GeminiDB

API Reference

Issue 02

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Contents

1 Before You Start

1.1 Overview

Welcome to GeminiDB API Reference. This document describes how to use application programming interfaces (APIs) to perform operations on GeminiDB, such as creating, deleting, and querying DB instances. For details about all supported operations, see **API Overview**.

If you want to access GeminiDB using an API, ensure that you are familiar with GeminiDB concepts. For details, see the *GeminiDB User Guide*.

1.2 API Calling

GeminiDB supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS. For details about API calling, see **Calling APIs**.

1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, contact the enterprise administrator.

1.4 Constraints

For more constraints, see the description of each API.

1.5 Concepts

- Account

  An account is generated after your registration. The account has full access permissions for all the resources and cloud services in it. You can use it to reset user passwords and grant users permissions. The account is a payment entity, which should not be used directly to perform routine management. To

ensure account security, 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.

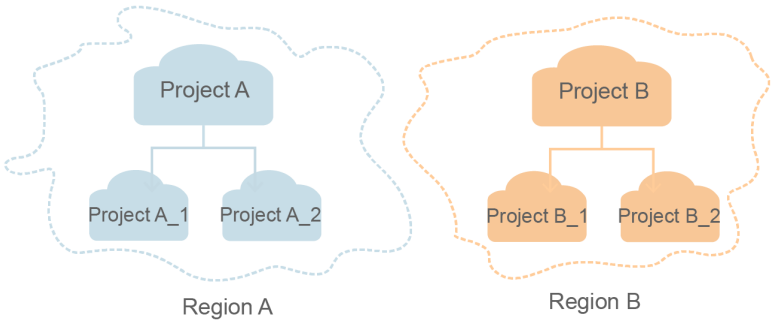
- AZ

  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 connected using high-speed optical fibers to support cross-AZ high-availability systems.

- Project

  A project corresponds to a region. Projects group and isolate resources (including compute, storage, and network resources) across physical regions. Users can be granted permissions in a default project to access all resources in the region associated with the project. If you need more refined access control, create subprojects under a default project and purchase resources in subprojects. Then you can assign users the permissions required to access only the resources in specific subprojects.

  Figure 1-1 Project isolating model

- Enterprise Project

  Enterprise projects group and manage resources across regions. Resources in enterprise projects are logically isolated. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from the enterprise project.

2 API Overview

GeminiDB provides extended APIs. These APIs enable you to use some functions of GeminiDB.

Table 2-1 API description

Type	Description
API Version Queries	• Query API versions. • Query version information of a specific API.
DB Version Queries	Query version information of a specified type of instances.
Instance Specifications Queries	Query all instance specifications under a specified condition.
Instance Management	Create, delete, and query instances, scale up or down the instance storage space, add or delete cluster instance nodes, change instance specifications, and change the instance administrator password, instance name, and instance security group.
Backup and Restoration	Query and set automated backup policies.
Parameter Management	Obtain parameter templates, create a parameter template, modify parameters in a parameter template, apply a parameter template, modify or obtain parameters of a specified instance, obtain parameters of a specified parameter template, and delete a parameter template.
Tag Management	Query resources by tag, batch add and delete tags, and query resource tags.
Quota Management	Query quotas.

Type	Description
Disaster Recovery (DR) Management	Checking whether a DR relationship can be created for one instance with a specified one or deleted, creating a DR relationship between one instance and a specified instance, and deleting a DR relationship between two them.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API, and uses the IAM API for **obtaining a user token** as an example to describe how to call an API. The obtained token is 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 the request header, most programming languages or frameworks require the request URI to be separately transmitted, rather than being conveyed in a request message separately.

Table 3-1 URI parameter description

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 endpoint. The endpoint varies depending on services and regions. It can be obtained from the administrator. For example, the endpoint of IAM in the EU-Dublin region is **iam.eu-west-101.myhuaweicloud.eu**.
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of the API. For example, the **resource-path** of the API for obtaining 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 up to 10 data records will be displayed.

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 a server to return specified resources.
PUT	Requests a server to update specified resources.
POST	Requests a server to add a resource or perform a special operation.
DELETE	Requests a server to delete a specified resource (for example, an object).

For example, in the URI for **obtaining a user token**, the request method is POST. The request is as follows:

```
POST https://iam.eu-west-101.myhuaweicloud.eu/v3/auth/tokens
```

Request Header

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

Table 3-3 lists common request header fields.

Table 3-3 Common request headers

Parameter	Description	Mandatory	Example Value
Content-Type	MIME type of the request body. Use the default value **application/json**. For APIs used to upload objects or images, the value varies depending on the flow type.	Yes	application/json
Content-Length	Length of the request body. The unit is byte.	This field is optional for POST requests, but must be left blank for GET requests.	3495
X-Project-Id	Project ID. To obtain the project ID, see **Obtaining a Project ID**.	No	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	User token. After a request is processed, the value of **X-Subject-Token** in the header is the token value.	Yes	The following is part of an example token: MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ

The API used to **obtain a user token** does not require authentication. Therefore, this API only requires adding the **Content-Type** field. The following is an example request:

```
POST https://iam.eu-west-101.myhuaweicloud.eu/v3/auth/tokens
Content-Type: application/json
```

(Optional) Request Body

This part is optional. The request body is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. If the request body contains full-width characters, these characters must be coded in UTF-8.

Request bodies vary depending on APIs. Some APIs do not require a request body, such as the APIs requested using the GET and DELETE methods.

For the API of **obtaining a user token**, request parameters and parameter description can be obtained from the API request. The following is an example

request with a body included. Replace *username*, *domianname*, ******** (login password), and *xxxxxxxxxxxxxxxxx* (project name) with required values. You can obtain the values from the administrator.

NOTE

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For details, see **Obtaining a User Token**.

```
POST https://iam.eu-west-101.myhuaweicloud.eu/v3/auth/tokens
Content-Type: application/json

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

If all data required for the API request is available, you can send a request to call an API through **curl**, **Postman**, or coding. For the API of obtaining a user token, **x-subject-token** in the response header is the required user token. Then, this token can be used to authenticate the calling of other APIs.

3.2 Authentication

GeminiDB supports token-based authentication.

NOTE

The validity period of a token is 24 hours. If a token is required, the system caches the token to avoid frequent calling.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to a request to get permissions for calling the API.

If you want to use a token for authentication, you need to obtain the user's token and add **X-Auth-Token** to the request header of the service API to make an API call.

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


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

After a token is obtained, add field **X-Auth-Token** to the request header to specify the token when other APIs are called. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** to a request header as follows:

```
POST https://iam.eu-west-101.myhuaweicloud.eu/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

3.3 Returned Values

Status Code

After you send a request, you will receive a response, including a 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**.

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**, in which **x-subject-token** is the required user token. Then, this token can be used to authenticate the calling of other APIs.

Figure 3-1 Response header for the API used to obtain a user token

(Optional) Response Body

This part is optional. A response body is generally returned in a structured format (for example, JSON or XML), corresponding to **Content-Type** in the response header, and is used to transfer content other than the response header.

If the following information is returned for calling the API used to **obtain a user token**, the request is successful. The following describes part of the request body.

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

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

```
{
    "error_msg": "Parameter error",
    "error_code": "DBS.200001"
}
```

In the response, **error_code** indicates an error code, and **error_msg** describes the error.

4 Quick Start

This section describes how to create a GeminiDB Cassandra instance by calling APIs.

NOTE

The token obtained from IAM is valid for only 24 hours. If you want to use a token for authentication, you can cache it to avoid frequently obtaining the token.

Involved APIs

If you use a token for authentication, you must obtain the user's token and add **X-Auth-Token** to the request message header of the service API when making an API call.

- API for obtaining tokens from IAM
- API for creating a GeminiDB Cassandra instance

Procedure

1. Use a token for authentication by referring to **Authentication**.
2. Send **POST https://{*Endpoint*}/v3/{*project_id*}/instances**.
3. Add **X-Auth-Token** to the request header.
4. Transfer the following parameters in the request body:

   NOTE

   Values of **region** and **availability_zone** are only for reference.

   For details about the API for creating instances, see **Creating an Instance**.

```
{
   "name": "test-cassandra-01",//Instance name
   "datastore": {
        "type": "cassandra",//Database type
       "version": "3.11", //DB engine version
       "storage_engine": "rocksDB"//Storage engine
   },
   "region": "aaa",//Region
   "availability_zone": "bbb", //AZ
   "vpc_id": "674e9b42-cd8d-4d25-a2e6-5abcc565b961",//VPC ID
   "subnet_id": "f1df08c5-71d1-406a-aff0-de435a51007b",//Subnet ID
```



```
    "security_group_id": "7aa51dbf-5b63-40db-9724-dad3c4828b58",//Security group ID
    "password": "xxxx",//Administrator password
    "mode": "Cluster", //Instance type
    "flavor": [
        {
            "num": 3,//Nodes
            "size": 500,//Storage space
            "storage": "ULTRAHIGH", //Disk type
            "spec_code": "geminidb.cassandra.4xlarge.4" //Resource specification code
        }
    ],
    "backup_strategy": {
        "start_time": "08:00-09:00",//Backup time window
        "keep_days": "8"//Retention period of backup files
    },
    "enterprise_project_id": "0"//Enterprise project ID
}
```

If the following information is displayed, the request is successful:

```
{
    "id": "39b6a1a278844ac48119d86512e0000bin06",
    "name": "test-cassandra-01",
    "datastore": {
        "type": "cassandra",
        "version": "3.11",
        "storage_engine": "rocksDB"
    },
    "created": "2019-10-28 14:10:54",
    "status": "creating",
    "region": "aaa",
    "availability_zone": "bbb",
    "vpc_id": "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
    "subnet_id": "f1df08c5-71d1-406a-aff0-de435a51007b",
    "security_group_id": "7aa51dbf-5b63-40db-9724-dad3c4828b58",
    "mode": "Cluster",
    "flavor": [
        {
            "num": 3,
            "size": 500,
            "storage": "ULTRAHIGH",
            "spec_code": "geminidb.cassandra.4xlarge.4"
        }
    ],
    "backup_strategy": {
        "start_time": "08:00-09:00",
        "keep_days": "8"
    },
    "job_id": "c010abd0-48cf-4fa8-8cbc-090f093eaa2f",
    "enterprise_project_id": "0"
}
```

If the request fails, an error code and error information are returned. For details, see **Error Codes**.

5 APIs v3

5.1 API Versions

5.1.1 Querying API Versions

Function

This API is used to query the supported API versions.

URI

GET https://{Endpoint}/

Request Parameters

None

Response Parameters

Status code: 200

Table 5-1 Response body parameters

Parameter	Type	Description
versions	Array of ApiVersionResponse objects	API version information

Table 5-2 ApiVersionResponse

Parameter	Type	Description
id	String	API version number
links	Array of **Links** objects	API link information **NOTE** If the version is v3, the value is **[]**.
status	String	Version status
version	String	Subversion information of the API version
min_version	String	Minimum API version number
updated	String	Version update time The format is yyyy-mm-dd Thh:mm:ssZ. **T** is the separator between the calendar and the hourly notation of time. **Z** indicates the UTC.

Table 5-3 Links

Parameter	Type	Description
href	String	API URL. The value is **""**.
rel	String	The value is **self**, indicating that URL is a local link.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/
```

Example Response

Status code: 200

Success

```
{
  "versions" : [ {
    "id" : "v3",
    "links" : [ ],
    "status" : "CURRENT",
    "version" : "",
    "min_version" : "",
    "updated" : "2019-10-30T17:34:02Z"
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.1.2 Querying Version Information of an API

Function

This API is used to query version information of a specified API.

URI

GET https://{Endpoint}/{versionId}

Table 5-4 Path parameters

Parameter	Mandatory	Type	Description
versionId	Yes	String	API version

Request Parameters

None

Response Parameters

Status code: 200

Table 5-5 Response body parameters

Parameter	Type	Description
version	**ApiVersionResponse** object	API version information

Table 5-6 ApiVersionResponse

Parameter	Type	Description
id	String	API version number
links	Array of **Links** objects	API link information **NOTE** If the version is v3, the value is **[]**.
status	String	Version status

Parameter	Type	Description
version	String	Subversion information of the API version
min_version	String	Minimum API version number
updated	String	Version update time The format is yyyy-mm-dd Thh:mm:ssZ. **T** is the separator between the calendar and the hourly notation of time. **Z** indicates the UTC.

Table 5-7 Links

Parameter	Type	Description
href	String	API URL. The value is **""**.
rel	String	The value is **self**, indicating that URL is a local link.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3
```

Example Response

Status code: 200

Success

```
{
  "version" : {
    "id" : "v3",
    "links" : [ ],
    "status" : "CURRENT",
    "version" : "",
    "min_version" : "",
    "updated" : "2019-10-30T17:34:02Z"
  }
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.2 Versions and Specifications

5.2.1 Querying Version Information

Function

This API is used to query version information of a specified type of instances.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

GET https://{Endpoint}/v3/{project_id}/datastores/{datastore_name}/versions

Table 5-8 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
datastore_name	Yes	String	Database type. The value can be: • **cassandra**, indicating that the instances are of the GeminiDB Cassandra type. • **influxdb**, indicating that the instances are of the GeminiDB Influx type. • **redis**, indicating that the instances are of the GeminiDB Redis type.

Request Parameters

Table 5-9 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Response Parameters

Status code: 200

Table 5-10 Response body parameters

Parameter	Type	Description
versions	Array of strings	Database version. The supported versions are: • GeminiDB Cassandra instance 3.11 • GeminiDB Influx instance 1.7 • GeminiDB Influx instance 5.0

Example Requests

URI example

```
GET  https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/datastores/cassandra/versions
```

Example Responses

Status code: 200

Success

```
{
  "versions" : [ "3.11" ]
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.2.2 Querying Instance Specifications

Function

This API is used to query all instance specifications under a specified condition.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

GET https://{Endpoint}/v3.1/{project_id}/flavors

Table 5-11 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Table 5-12 Query parameters

Parameter	Mandatory	Type	Description
engine_name	No	String	Database type. The value can be: • **cassandra**, indicating that the instances are of the GeminiDB Cassandra type. • **influxdb**, indicating that the instances are of the GeminiDB Influx type. • **redis**, indicating that the instances are of the GeminiDB Redis type. • If this parameter is not transferred, the default value is **cassandra**.

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. • If **offset** is set to *N*, the resource query starts from the N+1 piece of data. If **action** is set to **filter**, **offset** is **0** by default, indicating that the query starts from the first piece of data. • The **offset** value must be a number but cannot be a negative number.
limit	No	Integer	Maximum of specifications that can be queried • The value ranges from **1** to **100**. • If this parameter is not transferred, the first 100 pieces of specification information is queried by default.

Request Parameters

Table 5-13 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token

Response Parameters

Status code: 200

Table 5-14 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of records
flavors	Array of **Flavors** objects	Instance specifications

Table 5-15 Flavors

Parameter	Type	Description
engine_name	String	API name.
engine_version	String	API version.
vcpus	String	Number of vCPUs
ram	String	Memory size in megabytes (MB)
spec_code	String	Resource specification code. Example: **geminidb.cassandra.8xlarge.4** **NOTE** • **geminidb.cassandra** indicates the instance is a GeminiDB Cassandra instance. • **8xlarge.4** indicates node specifications.
availability_zone	Array of strings	ID of the AZ that supports the specifications **NOTE** This parameter has been discarded. Do not use it.
az_status	Object	Status of specifications in an AZ.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3.1/375d8d8fad1f43039e23d3b6c0f60a19/flavors?engine_name=cassandra&offset=0&limit=10
```

Example Responses

Status code: 200

Success

```
{
  "total_count" : 4,
  "flavors" : [ {
    "engine_name" : "cassandra",
    "engine_version" : "3.11",
    "vcpus" : "4",
    "ram" : "16",
    "spec_code" : "geminidb.cassandra.xlarge.4",
    "availability_zone" : [ "az1", "az2" ],
    "az_status" : {
      "az1" : "normal",
      "az2" : "unsupported"
    }
  }, {
    "engine_name" : "cassandra",
    "engine_version" : "3.11",
```



```
    "vcpus" : "8",
    "ram" : "32",
    "spec_code" : "geminidb.cassandra.2xlarge.4",
    "availability_zone" : [ "az1", "az2" ],
    "az_status" : {
      "az1" : "unsupported",
      "az2" : "normal"
    }
  }, {
    "engine_name" : "cassandra",
    "engine_version" : "3.11",
    "vcpus" : "16",
    "ram" : "64",
    "spec_code" : "geminidb.cassandra.4xlarge.4",
    "availability_zone" : [ "az1", "az2" ],
    "az_status" : {
      "az1" : "normal",
      "az2" : "sellout"
    }
  }, {
    "engine_name" : "cassandra",
    "engine_version" : "3.11",
    "vcpus" : "32",
    "ram" : "128",
    "spec_code" : "geminidb.cassandra.8xlarge.4",
    "availability_zone" : [ "az1", "az2" ],
    "az_status" : {
      "az1" : "normal",
      "az2" : "normal"
    }
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3 Instances

5.3.1 Creating an Instance

Function

- This API can be used to create an instance.
- The API can be used to create an instance when you restore data using a specific backup.
- The API can also be used to create an instance when you restore data of a specific instance to a specified point in time.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra

- GeminiDB Influx
- GeminiDB Redis

This API supports both yearly/monthly and pay-per-use instances.

URI

POST https://{Endpoint}/v3/{project_id}/instances

Table 5-16 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-17 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-18 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name, which can be the same as an existing instance name. The name must start with a letter and can include 4 to 64 characters. It is case-sensitive and can contain only letters, digits, hyphens (-), and underscores (_).
datastore	Yes	**Datastore** object	Database information.
region	Yes	String	Region ID. The value cannot be empty. Obtain the parameter value from the enterprise administrator.

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	AZ ID. For details about the value, see **az_status** returned in **Querying Instance Specifications**. If an instance can be created across three AZs, separate multiple AZ IDs by commas (,).
vpc_id	Yes	String	VPC ID. You can obtain the value with either of the following methods: • Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. • Method 2: Query the VPC ID using the VPC API. For details, see **Querying VPCs**.
subnet_id	Yes	String	Subnet ID. You can obtain the subnet ID with either of the following methods: • Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: Query the network ID through the VPC API. For details, see **Querying Subnets**.

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Security group ID. You can obtain the security group ID with either of the following methods: • Method 1: Log in to the VPC console. Choose **Access Control** > **Security Groups** in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: Query the security group using the VPC API. For details, see **Querying Security Groups**.
password	Yes	String	Database password. The password can include 8 to 32 characters and contain uppercase letters, lowercase letters, digits, and the following special characters: ~!@#%^*-_=+? Enter a strong password against security risks such as brute force cracking.
mode	Yes	String	Instance type. The value can be: • **Cluster**, indicating that GeminiDB Cassandra supports the cluster type. • **Cluster**, indicating that GeminiDB Influx supports the cluster type. • **Cluster**, indicating that GeminiDB Redis supports the cluster type.
flavor	Yes	Array of **Flavor** objects	Instance specifications. For details about the specifications, see parameter values under **flavors** in **Querying Instance Specifications**.

Parameter	Mandatory	Type	Description
configuration_id	No	String	Parameter template ID.
backup_strategy	No	**BackupStrategy** object	Advanced backup policy.
enterprise_project_id	No	String	Enterprise project ID. • Do not transfer this parameter if EPS is not enabled. • If EPS is enabled but this parameter is not transferred, the default enterprise project is used. For the enterprise project ID, see the **id** value in the **enterprise_project field data structure** table in section "Querying the Enterprise Project List" of the *Enterprise Project Management Service API Reference*.
ssl_option	No	String	Whether SSL is enabled. The value can be: • **0**, indicating that SSL is disabled by default. • **1**, indicating that SSL is enabled by default. • If this parameter is not transferred, SSL is disabled by default.

Table 5-19 Datastore

Parameter	Mandatory	Type	Description
type	Yes	String	Database type. • The supported instance types include GeminiDB Cassandra, GeminiDB Influx, and GeminiDB Redis. • If you set this parameter to **cassandra**, GeminiDB Cassandra instances will be created. • If you set this parameter to **influxdb**, GeminiDB Influx instances will be created. • If you set this parameter to **redis**, GeminiDB Redis instances will be created.
version	Yes	String	Database version. The value can be: • **3.11**, indicating that GeminiDB Cassandra 3.11 is supported. • **1.7**, indicating that GeminiDB Influx 1.7 is supported. • **5.0**, indicating that GeminiDB Redis 5.0 is supported.
storage_engine	Yes	String	Storage engine. • **rocksDB**, indicating that the GeminiDB Cassandra instance supports the RocksDB storage engine. • **rocksDB**, indicating that the GeminiDB Influx instance supports the RocksDB storage engine. • **rocksDB**, indicating that the GeminiDB Redis instance supports the RocksDB storage engine.

Table 5-20 Flavor

Parameter	Mandatory	Type	Description
num	Yes	String	Number of nodes. • Each GeminiDB Cassandra instance can contain 3 to 60 nodes. • Each GeminiDB Influx cluster instance can contain 3 to 16 nodes. • Each GeminiDB Redis instance can contain 2 to 36 nodes.
size	Yes	String	Storage space. It must be an integer, in GB. • For details about GeminiDB Cassandra instances, see **Instance Specifications**. • For details about GeminiDB Influx instances, see **Instance Specifications**. • For details about GeminiDB Redis instances, see **Instance Specifications**.
storage	Yes	String	Disk type. If you set this parameter to **ULTRAHIGH**, SSD disks are used.
spec_code	Yes	String	Resource specification code. For the code, see the value of response parameter **spec_code** in **Querying Instance Specifications**.

Table 5-21 BackupStrategy

Parameter	Mandatory	Type	Description
start_time	Yes	String	Backup time window. Automated backup will be triggered during the backup time window. The value cannot be empty. It must be the UTC time in the hh:mm-HH:MM format. • 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**. • If this parameter is not transferred, the default backup time window is from 00:00 to 01:00. • Example value: **23:00–00:00**
keep_days	No	String	Backup retention days. The value ranges from **0** to **35**. • If this parameter is set to **0**, the automated backup policy is not set. • If this parameter is not transferred, the automated backup policy is enabled by default. Backup files are stored for 7 days by default.

Table 5-22 ChargeInfo

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode. Value options: • **prePaid**: indicates that the billing mode is yearly/monthly. • **postPaid**: indicates that the billing mode is pay-per-use.

Parameter	Mandatory	Type	Description
period_type	No	String	Subscription period type. Value options: • **month**: indicates that the subscription unit is month. • **year**: indicates that the subscription unit is year. **NOTE** This parameter is valid and mandatory only when **charge_mode** is set to **prePaid**.
period_num	No	String	Subscription time period. This parameter is valid and mandatory only when **charge_mode** is set to **prePaid**. Value options: • If **period_type** is set to **month**, the parameter value ranges from **1** to **9**. • If **period_type** is set to **year**, the parameter value ranges from **1** to **3**.
is_auto_renew	No	String	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 during the renewal. The value can be: • **true**, indicating that the subscription is automatically renewed. • **false**, indicating that the subscription is not automatically renewed. The default value is **false**.

Parameter	Mandatory	Type	Description
is_auto_pay	No	String	Payment method. When you create a yearly/monthly instance, you can specify whether the order is automatically paid from your account. This parameter does not affect the payment mode of automatic renewal. The value can be: • **true**, indicating that the order is automatically paid from your account. • **false**, indicating that the order needs to be manually paid from your account. This payment method is used by default.

Table 5-23 RestoreInfo

Parameter	Mandatory	Type	Description
backup_id	No	String	Backup file ID. This parameter cannot be left blank when you create an instance to restore data using a specific backup.
source_instance_id	No	String	ID of the specified instance that backup data is restored to. This parameter cannot be left blank when you restore data at a specific time point from a specific instance to a new instance.
restore_time	No	Long	Time point that backup data is restored to. This parameter cannot be left blank when you restore data at a specific point in time from a specific instance to a new instance. The value is a 13-digit number (in milliseconds, UTC time).

Response Parameters

Status code: 202

Table 5-24 Response body parameters

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name. This parameter is the same as the corresponding request parameter.
datastore	**Datastore** object	Database information. This parameter is the same as the corresponding request parameter.
created	String	Creation time, which is in the yyyy-mm-dd hh:mm:ss format.
status	String	Instance status. The value is **creating**.
region	String	Region ID. This parameter is the same as the corresponding request parameter.
availability_zone	String	AZ ID. This parameter is the same as the corresponding request parameter.
vpc_id	String	VPC ID. This parameter is the same as the corresponding request parameter.
subnet_id	String	Subnet ID. This parameter is the same as the corresponding request parameter.
security_group_id	String	Security group ID. This parameter is the same as the corresponding request parameter.
mode	String	Instance type. This parameter is the same as the corresponding request parameter.
flavor	Array of **Flavor** objects	Instance specifications. This parameter is the same as the corresponding request parameter.
backup_strategy	**BackupStrategy** object	Advanced backup policy. This parameter is the same as the corresponding request parameter.
enterprise_project_id	String	Enterprise project ID. If you set this parameter to **0**, the resource belongs to the **default** enterprise project.

Parameter	Type	Description
ssl_option	String	Whether SSL is enabled. This parameter has the same effect as the corresponding request parameter.
job_id	String	ID of the workflow for creating an instance. This parameter is returned only when a pay-per-use instance is created.

Table 5-25 Datastore

Parameter	Type	Description
type	String	Database type. • The supported instance types include GeminiDB Cassandra, GeminiDB Influx, and GeminiDB Redis. • If you set this parameter to **cassandra**, GeminiDB Cassandra instances will be created. • If you set this parameter to **influxdb**, GeminiDB Influx instances will be created. • If you set this parameter to **redis**, GeminiDB Redis instances will be created.
version	String	Database version. The value can be: • **3.11**, indicating that GeminiDB Cassandra 3.11 is supported. • **1.7**, indicating that GeminiDB Influx 1.7 is supported. • **5.0**, indicating that GeminiDB Redis 5.0 is supported.
storage_engine	String	Storage engine. • **rocksDB**, indicating that the GeminiDB Cassandra instance support the RocksDB storage engine. • **rocksDB**, indicating that the GeminiDB Influx instance support the RocksDB storage engine. • **rocksDB**, indicating that the GeminiDB Redis instance support the RocksDB storage engine.

Table 5-26 Flavor

Parameter	Type	Description
num	String	Number of nodes. • Each GeminiDB Cassandra instance can contain 3 to 60 nodes. • Each GeminiDB Influx instance can contain 3 to 16 nodes. • Each GeminiDB Redis instance can contain 2 to 36 nodes.
size	String	Storage space. It must be an integer, in GB. • For details about GeminiDB Cassandra instances, see **Instance Specifications**. • For details about GeminiDB Influx instances, see **Instance Specifications**. • For details about GeminiDB Redis instances, see **Instance Specifications**.
storage	String	Disk type. If you set this parameter to **ULTRAHIGH**, SSD disks are used.
spec_code	String	Resource specification code. For the code, see the value of response parameter **spec_code** in **Querying Instance Specifications**.

Table 5-27 BackupStrategy

Parameter	Type	Description
start_time	String	Backup time window. Automated backup will be triggered during the backup time window. The value cannot be empty. It must be the UTC time in the hh:mm-HH:MM format. • 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**. • If this parameter is not transferred, the default backup time window is from 00:00 to 01:00. • Example value: **23:00–00:00**
keep_days	String	Backup retention days. The value ranges from **0** to **35**. • If this parameter is set to **0**, the automated backup policy is not set. • If this parameter is not transferred, the automated backup policy is enabled by default. Backup files are stored for 7 days by default.

Table 5-28 ChargeInfo

Parameter	Type	Description
charge_mode	String	Billing mode. Values: • **prePaid**: indicates that the billing mode is yearly/monthly. • **postPaid**: indicates that the billing mode is pay-per-use.

Parameter	Type	Description
period_type	String	Subscription period type. Values: • **month**: indicates that the subscription unit is month. • **year**: indicates that the subscription unit is year. **NOTE** This parameter is available and mandatory only when **charge_mode** is set to **prePaid**.
period_num	String	Subscription time period. This parameter is available and mandatory only when **charge_mode** is set to **prePaid**. Value options: • If **period_type** is set to **month**, the parameter value ranges from **1** to **9**. • If **period_type** is set to **year**, the parameter value ranges from **1** to **3**.
is_auto_renew	String	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 during the renewal. The value can be: • **true**, indicating that the subscription is automatically renewed. • **false**, indicating that the subscription is not automatically renewed. The default value is **false**.

Parameter	Type	Description
is_auto_pay	String	Payment method. When you create a yearly/monthly instance, you can specify whether the order is automatically paid from your account. This parameter does not affect the payment mode of automatic renewal. The value can be: • **true**, indicating that the order is automatically paid from your account. • **false**, indicating that the order needs to be manually paid from your account. This payment method is used by default.

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances
  ```
- Creating a pay-per-use 3-node GeminiDB Cassandra instance with 16 vCPUs and 64 GB of memory

  NOTE

  Values of **region** and **availability_zone** in the request body are only examples. Set them based on service requirements.

  ```
  {
    "name" : "test-cassandra-01",
    "datastore" : {
      "type" : "cassandra",
      "version" : "3.11",
      "storage_engine" : "rocksDB"
    },
    "region" : "aaa",
    "availability_zone" : "bbb",
    "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
    "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007",
    "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
    "password" : "******",
    "mode" : "Cluster",
    "flavor" : [ {
      "num" : 3,
      "storage" : "ULTRAHIGH",
      "size" : 500,
      "spec_code" : "geminidb.cassandra.4xlarge.4"
    } ],
    "backup_strategy" : {
      "start_time" : "08:15-09:15",
      "keep_days" : 8
    },
    "ssl_option" : 1
  }
  ```
- Creating a yearly/monthly 3-node GeminiDB Cassandra instance with 16 vCPUs and 64 GB of memory

NOTE

Values of **region** and **availability_zone** in the request body are only examples. Set them based on service requirements.

```
{
  "name" : "test-cassandra-01",
  "datastore" : {
    "type" : "cassandra",
    "version" : "3.11",
    "storage_engine" : "rocksDB"
  },
  "region" : "aaa",
  "availability_zone" : "bbb",
  "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
  "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007",
  "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
  "password" : "*******",
  "mode" : "Cluster",
  "flavor" : [ {
    "num" : 3,
    "storage" : "ULTRAHIGH",
    "size" : 500,
    "spec_code" : "geminidb.cassandra.4xlarge.4"
  } ],
  "backup_strategy" : {
    "start_time" : "08:15-09:15",
    "keep_days" : 8
  },
  "ssl_option" : 1,
  "charge_info" : {
    "charge_mode" : "prePaid",
    "period_type" : "year",
    "period_num" : 3,
    "is_auto_renew" : true,
    "is_auto_pay" : true
  }
}
```

- Creating a pay-per-use 3-node GeminiDB Cassandra instance with 16 vCPUs and 64 GB of memory based on data restored using a specific backup

  NOTE

  Values of **region** and **availability_zone** in the request body are only examples. Set them based on service requirements.

  ```
  {
    "name" : "test-cassandra-01",
    "datastore" : {
      "type" : "cassandra",
      "version" : "3.11",
      "storage_engine" : "rocksDB"
    },
    "region" : "aaa",
    "availability_zone" : "bbb",
    "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
    "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007",
    "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
    "password" : "******",
    "mode" : "Cluster",
    "flavor" : [ {
      "num" : 3,
      "storage" : "ULTRAHIGH",
      "size" : 500,
      "spec_code" : "geminidb.cassandra.4xlarge.4"
    } ],
    "backup_strategy" : {
      "start_time" : "08:15-09:15",
      "keep_days" : 8
  ```



```
  },
  "ssl_option" : 1,
  "restore_info" : {
    "backup_id" : "2f4ddb93b9014b0893d81d2e472f30fe"
  }
}
```

- Creating a yearly/monthly 3-node GeminiDB Cassandra instance with 16 vCPUs and 64 GB of memory based on the data of a specified instance at a specified point in time

  NOTE

  Values of **region** and **availability_zone** in the request body are only examples. Set them based on service requirements.

```
{
  "name" : "test-cassandra-01",
  "datastore" : {
    "type" : "cassandra",
    "version" : "3.11",
    "storage_engine" : "rocksDB"
  },
  "region" : "aaa",
  "availability_zone" : "bbb",
  "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
  "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007",
  "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
  "password" : "******",
  "mode" : "Cluster",
  "flavor" : [ {
    "num" : 3,
    "storage" : "ULTRAHIGH",
    "size" : 500,
    "spec_code" : "geminidb.cassandra.4xlarge.4"
  } ],
  "backup_strategy" : {
    "start_time" : "08:15-09:15",
    "keep_days" : 8
  },
  "ssl_option" : 1,
  "charge_info" : {
    "charge_mode" : "prePaid",
    "period_type" : "year",
    "period_num" : 3,
    "is_auto_renew" : true,
    "is_auto_pay" : true
  },
  "restore_info" : {
    "restore_time" : 1607731200000,
    "source_instance_id" : "054e292c9880d4992f02c0196d3ein12"
  }
}
```

Example Responses

Status code: 202

Accepted

Creating a pay-per-use instance:

```
{
  "id" : "39b6a1a278844ac48119d86512e0000bin06",
  "name" : "test-cassandra-01",
  "datastore" : {
    "type" : "cassandra",
    "version" : "3.11",
```



```
    "storage_engine" : "rocksDB"
  },
  "created" : "2019-10-28 14:10:54",
  "status" : "creating",
  "region" : "aaa",
  "availability_zone" : "bbb,ccc,ddd",
  "vpc_id" : "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id" : "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
  "security_group_id" : "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
  "mode" : "Cluster",
  "flavor" : [ {
    "num" : 3,
    "size" : 500,
    "storage" : "ULTRAHIGH",
    "spec_code" : "geminidb.cassandra.4xlarge.4"
  } ],
  "backup_strategy" : {
    "start_time" : "08:15-09:15",
    "keep_days" : "8"
  },
  "ssl_option" : "1",
  "job_id" : "c010abd0-48cf-4fa8-8cbc-090f093eaa2f"
}
```


Creating a yearly/monthly instance:


```
{
  "id" : "39b6a1a278844ac48119d86512e0000bin06",
  "name" : "test-cassandra-01",
  "datastore" : {
    "type" : "cassandra",
    "version" : "3.11",
    "storage_engine" : "rocksDB"
  },
  "created" : "2019-10-28 14:10:54",
  "status" : "creating",
  "region" : "aaa",
  "availability_zone" : "bbb,ccc,ddd",
  "vpc_id" : "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id" : "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
  "security_group_id" : "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
  "mode" : "Cluster",
  "flavor" : [ {
    "num" : 3,
    "size" : 500,
    "storage" : "ULTRAHIGH",
    "spec_code" : "geminidb.cassandra.4xlarge.4"
  } ],
  "backup_strategy" : {
    "start_time" : "08:15-09:15",
    "keep_days" : "8"
  },
  "enterprise_project_id" : "0",
  "ssl_option" : "1",
  "charge_info" : {
    "charge_mode" : "prePaid",
    "period_type" : "year",
    "period_num" : 3,
    "is_auto_renew" : true,
    "is_auto_pay" : true
  }
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.2 Deleting an Instance

Function

This API is used to delete an instance. Only pay-per-use instances can be deleted. Yearly/Monthly instances need to be unsubscribed from if they are no longer needed.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

DELETE https://{Endpoint}/v3/{project_id}/instances/{instance_id}

Table 5-29 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-30 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 202

Table 5-31 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Requests

URI example

```
DELETE https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in02
```

Example Responses

Status code: 202

Accepted

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

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.3 Querying Instances and Details

Function

This API is used to query instances and details based on specified conditions.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

GET https://{Endpoint}/v3/{project_id}/instances

Table 5-32 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Table 5-33 Query parameters

Parameter	Mandatory	Type	Description
id	No	String	Instance ID. If you enter an instance ID starting with an asterisk (*), fuzzy search results are returned. If you enter a valid instance ID, an exact result is returned.
name	No	String	Instance name. If you enter an instance name starting with an asterisk (*), fuzzy search results are returned. If you enter a valid instance name, an exact result is returned.
datastore_type	No	String	Database type. The value can be: **cassandra**, indicating that GeminiDB Cassandra instances are queried. **influxdb**, indicating that GeminiDB Influx instances are queried. **redis**, indicating that GeminiDB Redis instances are queried.

Parameter	Mandatory	Type	Description
mode	No	String	Instance type. The value can be: **Cluster**, indicating that the instance is a GeminiDB Cassandra, GeminiDB Influx, or GeminiDB Redis replica set instance. The system ignores this parameter if parameter **datastore_type** is not transferred.
vpc_id	No	String	VPC ID. You can obtain the value with either of the following methods: • Method 1: Log in to the VPC console and view the VPC ID on the VPC details page. • Method 2: Query the VPC ID using the VPC API. For details, see **Querying VPCs**.
subnet_id	No	String	Subnet ID. You can obtain the subnet ID with either of the following methods: • Method 1: Log in to the VPC console and click the target subnet on the **Subnets** page. You can view the network ID on the displayed page. • Method 2: Query the network ID using the VPC API. For details, see **Querying Subnets**.

Parameter	Mandatory	Type	Description
offset	No	Integer	Index position. The query starts from the next instance creation time indexed by this parameter under a specified project. If offset is set to *N*, the resource query starts from the N+1 piece of data. The value must be no less than **0**. If this parameter is not transferred, the index offset is **0** by default, indicating that the query starts from the latest created instance.
limit	No	Integer	Maximum number of instances that can be queried. The value ranges from **1** to **100**. If this parameter is not transferred, the first 100 instances are queried by default.

Request Parameters

Table 5-34 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-35 Response body parameters

Parameter	Type	Description
instances	Array of **ListInstancesResult** objects	Instance information.
total_count	Integer	Total number of records.

Table 5-36 ListInstancesResult

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.
status	String	Instance status. The value can be: • **normal**, indicating that the instance is running normally. • **abnormal**, indicating that the instance is abnormal. • **creating**, indicating that the instance is being created. • **frozen**, indicating that the instance is frozen. • **data_disk_full**, indicating that the instance disk is full. • **createfail**, indicating that the instance failed to be created. • **enlargefail**, indicating that nodes failed to be added to the instance.
port	String	Database port.
mode	String	Instance type. This parameter is the same as the corresponding request parameter.
region	String	Region where the instance is deployed.
datastore	**ListInstancesDatastoreResult** object	Database information.
engine	String	Storage engine. The value is **rocksDB**.
created	String	Instance creation time.
updated	String	Time when an instance is updated.
db_user_name	String	Default username. The value is **rwuser**.
vpc_id	String	VPC ID.
subnet_id	String	Subnet ID. One GeminiDB Cassandra instance may use multiple subnets. For the subnet ID, see **Table 5-41**.

Parameter	Type	Description
security_group_id	String	Security group ID.
backup_strategy	**ListInstancesBackupStrategyResult** object	Backup policy.
pay_mode	String	Billing mode. Options: • **0**: indicates the instance is billed on a pay-per-use basis. • **1**: indicates the instance is billed on a yearly/monthly basis.
maintenance_window	String	Maintenance time window.
groups	Array of **ListInstancesGroupResult** objects	Group information.
enterprise_project_id	String	Enterprise project ID. If you set this parameter to **0**, the resource belongs to the **default** enterprise project.
time_zone	String	Time zone.
actions	Array of strings	Operation that is executed on the instance. Example values: • **CREATE** • **REBOOT** • **RESTORE**

Table 5-37 ListInstancesDatastoreResult

Parameter	Type	Description
type	String	DB API.
version	String	DB version number.
whole_version	String	Complete database version number. This parameter is available only to GeminiDB Cassandra.

Table 5-38 ListInstancesBackupStrategyResult

Parameter	Type	Description
start_time	String	Backup time window. Automated backup will be triggered during the backup time window. The current time is the UTC time.
keep_days	Integer	Backup retention days. The value ranges from **0** to **35**.

Table 5-39 ListInstancesGroupResult

Parameter	Type	Description
id	String	Group ID.
status	String	Group status. The value can be: • **normal**, indicating that the group is normal. • **abnormal**, indicating that the group is abnormal. • **creating**, indicating that the group is being created. • **createfail**, indicating that the group failed to be created. • **deleted**: indicating that the group has been deleted. • **resizefailed**: indicating that the group specifications failed to be changed. • **enlargefail**: indicating the group failed to be scaled out.
volume	**Volume** object	Volume information.
nodes	Array of **ListInstancesNodeResult** objects	Node information.

Table 5-40 Volume

Parameter	Type	Description
size	String	Storage space in GB.
used	String	Used storage space, in GB.

Table 5-41 ListInstancesNodeResult

Parameter	Type	Description
id	String	Node ID.
name	String	Node name.
status	String	Node status. The value can be: • **normal**, indicating that the node is running normally. • **abnormal**, indicating that the node is abnormal. • **creating**, indicating that the node is being created. • **createfail**, indicating that the node failed to be created. • **deleted**, indicating that the node has been deleted. • **resizefailed**: indicating that the node specifications failed to be changed. • **enlargefail**: indicating nodes failed to be added.
subnet_id	String	ID of the subnet where the instance node is deployed.
private_ip	String	Private IP address of the node. This parameter value is available after an ECS is created. Otherwise, the value is "".
public_ip	String	Bound EIP. This parameter is valid only for nodes bound with EIPs.
spec_code	String	Resource specification code. For the code, see the value of parameter **flavors.spec_code** in **Querying Instance Specifications**.
availability_zone	String	AZ.
support_reduce	Boolean	Whether instance nodes can be deleted. The value can be: • **true**, indicating that instance nodes can be deleted. • **false**, indicating that instance nodes cannot be deleted.

Example Requests

- URI example

  Querying all instances and details

  ```
  GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
  ```

- URI example

  Querying instances and details based on specified conditions

  ```
  GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances?offset=0&limit=10&id=ed7cc6166ec24360a5ed5c5c9c2ed726in06&name=hy&mode=Cluster&datastore_type=cassandra&vpc_id=19e5d45d-70fd-4a91-87e9-b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7
  ```

Example Responses

Status code: 200

Success


```
{
  "instances" : [ {
    "id" : "8436a91546294036b75931e879882200in06",
    "name" : "nosql-efa6",
    "status" : "normal",
    "port" : "8635",
    "mode" : "Cluster",
    "region" : "aaa",
    "datastore" : {
      "type" : "Cassandra",
      "version" : "3.11",
      "whole_version" : "3.11.3.11204",
      "patch_available" : false
    },
    "engine" : "rocksDB",
    "created" : "2019-01-17T07:05:52",
    "updated" : "2019-01-17T07:05:47",
    "db_user_name" : "rwuser",
    "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
    "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007b",
    "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
    "backup_strategy" : {
      "start_time" : "16:00-17:00",
      "keep_days" : 7
    },
    "pay_mode" : 0,
    "maintenance_window" : "02:00-06:00",
    "groups" : [ {
      "id" : "0b0ff12541794e1084f6827e424be2d6gr06",
      "status" : "creating",
      "volume" : {
        "size" : 10,
        "used" : 0.33
      },
      "nodes" : [ {
        "id" : "233eaac9c6f245c0bb9c2d21eea12d1bno06",
        "name" : "nosql-efa6_priam_node_1",
        "status" : "normal",
        "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007b",
        "private_ip" : "192.168.0.174",
        "spec_code" : "geminidb.redis.xlarge.4",
        "availability_zone" : "bbb"
      }, {
        "id" : "d57d76d6320a4a7b86db82c317550c4ano06",
        "name" : "nosql-efa6_priam_node_2",
```



```
      "status" : "normal",
      "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007b",
      "private_ip" : "192.168.0.175",
      "spec_code" : "geminidb.redis.xlarge.4",
      "availability_zone" : "bbb"
    }, {
      "id" : "f46b0a1cf4d9400e9fd7af17f8742d37no06",
      "name" : "nosql-efa6_priam_node_3",
      "status" : "normal",
      "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007b",
      "private_ip" : "192.168.0.176",
      "spec_code" : "geminidb.redis.xlarge.4",
      "availability_zone" : "bbb"
    } ]
  } ],
    "enterprise_project_id" : "0",
    "time_zone" : "",
    "actions" : [ "CREATE" ],
    "lb_ip_address" : "192.168.11.145",
    "lb_port" : "8635"
 }, {
  "id" : "1236a91546294036b75931e879882200in02",
  "name" : "nosql-efa7",
  "status" : "normal",
  "port" : "8635",
  "mode" : "ReplicaSet",
  "region" : "aaa",
  "datastore" : {
    "type" : "ReplicaSet",
    "version" : "4.0",
    "patch_available" : false
  },
  "engine" : "rocksDB",
  "created" : "2019-01-17T07:05:52",
  "updated" : "2019-01-17T07:05:47",
  "db_user_name" : "rwuser",
  "vpc_id" : "674e9b42-cd8d-4d25-a2e6-5abcc565b961",
  "subnet_id" : "f1df08c5-71d1-406a-aff0-de435a51007b",
  "security_group_id" : "7aa51dbf-5b63-40db-9724-dad3c4828b58",
  "backup_strategy" : {
    "start_time" : "16:00-17:00",
    "keep_days" : 7
  },
  "pay_mode" : 0,
  "maintenance_window" : "02:00-06:00",
  "groups" : [ {
    "id" : "0b0ff12541794e1084f6827e424be2d1gr02",
    "status" : "normal",
    "volume" : {
      "size" : 100,
      "used" : 0.003
    },
  } ],
    "enterprise_project_id" : "0",
    "time_zone" : "",
    "actions" : [ ]
 } ],
 "total_count" : 2
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.4 Scaling Up Storage Space of an Instance

Function

This API is used to scale up storage space of an instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

This API supports both yearly/monthly and pay-per-use instances.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/extend-volume

Table 5-42 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-43 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-44 Request body parameters

Parameter	Mandatory	Type	Description
size	Yes	Integer	Requested storage space. It must be an integer greater than the current storage space. The maximum storage space depends on the API type and specifications. • For details about GeminiDB Cassandra instances, see **Instance Specifications**. • For details about GeminiDB Influx instances, see **Instance Specifications**. • For details about GeminiDB Redis instances, see **Instance Specifications**.

Response Parameters

Status code: 202

Table 5-45 Response body parameters

Parameter	Type	Description
job_id	String	Task ID. This parameter is returned only for pay-per-use instances.
order_id	String	Order ID. This parameter is returned only when a yearly/monthly instance is created.

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/extend-volume
  ```
- Scaling up storage space of an instance to 550 GB
  ```
  {
    "size" : 550
  }
  ```

Example Responses

Status code: 202

Accepted

Example response for a pay-per-use instance:

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

Example response for a yearly/monthly instance:

```
{
  "order_id" : "CS20070721568OVO9"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.5 Adding Nodes for an Instance

Function

This API is used to add nodes for a specified instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/enlarge-node

Table 5-46 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-47 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-48 Request body parameters

Parameter	Mandatory	Type	Description
num	Yes	Integer	Number of new nodes.
subnet_id	No	String	ID of the subnet where the new node is deployed. • This parameter is transferred only when a new node is added to a GeminiDB Cassandra instance. • The transferred subnet ID must belong to the VPC where the current instance is deployed. • If this parameter is not transferred, the system will allocate a subnet with sufficient IP addresses for the new node.
is_auto_pay	No	String	Whether the order will be automatically paid after a yearly/monthly instance is created. This parameter does not affect the payment mode of automatic renewal. • **true**: indicates that the order is automatically paid from the account. • **false**: indicates that the order is manually paid from the account. The default value is **false**.

Response Parameters

Status code: 202

Table 5-49 Response body parameters

Parameter	Type	Description
job_id	String	Task ID. This parameter is returned only for pay-per-use instances.
order_id	String	Order ID. This parameter is returned only for yearly/monthly instances.

Example Requests

- URI example
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/enlarge-node
- Adding a node
  ```
  {
    "num" : 1
  }
  ```

Example Responses

Status code: 202

Accepted

Example response for a pay-per-use instance:

```
{
  "job_id" : "3711e2ad-5787-49bc-a47f-3f0b066af9f5"
}
```

Example response for a yearly/monthly instance:

```
{
  "order_id" : "CS20070721568OVO9"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.6 Deleting Nodes from a Specified Instance

Function

This API is used to delete nodes from a specified instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra yearly/monthly and pay-per-use instances
- GeminiDB Redis yearly/monthly and pay-per-use instances

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/reduce-node

Table 5-50 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-51 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-52 Request body parameters

Parameter	Mandatory	Type	Description
num	No	Integer	Number of nodes to be deleted randomly. **NOTE** If users connect to nodes using the client, do no choose to delete node randomly.

Parameter	Mandatory	Type	Description
node_list	No	Array of strings	ID of the node to be deleted. Make sure that the node can be deleted. If this parameter is not transferred, the number of nodes to be deleted is based on the internal policy of the system. **NOTE** • Either **num** or **node_list** must be set. • If **num** and **node_list** are both transferred, the value of **node_list** takes effect. • If **node_list** is empty, instance nodes are deleted randomly. If **node_list** is not empty, only the node whose ID is specified is deleted. • Before a node is deleted, do not connect to the node directly to avoid service interruptions.

Response Parameters

Status code: 202

Table 5-53 Response body parameters

Parameter	Type	Description
job_id	String	Task ID. This parameter is returned only for pay-per-use instances.
order_id	String	Order ID. This parameter is returned only for yearly/monthly instances.

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/reduce-node
  ```
- Deleting a node
  ```
  {
    "num" : 1,
    "node_list" : [ "116ba14da34a42d28ecd83a38c218907no12" ]
  }
  ```


Example Responses

Status code: 202

Accepted

Example response for a pay-per-use instance:

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

Example response for a yearly/monthly instance:

```
{
  "order_id" : "CS20070721568OVO9"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.7 Obtaining Sessions of a Node

Function

This API is used to obtain all sessions of a node.

Constraints

This API supports GeminiDB Redis instances.

URI

GET /v3/{project_id}/redis/nodes/{node_id}/sessions

Table 5-54 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
node_id	Yes	String	Node ID.

Table 5-55 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. The value must be no less than **0**. If this parameter is not transferred, the index offset is **0** by default, indicating that the query starts from the latest created session to the instance node.
limit	No	Integer	Number of pages in a pagination query. If this parameter is not transferred, 50 sessions are displayed on each page by default. A maximum of 100 sessions can be displayed.
addr_prefix	No	String	Prefix of the address on the user side. It is a character string consisting of an IP address and port number. If this parameter is not transferred, all prefixes of addresses on the user side are queried by default.

Request Parameters

Table 5-56 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-57 Response body parameters

Parameter	Type	Description
sessions	Array of objects	Instance sessions. For details, see **Table 5-58**.
total_count	Integer	Total sessions that meet search criteria.

Table 5-58 InstanceSession

Parameter	Type	Description
addr	String	IP address and port number of the client.
id	String	Client ID.
name	String	Client name, which is specified by running **CLIENT SETNAME**.
cmd	String	Last executed command.
age	String	Setup duration of the client connection, in seconds.
idle	String	Idle duration of the client connection, in seconds.
db	String	ID of the currently accessed database.
fd	String	File descriptor for sockets.
sub	String	Number of subscribed channels (Pub/Sub).
psub	String	Number of subscribed channels (Pub/Sub) in batches.
multi	String	Number of commands contained in a MULTI or EXEC transaction.

Example Requests

```
GET https://{Endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/redis/nodes/784b3fb7bac14bc490659950dd4f022fno12/sessions?offset=0&limit=20&addr_prefix=192.0.0.1:80
```

Example Responses

Status code: 200

Success

```
{
  "total_count" : 100,
  "sessions" : [ {
    "addr" : "127.0.0.1:8080",
    "id" : "254487",
    "name" : "cli",
    "cmd" : "get",
    "age" : "8888581",
    "idle" : "8888581",
    "db" : "0",
    "fd" : "1311",
    "sub" : "0",
    "psub" : "0",
    "multi" : "-1"
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.8 Querying Session Statistics of an Instance Node

Function

This API is used to query session statistics of an instance node.

Constraints

This API supports GeminiDB Redis instances.

URI

GET /v3/{project_id}/redis/nodes/{node_id}/session-statistics

Table 5-59 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
node_id	Yes	String	Node ID.

Request Parameters

Table 5-60 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-61 Response body parameters

Parameter	Type	Description
total_connection_count	Integer	Total client connections.
active_connection_count	Integer	Number of active client connections.
top_source_ips	Array of objects	Top ten clients with the most connections. Total connected clients and their IP addresses are displayed and ordered based on sessions. For details, see **Table 5-62**.
top_dbs	Array of objects	Top ten databases with the most connections. Total connected clients and their IP addresses are displayed and ordered based on sessions. For details, see **Table 5-63**.

Table 5-62 SourceTopConnection

Parameter	Type	Description
client_ip	String	Client IP address.
connection_count	Integer	Number of client connections.

Table 5-63 TopDbConnection

Parameter	Type	Description
db	String	GeminiDB Redis database ID.
connection_count	Integer	Number of client connections.

Example Requests

```
GET https://{Endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/redis/nodes/784b3fb7bac14bc490659950dd4f022fno12/session-statistics
```

Example Responses

Status code: 200

Success

```
{
  "total_connection_count" : 10,
  "active_connection_count" : 5,
  "top_source_ips" : [ {
```



```
    "client_ip" : "127.0.0.1",
    "connection_count" : 10
  }, {
    "client_ip" : "192.10.14.1",
    "connection_count" : 9
  } ],
  "top_dbs" : [ {
    "db" : "12",
    "connection_count" : 10
  }, {
    "db" : "14",
    "connection_count" : 8
  } ]
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.9 Closing Sessions of an Instance Node

Function

This API is used to close sessions of an instance node.

Constraints

This API supports GeminiDB Redis instances and can be used to close inactive sessions of an instance node.

URI

DELETE /v3/{project_id}/redis/nodes/{node_id}/sessions

Table 5-64 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
node_id	Yes	String	Node ID.

Request Parameters

Table 5-65 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-66 Request body parameters

Parameter	Mandatory	Type	Description
is_all	Yes	Boolean	Whether all sessions are closed.
session_ids	No	Array of strings	ID of the session to be closed. When the value of **is_all** is **false**, this parameter cannot be left empty.

Response Parameters

Status code: 200

No response parameters

Example Requests

- URI example
  ```
  DELETE https://{Endpoint}/v3/619d3e78f61b4be68bc5aa0b59edcf7b/redis/nodes/784b3fb7bac14bc490659950dd4f022fno12/sessions
  ```
- Deleting sessions **1131** and **2323**
  ```
  {
    "is_all" : false,
    "session_ids" : [ "1131", "2323" ]
  }
  ```

Example Responses

Status code: 200

Success

```
{}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.10 Changing Specifications of an Instance

Function

This API is used to change specifications of an instance.

NOTE

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

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Redis

This API can be used to scale up or down specifications of an instance.

The new specifications cannot be the same as the original specifications.

Specifications can be modified only when the instance status is **normal**.

If specifications cannot meet the requirements for running the instance, the specifications cannot be changed.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/resize

Table 5-67 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-68 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-69 Request body parameters

Parameter	Mandatory	Type	Description
resize	Yes	**ResizeInstanceOption** object	Target specification information.

Table 5-70 ResizeInstanceOption

Parameter	Mandatory	Type	Description
target_spec_code	Yes	String	Target resource specification code. For the code, see the value of response parameter **flavors.spec_code** in **Querying Instance Specifications**.

Response Parameters

Status code: 202

Table 5-71 Response body parameters

Parameter	Type	Description
job_id	String	Task ID. This parameter is returned only for pay-per-use instances.
order_id	String	Order ID. This parameter is returned only for yearly/monthly instances.

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/resize
  ```
- Changing instance specifications to 16 vCPUs | 64 GB
  ```
  {
    "resize" : {
      "target_spec_code" : "geminidb.cassandra.4xlarge.4"
    }
  }
  ```

Example Responses

Status code: 202

Accepted

Example response for a pay-per-use instance:

```
{
  "job_id" : "3711e2ad-5787-49bc-a47f-3f0b066af9f5"
}
```

Example response for a yearly/monthly instance:

```
{
  "order_id" : "CS20070721568OVO9"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.11 Resetting the Administrator Password of an Instance

Function

This API is used to reset the administrator password of an instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

Abnormal instances do not support this operation.

Only the password of user **rwuser** can be reset.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/password

Table 5-72 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-73 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-74 Request body parameters

Parameter	Mandatory	Type	Description
password	Yes	String	Database password. The password can include 8 to 32 characters and contain uppercase letters, lowercase letters, digits, and a combination of any two of the following special characters: ~!@#%^*-_=+? Enter a strong password against security risks such as brute force cracking.

Response Parameters

Status code: 204

No response parameters

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/password
  ```
- Resetting the administrator password of an instance to ******
  ```
  {
    "password" : "******"
  }
  ```

Example Responses

Status code: 204

No Content

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.12 Editing the Name of an Instance

Function

This API is used to edit the name of an instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

The name of the instance that is being created or fails to be created cannot be edited.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/name

Table 5-75 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-76 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-77 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	New instance name. The name: Must start with a letter and can include 4 to 64 characters. It is case-sensitive and can contain only letters, digits, hyphens (-), and underscores (_).

Response Parameters

Status code: 204

No response parameters

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in06/name
  ```
- Changing the instance name to **myNewName**
  ```
  {
    "name" : "myNewName"
  }
  ```

Example Responses

None

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.13 Changing the Security Group of an Instance

Function

This API is used to change the security group associated with an instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra

- GeminiDB Influx
- GeminiDB Redis

Abnormal instances do not support this operation.

Please confirm the modified security group rule. This policy may affect connections to the current instance, interrupting services.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/security-group

Table 5-78 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-79 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-80 Request body parameters

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	ID of the new security group.

Response Parameters

Status code: 204

Table 5-81 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in02/security-group
  ```
- Example request body
  ```
  {
    "security_group_id" : "73bed21a-708b-4985-b697-a96d0e0d2b39"
  }
  ```

Example Responses

Status code: 204

No Content

```
{
  "job_id" : "3711e2ad-5787-49bc-a47f-3f0b066af9f5"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.3.14 Upgrading Minor Version

Function

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

Constraints

- This API supports the following types of instances:
  - GeminiDB Cassandra
- This API is not available to frozen or abnormal instances.
- This API is not available if there are abnormal instance nodes.
- View field **patch_available** in the result returned by the API for querying instance details and check whether a minor version upgrade is supported.
- Perform an upgrade during off-peak hours.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/db-upgrade

Table 5-82 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-83 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 202

Table 5-84 Response body parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Requests

URI example

```
POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/e73893ef73754465a8bd2e0857bbf13ein02/db-upgrade
```

Example Responses

Status code: 202

Accepted

```
{
  "job_id" : "3711e2ad-5787-49bc-a47f-3f0b066af9f5"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4 Backups and Restorations

5.4.1 Querying Backups

Function

This API is used to query backups based on specified conditions.

GeminiDB Cassandra only allows you to view incremental backups and differential backups and their sizes.

URI

GET https://{Endpoint}/v3/{project_id}/backups

Table 5-85 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a user in a region. To obtain this value, see **Obtaining a Project ID**.

Table 5-86 Query parameters

Parameter	Mandatory	Type	Description
offset	Yes	Integer	Page number. Minimum value: **1**
limit	Yes	Integer	Number of records on each page. Minimum value: **1** Maximum value: **100**
datastore_type	No	String	DB API type. If this parameter is not specified, all DB API will be queried. Value options: • cassandra • redis • influxdb

Parameter	Mandatory	Type	Description
type	No	String	Backup policy type. The value can be: • **Instance**, indicating that an instance backup is queried. • **DatabaseTable**, indicating that a table-level backup is queried. This feature is available to only GeminiDB Cassandra. • The default value is **Instance**.
instance_id	No	String	Instance ID. If this parameter is not transferred, all backups are queried.
backup_id	No	String	Backup ID.
backup_type	No	String	Backup type. Value options: • **Auto**: indicates that the backup is an automated full backup. • **Manual**: indicates that the backup is a manual full backup. • **Incremental**: indicates that the backup is an incremental backup. • **Differential**: indicates that the backup is a differential backup.
begin_time	No	String	Start time of the query. The format is **yyyy-mm-dd hh:mm:ss**. The value is in UTC format.
end_time	No	String	End time of the query. The format is **yyyy-mm-dd hh:mm:ss**. The value is in UTC format.

Request Parameters

Table 5-87 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-88 Response body parameters

Parameter	Type	Description
total_count	Long	Total number of records.
backups	Array of objects	Backup list. For details, see **Table 5-89**.

Table 5-89 backups

Parameter	Type	Description
id	String	Backup ID.
name	String	Backup name.
description	String	Backup description.
begin_time	String	Backup start time. The format of the start time is **yyyy-mm-dd hh:mm:ss**. The value is in UTC format.
end_time	String	Backup end time. The format of the end time is **yyyy-mm-dd hh:mm:ss**. The value is in UTC format.
status	String	Backup status. Value options: • **BUILDING**: indicates that the backup is in progress. • **COMPLETED**: indicates that the backup is completed. • **FAILED**: indicates that the backup failed.
size	Double	Backup size, in KB.

Parameter	Type	Description
type	String	Backup type. Value options: • **Auto**: indicates that the backup is an automated full backup. • **Manual**: indicates that the backup is a manual full backup.
instance_id	String	Instance ID.
instance_name	String	Instance name.
datastore	object	Database information. For details, see **Table 5-90**.

Table 5-90 datastore

Parameter	Type	Description
type	String	Database type.
version	String	Database version.

Example Requests

- URI example
  ```
  GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054b61972980d4552f0bc00ac8d3f5cd/backups?instance_id=c0c9f155c7b7423a9d30f0175998b63bin01&offset=2&limit=2&begin_time=2018-07-06 10:41:14&end_time=2018-08-16 10:41:14&type=DatabaseTable
  ```
- Incremental backups and their sizes
  ```
  GET https://{Endpoint}/v3/2900b7b8d03e4619b8db8d43bc6234ee/backups?offset=1&limit=5&backup_type=Incremental&instance_id=3149aee486d748f68db1ee81e95b9f56in06
  ```
- Differential backups and their sizes
  ```
  GET https://{Endpoint}/v3/2900b7b8d03e4619b8db8d43bc6234ee/backups?offset=1&limit=5&backup_type=Differential&instance_id=3149aee486d748f68db1ee81e95b9f56in06
  ```
- Example request body

  None

Example Responses

Status code: 200

Success

```
{
  "total_count" : 4,
  "backups" : [ {
    "id" : "43e4feaab48f11e89039fa163ebaa7e4br01",
    "name" : "backup-test",
    "instance_id" : "43e4feaab48f11e89039fa163ebaa7e4br01",
```

```
    "instance_name" : "cluster-test",
    "datastore" : {
      "type" : "cassandra",
      "version" : "3.4"
    },
    "type" : "Auto",
    "begin_time" : "2018-08-06 12:41:14",
    "end_time" : "2018-08-06 12:43:14",
    "status" : "COMPLETED",
    "size" : 2803,
    "description" : "backup description",
  }, {
    "id" : "43e4feaab48f11e89039fa163ebaa7e4br02",
    "name" : "backup-test-2",
    "instance_id" : "43e4feaab48f11e89039fa163ebaa7e4br02",
    "instance_name" : "cluster-test",
    "datastore" : {
      "type" : "cassandra",
      "version" : "3.4"
    },
    "type" : "Manual",
    "begin_time" : "2018-08-06 12:41:14",
    "end_time" : "2018-08-06 12:43:14",
    "status" : "COMPLETED",
    "size" : 2803,
    "description" : "backup description",
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4.2 Querying an Automated Backup Policy

Function

This API is used to query an automated backup policy, including GeminiDB Cassandra databases and tables.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/backups/policy

Table 5-91 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-92 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-93 Response body parameters

Parameter	Type	Description
backup_policy	object	Backup policy objects, including backup retention period (days) and start time For details, see **Table 5-94**.

Table 5-94 ShowBackupPolicyResult

Parameter	Type	Description
keep_days	Integer	Backup retention days.
start_time	String	Backup time window. Automated backup will be triggered during the backup time window.
period	String	Backup period. After a backup period is specified, data will be automatically backed up on the selected days every week.

Example Requests

URI example


```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/
instances/9136fd2a9fcd405ea4674276ce36dae8in02/backups/policy
```

Example Responses

Status code: 200

Success

Enabling automated backup

```
{
  "backup_policy" : {
    "keep_days" : 7,
    "start_time" : "19:00-20:00",
    "period" : "1,2,4,5,6"
  }
 }
```

Disabling automated backup

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

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4.3 Configuring an Automated Backup Policy

Function

This API is used to configuring an automated backup policy.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/backups/policy

Table 5-95 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-96 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-97 Request body parameters

Parameter	Mandatory	Type	Description
backup_policy	Yes	object	Backup policy objects, including backup retention period (days) and start time For details, see **Table 5-98**.

Table 5-98 BackupPolicy

Parameter	Mandatory	Type	Description
keep_days	Yes	Integer	Backup retention days. The value ranges from **0** to **35**. The value **0** indicates that the automated backup policy is disabled.

Parameter	Mandatory	Type	Description
start_time	No	String	Backup time window. Automated backup will be triggered during the backup time window. This parameter is mandatory if the automated backup policy is enabled. If the policy is disabled, you do not need to transfer this parameter. The value must be the UTC time in the hh:mm-HH:MM format. ● 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 value: **23:00–00:00**
period	No	String	Backup period. After a backup period is specified, data will be automatically backed up on the selected days every week. This parameter is mandatory if the automated backup policy is enabled. If the policy is disabled, you do not need to transfer this parameter. The value is a list of digits separated by commas (,). Each digit indicates a day of the week. The restrictions on the backup period are as follows: ● If you set **keep_days** to **0**, this parameter is not transferred. ● If you set **keep_days** to **1** to **6**, set this parameter to **1, 2, 3, 4, 5, 6, 7.** ● If you set **keep_days** to **7** to **35**, select at least one day of the week for the backup cycle. Example value: **1,2,3,4**

Response Parameters

Status code: 204

No response parameters

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in02/backups/policy
  ```
- Example request body

  Enabling or modifying the automated backup policy (Set **period** to **1**, **2**, **3**, **4**, **5**, and **6**, **start_time** to **01:00-02:00**, and **keep_days** to **7**.)

  ```
  {
    "backup_policy" : {
    "period" : "1,2,3,4,5,6",
    "start_time" : "01:00-02:00",
    "keep_days" : 7
    }
  }
  ```

  Disabling automated backup

  ```
  {

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

Example Responses

Status code: 204

No Content

```
{ }
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4.4 Querying the Recycling Policy

Function

This API is used to query the recycling policy.

URI

GET https://{Endpoint}/v3/{project_id}/instances/recycle-policy

Table 5-99 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a user in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-100 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-101 Response body parameters

Parameter	Type	Description
recycle_policy	object	Recycling policy. For details, see **Table 5-102**.

Table 5-102 RecyclePolicy

Parameter	Type	Description
retention_period_in_days	Integer	Policy retention duration (1 to 7 days). The value is a positive integer. The default value is **7**.

Example Requests

- URI example
  ```
  GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054e292c9880d4992f02c0196d3ea468/instances/recycle-policy
  ```
- Example request body

  None

Example Responses

Status code: 200

Success


```
{
  "recycle_policy": {
    "retention_period_in_days": 7
  }
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4.5 Modifying the Recycling Policy

Function

This API is used to change a retention period for deleted instances. The new retention period is available to only those instances deleted after the change, but not to the instances already moved to the recycle bin before the change.

Constraints

The retention period for deleted instances can be 1 to 7 days.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/recycle-policy

Table 5-103 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-104 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-105 Request body parameters

Parameter	Mandatory	Type	Description
recycle_policy	Yes	object	Recycling policy. For details, see **Table 5-106**.

Table 5-106 RecyclePolicy

Parameter	Mandatory	Type	Description
retention_period_in_days	No	Integer	Policy retention duration (1 to 7 days). The value is a positive integer. The default value is **7**.

Response Parameters

Status code: 200

No response parameters

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/recycle-policy
  ```
- Setting the retention period of instances in the recycle bin to 3 days
  ```
  {
    "recycle_policy": {
      "retention_period_in_days": 3
    }
  }
  ```

Example Responses

None

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.4.6 Querying Instances in the Recycle Bin

Function

This API is used to query all instances in the recycle bin.

URI

GET https://{Endpoint}/v3/{project_id}/recycle-instances

Table 5-107 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Table 5-108 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. • If **offset** is set to *N*, the resource query starts from the N+1 piece of data. If **action** is set to **filter**, **offset** is **0** by default, indicating that the query starts from the first piece of data. • The value must be a positive integer.
limit	No	Integer	Maximum records to be queried. • The value ranges from **1** to **100**. • If this parameter is not transferred, the first 100 records are queried by default.

Request Parameters

Table 5-109 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-110 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of records.
instances	Array of objects	Instance information. For details, see **Table 5-111**.

Table 5-111 RecycleInstance

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.
mode	String	Instance type. The value can be: • **Cluster**, indicating that the instance is a GeminiDB Cassandra, GeminiDB Influx, or GeminiDB Redis replica set instance.
datastore	object	Database information For details, see **Table 5-112**.
charge_mode	String	Billing mode. Options: • **prePaid**: indicates that the billing mode is yearly/monthly. • **postPaid**: indicates that the billing mode is pay-per-use.
enterprise_project_id	String	Enterprise project ID. The value **0** indicates that the default enterprise project is used.
backup_id	String	Backup ID.
created_at	String	Instance creation time.
deleted_at	String	Instance deletion time.
retained_until	String	Retention end time.

Table 5-112 RecycleDatastore

Parameter	Type	Description
type	String	Database type. The value can be: • **cassandra**, indicating that target instances are of the GeminiDB Cassandra type. • **influxdb**, indicating that target instances are of the GeminiDB Influx type. • **redis**, indicating that target instances are of the GeminiDB Redis type.
version	String	Database version. The value can be:

Example Requests

- URI example
  ```
  GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/recycle-instances?offset=0&limit=100
  ```
- Example request body

  None

Example Responses

Status code: 200

Success

```
{
  "total_count" : 1,
  "instances" : [ {
    "id" : "07fc12a8e0e94df7a3fcf53d0b5e1605in06",
    "name" : "test",
    "mode" : "Cluster",
    "datastore" : {
      "type" : "cassandra",
      "version" : "3.11"
    },
    "charge_mode" : "postPaid",
    "enterprise_project_id" : "0",
    "backup_id" : "bf9ee62a7f7044c583c6765c916c36edbr02",
    "created_at" : "2022-01-01T10:00:00",
    "deleted_at" : "2022-02-01T11:00:00",
    "retained_until" : "2022-02-02T11:00:00"
  } ]
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5 Parameter Templates

5.5.1 Obtaining Parameter Templates

Function

This API is used to obtain parameter templates, including all of the default and custom parameter templates.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

GET https://{Endpoint}/v3.1/{project_id}/configurations

Table 5-113 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Table 5-114 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Index offset. • If **offset** is set to *N*, the resource query starts from the N+1 piece of data. If **action** is set to **filter**, **offset** is **0** by default, indicating that the query starts from the first piece of data. • The value must be a positive integer.

Parameter	Mandatory	Type	Description
limit	No	Integer	Maximum number of instances that can be queried. • The value ranges from **1** to **100**. • If this parameter is not transferred, the first 100 records are queried by default.

Request Parameters

Table 5-115 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-116 Response body parameters

Parameter	Type	Description
count	Integer	Total number of records.
quota	Integer	Maximum number of custom parameter templates that a user can create.
configurations	Array of **ListConfigurations-Result** objects	Parameter templates.

Table 5-117 ListConfigurationsResult

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
description	String	Parameter template description.

Parameter	Type	Description
datastore_version_name	String	Database version name.
datastore_name	String	Database name.
created	String	Creation time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
updated	String	Update time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
mode	String	Instance type. The value can be: **Cluster**, indicating that the instance is of the GeminiDB Cassandra cluster type. **Cluster**, indicating that the instance is of the GeminiDB Influx cluster type.
user_defined	Boolean	Whether the parameter template is a custom template. The value can be: • **false**, indicating that the parameter template is a default parameter template. • **true**, indicating that the parameter template is a custom template.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3.1/375d8d8fad1f43039e23d3b6c0f60a19/configurations?offset=0&limit=10
```

Example Responses

Status code: 200

Success

```
{
  "count" : 2,
  "quota": 100,
  "configurations" : [ {
    "id" : "887ea0d1bb0843c49e8d8e5a09a95652pr06",
    "name" : "configuration_test",
    "description" : "configuration_test",
    "datastore_version_name" : "3.11",
    "datastore_name" : "cassandra",
    "created" : "2019-05-15T11:53:34+0000",
    "updated" : "2019-05-15T11:53:34+0000",
    "mode": "Cluster",
```



```
    "user_defined" : true
  }, {
    "id" : "3bc1e9cc0d34404b9225ed7a58fb284epr06",
    "name" : "Default-Cassandra-3.11",
    "description" : "Default parameter group for cassandra 3.11",
    "datastore_version_name" : "3.11",
    "datastore_name" : "cassandra",
    "created" : "2019-05-27T03:38:51+0000",
    "updated" : "2019-05-27T03:38:51+0000",
    "mode": "Cluster",
    "user_defined" : false
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.2 Creating a Parameter Template

Function

This API is used to create a parameter template and configure the name, description, DB engine version, and parameter values in the parameter template.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

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

For configuration item **values**, you can enter system-defined parameters that allow for modification.

URI

POST https://{Endpoint}/v3/{project_id}/configurations

Table 5-118 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-119 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-120 Request body parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Parameter template name. It can include a maximum of 64 characters and can contain only uppercase letters, lowercase letters, digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Parameter template description. It can contain a maximum of 256 characters except the following special characters: >!<"&'= The value is left blank by default.
values	No	Map<String,String>	Parameter values defined by users based on a default parameter template. Keep the parameter values unchanged by default.
datastore	Yes	**ConfigurationDatastoreOption** object	Database object.

Table 5-121 ConfigurationDatastoreOption

Parameter	Mandatory	Type	Description
type	Yes	String	Database type. The value can be: **cassandra**, indicating that the instances are of the GeminiDB Cassandra type. **influxdb**, indicating that the instances are of the GeminiDB Influx type.

Parameter	Mandatory	Type	Description
version	Yes	String	Database version. The value can be: **3.11**, indicating that GeminiDB Cassandra 3.11 is supported. **1.7**, indicating that GeminiDB Influx 1.7 is supported.

Response Parameters

Status code: 200

Table 5-122 Response body parameters

Parameter	Type	Description
configuration	**ConfigurationResult** object	Parameter template information.

Table 5-123 ConfigurationResult

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
datastore_version_name	String	Database version name.
datastore_name	String	Database name.
description	String	Parameter template description
created	String	Creation time in the yyyy-MM-ddTHH:mm:ssZ format.
updated	String	Update time in the yyyy-MM-ddTHH:mm:ssZ format.

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/configurations
  ```
- Creating a parameter template for GeminiDB Cassandra instances
  ```
  {
    "name" : "configuration_test",
  ```



```
  "description" : "configuration_test",
  "values" : {
    "max_connections" : "10",
    "autocommit" : "OFF"
  },
  "datastore" : {
    "type" : "cassandra",
    "version" : "3.11"
  }
}
```

Example Responses

Status code: 200

Success

```
{
  "configuration" : {
    "id" : "463b4b58d0e84e2b95605dea4552fdpr06",
    "name" : "configuration_test",
    "datastore_version_name" : "3.11",
    "datastore_name" : "cassandra",
    "description" : "configuration_test",
    "created" : "2020-03-09T08:27:56+0800",
    "updated" : "2020-03-09T08:27:56+0800"
  }
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.3 Modifying Parameters in a Parameter Template

Function

This API is used to modify parameters in a specified parameter template, including parameter names, descriptions, and values.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

The modified parameter template name must be different from the name of any existing or default parameter template.

Default parameter templates cannot be modified.

For configuration item **values**, you can enter system-defined parameters that allow for modification.

URI

PUT https://{Endpoint}/v3/{project_id}/configurations/{config_id}

Table 5-124 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 5-125 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-126 Request body parameters

Parameter	Mandatory	Type	Description
name	No	String	Parameter template name. It can include a maximum of 64 characters and can contain only uppercase letters, lowercase letters, digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Parameter template description. It can include a maximum of 256 characters and cannot contain the following special characters: >! <"&'= The value is left blank by default.
values	No	Map<String,String>	Parameter values defined by users based on a default parameter template. If this parameter is not specified, no parameter values are to be changed.

Response Parameters

Status code: 200

No response parameters

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/configurations/e02e76567ae04662a2753492b77f965bpr06
  ```
- Modifying Parameters in a Parameter Template

  NOTE

  At least one parameter in the request body must be specified. Otherwise, the request cannot be delivered.

  ```
  {
    "name" : "configuration_test",
    "description" : "configuration_test",
    "values" : {
      "concurrent_reads" : "64"
    }
  }
  ```

Example Responses

None

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.4 Applying a Parameter Template

Function

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

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

This API is an asynchronous API. A successful response does not indicate that the parameter template is successfully applied.

URI

PUT https://{Endpoint}/v3/{project_id}/configurations/{config_id}/apply

Table 5-127 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 5-128 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-129 Request body parameters

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

Response Parameters

Status code: 200

Table 5-130 Response body parameters

Parameter	Type	Description
job_id	String	ID of the asynchronous task that applies the parameter template.
success	Boolean	Whether the task for applying the parameter template is successfully submitted. The value can be: • **true**, indicating the task is successfully submitted. • **false**, indicating the task fails to be submitted.

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/configurations/e02e76567ae04662a2753492b77f965bpr06/apply
  ```
- Applying a Parameter Template
  ```
  {
    "instance_ids" : [ "73ea2bf70c73497f89ee0ad4ee008aa2in06" ]
  }
  ```

Example Responses

Status code: 200

Success

```
{
  "job_id" : "463b4b58-d0e8-4e2b-9560-5dea4552fde9",
  "success" : true
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.5 Modifying Parameters of a Specified Instance

Function

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

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

For configuration item **values**, you can enter system-defined parameters that allow for modification.

This API is an asynchronous API. A successful response does not indicate that the parameters are successfully modified.

URI

PUT https://{Endpoint}/v3/{project_id}/instances/{instance_id}/configurations

Table 5-131 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-132 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-133 Request body parameters

Parameter	Mandatory	Type	Description
values	Yes	Map<String,String>	Parameter values defined by users based on a default parameter template.

Response Parameters

Status code: 200

Table 5-134 Response body parameters

Parameter	Type	Description
job_id	String	ID of the asynchronous task for modifying instance parameters.
restart_required	Boolean	Whether the instance needs to be restarted. The value can be: • **true**, indicating that the instance needs to be restarted. • **false**, indicating that the instance does not need to be restarted.

Example Requests

- URI example
  ```
  PUT https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054e292c9880d4992f02c0196d3ea468/instances/392850e624504e1490901d50b585a60din06/configurations
  ```
- Modifying Parameters of a Specified Instance
  ```
  {
    "values" : {
      "request_timeout_in_ms" : "10000"
    }
  }
  ```

Example Responses

Status code: 200

Success

```
{
  "job_id" : "463b4b58-d0e8-4e2b-9560-5dea4552fde9",
  "restart_required" : false
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.6 Querying Instance Parameter Settings

Function

This API is used to query instance parameter settings.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/configurations

Table 5-135 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-136 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-137 Response body parameters

Parameter	Type	Description
datastore_version_name	String	Database version name.
datastore_name	String	Database name.
created	String	Creation time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
updated	String	Update time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
id	String	Parameter template ID.
mode	String	Instance type. The value can be: **Cluster**, indicating that the instance is of the GeminiDB Cassandra cluster type. **Cluster**, indicating that the instance is of the GeminiDB Influx cluster type.

Parameter	Type	Description
configuration_parameters	Array of **ConfigurationParameterResult** objects	Parameters defined by users based on a default parameter template.

Table 5-138 ConfigurationParameterResult

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
restart_required	Boolean	Whether the instance needs to be restarted. The value can be: • **false**, indicating that the instance does not need to be restarted. • **true**, indicating that the instance needs to be restarted.
readonly	Boolean	Whether the parameter is read-only. The value can be: • **false**, indicating that the parameter is not read-only. • **true**, indicating that the parameter is read-only.
value_range	String	Value range. For example, the value of the Integer type ranges from **0** to **1**, and the value of the Boolean type is **true** or **false**.
type	String	Parameter type. The value can be **string**, **integer**, **boolean**, **list**, or **float**.
description	String	Parameter description.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in02/configurations
```

Example Responses

Status code: 200

Success

```
{
  "datastore_version_name" : "3.11",
```



```
 "datastore_name" : "cassandra",
 "created" : "2020-03-21 11:40:44",
 "updated" : "2020-03-21 11:40:44",
 "id": "9ad6bc82146e4043a50c963ab3bf09adpr06",
 "mode": "Cluster",
 "configuration_parameters" : [ {
   "name" : "concurrent_reads",
   "value" : "64",
   "restart_required" : true,
   "readonly" : true,
   "value_range" : "4-512",
   "type" : "integer",
   "description" : "Number of concurrent read threads."
 } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.7 Obtaining Parameters of a Specified Parameter Template

Function

This API is used to obtain information about parameters of a specified parameter template.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

GET https://{Endpoint}/v3/{project_id}/configurations/{config_id}

Table 5-139 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 5-140 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-141 Response body parameters

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
description	String	Parameter template description.
datastore_version_name	String	Database version name.
datastore_name	String	Database name.
created	String	Creation time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
updated	String	Update time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
configuration_parameters	Array of **ConfigurationParameterResult** objects	Parameters defined by users based on a default parameter template.

Table 5-142 ConfigurationParameterResult

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.

Parameter	Type	Description
restart_required	Boolean	Whether the instance needs to be restarted. The value can be: • **false**, indicating that the instance does not need to be restarted. • **true**, indicating that the instance needs to be restarted.
readonly	Boolean	Whether the parameter is read-only. The value can be: • **false**, indicating that the parameter is not read-only. • **true**, indicating that the parameter is read-only.
value_range	String	Value range. For example, the value of the Integer type ranges from **0** to **1**, and the value of the Boolean type is **true** or **false**.
type	String	Parameter type. The value can be **string**, **integer**, **boolean**, **list**, or **float**.
description	String	Parameter description.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/
configurations/e02e76567ae04662a2753492b77f965bpr06
```

Example Responses

Status code: 200

Success

```
{
  "id" : "07fc12a8e0e94df7a3fcf53d0b5e1605pr06",
  "name" : "default-cassandra-3.11",
  "datastore_version_name" : "3.11",
  "datastore_name" : "cassandra",
  "description" : "Default parameter group for cassandra 3.11",
  "created" : "2020-03-21T04:40:51+0800",
  "updated" : "2020-03-21T04:40:51+0800",
  "configuration_parameters" : [ {
    "name" : "concurrent_reads",
    "value" : "64",
    "restart_required" : true,
    "readonly" : true,
    "value_range" : "4-512",
    "type" : "integer",
    "description" : "Number of concurrent read threads."
  } ]
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.5.8 Deleting a Parameter Template

Function

This API is used to delete a specified parameter template.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

DELETE https://{Endpoint}/v3/{project_id}/configurations/{config_id}

Table 5-143 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 5-144 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

No response parameters

Example Requests

URI example

```
DELETE https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/
configurations/e02e76567ae04662a2753492b77f965bpr06
```

Example Responses

None

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.6 Tags

5.6.1 Querying an Instance by Tag

Function

This API is used to query a specified instance by tag.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

A maximum of 20 tags can be added to a DB instance. The tag key must be unique.

URI

POST https://{Endpoint}/v3/{project_id}/instances/resource-instances/action

Table 5-145 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-146 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-147 Request body parameters

Parameter	Mandatory	Type	Description
offset	No	String	Index offset. The query starts from the next piece of data indexed by this parameter. • If **action** is set to **count**, this parameter does not need to be transferred. • If **action** is set to **filter**, the parameter value must be a positive integer. The default value is **0**, indicating that the query starts from the first piece of data. '
limit	No	String	Number of records to be queried. • If **action** is set to **count**, this parameter does not need to be transferred. • If **action** is set to **filter**, the value ranges from **1** to **100**. If this parameter is not transferred, the first 100 instances are queried by default.
action	Yes	String	Operation identifier. • If **action** is set to **filter**, instances are queried based on tag filters. • If **action** is set to **count**, only the total number of records is returned.

Parameter	Mandatory	Type	Description
matches	No	Array of **MatchOption** objects	Search parameter. • If this parameter is not specified, the query is not based on the instance name or ID. • This parameter cannot be left blank.
tags	No	Array of **TagOption** objects	Included tags. Each tag contains a maximum of 20 keys.

Table 5-148 MatchOption

Parameter	Mandatory	Type	Description
key	Yes	String	Query criteria. The value can be **instance_name** or **instance_id**, indicating that the query is based on the instance name or instance ID.
value	Yes	String	Name or ID of the instance to be queried

Table 5-149 TagOption

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. It can contain a maximum of 36 Unicode characters. The **key** value cannot be null, an empty string, or spaces. Before using **key**, delete spaces before and after the value. **NOTE** The character set of this parameter is not verified during search.

Parameter	Mandatory	Type	Description
values	Yes	Array of strings	Tag values. Each tag value can contain a maximum of 43 Unicode characters and cannot contain spaces. Before using **values**, delete spaces before and after the value. If the **values** is not specified, any parameter value can be queried. All values are in the OR relationship.

Response Parameters

Status code: 200

Table 5-150 Response body parameters

Parameter	Type	Description
instances	Array of **InstanceResult** objects	All instances.
total_count	Integer	Total number of records.

Table 5-151 InstanceResult

Parameter	Type	Description
instance_id	String	Instance ID.
instance_name	String	Instance name.
tags	Array of **InstanceTagResult** objects	All tags. If there are no tags, **tags** is taken as an empty array by default.

Table 5-152 InstanceTagResult

Parameter	Type	Description
key	String	Tag key. The tag key must be specified and can include a maximum of 36 Unicode characters. It is case-sensitive and can contain digits, letters, underscores (_), and hyphens (-).

Parameter	Type	Description
value	String	Tag value. The tag value can contain a maximum of 43 Unicode characters and can be an empty string. It is case-sensitive and can contain digits, letters, underscores (_), periods (.), and hyphens (-).

Example Requests

- URI example
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/resource-instances/action
- Example request body

  Querying an instance by name (Set **offset** to **100** and **limit** to **100**.)

```
{
  "offset" : 100,
  "limit" : 100,
  "action" : "filter",
  "matches" : [{
    "key" : "instance_name",
    "value" : "test-single"
  }],
  "tags" : [{
    "key" : "key1",
    "values" : [ "value1", "value2" ]
  }]
}
```

  Querying total records

```
{
  "action" : "count",
  "tags" : [ {
    "key" : "key1",
    "values" : [ "value1", "value2" ]
  }, {
    "key" : "key2",
    "values" : [ "value1", "value2" ]
  } ],
  "matches" : [ {
    "key" : "instance_name",
    "value" : "test-single"
  }, {
    "key" : "instance_id",
    "value" : "958693039f284d6ebfb177375711072ein06"
  } ]
}
```

Example Responses

Status code: 200

Success

```
{
  "total_count": 1,
  "instances" : [{
    "instance_id" : "2acbf2223caf3bac3c33c6153423c3ccin06",
    "instance_name" : "test-single",
```



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

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.6.2 Adding or Deleting Resource Tags in Batches

Function

This API is used to add tags to or delete tags from a specified DB instance in batches.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

A maximum of tags can be added to an instance. The tag key must be unique.

If the request body contains duplicated keys, an error message will be reported when the API is called.

If the key in the request body is the same as an existing key in a specified instance, the value of the **value** parameter that corresponds to the existing key is overwritten.

If the tag to be deleted does not exist, the system deems the deletion operation successful by default but does not check whether the tag key and value meets character set rules.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/tags/action

Table 5-153 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-154 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-155 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operation identifier. The value can be: • **create**, indicating that tags are added. • **delete**, indicating that tags are deleted.
tags	Yes	Array of **BatchTagActionTagOption** objects	All tags.

Table 5-156 BatchTagActionTagOption

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. It can contain a maximum of 36 Unicode characters. The **key** value cannot be **null**, an empty string, or spaces. Before using **key**, delete spaces before and after the value. It is case-sensitive and can contain digits, letters, underscores (_), and hyphens (-).
value	No	String	Tag value. The tag value can contain a maximum of 43 Unicode characters and can be an empty string. It is case-sensitive and can contain digits, letters, underscores (_), periods (.), and hyphens (-). • If **action** is set to **create**, this parameter is mandatory. • If **action** is set to **delete**, this parameter is optional. **NOTE** If **value** is specified, tags are deleted by key and value. If **value** is not specified, tags are deleted by key.

Response Parameters

Status code: 200

No response parameters

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/9136fd2a9fcd405ea4674276ce36dae8in02/tags/action
  ```
- Adding two tags
  ```
  {
    "action" : "create",
    "tags" : [ {
      "key" : "key1",
      "value" : "value1"
    }, {
      "key" : "key2",
  ```



```
    "value" : "value2"
  } ]
}
```

- Deleting two tags

```
{
  "action" : "delete",
  "tags" : [ {
    "key" : "key1"
  }, {
    "key" : "key2",
    "value" : "value3"
  } ]
}
```

Example Responses

Status code: 200

Success

```
{ }
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.6.3 Querying Tags of an Instance

Function

This API is used to query tags of a specified instance.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

A maximum of 20 tags can be added to a DB instance. The tag key must be unique.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/tags

Table 5-157 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-158 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-159 Response body parameters

Parameter	Type	Description
tags	Array of **ListInstanceTagsResult** objects	Tags of the instance.

Table 5-160 ListInstanceTagsResult

Parameter	Type	Description
key	String	Tag key. The tag key can contain a maximum of 36 Unicode characters and must be specified. It is case-sensitive and can contain digits, letters, underscores (_), and hyphens (-).
value	String	Tag value. The tag value can contain a maximum of 43 Unicode characters and can be an empty string. It is case-sensitive and can contain digits, letters, underscores (_), periods (.), and hyphens (-).

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/
instances/9136fd2a9fcd405ea4674276ce36dae8in02/tags
```

Example Responses

Status code: 200

Success

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

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.7 Quotas

5.7.1 Querying Quota

Function

This API is used to query GeminiDB resource quotas of a tenant.

URI

GET https://{Endpoint}/v3/{project_id}/quotas

Table 5-161 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

Table 5-162 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 200

Table 5-163 Response body parameters

Parameter	Type	Description
quotas	**ShowResourcesListResponseBody** object	Quota information.

Table 5-164 ShowResourcesListResponseBody

Parameter	Type	Description
resources	Array of **ShowResourcesDetailResponseBody** objects	All resources.

Table 5-165 ShowResourcesDetailResponseBody

Parameter	Type	Description
type	String	Quota resource type. Only the instance type is supported.
quota	Integer	Current quota. If this parameter is set to **0**, no quantity limit is set for resources.
used	Integer	Number of used resources.

Example Requests

URI example

```
GET https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/0549b4a43100d4f32f51c01c2fe4acdb/quotas
```


Example Responses

Status code: 200

Success

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "instance",
      "quota" : 200,
      "used" : 58
    } ]
  }
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.8 Disaster Recovery

5.8.1 Checking Whether a DR Relationship Can Be Created with or Deleted from a Specified Instance

Function

This API is used to check whether a DR relationship can be created with or deleted from a specified instance. If a success status code is returned, a DR relationship can be created with or deleted from a specified instance.

A DR relationship can be created between or deleted from two instances only when this API is successfully called for both of the instances.

Constraints

This API supports GeminiDB Redis instances.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/disaster-recovery/precheck

Table 5-166 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-167 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-168 Request body parameters

Parameter	Mandatory	Type	Description
operation	Yes	String	Specific DR operation during the pre-check. The options are as follows: • **construction**: indicates that a DR relationship is created between two instances. • **deconstruction**: indicates that a DR relationship is deleted from two instances.
disaster_recovery_instance	No	object	Information about the DR instance. For details, see **Table 5-169**. **NOTE** • When **operation** is set to **construction**, this parameter must be passed. • When **operation** is set to **deconstruction**, transferring this parameter is not required.

Table 5-169 TargetDisasterRecoveryInstance

Parameter	Mandatory	Type	Description
node_ips	Yes	Array of strings	IP addresses of all nodes of the DR instance.
spec_code	Yes	String	Specification code of the DR instance.
vpc_cidr	Yes	String	VPC CIDR block of the DR instance.

Response Parameters

Status code: 204

No response parameters

Example Requests

- URI example
  ```
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054e292c9880d4992f02c0196d3ea468/instances/054e292c9880d4992f02c0196d3ein12/disaster-recovery/precheck
  ```
- Creating a DR relationship with a specified instance
  ```
  {
     "operation" : "construction",
     "disaster_recovery_instance" :{
       "node_ips" : [ "10.0.1.2", "10.0.1.3", "10.0.1.4" ],
       "spec_code" : "geminidb.redis.xlarge.4",
       "vpc_cidr" : "10.0.0.0/16"
     }
  }
  ```
- Deleting a DR relationship from a specific instance
  ```
  {
     "operation" : "deconstruction"
  }
  ```

Example Responses

None

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.8.2 Creating a DR Relationship with a Specified Instance

Function

This API is used to create a DR relationship with a specified instance.

A DR relationship is created between two instances only after this API is successfully called for both of the instances, respectively.

Constraints

This API supports GeminiDB Redis instances.

A DR relationship cannot be created between two instances in a CIDR block starting with 192 or 172.

The port number of the DR instance must be 8635.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/disaster-recovery/construction

Table 5-170 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-171 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Table 5-172 Request body parameters

Parameter	Mandatory	Type	Description
id	No	String	DR relationship ID. This parameter is not passed when a DR relationship is created for an instance whose DR role is primary. A DR relationship ID is generated after a success response is returned. This parameter is mandatory when a DR relationship is created for an instance whose DR role is standby. The value of this parameter must be the same as the generated DR relationship ID.
alias	Yes	String	Alias of the created DR relationship.
password	Yes	String	Password for creating a DR relationship. Make sure to pass the same password when you invoke the API twice to create a DR relationship. This password is used for internal data communication within the DR cluster and cannot be used for client connection.
instance_role	Yes	String	Instance role for DR. The value can be **master** or **slave**, indicating that the instance role for DR is primary or standby.
disaster_recovery_instance	Yes	object	Information about the DR instance. For details, see **Table 5-173**.

Table 5-173 DisasterRecoveryInstance

Parameter	Mandatory	Type	Description
id	Yes	String	DR instance ID.
region_code	Yes	String	Code of the region where the DR instance is located.

Parameter	Mandatory	Type	Description
subnet_cidrs	Yes	Array of strings	CIDR blocks of the subnet where the DR instance is located.
node_ips	Yes	Array of strings	IP addresses of all nodes of the DR instance.

Response Parameters

Status code: 202

Table 5-174 Response body parameters

Parameter	Type	Description
job_id	String	ID of the job that creates the DR relationship
disaster_recovery_id	String	DR relationship ID

Example Requests

- URI example
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054e292c9880d4992f02c0196d3ea468/instances/054e292c9880d4992f02c0196d3ein12/disaster-recovery/construction
- Creating a DR relationship with a specified instance (Set **alias** to **Video business DR**, **password** to *****, and **instance_role** to **master**.)

```
{
   "alias" : "Video business DR"
   "password" : "*****",
   "instance_role" : "master",
   "disaster_recovery_instance" : {


     "region_code" : "eu-west-101",
     "id" : "430e7468a309459eb83c5981001415dein12",
     "subnet_cidrs" : [ "10.0.1.0/24" ],
     "node_ips" : [ "10.0.1.2", "10.0.1.3", "10.0.1.4" ]
   }
}
```

Example Responses

Status code: 202

Accepted

```
{
  "job_id" : "c010abd0-48cf-4fa8-8cbc-090f093eaa2f",
  "disaster_recovery_id" : "04efe8e2-9255-44ae-a98b-d87cae411890"
}
```


Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

5.8.3 Deleting a DR Relationship from a Specific Instance

Function

This API is used to delete a DR relationship from a specified instance.

A DR relationship is deleted between two instances only after this API is successfully called for both of the instances, respectively.

Constraints

This API supports GeminiDB Redis instances.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/disaster-recovery/deconstruction

Table 5-175 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
instance_id	Yes	String	Instance ID.

Request Parameters

Table 5-176 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token.

Response Parameters

Status code: 202

Table 5-177 Response body parameters

Parameter	Type	Description
job_id	String	ID of the job that deletes the DR relationship.

Example Requests

- URI example
  POST https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/054e292c9880d4992f02c0196d3ea468/instances/054e292c9880d4992f02c0196d3ein12/disaster-recovery/deconstruction

Example Responses

Status code: 202

Accepted

```
{
  "job_id" : "c010abd0-48cf-4fa8-8cbc-090f093eaa2f"
}
```

Status Codes

For details, see **Status Codes**.

Error Codes

For details, see **Error Codes**.

6 API v3 (Unavailable Soon)

6.1 Instance Specifications

Function

This API is used to query all instance specifications under a specified condition.

NOTICE

This API will be unavailable on March 7, 2024. You are advised to switch workloads to the new API (**Querying Instance Specifications**) before then.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx
- GeminiDB Redis

URI

- URI format

  GET https://{Endpoint}/v3/{project_id}/flavors?region={region}&engine_name={engine_name}

- URI example

  https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/flavors?region=eu-west-101&engine_name=cassandra

- Required parameters

Table 6-1 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.
region	No	Region where the instance is deployed. The value can be: Must be specified. Obtain the parameter value from the enterprise administrator.
engine_name	No	Database type. The value can be: • **cassandra**, indicating that the instances are of the GeminiDB Cassandra type. • **influxdb**, indicating that the instances are of the GeminiDB Influx type. • **redis**, indicating that the instances are of the GeminiDB Redis type. • If this parameter is not transferred, the default value is **cassandra**.

Request Parameters

None

Response Parameters

- Normal response

Table 6-2 Parameter description

Parameter	Type	Description
total_count	Integer	Total number of records.
flavors	Array of objects	Instance specifications. For more information, see **Table 6-3**.

Table 6-3 Data structure description of parameter **flavors**

Parameter	Type	Description
engine_name	String	API name.
engine_version	String	API version.
vcpus	String	Number of vCPUs.
ram	String	Memory size in megabytes (MB).
spec_code	String	Resource specification code. Example: geminidb.cassandra.8xlarge.4 **NOTE** • **geminidb.cassandra** indicates that the instance of the GeminiDB Cassandra type. • **8xlarge.4** indicates node specifications.
availability_zone	Array of strings	ID of the AZ that supports the specifications. **NOTE** • This parameter has been discarded. Do not use it.
az_status	Object	Status of specifications in an AZ. The value can be: • **normal**, indicating that the specifications are on sale. • **unsupported**, indicating that the specifications are not supported. • **sellout**, indicating that the specifications are sold out.

NOTE

The parameter values under **az_status** are example values and only for reference.

- Example normal response

```
{
    "total_count": 4,
    "flavors": [
        {
            "engine_name": "cassandra",
            "engine_version": "3.11",
            "vcpus": "4",
            "ram": "16",
            "spec_code": "geminidb.cassandra.xlarge.4",
            "availability_zone": [
                "az1",
                "az2"
            ],
```



```
            "az_status": {
                "az1":"normal",
                "az2":"unsupported"
            }
        },
        {
            "engine_name": "cassandra",
            "engine_version": "3.11",
            "vcpus": "8",
            "ram": "32",
            "spec_code": "geminidb.cassandra.2xlarge.4",
            "availability_zone": [
                "az1",
                "az2"
            ],
            "az_status": {
                "az1":"unsupported",
                "az2":"normal"
            }
        },
        {
            "engine_name": "cassandra",
            "engine_version": "3.11",
            "vcpus": "16",
            "ram": "64",
            "spec_code": "geminidb.cassandra.4xlarge.4",
            "availability_zone": [
                "az1",
                "az2"
            ],
            "az_status": {
                "az1":"normal",
                "az2":"sellout"
            }
        },
        {
            "engine_name": "cassandra",
            "engine_version": "3.11",
            "vcpus": "32",
            "ram": "128",
            "spec_code": "geminidb.cassandra.8xlarge.4",
            "availability_zone": [
                "az1",
                "az2"
            ],
            "az_status": {
                "az1":"normal",
                "az2":"normal"
            }
        }
    ]
}
```


- Abnormal response

  For details, see **Abnormal Request Results**.

Status Codes

For more information, see **Status Codes**.

Error Codes

For more information, see **Error Codes**.

6.2 Parameter Templates

6.2.1 Obtaining Parameter Templates

Function

This API is used to obtain parameter templates, including default and custom parameter templates of all instances.

NOTICE

This API will be unavailable on March 7, 2024. You are advised to switch workloads to the new API (**Obtaining Parameter Templates**) before then.

Constraints

This API supports the following types of instances:

- GeminiDB Cassandra
- GeminiDB Influx

URI

- URI format

  GET https://{Endpoint}/v3/{project_id}/configurations
- URI example

  https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/configurations
- Required parameters

  Table 6-4 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

None

Response Parameters

- Normal response

Table 6-5 Parameter description

Parameter	Type	Description
count	Integer	Total number of records.
configurations	Array of objects	Parameter templates For details, see **Table 6-6**.

Table 6-6 Data structure description of parameter **configurations**

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
description	String	Parameter template description.
datastore_version_name	String	Database version name.
datastore_name	String	Database name
created	String	Creation time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
updated	String	Update time in the yyyy-MM-ddTHH:mm:ssZ format. **T** is the separator between calendar and hourly notation of time. **Z** indicates the time zone offset.
user_defined	Boolean	Whether the parameter template is a custom template. The value can be: • **false**: indicates that the parameter template is a default parameter template. • **true**: indicates that the parameter template is a custom template.

- Example normal response

```
{
   "count": 2,
   "configurations": [{
         "id": "887ea0d1bb0843c49e8d8e5a09a95652pr06",
         "name": "configuration_test",
         "description": "configuration_test",
         "datastore_version_name": "3.11",
         "datastore_name": "cassandra",
         "created": "2019-05-15T11:53:34+0000",
         "updated": "2019-05-15T11:53:34+0000",
         "user_defined": true
      },
      {
         "id": "3bc1e9cc0d34404b9225ed7a58fb284epr06",
         "name": "Default-Cassandra-3.11",
         "description": "Default parameter group for cassandra 3.11",
         "datastore_version_name": "3.11",
         "datastore_name": "cassandra",
         "created": "2020-03-21T03:38:51+0000",
         "updated": "2019-03-21T03:38:51+0000",
         "user_defined": false
      }
   ]
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Codes

For more information, see **Status Codes**.

Error Codes

For more information, see **Error Codes**.

6.3 Tags

6.3.1 Querying an Instance by Tag

Function

This API is used to query a specified instance by tag.

NOTICE

This API will be unavailable on March 7, 2024. You are advised to switch workloads to the new API (**Querying an Instance by Tag**) before then.

Constraints

- This API supports the following types of instances:

  - GeminiDB Cassandra
  - GeminiDB Influx
  - GeminiDB Redis
- A maximum of 20 tags can be added to a DB instance. The tag key must be unique.

URI

- URI format

  POST https://{Endpoint}/v3/{project_id}/instances/resource_instances/action
- URI example

  https://gaussdb-nosql.eu-west-101.myhuaweicloud.eu/v3/375d8d8fad1f43039e23d3b6c0f60a19/instances/resource_instances/action
- Required parameters

Table 6-7 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Project ID of a tenant in a region. To obtain this value, see **Obtaining a Project ID**.

Request Parameters

- Required parameters

Table 6-8 Parameter description

Parameter	Mandatory	Type	Description
offset	No	String	Index position. The query starts from the next piece of data indexed by this parameter. • If **action** is set to **count**, this parameter does not need to be transferred. • If **action** is set to **filter**, this parameter must be a number but cannot be a positive number. The default value is **0**, indicating that the query starts from the first piece of data.

Parameter	Mandatory	Type	Description
limit	No	String	Number of records to be queried. • If **action** is set to **count**, this parameter does not need to be transferred. • If **action** is set to **filter**, the value ranges from **1** to **100**. If this parameter is not transferred, the first 100 instances are queried by default.
action	Yes	String	Operation identifier. • If **action** is set to **filter**, instances are queried based on tag filters. • If **action** is set to **count**, only the total number of records is returned.
matches	No	Array of objects	Search parameter. • If this parameter is not specified, the query is not based on the instance name or ID. • If the parameter is specified, see parameter values in **Table 6-10**.
tags	No	Array of objects	Included tags. Each tag contains up to 20 keys. For more information, see **Table 6-9**.

Table 6-9 Data structure description of parameter **tags**

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. It can contain a maximum of 36 Unicode characters. The **key** value cannot be null, an empty string, or spaces. Before using **key**, delete spaces before and after the value. **NOTE** The character set of this parameter is not verified during search.
values	Yes	Array of strings	Tag values. Each tag value can contain a maximum of 43 Unicode characters and cannot contain spaces. Before using **values**, delete spaces before and after the value. If the **values** is not specified, any parameter value can be queried. All values are in the OR relationship.

Table 6-10 Data structure description of parameter **matches**

Parameter	Mandatory	Type	Description
key	Yes	String	Query criteria. The value can be **instance_name** or **instance_id**, indicating that the query is based on the instance name or instance ID.
value	Yes	String	Name or ID of the instance to be queried

- Example request body

  Querying an instance by tag:

```
{
 "offset": "100",
 "limit": "100",
 "action": "filter",
 "matches": [
  {
    "key": "instance_name",
    "value": "test-af07"
  }
 ],
```



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

Querying the total number of records:

```
{
 "action": "count",
 "tags": [
  {
   "key": "key1",
   "values": [
    "value1",
    "value2"
   ]
  },
  {
   "key": "key2",
   "values": [
    "value1",
    "value2"
   ]
  }
 ],
 "matches": [
  {
   "key": "instance_name",
   "value": "test-af07"
  },
   {
   "key": "instance_id",
   "value": "958693039f284d6ebfb177375711072ein06"
  }
 ]
}
```

Response Parameters

- Normal response

Table 6-11 Parameter description

Parameter	Type	Description
instances	Array of objects	All instances
total_count	Integer	Total number of records

Table 6-12 Data structure description of parameter **instance**

Parameter	Type	Description
instance_id	String	Instance ID
instance_name	String	Instance name
tags	Array of objects	All tags. If there are no tags, **tags** is taken as an empty array by default. For more information, see **Table 6-13**.

Table 6-13 Data structure description of parameter **tags**

Parameter	Type	Description
key	String	Tag key. The tag key can contain a maximum of 36 Unicode characters and must be specified. It is case-sensitive and can contain digits, letters, underscores (_), and hyphens (-).
value	String	Tag value. The tag value can contain a maximum of 43 Unicode characters and can be an empty string. Letters, digits, underscores (_), periods (.), and hyphens (-)

- Example normal response

  Returning a specified instance by tag:

```
{
  "instances": [
    {
      "instance_id": "2acbf2223caf3bac3c33c6153423c3ccin06",
      "instance_name": "test-single",
      "tags": [
        {
          "key": "key1",
          "value": "value1"
        },
        {
          "key": "key2",
          "value": "value1"
        }
      ]
    }
  ]
}
```

  Returning total records:


```
{
  "total_count": 4
}
```

- Abnormal response

  For details, see **Abnormal Request Results**.

Status Codes

For more information, see **Status Codes**.

Error Codes

For more information, see **Error Codes**.

7 Permission Policies and Supported Actions

7.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained management of the permissions for your GeminiDB databases. If your account does not need individual IAM users, then you may skip over this section.

By default, new IAM users do not have permissions assigned. You need to add a user to one or more groups, and attach permission policies or roles to these groups. Users inherit permissions from the groups that they are added to and can perform specified operations on cloud services based on the permissions.

You can grant users permissions by using **roles** and **policies**. Roles are a type of coarse-grained authorization mechanism that defines permissions related to user responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

Policy-based authorization is useful if you want to allow or deny the access to an API.

An account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user queries GeminiDB Cassandra instances using an API, the user must have been granted the permissions that allow the **nosql:instance:list** action.

Supported Actions

GeminiDB provides system-defined policies that can be directly used in IAM. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Statements in a policy that allow or deny certain operations.
- APIs: REST APIs that can be called in a custom policy
- Actions: Added to a custom policy to control permissions for specific operations.
- IAM or enterprise projects: Type of projects for which an action will take effect. Policies that contain actions for both IAM and enterprise projects can be used and take effect for both IAM and Enterprise Management. Policies that only contain actions for IAM projects can be used and only take effect for IAM. For the differences between IAM and enterprise projects, see **Differences Between IAM and Enterprise Management**.

For details about the custom actions supported by GeminiDB, see **GeminiDB Actions**.

7.2 GeminiDB Actions

Table 7-1 Instance management actions

Permission	API	Action	IAM Project	Enterprise Project
Creating an Instance	POST /v3/{project_id}/instances	nosql:instance:create	√	√
Deleting an instance	DELETE /v3/{project_id}/instances/{instance_id}	nosql:instance:delete	√	√
Querying instances	GET /v3/{project_id}/instances?id={id}&name={name}&mode={mode}&datastore_type={datastore_type}&vpc_id={vpc_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}	nosql:instance:list	√	√
Scaling up storage space of an instance	POST /v3/{project_id}/instances/{instance_id}/extend-volume	nosql:instance:modifyStorageSize	√	√

Permission	API	Action	IAM Project	Enterprise Project
Adding nodes for a cluster instance	POST /v3/{project_id}/instances/{instance_id}/enlarge-node	nosql:instance:extendNode	√	√
Deleting nodes from a cluster instance	POST /v3/{project_id}/instances/{instance_id}/reduce-node	nosql:instance:reduceNode	√	√
Changing specifications of an instance	PUT /v3/{project_id}/instances/{instance_id}/resize	nosql:instance:modifySpecification	√	√
Changing the administrator password	PUT /v3/{project_id}/instances/{instance_id}/password	nosql:instance:modifyPasswd	√	√
Editing the name of an instance	PUT /v3/{project_id}/instances/{instance_id}/name	nosql:instance:rename	√	√
Changing the security group of an instance	PUT /v3/{project_id}/instances/{instance_id}/security-group	nosql:instance:modifySecurityGroup	√	√
Upgrading minor version	POST /v3/{project_id}/instances/{instance_id}/db-upgrade	nosql:instance:upgradeDatabaseVersion	√	√
Creating cold storage	POST /v3/{project_id}/instances/{instance_id}/cold-volume	nosql:instance:modifyStorageSize	√	√

Permission	API	Action	IAM Project	Enterprise Project
Scaling up cold storage	PUT /v3/{project_id}/instances/{instance_id}/cold-volume	nosql:instance:modifyStorageSize	√	√
Binding or unbinding an EIP	POST /v3/{project_id}/instances/{instance_id}/nodes/{node_id}/public-ip	nosql:instance:bindPublicIp	√	√
Enabling or disabling SSL	POST /v3/{project_id}/instances/{instance_id}/ssl-option	nosql:instance:switchSSL	√	√
Restarting an instance	POST /v3/{project_id}/instances/{instance_id}/restart	nosql:instance:restart	√	√
Configuring autoscaling policies for storage space	PUT /v3/{project_id}/instances/disk-auto-expansion	nosql:instance:modifyStorageSize	√	√

Table 7-2 Actions for backups and restorations

Permission	API	Action	IAM Project	Enterprise Project
Querying an automated backup policy	GET /v3/{project_id}/instances/{instance_id}/backups/policy	nosql:backup:list	√	√

Permission	API	Action	IAM Project	Enterprise Project
Configuring an automated backup policy	PUT /v3/{project_id}/instances/{instance_id}/backups/policy	nosql:instance:modifyBackupPolicy	√	√
Querying instances that can be restored	GET /v3/{project_id}/backups/{backup_id}/restorable-instances	nosql:instance:list	√	√
Querying the time window when a backup can be restored	GET /v3/{project_id}/instances/{instance_id}/backups/restorable-time-periods	nosql:backup:list	√	√
Creating a manual backup	POST /v3/{project_id}/instances/{instance_id}/backups	nosql:backup:create	√	√
Deleting a manual backup	DELETE /v3/{project_id}/backups/{backup_id}	nosql:backup:delete	√	√
Restoring data to an existing instance	POST /v3/{project_id}/instances/{instance_id}/recovery	nosql:backup:refreshInstanceFromBacku	√	√

Table 7-3 Parameter template management actions

Permission	API	Action	IAM Project	Enterprise Project
Obtaining parameter templates	GET /v3/{project_id}/configurations	nosql:param:list	√	√

Permission	API	Action	IAM Project	Enterprise Project
Creating a parameter template	POST /v3/{project_id}/configurations	nosql:param:create	√	√
Modifying parameters in a parameter template	PUT /v3/{project_id}/configurations/{config_id}	nosql:param:modify	√	√
Applying a parameter template	PUT /v3/{project_id}/configurations/{config_id}/apply	nosql:instance:modifyParameter	√	√
Modifying parameters of a specified instance	PUT /v3/{project_id}/instances/{instance_id}/configurations	nosql:instance:modifyParameter	√	√
Obtaining parameters of a specified instance	GET /v3/{project_id}/instances/{instance_id}/configurations	nosql:param:list	√	√
Obtaining parameters of a specified parameter template	GET /v3/{project_id}/configurations/{config_id}	nosql:param:list	√	√
Deleting a parameter template	DELETE /v3/{project_id}/configurations/{config_id}	nosql:param:delete	√	√

Table 7-4 Tag management actions

Permission	API	Action	IAM Project	Enterprise Project
Querying an instance by tag	POST /v3/{project_id}/instances/resource_instances/action	• nosql:instance:list • nosql:tag:list	√	√

Permission	API	Action	IAM Project	Enterprise Project
Adding or deleting resource tags in batches	POST /v3/{project_id}/instances/{instance_id}/tags/action	nosql:instance:tag	√	√
Querying tags of an instance	GET /v3/{project_id}/instances/{instance_id}/tags	• nosql:instance:list • nosql:tag:list	√	√

Table 7-5 Quota management actions

Permission	API	Action	IAM Project	Enterprise Project
Querying resource quotas	GET /v3/{project_id}/quotas	nosql:instance:list	√	√

Table 7-6 Actions for disaster recovery management

Permission	API	Action	IAM Project	Enterprise Project
Performing a pre-check for DR	POST /v3/{projectId}/instance/{instanceId}/disaster-recovery/precheck	nosql:dr:precheck	√	√
Creating a DR relationship	POST /v3/{projectId}/instance/{instanceId}/disaster-recovery/construction	nosql:dr:construct	√	√

Permission	API	Action	IAM Project	Enterprise Project
Deleting a DR relationship	POST /v3/{projectId}/instance/{instanceId}/disaster-recovery/deconstruction	nosql:dr:deconstruct	√	√
Obtaining role information of a DR instance	POST /v3/{project_id}/instances/{instance_id}/instance-role	nosql:instance:switchoverDisaterRecovery	√	√
Promoting a DR instance from standby to primary	POST /v3/{project_id}/instances/{instance_id}/switchover-master	nosql:instance:switchoverFromDisaterToMaster	√	√
Demoting a DR instance from primary to standby	POST /v3/{project_id}/instances/{instance_id}/switchover-slave	nosql:instance:switchoverFromMasterToDisater	√	√
Pausing/ Resuming data synchronization between two instances with a DR relationship	POST /v3/{project_id}/instances/{instance_id}/disaster-recovery/data-synchronization	nosql:dr:operateDataSync	√	√

NOTE

The check mark (√) indicates that the action takes effect. The cross mark (x) indicates that the action does not take effect.

8 Appendixes

8.1 Abnormal Request Results

- Abnormal Response

  Table 8-1 Parameter description

Parameter	Mandatory	Type	Description
error_code	Yes	String	Error code returned when a task submission exception occurs.
error_msg	Yes	String	Error description returned when a task submission exception occurs.

- Example abnormal response

```
{
   "error_code": "DBS.200001",
   "error_msg": "Parameter error"
}
```

8.2 Status Codes

- Normal

Status Code	Encoding	State Description
200	OK	Request succeeded.
204	No Content	Request succeeded, but no response is returned.
202	Accepted	Asynchronous request submitted successfully.

- Abnormal

Status Code	Encoding	State Description
400	Bad Request	Invalid request. Do not retry the request before modification.
401	Unauthorized	The authorization information provided by the client is incorrect or invalid. Check the username and password.
403	Forbidden	The request is rejected. The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404	Not Found	The requested resource could not be found. Do not retry the request before modification.
405	Method Not Allowed	The method specified in the request is not supported for the requested resource. Do not retry the request before modification.
409	Conflict	The request could not be processed due to a conflict. The resource that the client attempts to create already exists, or the update request fails to be processed because of a conflict.
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.
415	Unsupported Media Type	The server is unable to process the media format in the request.
422	Unprocessable Entity	The request is well-formed but is unable to be processed due to semantic errors.

Status Code	Encoding	State Description
500	Internal Server Error	The server is able to receive the request but unable to understand the request.
501	Not Implemented	The server does not support the requested function.
503	Service Unavailable	The requested service is unavailable. Do not retry the request before modification.

8.3 Error Codes

If an error occurs during API calling, no results will be returned. You can locate the error cause based on error codes of each API. If an error occurs, an HTTP status code is returned. The returned message body contains a specific error code and error message.

Error Code Description

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to **Error Codes**.

Table 8-2 Error code description

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200001	Parameter error.	Parameter error.	Check whether transferred parameters or URLs are correct.
404	DBS.200002	The DB instance does not exist.	Instance not found.	Check whether the instance and its ID are correct and whether the instance exists.
400	DBS.200010	Authentication failed.	Authentication failed.	Check whether the tenant and instance match.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
403	DBS.200011	This instance {0} status makes it not be allowed to do this {1} operation now.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
404	DBS.200013	This node does not exist.	Node not found.	Check whether the node ID or group ID is correct.
403	DBS.200018	This instance's status or its node's status makes it not be allowed to do this operation now.	Unavailable instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
403	DBS.200019	Another operation is being performed on the DB instance or the DB instance is faulty.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.200022	The DB instance name {0} already exists.	Instance name already exists.	Check whether the instance name exists.
400	DBS.200024	The region is unavailable.	Unavailable region.	Check whether the region name is correct and whether the region is available.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200025	Invalid AZ.	Invalid AZ.	Check whether the AZ name is correct and whether the AZ is available.
403	DBS.200028	Volume size reach limit.	Maximum storage space has been reached.	Check whether the storage space exceeds the upper limit.
400	DBS.200029	Invalid username and password.	Invalid username and password.	Check whether the username and password match and whether the password meets password strength requirements.
400	DBS.200041	Invalid datastore version.	Invalid database version.	Check whether the database version is supported.
404	DBS.200042	Invalid database engine.	Invalid DB API.	Check whether the DB version is supported.
400	DBS.200047	Operation cannot be executed in current state of the DB instance or node.	Operation cannot be executed in current state of the instance or node.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200048	Invalid VPC.	Invalid VPC.	Check whether the VPC ID and name are correct and meet the requirements.
400	DBS.200049	Invalid subnet.	Invalid subnet.	Check whether the subnet ID and name are correct and meet the requirements.
400	DBS.200050	Invalid security group.	Invalid security group.	Check whether the security group ID and name are correct and meet the requirements.
400	DBS.200052	Invalid password.	Invalid password.	Check whether the username and password match and whether the password meets password strength requirements.
400	DBS.200053	The DB instance specifications do not exist.	Instance specifications not found.	Check whether the specifications are correct and supported in the current AZ.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200054	Invalid DB instance specifications.	Invalid instance specifications.	Check whether the specifications are correct and supported in the current AZ.
400	DBS.200057	Invalid parameter group ID.	Invalid parameter template.	Check whether the parameter template is supported.
404	DBS.200058	Parameter template does not exist.	Parameter template not found.	Check whether the parameter template exists.
400	DBS.200059	Invalid database port.	Invalid database port.	Check whether the database port is missing or valid.
400	DBS.200060	The database port number is out of the specified range.	Database port is not in the specified range.	Check whether the database port is valid.
400	DBS.200063	Invalid DB instance type.	Invalid instance type.	Check whether the instance type is valid.
400	DBS.200068	Weak password.	Weak password.	Password is too easy to guess. Change it to a strong password.
400	DBS.200072	Invalid storage space.	Invalid storage space.	Check whether the storage space exceeds the upper limit.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200075	Invalid node role.	Invalid node role.	Check whether the role of the node meets the requirements and whether the instance is normal.
403	DBS.200076	Operation cannot be executed in current state of the DB instance.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.200077	Failed to change the password.	Updating password failed.	Check whether the username is correct.
400	DBS.200091	Invalid IP address.	Invalid IP address.	Check whether the required IP address is missing or whether the input IP address is valid.
400	DBS.200092	The IP address already exists.	IP address already exists.	Check whether the IP address exists.
400	DBS.200095	Invalid parameter.	Parameter error.	Check whether parameters in the request and URLs are correct.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
500	DBS.200165	Insufficient enterprise project instance quota range.	Enterprise project quota of the instance is insufficient.	Increase the enterprise project quota on the GeminiDB console.
500	DBS.200166	Insufficient enterprise project cpu quota range.	CPU quota of the enterprise project is insufficient.	Increase the CPU quota on the GeminiDB console.
500	DBS.200167	Insufficient enterprise project mem quota range.	Memory quota of the enterprise project is insufficient.	Increase the memory quota on the GeminiDB console.
400	DBS.200302	The storage space increase must be a positive integer.	Storage space increase is not a positive integer.	Check whether the storage space increase is a positive integer.
400	DBS.200303	The maximum number of times that the storage space can be scaled up has been reached.	Storage space has reached its upper limit and cannot be scaled up anymore.	Contact technical support to scale upt the storage space.
400	DBS.200304	The storage space can be scaled up for a maximum of four times.	Storage space can be scaled up at most four times.	Check how many times the instance has been scaled up.
400	DBS.200306	Invalid storage space.	Invalid storage space.	Check whether the storage space is correct and meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200311	Scaling up storage space is not allowed in current state of the node.	Scaling up storage space not allowed on the current node.	Check whether the node type, instance type, and node ID are correct.
400	DBS.200434	Failed to restart the DB instance.	Restarting instance failed.	Check whether the instance is available or ongoing other operations.
400	DBS.200451	The node does not exist.	Node not found.	Check whether the node ID is correct.
400	DBS.200462	The database port is the same as the current port.	Database port is the same as current port.	Check whether the new port number is the same as the original port number.
400	DBS.200470	Invalid AZ.	Invalid AZ.	Check whether the AZ is correct.
400	DBS.200501	The subnet does not exist.	Subnet deleted.	Check whether the subnet ID and name exist and whether the subnet matches the VPC.
400	DBS.200502	The security group does not exist.	Security group is not found or does not belong to the VPC.	Check whether the security group ID and name exist and whether the security group matches the VPC.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200503	The VPC does not exist.	VPC deleted.	Check whether the VPC is available to the tenant.
400	DBS.200506	The encryption key does not exist.	Storage encryption key ID not found.	Check whether the disk encryption key ID exists.
400	DBS.200507	The encryption key is not available.	Storage encryption key unavailable.	Check whether the disk encryption key is available.
400	DBS.200604	The instance is not owned by the current user.	Instance does not belong to the current user.	Check whether the project ID is subordinate to the instance ID.
400	DBS.200700	The EIP status does not allow EIP binding.	EIP is being bound and cannot be bound again.	Check whether there is an EIP being bound to the instance.
400	DBS.200701	The EIP status does not allow EIP unbinding.	EIP cannot be unbound.	Check whether the EIP status allows an unbinding operation.
400	DBS.200702	The node has been bound to a public IP address and cannot be bound again.	Node has already an EIP bound and cannot be bound with another EIP.	Check whether an EIP has been bound to the node.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200705	The PublicIp does not exist.	Target EIP not found.	Check whether the EIP exists and whether the EIP and its ID match.
400	DBS.200816	Failed to create the database user.	Creating database user failed.	Check whether the database user name is valid and check the database status and instance status.
400	DBS.200817	Failed to obtain the database user list.	Obtaining database users failed.	Check the database status and instance status.
400	DBS.200818	Failed to delete the database user.	Deleting database user failed.	Check the database status and instance status.
400	DBS.200823	The database does not exist.	Database not found.	Check whether the database name is valid.
400	DBS.200824	The database account does not exist.	Database account not found.	Check whether the database user name is valid.
400	DBS.200826	The database name already exists.	Database name already exists.	Check whether the database name is valid.
400	DBS.200827	The database user already exists.	Database account name already exists.	Check whether the database user is valid.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.200828	Built-in database accounts cannot be edited.	This is an internal database account and cannot be operated by users.	Check whether the database user is valid.
500	DBS.200998	The system is busy. Try again later.	The system is busy. Try again later.	The system is busy. Try again later.
403	DBS.201000	The status of DB instance {0} does not allow the {1} operation.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.201006	Parameter error.	Parameter error.	Check whether transferred parameters or URLs are correct.
403	DBS.201014	Operation cannot be executed in current state of the DB instance.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
403	DBS.201015	This operation cannot be performed because another operation is being performed on the DB instance or the DB instance is faulty. Try again later.	Operation cannot be performed because another operation is being performed.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.201020	Invalid DB engine.	Invalid DB API.	Check whether the DB engine is supported.
403	DBS.201028	The DB instance does not exist.	Instance not found.	Check whether the instance belongs to the tenant and whether the instance exists.
400	DBS.201035	The database name must be different.	Database name already exists.	Check whether the same database name exists.
400	DBS.201038	The collection name must be different.	Collection name already exists.	Check whether the same collection name exists.
400	DBS.201101	Invalid backup period.	Invalid backup cycle.	Check whether the backup cycle meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.201106	Invalid retention period.	Invalid retention period.	Check whether the backup retention period is correct.
400	DBS.201201	The backup already exists.	Backup file already exists.	Check whether the backup name or ID already exists.
400	DBS.201202	Operation cannot be executed in current state of the DB instance.	Operation cannot be performed in current state of the instance.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.201204	Operation cannot be executed in current state of the DB instance.	Backup file not found.	Check whether the backup file exists and matches the instance.
400	DBS.201212	Backup ID is illegal.	Invalid backup ID.	Check whether the backup ID exists.
400	DBS.201214	The backup file does not exist.	Backup file not found.	Check whether the backup file exists and matches the instance.
400	DBS.201215	Time is illegal.	Invalid time.	Check whether the time meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.201319	Deleting backup file is not allowed because a restoration task is currently in progress. Please wait.	Original backup file cannot be deleted during restoration.	Check whether the backup is being used to restore instances.
400	DBS.201501	The DB instance does not exist.	Instance not found.	Check whether the instance belongs to the tenant, whether the instance name or ID is correct, and whether the instance exists.
400	DBS.201502	The DB instance does not exist.	Instance not found.	Check whether the instance belongs to the tenant, whether the instance name or ID is correct, and whether the instance exists.
400	DBS.212001	The parameter group {0} does not exist.	Parameter template not found.	Check whether the parameter template exists.
400	DBS.212003	This operation is not permitted.	Operation not allowed.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.212006	The node associated with this parameter group is not available.	Node associated with the parameter template is abnormal.	Check whether the node associated with the parameter template is normal.
400	DBS.212008	The database type does not exist.	Unsupported database version.	Check whether the database version supports this operation.
400	DBS.212013	The parameter group does not exist.	Parameter template not found.	Check whether the parameter template exists or belongs to the current tenant.
400	DBS.212017	The parameter is invalid.	Invalid parameter.	Check whether transferred parameters or URLs are correct and meet the requirements.
400	DBS.212019	Invalid parameter.	Invalid parameter.	Check whether transferred parameters or URLs are correct and meet the requirements.
400	DBS.212028	Invalid description.	Invalid parameter template description.	Check whether the parameter template description is valid.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.212030	The parameter group name already exists.	Parameter template name already exists.	Check whether the parameter template name exists.
400	DBS.212031	Invalid parameter group name.	Invalid parameter template name.	Check whether the parameter template name is valid.
400	DBS.212032	The operation cannot be performed because this parameter group is being applied to one or more DB instance nodes.	Operation is not allowed because the parameter template is applied to one or more instance nodes.	Check whether the parameter template has been applied to the instance.
400	DBS.212035	Failed to associate this parameter group with the DB instance because the DB instance is currently being operated.	Operation cannot be performed in current state of the instance.	Check whether the instance is ongoing other operations.
400	DBS.212037	Parameters are incorrectly set.	Parameter error.	Check whether the parameter value is valid or within the valid range.
400	DBS.216016	DB instance does not exist.	Instance not found.	Check whether the instance exists.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.216029	This operation is not allowed.	Operation not allowed.	Check whether the operation is valid or whether the current engine supports the operation.
400	DBS.216030	The queried node does not belong to the current instance.	Queried node does not belong to the current instance.	Check whether the input node belongs to the current instance.
400	DBS.238007	This operation cannot be performed in the current IP address status.	Operation cannot be performed in the current IP address state.	Check whether the delivered IP address is in use.
400	DBS.239010	Reduce num or target invalid.	Invalid quantity of nodes to be deleted or invalid nodes.	Check whether the input node belongs to the current instance.
400	DBS.239011	Reduce num invalid.	Invalid number of nodes to be deleted.	Check whether the number of input nodes is valid.
400	DBS.239012	Reduce target invalid.	Invalid node to be deleted.	Check whether the input node belongs to the current instance.
400	DBS.239013	resize flavor invalid.	Inappropriate specifications.	Check whether the input specifications are valid.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.239014	Current disk capacity does not support scaling in the number of nodes.	Current storage space does not allow deleting nodes.	Check the storage space of the instance.
400	DBS.240001	node num inconsistent.	Inconsistent nodes.	Check whether the number of nodes is consistent.
400	DBS.240002	node num incorrect.	Invalid quantity of nodes.	Check whether the number of nodes is valid.
400	DBS.240009	Deleting nodes cannot be executed in current state of the DB instance.	Deleting nodes is not allowed in current state of the instance.	Check whether the current instance has nodes that can be deleted.
400	DBS.240010	The selected nodes do not support shrinkage.	Selected nodes cannot be deleted.	Check whether the selected nodes can be deleted.
400	DBS.240012	The maximum number of resources that can be changed has been reached.	The maximum number of resources that can be changed has been reached.	Check whether the number of nodes in the current instance exceeds the upper limit.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.240013	The current disk capacity cannot be changed to the target flavor.	Specifications cannot be changed because the storage space is too small.	Check whether the storage space of the current instance exceeds the upper limit defined by the target instance specifications.
400	DBS.280001	Parameter error.	Parameter error.	Check whether transferred parameters or URLs are correct and meet the requirements.
500	DBS.280005	Server error. Try again later.	Server error. Try again later.	Contact technical support.
400	DBS.280015	Permission denied.	Insufficient permissions.	Check whether the token expires and whether the instance matches the tenant.
400	DBS.280016	Resource not found.	Resource not found.	Check whether transferred parameters are correct and whether the instance exists.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
403	DBS.280032	You do not have permission to perform this operation. Contact the administrator to obtain permission.	Permission denied.	Check whether the user group to which the current user belongs has the corresponding operation permission.
400	DBS.280042	Invalid request.	Invalid request.	Check whether the current instance status and the ongoing operation allow this operation or whether the request is valid.
400	DBS.280040	Parameter is null.	Parameter missed.	Check whether there are parameters not input.
404	DBS.280045	This parameter group does not exist.	Parameter template not found.	Check whether the parameter template exists in the request.
403	DBS.280056	Token invalid.	Invalid token.	Check whether the instance belongs to the tenant and whether the token has been obtained again.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280063	You do not have following permission to perform this operation: {0}. Contact the administrator to obtain permission.	Current user does not have the permission to perform xxx operation. Contact the account administrator.	Check whether the user group to which the current user belongs has the corresponding operation permission.
500	DBS.280064	Check PDP permissions failed.	Fine-grained authenticatio n failed.	Contact customer service.
400	DBS.280066	Invalid log type.	Invalid log type.	Check whether the log type meets the requirements.
400	DBS.280067	Invalid start time.	Invalid start time.	Check whether the start time meets the requirement.
400	DBS.280068	Invalid end time.	Invalid end time.	Check whether the end time meets the requirement.
400	DBS.280110	The DB instance does not exist.	Instance not found.	Check whether the instance belongs to the tenant, whether the instance name or ID is correct, and whether the instance exists.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280122	Invalid DB engine.	Invalid storage API.	Check whether the storage engine matches the instance engine.
400	DBS.280123	Invalid node number.	Invalid node quantity.	Check whether the number of nodes meets the requirements.
400	DBS.280124	Invalid backup.	Invalid backup ID.	Check whether the backup ID is correct and meets the requirements.
400	DBS.280125	Invalid backup policy.	Invalid automated backup policy.	Check whether the automated backup policy meets the requirements.
400	DBS.280127	Invalid backup description.	Invalid backup description.	Check whether the backup description is correct and meets the requirements.
400	DBS.280200	The password contains invalid characters.	Password contains invalid characters.	Check whether the password is correct and meets the requirements.
400	DBS.280214	Invalid retention period.	Invalid retention period.	Check whether the backup retention period is correct.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280215	Invalid backup cycle.	Invalid backup cycle.	Check whether the backup start time, end time, and backup cycle are correct and meet the requirements.
400	DBS.280216	Invalid backup start time.	Invalid backup start time.	Check whether the backup start time meets the requirements and whether the relationship between the backup start time and end time is rational.
400	DBS.280234	Invalid DB instance name.	Invalid instance name.	Check whether the instance name is correct and whether the instance exists.
400	DBS.280235	Invalid database type.	Invalid DB API.	Check whether the DB engine name is correct.
400	DBS.280236	Invalid database version.	Invalid database version.	Check whether the database version is supported.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280239	Invalid specifications.	Invalid specifications.	Check whether specification code is correct and whether the specifications are available in the AZ.
400	DBS.280240	The specification does not exist.	Specification code not found.	Check whether the specification code is correct and the specifications are available.
400	DBS.280241	Invalid storage type.	Invalid storage type.	Check whether the storage type is correct and meets the requirements.
400	DBS.280242	The storage space is out of range.	Storage space is out of range.	Check whether the storage space is correct.
400	DBS.280244	Invalid AZ.	Invalid AZ.	Check whether parameters of the AZ are correct, whether the AZ exists, and whether the AZ matches the specifications.
400	DBS.280247	Invalid VPC.	Invalid VPC.	Check whether the VPC ID is correct and whether the VPC exists.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280248	Invalid subnet.	Invalid subnet.	Check whether the subnet ID is correct and whether the subnet exists.
400	DBS.280249	Invalid security group.	Invalid security group.	Check whether the security group ID is correct and whether the security group exists.
400	DBS.280251	Invalid backup period.	Invalid backup cycle.	Check whether the backup cycle meets the requirements.
400	DBS.280266	Invalid storage space.	Invalid storage space.	Check whether the storage space is correct and meets the requirements.
400	DBS.280267	Specifications not match.	Specifications do not match.	Check whether the specification information is correct and whether the specifications match the instance.
400	DBS.280269	Invalid Datastore Info.	Invalid database information.	Check whether datastore information is correct and meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280277	Invalid backup name.	Invalid backup name.	Check whether the backup name is correct and meets the requirements.
400	DBS.280280	Invalid DB instance number.	Invalid instance quantity.	Check whether the number of instances is correct and meets the requirements.
400	DBS.280284	Invalid IP address.	Invalid IP address.	Check whether the IP address is correct and meets the requirements.
400	DBS.280292	Invalid database username.	Invalid username.	Check whether the username is correct and meets the requirements.
400	DBS.280311	Invalid storage space.	Invalid storage space.	Check whether the storage space is correct and meets the requirements.
400	DBS.280314	Invalid storage space.	Invalid storage type.	Check whether the storage type is correct and whether the instance supports the disk type.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280327	Invalid node type.	Invalid node type.	Check whether the node type is correct, whether the node type matches the instance, and whether the node type matches the group ID and node ID.
400	DBS.280341	Invalid DB instance type.	Invalid instance type.	Check whether the GeminiDB APIs support the instance.
400	DBS.280342	Invalid DB instance mode.	Invalid instance type.	Check whether the instance type is correct and matches the instance ID.
400	DBS.280347	Unsupported database type.	Unsupported instance type.	Check whether the instance type is correct and meets the requirements.
400	DBS.280391	Action check states.	Invalid action.	Check whether the input action meets the requirements.
400	DBS.280404	Invalid DB instance ID.	Invalid instance ID.	Check whether the instance ID is correct and meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
403	DBS.280406	The DB instance cannot be deleted.	Instance cannot be deleted.	Check whether the DB API and billing mode support deletion of instances.
400	DBS.280407	Invalid node ID.	Invalid node ID.	Check whether the node ID is correct and meets the requirements.
400	DBS.280408	Invalid project id.	Invalid project ID.	Check whether the project ID is correct and meets requirements.
400	DBS.280414	Invalid group type.	Invalid group type.	Check whether the instance group type is correct and meets the requirements and whether it matches the instance and group ID.
400	DBS.280416	Invalid backup end time.	Invalid backup end time.	Check whether the backup end time is missing and whether the backup end time period and format meet the requirements.
400	DBS.280421	Invalid EIP.	Invalid EIP.	Check whether the EIP exists and meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
403	DBS.280433	Invalid enterprise project ID.	Invalid enterprise project ID.	Check whether the enterprise project ID meets the requirements.
400	DBS.280434	The specifications are unavailable.	Invalid resource specification code.	Check whether the resource specification code exists and meets the requirements.
400	DBS.280437	Not support enterprise project.	Enterprise project not supported.	The current user has not enabled the enterprise project service. Enable it or do not transfer related parameters.
400	DBS.280438	Invalid encryption key.	Invalid storage encryption key ID.	Check whether there is a disk encryption key ID available in the request and whether the current DB API supports disk encryption.
400	DBS.280439	Invalid limit.	Invalid query limit.	Check whether the value of the **limit** parameter is valid.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280440	Invalid offset.	Invalid offset.	Check whether the value of the **offset** parameter is valid.
400	DBS.280441	Invalid key.	Invalid key.	Check whether the tag key is valid.
429	DBS.280443	The maximum number of connections has been reached.	Maximum connections reached.	Too frequent API requests. Try again later.
400	DBS.280444	Invalid value.	Invalid tag value.	Check whether the tag value is valid.
400	DBS.280445	The DB instance class is not available.	Unavailable instance specifications.	The current instance specifications are unavailable. Select another one.
400	DBS.280446	The database information does not exist.	Database information not found.	Check whether the **datastore** parameter exists.
400	DBS.280453	Invalid DSS storage pool ID.	Invalid DSS storage pool ID.	Check whether the storage pool ID is correct.
400	DBS.280465	Invalid password.	Invalid user password.	Check whether the user password meets the requirements.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.280469	Invalid ECS group policy.	Invalid policy associated with the ECS group.	Check whether the policy associated with the ECS group is correct.
400	DBS.280480	The target specification is same as current.	Target specifications are the same as current specifications.	Check whether the target specifications are the same as the current specifications.
400	DBS.280456	This operation is not supported by the current billing mode.	Current billing mode does not support this operation.	Check whether the billing mode of the current instance meets the API requirements.
400	DBS.290000	Parameter error.	Parameter error.	Check whether transferred parameters or URLs are correct and meet the requirements.
400	DBS.301024	Invalid backup restore information.	Invalid backup and restoration information.	Check whether the backup and restoration information is valid.
400	DBS.301040	The target security group is same as current.	Target security group is the same as current security group.	Check whether the target security group is the same as the current security group.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.301071	Invalid session id.	Invalid session ID.	Check whether the session ID is correct and meets the requirements.
400	DBS.301072	Invalid plan summary.	Invalid execution plan.	Check whether the execution plan is correct and meets the requirements.
400	DBS.301073	Invalid operation type.	Invalid operation type.	Check whether the operation type is correct and meets the requirements.
400	DBS.301074	Invalid namespace.	Invalid namespace.	Check whether the namespace is correct and meets the requirements.
400	DBS.301075	Invalid cost time.	Invalid execution time.	Check whether the execution time is correct and meets the requirements.
400	DBS.301076	Query session failed.	Querying session failed.	Contact customer service to check the instance status.
400	DBS.301077	Kill session failed.	Killing session failed.	Contact customer service to check the instance status.

HTTP Status Code	Error Code	Error Message	Description	Handling Measure
400	DBS.03000001	The instance has not build biactive relationship.	Instance has no dual-active DR relationships.	Check whether the instance has a dual-active DR relationship.
400	DBS.03000002	Invalid threshold.	Incorrect input threshold.	Check whether the input threshold meets the requirements.
400	DBS.03000003	Invalid step.	Inputting autoscaling increment failed.	Check whether the input increase step meets the requirements.
400	DBS.03000004	Invalid switch option.	Invalid parameter settings.	Check whether the input switch option is **on** or **off**.

8.4 Obtaining a Project ID

Scenarios

When calling APIs, you need to specify the project ID in some URLs. To do so, you need to obtain the project ID first.

You can obtain the required project ID with either of the following methods:

- **Obtaining the Project ID by Calling an API**
- **Obtaining a Project ID from the Console**

Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the IAM API used to query project information based on specified criteria.

The API used to obtain a project ID is **GET https://{Endpoint}/v3/projects/**. **{Endpoint}** is the IAM endpoint and can be obtained from the administrator. For details about API authentication, see **Authentication**.

The following is an example response. The value of **id** is the project ID.

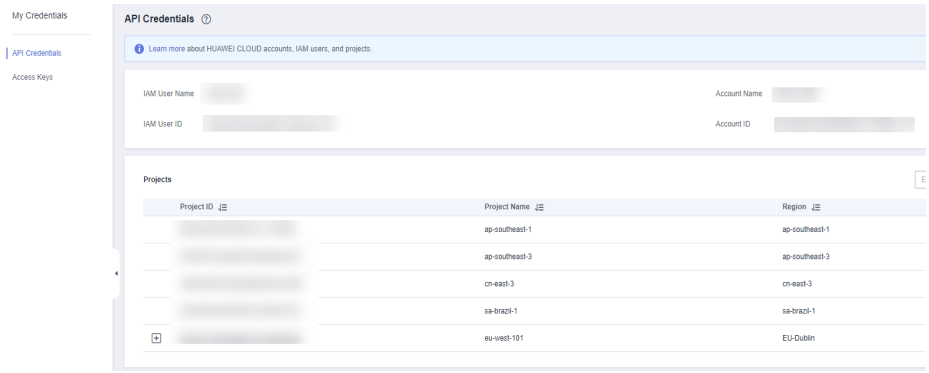

```
{
    "projects": [
        {
            "domain_id": "65382450e8f64ac0870cd180d14e684b",
            "is_domain": false,
            "parent_id": "65382450e8f64ac0870cd180d14e684b",
            "name": "project_name",
            "description": "",
            "links": {
                "next": null,
                "previous": null,
                "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
            },
            "id": "a4a5d4098fb4474fa22cd05f897d6b99",
            "enabled": true
        }
    ],
    "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects"
    }
}
```


Obtaining a Project ID from the Console

1. Sign up and log in to the management console.
2. Move your pointer over the username and select **My Credentials** in the displayed drop-down list.

   On the **API Credentials** page, view the project ID in the project list.

Figure 8-1 Viewing project IDs



8.5 Metrics

Function

This section describes GeminiDB metrics reported to Cloud Eye as well as their namespaces and dimensions. You can use APIs provided by Cloud Eye to query metrics of monitored objects and alarms generated for GeminiDB.

Namespace

SYS.NoSQL

GeminiDB Redis Metrics

Table 8-3 GeminiDB Redis metrics

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
nosql001_cpu_usage	CPU Usage	CPU usage of the monitored system Unit: Percent	0–100	GeminiDB Redis instance nodes	1 minute
nosql002_mem_usage	Memory Usage	Memory usage of the monitored system Unit: Percent	0–100	GeminiDB Redis instance nodes	1 minute
nosql005_disk_usage	Storage Space Usage	Disk usage of the monitored container Unit: Percent	0–100	GeminiDB Redis instances	1 minute
nosql006_disk_total_size	Total Disk Size	Total disk capacity of the monitored container Unit: GB	≥ 0	GeminiDB Redis instances	1 minute
nosql007_disk_used_size	Used Storage Space	Used disk space of the monitored container Unit: GB	≥ 0	GeminiDB Redis instances	1 minute
redis017_proxy_accept	Total Clients Received by Proxy	Total number of clients received by the proxy Unit: count	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis018_proxy_request_ps	Request Acceptance Rate	Rate at which the proxy receives client requests Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis019_proxy_response_ps	Proxy Response Rate	Rate at which the proxy returns requests to the client Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis020_proxy_recv_client_bps	Proxy Byte Stream Acceptance Rate	Rate at which the proxy receives byte streams from the client Unit: byte/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis021_proxy_send_client_bps	Proxy Byte Stream Send Rate	Rate at which the proxy sends byte streams to the client Unit: byte/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis032_shard_qps	Shard QPS	QPS of the shard Unit: count	≥ 0	GeminiDB Redis instance nodes	1 minute
redis036_exists_avg_usec	Average Proxy Latency of exists Command	Average latency when the proxy executes the exists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis037_exists_max_usec	Maximum Proxy Latency of exists Command	Maximum latency when the proxy executes the exists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis038_exists_p99	Proxy P99 Latency of exists Command	P99 latency when the proxy executes the exists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis039_exists_qps	Proxy exists Command Rate	Rate at which the proxy executes the exists command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis040_expire_avg_usec	Average Proxy Latency of expire Command	Average latency when the proxy executes the expire command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis041_expire_max_usec	Maximum Proxy Latency of expire Command	Maximum latency when the proxy executes the expire command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis042_expire_p99	Proxy P99 Latency of expire Command	P99 latency when the proxy executes the expire command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis043_expire_qps	Proxy expire Command Rate	Rate at which the proxy executes the expire command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis044_del_avg_usec	Average Proxy Latency of del Command	Average latency when the proxy executes the del command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis045_del_max_usec	Maximum Proxy Latency of del Command	Maximum latency when the proxy executes the del command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis046_del_p99	Proxy P99 Latency of del Command	P99 latency when the proxy executes the del command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis047_del_qps	Proxy del Command Rate	Rate at which the proxy executes the del command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis048_ttl_avg_usec	Average Proxy Latency of ttl Command	Average latency when the proxy executes the ttl command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis049_ttl_max_usec	Maximum Proxy Latency of ttl Command	Maximum latency when the proxy executes the ttl command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis050_ttl_p99	Proxy P99 Latency of ttl Command	P99 latency when the proxy executes the ttl command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis051_ttl_qps	Proxy ttl Command Rate	Rate at which the proxy executes the ttl command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis052_persist_avg_usec	Average Proxy Latency of persist Command	Average latency when the proxy executes the persist command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis053_persist_max_usec	Maximum Proxy Latency of persist Command	Maximum latency when the proxy executes the persist command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis054_persist_p99	Proxy P99 Latency of persist Command	P99 latency when the proxy executes the persist command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis055_persist_qps	Proxy persist Command Rate	Rate at which the proxy executes the persist command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis056_scan_avg_usec	Average Proxy Latency of scan Command	Average latency when the proxy executes the scan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis057_scan_max_usec	Maximum Proxy Latency of scan Command	Maximum latency when the proxy executes the scan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis058_scan_p99	Proxy P99 Latency of scan Command	P99 latency when the proxy executes the scan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis059_scan_qps	Proxy scan Command Rate	Rate at which the proxy executes the scan command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis060_set_avg_usec	Average Proxy Latency of set Command	Average latency when the proxy executes the set command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis061_set_max_usec	Maximum Proxy Latency of set Command	Maximum latency when the proxy executes the set command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis062_set_p99	Proxy P99 Latency of set Command	P99 latency when the proxy executes the set command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis063_set_qps	Proxy set Command Rate	Rate at which the proxy executes the set command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis064_get_avg_usec	Average Proxy Latency of get Command	Average latency when the proxy executes the get command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis065_get_max_usec	Maximum Proxy Latency of get Command	Maximum latency when the proxy executes the get command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis066_get_p99	Proxy P99 Latency of get Command	P99 latency when the proxy executes the get command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis067_get_qps	Proxy get Command Rate	Rate at which the proxy executes the get command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis068_getset_avg_usec	Average Proxy Latency of getset Command	Average latency when the proxy executes the getset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis069_getset_max_usec	Maximum Proxy Latency of getset Command	Maximum latency when the proxy executes the getset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis070_getset_p99	Proxy P99 Latency of getset Command	P99 latency when the proxy executes the getset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis071_getset_qps	Proxy getset Command Rate	Rate at which the proxy executes the getset command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis072_append_avg_usec	Average Proxy Latency of append Command	Average latency when the proxy executes the append command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis073_append_max_usec	Maximum Proxy Latency of append Command	Maximum latency when the proxy executes the append command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis074_append_p99	Proxy P99 Latency of append Command	P99 latency when the proxy executes the append command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis075_append_qps	Proxy append Command Rate	Rate at which the proxy executes the append command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis076_mget_avg_usec	Average Proxy Latency of mget Command	Average latency when the proxy executes the mget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis077_mget_max_usec	Maximum Proxy Latency of mget Command	Maximum latency when the proxy executes the mget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis078_mget_p99	Proxy P99 Latency of mget Command	P99 latency when the proxy executes the mget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis079_mget_qps	Proxy mget Command Rate	Rate at which the proxy executes the mget command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis080_mset_avg_usec	Average Proxy Latency of mset Command	Average latency when the proxy executes the mset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis081_mset_max_usec	Maximum Proxy Latency of mset Command	Maximum latency when the proxy executes the mset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis082_mset_p99	Proxy P99 Latency of mset Command	P99 latency when the proxy executes the mset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis083_mset_qps	Proxy mset Command Rate	Rate at which the proxy executes the mset command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis084_getrange_avg_usec	Average Proxy Latency of getrange Command	Average latency when the proxy executes the getrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis085_getrange_max_usec	Maximum Proxy Latency of getrange Command	Maximum latency when the proxy executes the getrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis086_getrange_p99	Proxy P99 Latency of getrange Command	P99 latency when the proxy executes the getrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis087_getrange_qps	Proxy getrange Command Rate	Rate at which the proxy executes the getrange command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis088_setrange_avg_usec	Average Proxy Latency of setrange Command	Average latency when the proxy executes the setrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis089_setrange_max_usec	Maximum Proxy Latency of setrange Command	Maximum latency when the proxy executes the setrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis090_setrange_p99	Proxy P99 Latency of setrange Command	P99 latency when the proxy executes the setrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis091_setrange_qps	Proxy setrange Command Rate	Rate at which the proxy executes the setrange command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis092_substr_avg_usec	Average Proxy Latency of substr Command	Average latency when the proxy executes the substr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis093_substr_max_usec	Maximum Proxy Latency of substr Command	Maximum latency when the proxy executes the substr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis094_substr_p99	Proxy P99 Latency of substr Command	P99 latency when the proxy executes the substr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis095_substr_qps	Proxy substr Command Rate	Rate at which the proxy executes the substr command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis096_strlen_avg_usec	Average Proxy Latency of strlen Command	Average latency when the proxy executes the strlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis097_strlen_max_usec	Maximum Proxy Latency of strlen Command	Maximum latency when the proxy executes the strlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis098_strlen_p99	Proxy P99 Latency of strlen Command	P99 latency when the proxy executes the strlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis099_strlen_qps	Proxy strlen Command Rate	Rate at which the proxy executes the strlen command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis100_incr_avg_usec	Average Proxy Latency of incr Command	Average latency when the proxy executes the incr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis101_incr_max_usec	Maximum Proxy Latency of incr Command	Maximum latency when the proxy executes the incr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis102_incr_p99	Proxy P99 Latency of incr Command	P99 latency when the proxy executes the incr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis103_incr_qps	Proxy incr Command Rate	Rate at which the proxy executes the incr command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis104_decr_avg_usec	Average Proxy Latency of decr Command	Average latency when the proxy executes the decr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis105_decr_max_usec	Maximum Proxy Latency of decr Command	Maximum latency when the proxy executes the decr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis106_decr_p99	Proxy P99 Latency of decr Command	P99 latency when the proxy executes the decr command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis107_decr_qps	Proxy decr Command Rate	Rate at which the proxy executes the decr command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis108_hset_avg_usec	Average Proxy Latency of hset Command	Average latency when the proxy executes the hset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis109_hset_max_usec	Maximum Proxy Latency of hset Command	Maximum latency when the proxy executes the hset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis110_hset_p99	Proxy P99 Latency of hset Command	P99 latency when the proxy executes the hset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis111_hset_qps	Proxy hset Command Rate	Rate at which the proxy executes the hset command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis112_hget_avg_usec	Average Proxy Latency of hget Command	Average latency when the proxy executes the hget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis113_hget_max_usec	Maximum Proxy Latency of hget Command	Maximum latency when the proxy executes the hget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis114_hget_p99	Proxy P99 Latency of hget Command	P99 latency when the proxy executes the hget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis115_hget_qps	Proxy hget Command Rate	Rate at which the proxy executes the hget command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis116_hmset_avg_usec	Average Proxy Latency of hmset Command	Average latency when the proxy executes the hmset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis117_hmset_max_usec	Maximum Proxy Latency of hmset Command	Maximum latency when the proxy executes the hmset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis118_hmset_p99	Proxy P99 Latency of hmset Command	P99 latency when the proxy executes the hmset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis119_hmset_qps	Proxy hmset Command Rate	Rate at which the proxy executes the hmset command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis120_hmget_avg_usec	Average Proxy Latency of hmget Command	Average latency when the proxy executes the hmget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis121_hmget_max_usec	Maximum Proxy Latency of hmget Command	Maximum latency when the proxy executes the hmget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis122_hmget_p99	Proxy P99 Latency of hmget Command	P99 latency when the proxy executes the hmget command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis123_hmget_qps	Proxy hmget Command Rate	Rate at which the proxy executes the hmget command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis124_hdel_avg_usec	Average Proxy Latency of hdel Command	Average latency when the proxy executes the hdel command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis125_hdel_max_usec	Maximum Proxy Latency of hdel Command	Maximum latency when the proxy executes the hdel command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis126_hdel_p99	Proxy P99 Latency of hdel Command	P99 latency when the proxy executes the hdel command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis127_hdel_qps	Proxy hdel Command Rate	Rate at which the proxy executes the hdel command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis128_hgetall_avg_usec	Average Proxy Latency of hgetall Command	Average latency when the proxy executes the hgetall command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis129_hgetall_max_usec	Maximum Proxy Latency of hgetall Command	Maximum latency when the proxy executes the hgetall command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis130_hgetall_p99	Proxy P99 Latency of hgetall Command	P99 latency when the proxy executes the hgetall command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis131_hgetall_qps	Proxy hgetall Command Rate	Rate at which the proxy executes the hgetall command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis132_hexists_avg_usec	Average Proxy Latency of hexists Command	Average latency when the proxy executes the hexists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis133_hexists_max_usec	Maximum Proxy Latency of hexists Command	Maximum latency when the proxy executes the hexists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis134_hexists_p99	Proxy P99 Latency of hexists Command	P99 latency when the proxy executes the hexists command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis135_hexists_qps	Proxy hexists Command Rate	Rate at which the proxy executes the hexists command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis136_hincrby_avg_usec	Average Proxy Latency of hincrby Command	Average latency when the proxy executes the hincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis137_hincrby_max_usec	Maximum Proxy Latency of hincrby Command	Maximum latency when the proxy executes the hincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis138_hincrby_p99	Proxy P99 Latency of hincrby Command	P99 latency when the proxy executes the hincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis139_hincrby_qps	Proxy hincrby Command Rate	Rate at which the proxy executes the hincrby command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis140_hkeys_avg_usec	Average Proxy Latency of hkeys Command	Average latency when the proxy executes the hkeys command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis141_hkeys_max_usec	Maximum Proxy Latency of hkeys Command	Maximum latency when the proxy executes the hkeys command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis142_hkeys_p99	Proxy P99 Latency of hkeys Command	P99 latency when the proxy executes the hkeys command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis143_hkeys_qps	Proxy hkeys Command Rate	Rate at which the proxy executes the hkeys command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis144_hlen_avg_usec	Average Proxy Latency of hlen Command	Average latency when the proxy executes the hlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis145_hlen_max_usec	Maximum Proxy Latency of hlen Command	Maximum latency when the proxy executes the hlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis146_hlen_p99	Proxy P99 Latency of hlen Command	P99 latency when the proxy executes the hlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis147_hlen_qps	Proxy hlen Command Rate	Rate at which the proxy executes the hlen command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis148_hstrlen_avg_usec	Average Proxy Latency of hstrlen Command	Average latency when the proxy executes the hstrlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis149_hstrlen_max_usec	Maximum Proxy Latency of hstrlen Command	Maximum latency when the proxy executes the hstrlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis150_hstrlen_p99	Proxy P99 Latency of hstrlen Command	P99 latency when the proxy executes the hstrlen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis151_hstrlen_qps	Proxy hstrlen Command Rate	Rate at which the proxy executes the hstrlen command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis152_hvals_avg_usec	Average Proxy Latency of hvals Command	Average latency when the proxy executes the hvals command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis153_hvals_max_usec	Maximum Proxy Latency of hvals Command	Maximum latency when the proxy executes the hvals command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis154_hvals_p99	Proxy P99 Latency of hvals Command	P99 latency when the proxy executes the hvals command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis155_hvals_qps	Proxy hvals Command Rate	Rate at which the proxy executes the hvals command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis156_hscan_avg_usec	Average Proxy Latency of hscan Command	Average latency when the proxy executes the hscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis157_hscan_max_usec	Maximum Proxy Latency of hscan Command	Maximum latency when the proxy executes the hscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis158_hscan_p99	Proxy P99 Latency of hscan Command	P99 latency when the proxy executes the hscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis159_hscan_qps	Proxy hscan Command Rate	Rate at which the proxy executes the hscan command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis160_lpush_avg_usec	Average Proxy Latency of lpush Command	Average latency when the proxy executes the lpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis161_lpush_max_usec	Maximum Proxy Latency of lpush Command	Maximum latency when the proxy executes the lpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis162_lpush_p99	Proxy P99 Latency of lpush Command	P99 latency when the proxy executes the lpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis163_lpush_qps	Proxy lpush Command Rate	Rate at which the proxy executes the lpush command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis164_lpop_avg_usec	Average Proxy Latency of lpop Command	Average latency when the proxy executes the lpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis165_lpop_max_usec	Maximum Proxy Latency of lpop Command	Maximum latency when the proxy executes the lpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis166_lpop_p99	Proxy P99 Latency of lpop Command	P99 latency when the proxy executes the lpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis167_lpop_qps	Proxy lpop Command Rate	Rate at which the proxy executes the lpop command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis168_rpush_avg_usec	Average Proxy Latency of rpush Command	Average latency when the proxy executes the rpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis169_rpush_max_usec	Maximum Proxy Latency of rpush Command	Maximum latency when the proxy executes the rpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis170_rpush_p99	Proxy P99 Latency of rpush Command	P99 latency when the proxy executes the rpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis171_rpush_qps	Proxy rpush Command Rate	Rate at which the proxy executes the rpush command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis172_rpop_avg_usec	Average Proxy Latency of rpop Command	Average latency when the proxy executes the rpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis173_rpop_max_usec	Maximum Proxy Latency of rpop Command	Maximum latency when the proxy executes the rpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis174_rpop_p99	Proxy P99 Latency of rpop Command	P99 latency when the proxy executes the rpop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis175_rpop_qps	Proxy rpop Command Rate	Rate at which the proxy executes the rpop command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis176_rpoplpush_avg_usec	Average Proxy Latency of rpoplpush Command	Average latency when the proxy executes the rpoplpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis177_rpoplpush_max_usec	Maximum Proxy Latency of rpoplpush Command	Maximum latency when the proxy executes the rpoplpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis178_rpoplpush_p99	Proxy P99 Latency of rpoplpush Command	P99 latency when the proxy executes the rpoplpush command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis179_rpoplpush_qps	Proxy rpoplpush Command Rate	Rate at which the proxy executes the rpoplpush command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis180_llen_avg_usec	Average Proxy Latency of llen Command	Average latency when the proxy executes the llen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis181_llen_max_usec	Maximum Proxy Latency of llen Command	Maximum latency when the proxy executes the llen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis182_llen_p99	Proxy P99 Latency of llen Command	P99 latency when the proxy executes the llen command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis183_llen_qps	Proxy llen Command Rate	Rate at which the proxy executes the llen command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis184_lindex_avg_usec	Average Proxy Latency of lindex Command	Average latency when the proxy executes the lindex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis185_lindex_max_usec	Maximum Proxy Latency of lindex Command	Maximum latency when the proxy executes the lindex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis186_lindex_p99	Proxy P99 Latency of lindex Command	P99 latency when the proxy executes the lindex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis187_lindex_qps	Proxy lindex Command Rate	Rate at which the proxy executes the lindex command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis188_linsert_avg_usec	Average Proxy Latency of linsert Command	Average latency when the proxy executes the linsert command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis189_linsert_max_usec	Maximum Proxy Latency of linsert Command	Maximum latency when the proxy executes the linsert command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis190_linsert_p99	Proxy P99 Latency of linsert Command	P99 latency when the proxy executes the linsert command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis191_linsert_qps	Proxy linsert Command Rate	Rate at which the proxy executes the linsert command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis192_lrange_avg_usec	Average Proxy Latency of lrange Command	Average latency when the proxy executes the lrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis193_lrange_max_usec	Maximum Proxy Latency of lrange Command	Maximum latency when the proxy executes the lrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis194_lrange_p99	Proxy P99 Latency of lrange Command	P99 latency when the proxy executes the lrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis195_lrange_qps	Proxy lrange Command Rate	Rate at which the proxy executes the lrange command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis196_lrem_avg_usec	Average Proxy Latency of lrem Command	Average latency when the proxy executes the lrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis197_lrem_max_usec	Maximum Proxy Latency of lrem Command	Maximum latency when the proxy executes the lrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis198_lrem_p99	Proxy P99 Latency of lrem Command	P99 latency when the proxy executes the lrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis199_lrem_qps	Proxy lrem Command Rate	Rate at which the proxy executes the lrem command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis200_lset_avg_usec	Average Proxy Latency of lset Command	Average latency when the proxy executes the lset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis201_lset_max_usec	Maximum Proxy Latency of lset Command	Maximum latency when the proxy executes the lset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis202_lset_p99	Proxy P99 Latency of lset Command	P99 latency when the proxy executes the lset command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis203_lset_qps	Proxy lset Command Rate	Rate at which the proxy executes the lset command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis204_ltrim_avg_usec	Average Proxy Latency of ltrim Command	Average latency when the proxy executes the ltrim command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis205_ltrim_max_usec	Maximum Proxy Latency of ltrim Command	Maximum latency when the proxy executes the ltrim command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis206_ltrim_p99	Proxy P99 Latency of ltrim Command	P99 latency when the proxy executes the ltrim command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis207_ltrim_qps	Proxy ltrim Command Rate	Rate at which the proxy executes the ltrim command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis208_sadd_avg_usec	Average Proxy Latency of sadd Command	Average latency when the proxy executes the sadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis209_sadd_max_usec	Maximum Proxy Latency of sadd Command	Maximum latency when the proxy executes the sadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis210_sadd_p99	Proxy P99 Latency of sadd Command	P99 latency when the proxy executes the sadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis211_sadd_qps	Proxy sadd Command Rate	Rate at which the proxy executes the sadd command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis212_spop_avg_usec	Average Proxy Latency of spop Command	Average latency when the proxy executes the spop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis213_spop_max_usec	Maximum Proxy Latency of spop Command	Maximum latency when the proxy executes the spop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis214_spop_p99	Proxy P99 Latency of spop Command	P99 latency when the proxy executes the spop command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis215_spop_qps	Proxy spop Command Rate	Rate at which the proxy executes the spop command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis216_scard_avg_usec	Average Proxy Latency of scard Command	Average latency when the proxy executes the scard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis217_scard_max_usec	Maximum Proxy Latency of scard Command	Maximum latency when the proxy executes the scard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis218_scard_p99	Proxy P99 Latency of scard Command	P99 latency when the proxy executes the scard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis219_scard_qps	Proxy scard Command Rate	Rate at which the proxy executes the scard command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis220_smembers_avg_usec	Average Proxy Latency of smembers Command	Average latency when the proxy executes the smembers command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis221_smembers_max_usec	Maximum Proxy Latency of smembers Command	Maximum latency when the proxy executes the smembers command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis222_smembers_p99	Proxy P99 Latency of smembers Command	P99 latency when the proxy executes the smembers command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis223_smembers_qps	Proxy smembers Command Rate	Rate at which the proxy executes the smembers command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis224_srem_avg_usec	Average Proxy Latency of srem Command	Average latency when the proxy executes the srem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis225_srem_max_usec	Maximum Proxy Latency of srem Command	Maximum latency when the proxy executes the srem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis226_srem_p99	Proxy P99 Latency of srem Command	P99 latency when the proxy executes the srem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis227_srem_qps	Proxy srem Command Rate	Rate at which the proxy executes the srem command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis228_sunion_avg_usec	Average Proxy Latency of sunion Command	Average latency when the proxy executes the sunion command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis229_sunion_max_usec	Maximum Proxy Latency of sunion Command	Maximum latency when the proxy executes the sunion command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis230_sunion_p99	Proxy P99 Latency of sunion Command	P99 latency when the proxy executes the sunion command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis231_sunion_qps	Proxy sunion Command Rate	Rate at which the proxy executes the sunion command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis232_sinter_avg_usec	Average Proxy Latency of sinter Command	Average latency when the proxy executes the sinter command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis233_sinter_max_usec	Maximum Proxy Latency of sinter Command	Maximum latency when the proxy executes the sinter command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis234_sinter_p99	Proxy P99 Latency of sinter Command	P99 latency when the proxy executes the sinter command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis235_sinter_qps	Proxy sinter Command Rate	Rate at which the proxy executes the sinter command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis236_sismember_avg_usec	Average Proxy Latency of sismember Command	Average latency when the proxy executes the sismember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis237_sismember_max_usec	Maximum Proxy Latency of sismember Command	Maximum latency when the proxy executes the sismember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis238_sismember_p99	Proxy P99 Latency of sismember Command	P99 latency when the proxy executes the sismember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis239_sismember_qps	Proxy sismember Command Rate	Rate at which the proxy executes the sismember command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis240_sdiff_avg_usec	Average Proxy Latency of sdiff Command	Average latency when the proxy executes the sdiff command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis241_sdiff_max_usec	Maximum Proxy Latency of sdiff Command	Maximum latency when the proxy executes the sdiff command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis242_sdiff_p99	Proxy P99 Latency of sdiff Command	P99 latency when the proxy executes the sdiff command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis243_sdiff_qps	Proxy sdiff Command Rate	Rate at which the proxy executes the sdiff command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis244_srandmember_avg_usec	Average Proxy Latency of srandmember Command	Average latency when the proxy executes the srandmember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis245_srandmember_max_usec	Maximum Proxy Latency of srandmember Command	Maximum latency when the proxy executes the srandmember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis246_srandmember_p99	Proxy P99 Latency of srandmember Command	P99 latency when the proxy executes the srandmember command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis247_srandmember_qps	Proxy srandmember Command Rate	Rate at which the proxy executes the srandmember command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis248_zadd_avg_usec	Average Proxy Latency of zadd Command	Average latency when the proxy executes the zadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis249_zadd_max_usec	Maximum Proxy Latency of zadd Command	Maximum latency when the proxy executes the zadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis250_zadd_p99	Proxy P99 Latency of zadd Command	P99 latency when the proxy executes the zadd command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis251_zadd_qps	Proxy zadd Command Rate	Rate at which the proxy executes the zadd command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis252_zcard_avg_usec	Average Proxy Latency of zcard Command	Average latency when the proxy executes the zcard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis253_zcard_max_usec	Maximum Proxy Latency of zcard Command	Maximum latency when the proxy executes the zcard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis254_zcard_p99	Proxy P99 Latency of zcard Command	P99 latency when the proxy executes the zcard command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis255_zcard_qps	Proxy zcard Command Rate	Rate at which the proxy executes the zcard command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis256_zscan_avg_usec	Average Proxy Latency of zscan Command	Average latency when the proxy executes the zscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis257_zscan_max_usec	Maximum Proxy Latency of zscan Command	Maximum latency when the proxy executes the zscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis258_zscan_p99	Proxy P99 Latency of zscan Command	P99 latency when the proxy executes the zscan command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis259_zscan_qps	Proxy zscan Command Rate	Rate at which the proxy executes the zscan command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis260_zincrby_avg_usec	Average Proxy Latency of zincrby Command	Average latency when the proxy executes the zincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis261_zincrby_max_usec	Maximum Proxy Latency of zincrby Command	Maximum latency when the proxy executes the zincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis262_zincrby_p99	Proxy P99 Latency of zincrby Command	P99 latency when the proxy executes the zincrby command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis263_zincrby_qps	Proxy zincrby Command Rate	Rate at which the proxy executes the zincrby command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis264_zrevrange_avg_usec	Average Proxy Latency of zrevrange Command	Average latency when the proxy executes the zrevrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis265_zrevrange_max_usec	Maximum Proxy Latency of zrevrange Command	Maximum latency when the proxy executes the zrevrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis266_zrevrange_p99	Proxy P99 Latency of zrevrange Command	P99 latency when the proxy executes the zrevrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis267_zrevrange_qps	Proxy zrevrange Command Rate	Rate at which the proxy executes the zrevrange command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis268_zrange_avg_usec	Average Proxy Latency of zrange Command	Average latency when the proxy executes the zrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis269_zrange_max_usec	Maximum Proxy Latency of zrange Command	Maximum latency when the proxy executes the zrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis270_zrange_p99	Proxy P99 Latency of zrange Command	P99 latency when the proxy executes the zrange command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis271_zrange_qps	Proxy zrange Command Rate	Rate at which the proxy executes the zrange command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis272_zcount_avg_usec	Average Proxy Latency of zcount Command	Average latency when the proxy executes the zcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis273_zcount_max_usec	Maximum Proxy Latency of zcount Command	Maximum latency when the proxy executes the zcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis274_zcount_p99	Proxy P99 Latency of zcount Command	P99 latency when the proxy executes the zcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis275_zcount_qps	Proxy zcount Command Rate	Rate at which the proxy executes the zcount command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis276_zrem_avg_usec	Average Proxy Latency of zrem Command	Average latency when the proxy executes the zrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis277_zrem_max_usec	Maximum Proxy Latency of zrem Command	Maximum latency when the proxy executes the zrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis278_zrem_p99	Proxy P99 Latency of zrem Command	P99 latency when the proxy executes the zrem command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis279_zrem_qps	Proxy zrem Command Rate	Rate at which the proxy executes the zrem command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis280_zscore_avg_usec	Average Proxy Latency of zscore Command	Average latency when the proxy executes the zscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis281_zscore_max_usec	Maximum Proxy Latency of zscore Command	Maximum latency when the proxy executes the zscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis282_zscore_p99	Proxy P99 Latency of zscore Command	P99 latency when the proxy executes the zscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis283_zscore_qps	Proxy zscore Command Rate	Rate at which the proxy executes the zscore command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis284_zrank_avg_usec	Average Proxy Latency of zrank Command	Average latency when the proxy executes the zrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis285_zrank_max_usec	Maximum Proxy Latency of zrank Command	Maximum latency when the proxy executes the zrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis286_zrank_p99	Proxy P99 Latency of zrank Command	P99 latency when the proxy executes the zrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis287_zrank_qps	Proxy zrank Command Rate	Rate at which the proxy executes the zrank command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis288_zrevrank_avg_usec	Average Proxy Latency of zrevrank Command	Average latency when the proxy executes the zrevrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis289_zrevrank_max_usec	Maximum Proxy Latency of zrevrank Command	Maximum latency when the proxy executes the zrevrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis290_zrevrank_p99	Proxy P99 Latency of zrevrank Command	P99 latency when the proxy executes the zrevrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis291_zrevrank_qps	Proxy zrevrank Command Rate	Rate at which the proxy executes the zrevrank command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis292_zlexcount_avg_usec	Average Proxy Latency of zlexcount Command	Average latency when the proxy executes the zlexcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis293_zlexcount_max_usec	Maximum Proxy Latency of zlexcount Command	Maximum latency when the proxy executes the zlexcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis294_zlexcount_p99	Proxy P99 Latency of zlexcount Command	P99 latency when the proxy executes the zlexcount command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis295_zlexcount_qps	Proxy zlexcount Command Rate	Rate at which the proxy executes the zlexcount command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis296_zpopmax_avg_usec	Average Proxy Latency of zpopmax Command	Average latency when the proxy executes the zpopmax command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis297_zpopmax_max_usec	Maximum Proxy Latency of zpopmax Command	Maximum latency when the proxy executes the zpopmax command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis298_zpopmax_p99	Proxy P99 Latency of zpopmax Command	P99 latency when the proxy executes the zpopmax command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis299_zpopmax_qps	Proxy zpopmax Command Rate	Rate at which the proxy executes the zpopmax command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis300_zpopmin_avg_usec	Average Proxy Latency of zpopmin Command	Average latency when the proxy executes the zpopmin command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis301_zpopmin_max_usec	Maximum Proxy Latency of zpopmin Command	Maximum latency when the proxy executes the zpopmin command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis302_zpopmin_p99	Proxy P99 Latency of zpopmin Command	P99 latency when the proxy executes the zpopmin command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis303_zpopmin_qps	Proxy zpopmin Command Rate	Rate at which the proxy executes the zpopmin command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis304_zremrangebyrank_avg_usec	Average Proxy Latency of zremrangebyrank Command	Average latency when the proxy executes the zremrangebyrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis305_zremrangebyrank_max_usec	Maximum Proxy Latency of zremrangebyrank Command	Maximum latency when the proxy executes the zremrangebyrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis306_zremrangebyrank_p99	Proxy P99 Latency of zremrangebyrank Command	P99 latency when the proxy executes the zremrangebyrank command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis307_zremrangebyrank_qps	Proxy zremrangebyrank Command Rate	Rate at which the proxy executes the zremrangebyrank command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis308_zremrangebyscore_avg_usec	Average Proxy Latency of zremrangebyscore Command	Average latency when the proxy executes the zremrangebyscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis309_zremrangebyscore_max_usec	Maximum Proxy Latency of zremrangebyscore Command	Maximum latency when the proxy executes the zremrangebyscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis310_zremrangebyscore_p99	Proxy P99 Latency of zremrangebyscore Command	P99 latency when the proxy executes the zremrangebyscore command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis311_zremrangebyscore_qps	Proxy zremrangebyscore Command Rate	Rate at which the proxy executes the zremrangebyscore command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis312_zremrangebylex_avg_usec	Average Proxy Latency of zremrangebylex Command	Average latency when the proxy executes the zremrangebylex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis313_zremrangebylex_max_usec	Maximum Proxy Latency of zremrangebylex Command	Maximum latency when the proxy executes the zremrangebylex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis314_zremrangebylex_p99	Proxy P99 Latency of zremrangebylex Command	P99 latency when the proxy executes the zremrangebylex command Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis315_zremrangebylex_qps	Proxy zremrangebylex Command Rate	Rate at which the proxy executes the zremrangebylex command Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis316_all_avg_usec	Average Proxy Latency of Commands	Average latency when the proxy executes commands Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis317_all_max_usec	Maximum Proxy Latency of Commands	Maximum latency when the proxy executes commands Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis318_all_p99	Proxy P99 Latency of Commands	P99 latency when the proxy executes all commands Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis319_all_qps	Proxy Command Rate	Rate at which the proxy executes commands Unit: count/s	≥ 0	GeminiDB Redis instance nodes	1 minute
redis661_rsync_ops	rsync Rate	Rate that rsync transfers data in a collection period Unit: count	≥ 0	GeminiDB Redis instance nodes	1 minute
redis662_rsync_wal_size	Size of WAL Files to Be Synchronized	Size of WAL files to be synchronized by rsync in a collection period Unit: byte	≥ 0	GeminiDB Redis instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
redis663_rsync_push_cost	Average Push Time	Average time required for rsync to push data in a collection period Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis664_rsync_send_cost	Average Send Time	Average time required for rsync to send data in a collection period Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis665_rsync_max_push_cost	Maximum Push Time	Maximum time required for a push operation in a collection period Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute
redis666_rsync_max_send_cost	Maximum Send Time	Maximum time required for a send operation in a collection period Unit: μs	≥ 0	GeminiDB Redis instance nodes	1 minute

GeminiDB Influx Metrics

Table 8-4 GeminiDB Influx metrics

Metric ID	Metric Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
gemini001_cpu_usage	CPU Usage	CPU usage of the monitored system Unit: Percent	0–100	GeminiDB Influx instance node	1 minute
gemini002_mem_usage	Memory Usage	Memory usage of the monitored system Unit: Percent	0–100	GeminiDB Influx instance node	1 minute
gemini003_bytes_out	Network Output Throughput	Outgoing traffic in bytes per second Unit: kbit/s	≥ 0	GeminiDB Influx instance nodes	1 minute
gemini004_bytes_in	Network Input Throughput	Incoming traffic in bytes per second Unit: kbit/s	≥ 0	GeminiDB Influx instance nodes	1 minute
nosql005_disk_usage	Storage Space Usage	Storage space usage of the monitored object. Unit: Percent	0–100	GeminiDB Influx instances	1 minute
nosql006_disk_total_size	Total Storage Space	Total storage space of the monitored object. Unit: GB	≥ 0	GeminiDB Influx instances	1 minute

Metric ID	Metric Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
nosql007_disk_used_size	Used Storage Space	Used storage space of the monitored object. Unit: GB	≥ 0	GeminiDB Influx instances	1 minute
influxdb001_series_num	Time Series	Total number of time series Unit: count	≥ 0	GeminiDB Influx instance nodes	1 minute
influxdb002_query_req_ps	Query Requests Per Second	Number of query requests per second Unit: count/s	≥ 0	GeminiDB Influx instance nodes	1 minute
influxdb003_write_req_ps	Write Requests Per Second	Number of write requests per second Unit: count/s	≥ 0	GeminiDB Influx instance nodes	1 minute
influxdb004_write_points_ps	Write Points	Number of write points per second Unit: count/s	≥ 0	GeminiDB Influx instance nodes	1 minute
influxdb005_write_concurrency	Concurrent Write Requests	Number of concurrent write requests Unit: count	≥ 0	GeminiDB Influx instance nodes	1 minute
influxdb006_query_concurrency	Concurrent Queries	Number of concurrent query requests Unit: count	≥ 0	GeminiDB Influx instance nodes	1 minute

GeminiDB Cassandra Metrics

Table 8-5 GeminiDB Cassandra metrics

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
nosql005_disk_usage	Storage Space Usage	Storage space usage of the monitored object. Unit: Percent	0–100	GeminiDB Cassandra instances	1 minute
nosql006_disk_total_size	Total Storage Space	Total storage space of the monitored object. Unit: GB	≥ 0	GeminiDB Cassandra instances	1 minute
nosql007_disk_used_size	Used Storage Space	Used storage space of the monitored object. Unit: GB	≥ 0	GeminiDB Cassandra instances	1 minute
nosql009_dfv_write_delay	Storage Write Latency	Average delay of writing data to the storage layer in a specified period Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
nosql010_dfv_read_delay	Storage Read Latency	Average latency of reading data from the storage layer in a specified period Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
cassandra001_cpu_usage	CPU Usage	CPU usage of an instance Unit: Percent	0–100	GeminiDB Cassandra instance nodes	1 minute
cassandra002_mem_usage	Memory Usage	Memory usage of the instance Unit: Percent	0–100	GeminiDB Cassandra instance nodes	1 minute
cassandra003_bytes_out	Network Output Throughput	Outgoing traffic in bytes per second Unit: byte/s	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra004_bytes_in	Network Input Throughput	Incoming traffic in bytes per second Unit: byte/s	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra014_connections	Active Node Connections	Total number of connections attempting to connect to Cassandra instance nodes Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra015_read_latency	Average Read Latency	Average amount of time consumed by read requests Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
cassandra016_write_latency	Average Write Latency	Average amount of time consumed by write requests Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra037_pending_write	Suspended Write Tasks	Number of write tasks in waiting status Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra038_pending_read	Suspended Read Tasks	Number of read tasks in waiting status Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra044_range_slice_latency	Scan Duration	Average amount of time consumed by scan operations Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra049_dropped_mutation	Dropped Writes	Average number of dropped writes Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra052_dropped_read	Dropped Reads	Average number of dropped reads Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra092_load_info	Data Volume on a Node	Data volume on a node Unit: byte	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
cassandra093_write_count_latency	Accumulated Write Requests	Total number of write requests initiated by a node Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra094_write_1min_rate	Average Write Rate in the Last Minute	Average write rate in the last minute Unit: count/s	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra095_write_p75_latency	p75 Write Latency	p75 write latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra096_write_p95_latency	p95 Write Latency	p95 write latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra097_write_p99_latency	p99 Write Latency	p99 write latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra098_read_count_latency	Accumulated Read Requests	Total number of read requests initiated by a node Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra099_read_1min_rate	Average Read Rate in the Last Minute	Average read rate in the last minute Unit: count/s	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
cassandra100_read_p75_latency	p75 Read Latency	p75 read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra101_read_p95_latency	p95 Read Latency	p95 read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra102_read_p99_latency	p99 Read Latency	p99 read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra103_range_slice_count_latency	Accumulated Range Read Requests	Accumulated range read requests Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra104_range_slice_1min_rate	Average Range Read Rate in the Last Minute	Average range read rate in the last minute Unit: count/s	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra105_range_slice_p75_latency	p75 Range Read Latency	p75 range read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra106_range_slice_p95_latency	p95 Range Read Latency	p95 range read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Metric ID	Name	Description	Value Range	Monitored Object	Monitoring Period (Raw Data)
cassandra107_range_slice_p99_latency	p99 Range Read Latency	p99 range read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra163_write_p999_latency	p999 Write Latency	p999 write latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra164_read_p999_latency	p999 Read Latency	p999 read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra165_large_partition_num	Big Keys	Number of big keys on the current node Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra166_write_max_latency	Maximum Write Latency	Maximum write latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra167_read_max_latency	Maximum Read Latency	Maximum read latency Unit: ms	≥ 0	GeminiDB Cassandra instance nodes	1 minute
cassandra168_imbalance_table_num	Tables with Uneven Data Distribution	Number of tables in which data is not evenly distributed. Unit: count	≥ 0	GeminiDB Cassandra instance nodes	1 minute

Dimensions

Key	Value
cassandra_cluster_id,cassandra_node_id	Cluster ID or node ID of the GeminiDB Cassandra instance
redis_cluster_id,redis_node_id	Cluster ID or node ID of the GeminiDB Redis instance
influxdb_cluster_id,influxdb_node_id	Cluster ID or node ID of the GeminiDB Influx instance

8.6 Events Supported by Event Monitoring

Table 8-6 Events Supported by Event Monitoring for GeminiDB

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
NoSQL	Instance creation failure	NoSQL CreateInstance Failed	Major	The instance quota or underlying resources are insufficient.	Release the instances that are no longer used and try to provision them again, or submit a service ticket to adjust the quota.	Instances fail to be created.
	Specifications change failure	NoSQL ResizeInstance Failed	Major	The underlying resources are insufficient.	Submit a service ticket to ask O&M personnel to coordinate resources, and then try again.	Services are interrupted.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Node adding failure	NoSQLAddNodesFailed	Major	The underlying resources are insufficient.	Submit a service ticket to ask O&M personnel to coordinate resources, delete the node that failed to be added, and add a new one.	None
	Node deletion failure	NoSQLDeleteNodesFailed	Major	Releasing underlying resources failed.	Delete the node again.	None
	Storage space scale-up failure	NoSQLScaleUpStorageFailed	Major	The underlying resources are insufficient.	Submit a service ticket to ask O&M personnel to coordinate resources, and then try again.	Services may be interrupted.
	Password resetting failure	NoSQLResetPasswordFailed	Major	Resetting the password times out.	Reset the password again.	None
	Parameter template change failure	NoSQLUpdateInstanceParamGroupFailed	Major	Changing a parameter template times out.	Change the parameter template again.	None
	Backup policy configuration failure	NoSQLSetBackupPolicyFailed	Major	The database connection is abnormal.	Configure the backup policy again.	None

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Manual backup creation failure	NoSQLCreateManualBackupFailed	Major	The backup files fail to be exported or uploaded.	Submit a service ticket to O&M personnel.	Data cannot be backed up.
	Automated backup creation failure	NoSQLCreateAutomatedBackupFailed	Major	The backup files fail to be exported or uploaded.	Submit a service ticket to O&M personnel.	Data cannot be backed up.
	Instance status abnormal	NoSQLFaultyDBInstance	Major	This event is a key alarm event and is reported when an instance is faulty due to a disaster or a server failure.	Submit a service ticket.	The database service may be unavailable.
	Instance status recovery	NoSQLDBInstanceRecovered	Major	If a disaster occurs, NoSQL provides an HA tool to automatically or manually rectify the fault. After the fault is rectified, this event is reported.	No further action is required.	None
	Node status abnormal	NoSQLFaultyDBNode	Major	This event is a key alarm event and is reported when a database node is faulty due to a disaster or a server failure.	Check whether the database service is available and submit a service ticket.	The database service may be unavailable.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Node status recovery	NoSQLDBNodeRecovered	Major	If a disaster occurs, NoSQL provides an HA tool to automatically or manually rectify the fault. After the fault is rectified, this event is reported.	No further action is required.	None
	Primary/standby switchover or failover	NoSQLPrimaryStandbySwitched	Major	This event is reported when a primary/secondary switchover or a failover is triggered.	No further action is required.	None
	Occurrence of hotspot partitioning keys	HotKeyOccurs	Major	Hotspot data is stored in one partition because the primary key is improper. Improper application design causes frequent read and write operations on a key.	1. Choose a proper partition key. 2. Add service cache so that service applications read hotspot data from the cache first.	The service request success rate is affected, and the cluster performance and stability deteriorates.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	BigKey occurrence	BigKeyOccurs	Major	The primary key design is improper. There are too many records or too much data in a single partition, causing load imbalance on nodes.	1. Choose a proper partition key. 2. Add a new partition key for hashing data.	As more and more data is stored in the partition, cluster stability deteriorates.
	Insufficient storage space	NoSQLRiskyDataDiskUsage	Major	The storage space is insufficient.	Scale up storage space. For details, see section "Scaling Up Storage Space" in the user guide of GeminiDB.	The instance is set to read-only and data cannot be written to the instance.
	Data disk expanded and being writable	NoSQLDataDiskUsageRecovered	Major	The data disk has been expanded and becomes writable.	No further action is required.	None

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Index creation failure	NoSQLCreateIndexFailed	Major	The service load exceeds what the instance specifications can take. In this case, creating indexes consumes more instance resources. As a result, the response is slow or even frame freezing occurs, and the creation times out.	Select matched instance specifications based on service load. Create indexes during off-peak hours. Create indexes in the background. Select indexes as required.	The index fails to be created or is incomplete. Delete the index and create a new one.
	Write speed decrease	NoSQLStallingOccurs	Major	The write speed is close to the maximum write speed allowed by the cluster scale and instance specifications. As a result, the database flow control mechanism is triggered, and requests may fail.	1. Adjust the cluster scale or node specifications based on the maximum write rate of services. 2. Measure the maximum write rate of services.	The success rate of service requests is affected.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Data write stopped	NoSQLStoppingOccurs	Major	The data write is too fast, reaching the maximum write capability allowed by the cluster scale and instance specifications. As a result, the database flow control mechanism is triggered, and requests may fail.	1. Change the cluster scale or node specifications based on the maximum write rate of services. 2. Measure the maximum write rate of services.	The success rate of service requests is affected.
	Database restart failure	NoSQLRestartDBFailed	Major	The instance status is abnormal.	Submit a service ticket to O&M personnel.	The instance status may be abnormal.
	Restoration to new instance failure	NoSQLRestoreToNewInstanceFailed	Major	The underlying resources are insufficient.	Submit a service ticket to ask O&M personnel to coordinate resources, and then add new nodes.	Data cannot be restored to a new instance.
	Restoration to existing instance failure	NoSQLRestoreToExistInstanceFailed	Major	The backup file fails to be downloaded or restored.	Submit a service ticket to O&M personnel.	The current instance may be unavailable.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Backup file deletion failure	NoSQLDeleteBackupFailed	Major	The backup files fail to be deleted from OBS.	Delete the backup files again.	None
	Failure to display slow query logs in plaintext	NoSQLSwitchSlowlogPlainTextFailed	Major	The DB API does not support this function.	Refer to the *GeminiDB User Guide* to check whether that the DB API supports the display of slow query logs in plaintext. Submit a service ticket to O&M personnel.	None
	EIP binding failure	NoSQLBindEipFailed	Major	The node status is abnormal, an EIP has been bound to the node, or the EIP to be bound is invalid.	Check whether the node is normal and whether the EIP is valid.	The instance cannot be accessed from a public network.
	EIP unbinding failure	NoSQLUnbindEipFailed	Major	The node status is abnormal or the EIP has been unbound from the node.	Check whether the node and EIP status are normal.	None

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Parameter modification failure	NoSQLModifyParameterFailed	Major	The parameter value is invalid.	Check whether the parameter value is within the valid range and submit a service ticket to O&M personnel.	None
	Parameter template application failure	NoSQLApplyParameterGroupFailed	Major	The instance status is abnormal. So, the parameter template cannot be applied.	Submit a service ticket to O&M personnel.	None
	Enabling or disabling SSL failure	NoSQLSwitchSSLFailed	Major	Enabling or disabling SSL times out.	Try again or submit a service ticket. Do not change the connection mode.	The SSL connection mode cannot be changed.

Event Source	Event Name	Event ID	Event Severity	Description	Solution	Impact
	Too much data in a single row	LargeRowOccurs	Major	If there is too much data in a single row, queries may time out, causing faults like OOM error.	1. Limit the write length of each column and row so that the key and value length of each row does not exceed the preset threshold. 2. Check whether there are abnormal writes or coding, causing large rows.	If there are too many records in a single row, cluster stability will deteriorate as the data volume increases.

A Change History

Released On	Description
2023-03-31	This issue is the second official release. Added the planned time when the API becomes unavailable and replacement API in **Instance Specifications**. Added the planned time when the API becomes unavailable and replacement API in **Obtaining Parameter Templates**. Added the planned time when the API becomes unavailable and replacement API in **Querying an Instance by Tag**.
2023-02-19	This issue is the first official release.

