full: The storage space is full.
availability_zone	String	Definition AZ. Range N/A

Table 4-39 related_instance field data structure description

Parameter	Type	Description
id	String	Definition ID of the associated instance. Range N/A

Parameter	Type	Description
type	String	Definition Type of the associated instance. Range replica_of : primary instance

Table 4-40 chargeInfo field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Range prePaid : yearly/monthly billing

Table 4-41 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
value	String	Definition Tag value. Range 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": "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",
  "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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:upgradeDatabaseVersion	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:instance:modify	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-43 Parameters

Parameter	Mandatory	Type	Description
is_delayed	No	Boolean	Definition Upgrade mode. Constraints N/A Range false (default): The instance is upgraded immediately. Default Value false

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	Definition Task ID. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:password:update	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	-	-

URI

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

Table 4-45 Parameters

Parameter	Mandato ry	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-46 Parameters

Parameter	Mandatory	Type	Description
db_user_pwd	Yes	String	Definition Database password. Constraints Enter a strong password to improve security and prevent security risks such as brute force cracking. Range 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 ~!@#\$%^*-_+=?,&(). Default Value N/A

Example Request

Reset the password for user **root**.

```
POST https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:backup:create	write	-	-	-	-

URI

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

Table 4-47 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request

Table 4-48 Parameters

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

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

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	Definition Backup information. For details, see Table 4-50 .

Table 4-50 backup field data structure description

Parameter	Type	Description
id	String	Definition Backup ID. Range N/A
instance_id	String	Definition Instance ID. Range N/A
name	String	Definition Backup name. Range It must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
description	String	Definition Backup description. Range It contains a maximum of 256 characters and cannot contain the special characters > ! < " & ' =.

Parameter	Type	Description
begin_time	String	Definition 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. Range N/A
status	String	Definition Backup status. Range • BUILDING: backup in progress • COMPLETED: backup completed • FAILED: backup failed • DELETING: backup being deleted
type	String	Definition Backup type. Range • auto: automated full backup • manual: manual full backup • fragment: differential full backup • incremental: automated incremental backup

- 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:backup:list	list	-	-	-	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A
backup_id	No	String	Definition Backup ID. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
backup_type	No	String	Definition Backup type. Constraints N/A Range • auto: automated full backup • manual: manual full backup • fragment: differential full backup • incremental: automated incremental backup Default Value N/A
status	No	String	Definition Backup status. Constraints N/A Range • BUILDING: backup in progress • COMPLETED: backup completed • FAILED: backup failed Default Value N/A
offset	No	Integer	Definition Index offset. Constraints N/A Range If offset is set to N , the resource query starts from the $N+1$ piece of data. The value is 0 by default, indicating that the query starts from the first piece of data. The value cannot be a negative number. Default Value 0

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records to be queried. Constraints N/A Range The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . Default Value 100
begin_time	No	String	Definition Query start time. Constraints When begin_time is not empty, end_time is mandatory. Range The value is in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition Query end time. Constraints When end_time is not empty, begin_time is mandatory. Range The value is in the "yyyy-mm-ddThh:mm:ssZ" format and must be later than the query start time. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Default Value N/A

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	Definition Backup list. For details, see Table 4-53 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-53 backups field data structure description

Parameter	Type	Description
id	String	Definition Backup ID. Range N/A
name	String	Definition Backup name. Range N/A
type	String	Definition Backup type. Range • auto: automated full backup • manual: manual full backup • fragment: differential full backup • incremental: automated incremental backup
size	Long	Definition Backup size, in KB. Range N/A
status	String	Definition Backup status. Range • BUILDING: backup in progress • COMPLETED: backup completed • FAILED: backup failed • DELETING: backup being deleted

Parameter	Type	Description
begin_time	String	Definition Backup start time. - For a full backup, it indicates the full backup start time. - For an incremental backup, it indicates the time when the last transaction of the last incremental backup task is committed. Range The value is in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
end_time	String	Definition Backup end time. - For a full backup, it indicates the full backup end time. - For an incremental backup, it indicates the time when the last transaction is committed. Range The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 .
datastore	Object	Definition Database version. For details, see Table 4-54 .
instance_id	String	Definition ID of the instance for which the backup is created. Range N/A

Parameter	Type	Description
associated_with_ddm	Boolean	Definition Whether this instance is associated with a DDM instance. Range N/A

Table 4-54 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. Range MySQL
version	String	Definition DB engine version. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:backup:delete	write	-	-	-	-

URI

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

Table 4-55 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
backup_id	Yes	String	Definition Backup ID. Constraints N/A Range N/A Default Value N/A

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](#).

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).

- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:restoreTime	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:instance:list	-

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	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
date	No	String	Definition Date to be queried. The value is in the "yyyy-mm-dd" format, and the time zone is UTC. Constraints N/A Range N/A Default Value N/A

Request

- Request parameters
None
- URI example
 - Query all restoration time ranges of an instance.
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsdae3435in01/restore-time
 - Query the restoration time range based on a specified date.
GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsdae3435in01/restore-time?date=2020-12-26

Response

- Normal response

Table 4-57 Parameters

Parameter	Type	Description
restore_time	Array of objects	Definition Restoration time ranges. For details, see Table 4-58 .

Table 4-58 restore_time field data structure description

Parameter	Type	Description
start_time	Integer	Definition Start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC. Range N/A
end_time	Integer	Definition End time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC. Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:create	write	-	-	-	-

URI

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

Table 4-59 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A

Request

Table 4-60 Parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Instance name. Constraints Instances of the same type can have the same name under the same tenant. Range 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. Default Value N/A

Parameter	Mandatory	Type	Description
password	No	String	Definition Database password. Constraints Enter a strong password to improve security and prevent security risks such as brute force cracking. If the password you provide is considered weak, the system will prompt you to enter a stronger one. Range 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 ~!@#\$%^*-_+=?, ()&. Default Value N/A

Parameter	Mandatory	Type	Description
flavor_ref	Yes	String	Definition Specification code. Constraints N/A Range The value cannot be empty. For details, see spec_code in Table 4-18 of Querying Database Specifications . Default Value N/A
volume	Yes	Object	Definition Instance storage. For details, see Table 4-63 . Constraints N/A
availability_zone	Yes	String	Definition AZ ID. Constraints 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 (.). Range The value cannot be empty. For details, see Regions and Endpoints . Default Value N/A

Parameter	Mandatory	Type	Description
restore_point	Yes	Object	Definition Restoration information. For details, see Table 4-64 . Constraints N/A
ha	No	Object	Definition HA configuration. For details, see Table 4-61 . Constraints This parameter is used only when you create a primary/standby instance.
port	No	String	Definition Database port. Constraints N/A Range • If this parameter is not specified, the default value is 3306. • 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). Default Value 3306

Parameter	Mandatory	Type	Description
backup_strategy	No	Object	Definition Advanced backup policy. For details, see Table 4-62 . Constraints N/A
region	No	String	Definition Region ID. Constraints N/A Range The value cannot be empty. For details, see Regions and Endpoints . Default Value N/A
charge_info	Yes	Object	Definition Yearly/Monthly billing information. For details, see Table 4-65 . Constraints N/A

Parameter	Mandatory	Type	Description
time_zone	No	String	Definition UTC time zone. Constraints N/A Range • If this parameter is not specified, the UTC time is used by default. • If this parameter is specified, the value range is from UTC-12:00 to UTC+12:00 on the hour. For example, the value can be UTC+08:00 rather than UTC+08:30. Default Value UTC+08:00

Parameter	Mandatory	Type	Description
tags	No	Array of objects	Definition Tag list. Each DB instance can be associated with tag key-value pairs while being created. For details, see Table 4-66 . Constraints 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.
is_flexus	Yes	boolean	Definition Whether to create a FlexusRDS instance. Constraints N/A Range true Default Value N/A

Table 4-61 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Definition Instance type. Constraints N/A Range HA (case-insensitive) Default Value N/A
replication_mode	Yes	String	Definition Replication mode for the standby instance. Constraints N/A Range • async: asynchronous replication • semisync: semi-synchronous replication Default Value N/A

Table 4-62 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Definition Backup time window. Automated backups will be triggered during the backup time window. Constraints N/A Range 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. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00, 15, 30, or 45. Example: • 08:15-09:15 • 23:00-00:00 Default Value N/A

Parameter	Mandatory	Type	Description
keep_days	No	Integer	Definition Retention days for backups. Constraints N/A Range • If this parameter is not specified, the default value 7 is used. • If this parameter is specified, the value range is from 0 to 732. 0 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. Default Value 7

Table 4-63 volume field data structure description

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

Table 4-64 restore_point field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A
type	Yes	String	Definition Restoration mode. Constraints N/A Range • backup: indicates restoration from backups. In this mode, backup_id is mandatory when type is not mandatory. • timestamp: indicates point-in-time restoration. In this mode, restore_time is mandatory when type is mandatory. Default Value N/A

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

Table 4-65 charge_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Constraints N/A Range prePaid : yearly/monthly billing Default Value N/A
period_type	Yes	String	Definition Subscription type. Constraints N/A Range • month: monthly subscription. • year: yearly subscription. Default Value N/A
period_num	No	Integer	Definition Subscription period. Constraints N/A Range • When period_type is set to month, the parameter value ranges from 1 to 9. • When period_type is set to year, the parameter value ranges from 1 to 3. Default Value N/A

Parameter	Mandatory	Type	Description
is_auto_renew	No	boolean	Definition 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. Constraints N/A Range • true: indicates that automatic renewal is enabled. • false: indicates that automatic renewal is disabled. The default value is false. Default Value false
is_auto_pay	No	boolean	Definition Whether the order will be automatically paid. This parameter does not affect the payment method of automatic renewal. Constraints N/A Range • true: indicates the order will be automatically paid. • false: indicates the order will be manually paid. The default value is false. Default Value false

Table 4-66 tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Constraints N/A Range 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> . Default Value N/A
value	Yes	String	Definition Tag value. Constraints N/A Range It can be left blank or contain a maximum of 255 Unicode characters. It can contain letters, digits, spaces, and special characters <code>._:=-@</code> . Default Value N/A

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	Definition Instance information. For details, see Table 4-68 .
job_id	String	Definition Instance creation task ID. This parameter is returned only for the restoration to a new DB instance billed on the pay-per-use basis. Range N/A

Table 4-68 instance description

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

Parameter	Type	Description
backup_strategy	Object	Definition Automated backup policy. For details, see Table 4-71 .
flavor_ref	String	Definition Specification ID. For details, see spec_code in Table 4-18 of Querying Database Specifications .
volume	Object	Definition Volume information. For details, see Table 4-72 .
region	String	Definition Region ID. Range The value is the same as that of the corresponding request parameter.
availability_zone	String	Definition AZ ID. Range The value is the same as that of the corresponding request parameter.
vpc_id	String	Definition VPC ID. Range vpc-default-smb
subnet_id	String	Definition Subnet ID. Range subnet-default-smb

Parameter	Type	Description
security_group_id	String	Definition Security group which the instance is associated with. Range sg-default-smb
charge_info	Object	Definition Billing information. For details, see Table 4-65 .

Table 4-69 datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Definition DB engine. Range MySQL
version	Yes	String	Definition DB engine version. Range 5.7 or 8.0

Table 4-70 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Definition Instance type. Range HA (case-insensitive)

Parameter	Mandatory	Type	Description
replication_mode	Yes	String	Definition Replication mode for the standby instance. Range • async: asynchronous replication • semisync: semi-synchronous replication

Table 4-71 backupStrategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Definition Backup time window. Automated backups will be triggered during the backup time window. Range 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. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00, 15, 30, or 45. Example: • 08:15-09:15 • 23:00-00:00 If backup_strategy in the request body is empty, 02:00-03:00 is returned for start_time by default.

Parameter	Mandatory	Type	Description
keep_days	No	Integer	Definition Retention days for backups. Range 0–732. 0 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. If backup_strategy in the request body is empty, 7 is returned for keep_days by default.

Table 4-72 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Definition Storage type. Range CLOUDSSD (case-sensitive): cloud SSD storage. This storage type is supported only with general-purpose and dedicated instances.

Parameter	Mandatory	Type	Description
size	Yes	Integer	Definition Storage space. Range 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": "bd51fb45-2dc6-4296-8783-8623bfe89bb7",
    "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](#).

4.3 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:updateParameter	write	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:param:modify	-

URI

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

Table 4-73 Parameters

Parameter	Mandato ry	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

Table 4-74 Parameters

Parameter	Mandatory	Type	Description
values	Yes	Map<String,String>	Definition Parameter values defined by users based on a default parameter template. Constraints N/A Range • key: parameter name, for example, div_precision_increment or connect_timeout. If this parameter is not specified, no parameter value is to be changed. • value: parameter value, for example, 6 or 20. If key is not empty, the parameter value cannot be empty, either. Default Value N/A

Example Request

Modify parameters of a specified instance.

`https://{endpoint}/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in01/configurations`

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

Response

- Normal response

Table 4-75 Parameters

Parameter	Type	Description
job_id	String	Definition Task ID. Range N/A
restart_required	Boolean	Definition Whether a reboot is required. Range • true: A reboot is required. • false: A reboot is not required.
ignored_params	List	Definition All parameters that are ignored and fail to be modified in the request parameter values . If a parameter does not exist, the modification will fail. The names of all ignored parameters are returned by ignored_params . Range 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.

Authorization Information

Each account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions.

- If you are using role/policy-based authorization, see the required permissions in [Permissions and Supported Actions](#).
- If you are using identity policy-based authorization, the following identity policy-based permissions are required.

Action	Access Level	Resource Type (*: required)	Condition Key	Alias	Dependencies
rds:instance:getParameter	read	instance	g:EnterpriseProjectId g:ResourceTag/<tag-key>	rds:param:list	-

URI

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

Table 4-76 Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range N/A Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range N/A Default Value N/A

Request

- Request parameters

None

- URI example

GET https://{endpoint}/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in01/configurations

Response

- Normal response

Table 4-77 Parameters

Parameter	Type	Description
datastore_version_name	String	Definition Database version name. Range N/A

Parameter	Type	Description
datastore_name	String	Definition Database name. Range N/A
created	String	Definition Creation time in the "yyyy-MM-ddTHH:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Range N/A
updated	String	Definition Update time in the "yyyy-MM-ddTHH:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Range N/A
configuration_parameters	Array of objects	Definition Parameters defined by users based on a default parameter template. For details, see Table 4-78 .

Table 4-78 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Definition Parameter name. Range N/A

Parameter	Type	Description
value	String	Definition Parameter value. Range N/A
restart_required	Boolean	Definition Whether a reboot is required. Range • false: A reboot is not required. • true: A reboot is required.
readonly	Boolean	Definition Whether the parameter is read-only. Range • false: The parameter is not read-only. • true: The parameter is read-only.
value_range	String	Definition Parameter value range. Range For example, if the parameter type is integer , the value is 0 or 1 . If the type is boolean , the value is true or false .
type	String	Definition Parameter type. Range The value can be string , integer , boolean , list , or float .
description	String	Definition Parameter description. Range 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

Project ID	Project Name	Region
5c07c307851a4a9d10b0110b09470c	af-south-1	AF-Johannesburg
d7b2742c590c4469a0b0d14e1907308	ap-southeast-1	CN-Hong Kong
7fb5b052a49f45d96eac05171ed0504	ap-southeast-2	AP-Bangkok
005d36ac3600931b2641c0004b790120	ap-southeast-3	AP-Singapore
0005295d043245136582c01c0e1a3c09	ap-southeast-4	AP-Jakarta
0024081697804082f59c00027b496ea	cn-east-3	CN-East-Shanghai1
0024080563005f02c9c000c7c0352	cn-north-4	CN-North-Beijing4
0c416475567405a000da0ee1741c04	cn-south-1	CN-South-Guangzhou
2580787c0c0840e3ac0649f78a02f105	cn-southwest-2	CN-Southwest-Guiyang1
6ed1009e1c054a05037577514bee0909	la-north-2	LA-Mexico City2
84e01a843f1c43c960973a015c0e073	la-south-2	LA-Santiago
7b4b095db444008f53087f0e0c47	na-mexico-1	LA-Mexico City1

----End

A Change History

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