

GaussDB

API Reference

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1 Before You Start

GaussDB is a distributed relational database. GaussDB supports distributed transactions and intra-city deployment across AZs for zero data loss, storage for petabytes of data, and scale-out to more than 1,000 nodes. It is highly available, secure, and scalable and provides services including quick deployment, backup, restoration, monitoring, and alarm reporting for enterprises.

For operation details, see [API Overview](#).

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.

Concepts

- User
A user is created using an account to use cloud services. Each user has its own identity credentials (password and access keys).
The account name, username, and password will be required for API authentication.
- Region
A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.
- AZ
An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.

2 API Overview

You can use GaussDB APIs to create and delete DB instances, query DB instances, obtain and modify DB instance parameters, and configure and query automated backup policies. For details, see the following table.

Type	Subtype	Description
GaussDB APIs	DB Engine versions and specifications	Query DB engine versions, query instance specifications, query DB engines, and query specifications that a DB instance can be changed to.
GaussDB APIs	Storage management	Query the disk type of a DB instance.
GaussDB APIs	Instance Management	Manage DB instances, including creating a DB instance, scaling up storage, deleting a DB instance, querying DB instances, obtaining specified DB instances, adding CNs, adding DN shards, resetting a database password, changing a DB instance name, querying the components of a DB instance, changing vCPUs and memory of a DB instance, switching roles of primary and standby DNs in shards, rebooting a DB instance, checking whether host load is unbalanced due to a primary/standby switchover, querying solution template settings, querying EIPs bound to DB instances, validating password strength, binding and unbinding an EIP, querying the SSL certificate download address of a DB instance, and querying instance quotas of a tenant.

Type	Subtype	Description
GaussDB APIs	Parameter Configuration	Modify parameters of a specified DB instance, obtain parameter templates, obtain the parameters of a specified DB instance, create a parameter template, delete a parameter template, query details about a parameter template, replicate a parameter template, reset a parameter template, obtain the differences of two parameter templates, query instances that a parameter template can be applied to, check whether a parameter template name is unique, apply a parameter template, query application records of a parameter template, and query change history of a parameter template.
GaussDB APIs	Backup and Restoration	Configure an automated backup policy, query an automated backup policy, query backups, create a manual backup, delete a manual backup, query the restoration time range, restore data to a new DB instance, query instances that can be used for backups and restorations, and query information about the original instance based on a specific point of time or a backup file.
GaussDB APIs	Database and Account Management	Create a database, create a database account, create a database schema, configure permissions of database accounts, reset a password for a database account, query databases, query database users, and query database schemas.
GaussDB APIs	Tag Management	Query instance tags, query project tags, query predefined tags, and add tags for instances.
GaussDB APIs	Quota Management	Modify enterprise project quotas and query enterprise project quotas
GaussDB APIs	Task Management	Obtain task information, query tasks, and delete a task record.
GaussDB APIs	Recycle Bin	Set the recycle bin policy, query the recycling policy, and query all DB engine instances in the recycle bin.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API and how to call an API. Before calling an API, you need to . The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI consists of the following:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in a request header, most programming languages or frameworks require the request URI to be separately transmitted, rather than being conveyed in a request message.

Table 3-1 Parameters in a URI

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of "Parameter name=Parameter value". For example, ?limit=10 indicates that a maximum of 10 data records will be displayed.

 NOTE

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

Request Methods

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

Table 3-2 HTTP methods

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

For example, in the case of the API used to , the request method is POST. The request is as follows:

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 the authentication information.

Table 3-3 lists common request header fields.

Table 3-3 Common request headers

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

The API used to does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows.

(Optional) Request Body

This part is optional. A request body is generally sent in a structured format (for example, JSON or XML), corresponding to **Content-Type** in the request header, and is used to transfer content other than the request header. If the request body contains full-width characters, these characters must be coded in UTF-8.

The request body varies according to the APIs. Certain APIs do not require the request body, such as the GET and DELETE APIs.

In the case of the API used to , the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace **username**, **domainname**, ********* (login password), and **xxxxxxxxxxxxxxxxxxxxxx** (project name) with actual values. You can obtain the values from .

NOTE

scope specifies where a token takes effect. In the example, the token takes effect only on the resources specified by the project ID. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see .

Content-Type: application/json

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

If all data required for the API request is available, you can send the request to call the API through curl, [Postman](#), or coding. For the API used to obtain a user token, **x-subject-token** in the response header is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

Token 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 requests to get permissions for calling the API.

```
{
  "auth": {
```

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

After a token is obtained, add **X-Auth-Token** to the request header to specify the token when calling other APIs. For example, if the token is **ABCDEFGF....**, add **X-Auth-Token: ABCDEFG....** to a request as follows:

```
GET https://{{Endpoint}}/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFG....
```

3.3 Response

Status Code

After sending a request, you will receive a response, including the status code, response header, and response body.

A status code is a group of digits ranging from 1xx to 5xx. It indicates the status of a response. For more information, see [Status Codes](#).

For example, if status code **201** is returned for calling the API used to obtain a user token, the request is successful.

Response Header

Similar to a request, a response also has a header, for example, **Content-Type**.

Figure 3-1 shows the response header for the API used to obtain a user token. The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-1 Header fields of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
```

```
x-subject-token
→ MIIYXQYJKoZIhvcNAQcCoIIYTCCEoCAQExDTALBgIghkgBZQMEAgEwgharBgkqhkiG9w00BBwGgghacBIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC
fj3KJs6YgKnPvNRbW2eZ5eb78SZOkqjACgklqO1wi4JIGzrpd18LGXK5bdfq4lqHCYb8P4NaY0NYejcAgz/VeFYtLWT1GSO0zxKZmlQHq82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jgglFkNPQuFSOU8+uSsttVwRtNfsc+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==
```

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

(Optional) Response Body

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

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

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

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

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

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 APIs (Recommended)

4.1 API Version Query

4.1.1 Querying API Versions

Function

This API is used to query the supported API versions. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}

Request Parameters

None

Example Request

Querying API versions

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

Response Parameters

Table 4-1 Response parameters

Name	Type	Description
versions	Array of objects	API version information. For details, see Table 4-2 .

Table 4-2 versions field data structure description

Name	Type	Description
id	String	Backup time window. The creation of an automated backup will be triggered during the backup time window. The time is in the UTC format.
links	Array of objects	API link information. For details, see Table 4-3 . NOTE If the version is v3 and v 3.1, the value is [].
status	String	Version status. Value: • CURRENT: The version has been released. • SUPPORTED: The version is an earlier version, but it is still available. • DEPRECATED: The version is a deprecated version, which may be deleted later.
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-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the UTC.

Table 4-3 links field data structure description

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

Example Response

API versions queried.

```
{
  "versions": [
    {
      "id": "v3",
```

```
{
  "links": [],
  "status": "CURRENT",
  "version": "",
  "min_version": "",
  "updated": "2017-02-07T17:34:02Z"
},
{
  "id": "v3.1",
  "links": [],
  "status": "CURRENT",
  "version": "",
  "min_version": "",
  "updated": "2017-02-07T17:34:02Z"
}
]
```

Status Code

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

Error Code

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

4.1.2 Querying Version Information of an API

Function

This API is used to query version information of a specified API. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{*Endpoint*}/{version}

Table 4-4 Parameter description

Name	Mandatory	Description
version	Yes	API version. It is case-sensitive.

Request Parameters

None

Response Parameters

Table 4-5 Parameter description

Name	Type	Description
version	Object	API version information. For details, see Table 4-6 .

Table 4-6 version field data structure description

Name	Type	Description
id	String	Backup time window. The creation of an automated backup will be triggered during the backup time window. The time is in the UTC format.
links	Array of objects	API link information. For details, see Table 4-7 . NOTE If the version is v3 and v 3.1, the value is [].
status	String	Version status. ● CURRENT: The version has been released. ● SUPPORTED: The version is an earlier version, but it is still available. ● DEPRECATED: The version is a deprecated version, which may be deleted later.
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-ddThh:mm:ssZ. T is the separator between the calendar and the hourly notation of time. Z indicates the UTC.

Table 4-7 links field data structure description

Name	Type	Description
href	String	API URL. The value is "".

Name	Type	Description
rel	String	The value is self , indicating that URL is a local link.

Example Request

Querying version information of an API

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

Example Response

API version information queried.

```
{
  "version": {
    "id": "v3",
    "links": [],
    "status": "CURRENT",
    "version": "",
    "min_version": "",
    "updated": "2020-06-23T14:45:51Z"
  }
}
```

Status Code

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

Error Code

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

4.2 DB Engine Versions and Specifications

4.2.1 Querying DB Engine Versions

Function

This API is used to query DB engine versions supported by a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

```
GET https://{Endpoint}/v3/{project_id}/datastore/versions
```

Table 4-8 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

None

Response Parameters

Table 4-9 Response parameter description

Name	Type	Description
versions	Array of strings	DB engine versions supported by GaussDB.

Example Request

Querying DB engine versions

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/datastore/versions
```

Example Response

DB engine versions queried.

```
{
  "versions": [
    "1.4",
    "2.3"
  ]
}
```

Status Code

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

Error Code

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

4.2.2 Querying Instance Specifications

Function

This API is used to query instance specifications. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3.2/{project_id}/flavors?
limit={limit}&offset={offset}&ha_mode={ha_mode}&version={version}&spec_code
={spec_code}

Table 4-10 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Name	Mandatory	Type	Description
version	No	String	Explanation: DB version number. You can query the specifications supported by a specified DB version, for example, V2.0-1.4. Restrictions: None Value range: None Default value: None
spec_code	No	String	Explanation: Specification code. Restrictions: None Value range: None Default value: None
ha_mode	No	String	Explanation: Instance type. You can query the specifications supported by a specified instance type. Restrictions: None Values: - Primary/standby: centralization_standard - Distributed (independent deployment): enterprise Default value: None

Name	Mandatory	Type	Description
limit	No	Integer	Explanation: Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Restrictions: None Value range: [1, 100] Default value: 100
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Restrictions: None Value range: [0, 2 ³¹ -1] Default value: 0 (indicating that the query starts from the first data record.)

Request Parameters

None

Response Parameters

Table 4-11 Parameter description

Name	Type	Description
flavors	Array of objects	Explanation: Specification details. For details, see Table 4-12 .

Name	Type	Description
total	Integer	Explanation: Total number of records. Value range: [0, 2 ³¹ -1]

Table 4-12 flavors description

Name	Type	Description
vcpus	String	Explanation: Number of vCPUs. Value range: None
ram	String	Explanation: Memory size in GB. Value range: None
spec_code	String	Explanation: Resource specification code. For details, see DB Instance Specifications . Value range: None
availability_zone	Array of strings	Explanation: AZ supported by the specifications.
az_status	Map<String,String>	Explanation: key indicates the AZ ID, and value indicates the specification status in the AZ. Values: • normal: available. • unsupported: not supported.
version	String	Explanation: DB engine version supported by the specifications. Value range: None

Name	Type	Description
name	String	Explanation: DB engine. Value range: None
group_type	String	Explanation: Performance specifications. Values: • normal: general-enhanced • normal2: general-enhanced II • armFlavors: Kunpeng general-enhanced

Example Request

- Querying specifications of a centralized instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.2/0483b6b16e954cb88930a360d2c4e663/flavors?offset=0&limit=10&ha_mode=centralization_standard&version=V2.0-3.100&spec_code=gaussdb.opengauss.ee.km1.2xlarge.arm8.ha
```

- Querying specifications of a distributed instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.2/0483b6b16e954cb88930a360d2c4e663/flavors?offset=0&limit=10&ha_mode=enterprise&version=V2.0-3.100&spec_code=gaussdb.opengauss.xe.dn.s6.xlarge.x864.ha
```

Example Response

Instance specifications queried.

Status Code

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

Error Code

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

4.2.3 Querying DB Engines

Function

This API is used to query DB engines. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-13 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

None

Response Parameters

Table 4-14 Parameter description

Name	Type	Description
datastores	Array of objects	DB engines. For details, see Table 4-15 .

Table 4-15 dataStores field data structure description

Parameter	Type	Description
supported_versions	Array of strings	Engine versions supported by the deployment model.
instance_model	String	Deployment model. Value: ha: centralized

Example Request

Querying DB engines

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0483b6b16e954cb88930a360d2c4e663/datastores
```

Example Response

DB engines queried.

```
{
  "datastores": [
    {
      "supported_versions": [
        "V2.0-2.0",
        "V2.0-2.3",
        "V2.0-2.6",
        "V2.0-2.9"
      ],
      "instance_mode": "ha"
    }
  ]
}
```

Status Code

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

Error Code

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

4.2.4 Querying Specifications That a DB Instance Can Be Changed To

Function

This API is used to query specifications that a DB instance can be changed to. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/available-flavors

Table 4-16 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	DB instance ID.
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed.

Request Parameters

None

Response Parameters

Table 4-17 Parameter description

Name	Type	Description
flavors	Array of objects	Specification details. For details, see Table 4-18 .

Name	Type	Description
total_count	integer	Total number of records.

Table 4-18 flavors description

Name	Type	Description
vcpus	string	Number of vCPUs.
ram	string	Memory size in GB.
spec_code	string	Resource specification code, for example, gaussdb.opengauss.ee.dn.m6.4xlarge.8.in
az_status	Map<String,String>	key indicates the AZ ID, and value indicates the specification status in the AZ. Its value can be any of the following: • normal: available. • unsupported: not supported. • sellout: sold out.

Example Request

Querying specifications that a DB instance can be changed to (The number of query records is 10, and the offset is 0.)

GET <https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/available-flavors>

Example Response

Instance specifications queried.

```
{
  "flavors": [ {
    "spec_code": "gaussdb.opengauss.ee.m6.2xlarge.x868.ha",
    "vcpus": "8",
    "ram": "64",
    "az_status": [ {
      "az2xahz": "normal"
    } ]
  } ],
  "total_count": 1
}
```

Status Code

- Normal
200
- Abnormal

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

Error Code

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

4.3 Storage Management

4.3.1 Querying the Storage Usage of a DB Instance

Function

This API is used to query the total storage and used storage of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/volume-usage

Table 4-19 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	DB instance ID.

Request Parameters

None

Response Parameters

Table 4-20 Parameter description

Parameter	Type	Description
used	String	Used storage space of the current instance, in GB.
total	String	Total storage space of the current instance, in GB.

Example Request

Querying the storage usage of a DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf3ae23fsfdae3435in14/volume-usage
```

Example Response

Instance storage usage queried.

```
{
  "used" : "15.0",
  "total" : "185.0"
}
```

Status Code

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

Error Code

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

4.3.2 Querying the Disk Type of a DB Instance

Function

This API is used to query the disk type of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

```
GET https://{Endpoint}/v3/{project_id}/storage-type?
version={version}&ha_mode={ha_mode}
```

Table 4-21 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
version	Yes	String	Explanation: DB version number. To obtain the DB version number, see Querying DB Engine Versions . Value range: None
ha_mode	No	String	Explanation: Instance mode. The value is case-insensitive. Values: • enterprise (distributed) • centralization_standard (centralized)

Request Parameters

None

Response Parameters

Table 4-22 Response parameters

Parameter	Type	Description
storage_type	Array of objects	Explanation: Storage type information. For details, see Table 4-23 .

Table 4-23 storage_type field data structure description

Parameter	Type	Description
name	String	Explanation: disk type name. Values: ● ULTRAHIGH: indicates the SSD.
az_status	map<String, String>	Explanation: key indicates the AZ ID, and value indicates the specification status in the AZ. Values: ● normal: on sale. ● unsupported: not supported. ● sellout: sold out.
support_compute_group_type	List<String>	Explanation: Performance specifications. Values: ● normal: general-enhanced ● normal2: general-enhanced II ● armFlavors: Kunpeng general computing-plus

Example Request

- Querying the disk type of a distributed instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/storage-type?version=2.1&ha_mode=enterprise
```

- Querying the disk type of a centralized instance

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/storage-type?version=2.1&ha_mode=centralization_standard
```

Example Response

Disk types of the instances queried.

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

Status Code

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

Error Codes

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

4.4 Instance Management

4.4.1 Creating a DB Instance

Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{Endpoint}/v3.2/{project_id}/instances

Table 4-24 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-25 Request parameters

Name	Mandatory	Type	Description
name	Yes	String	Instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
datastore	Yes	Object	Database information. For details, see Table 4-26 .
ha	Yes	Object	Instance deployment model. For details, see Table 4-27 .
configuration_id	No	String	Parameter template ID. If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.

Name	Mandatory	Type	Description
port	No	String	Port number used by the database to provide services for external systems. If you do not configure this parameter, the default value 8000 is used. Value range: 1024 to 39998 . The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.
password	Yes	String	Database password. The GaussDB database password must: Contain 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters. Supported special characters: ~!@#%^*-_+=?, Enter a strong password to improve security, preventing security risks such as brute force cracking.
backup_strategy	No	Object	Backup policy. For details, see Table 4-28 .
enterprise_project_id	No	String	Enterprise project ID. This parameter is suitable only for enterprise tenants.
flavor_ref	Yes	String	Specification code. The value cannot be left blank. To obtain its value, see the spec_code field in Querying Instance Specifications .
volume	Yes	Object	Volume information. For details, see Table 4-29 .
region	Yes	String	Region ID.
availability_zone	Yes	String	AZ ID. The value cannot be left blank. You can deploy a GaussDB instance in the same AZ or different AZs, and use commas (,) to separate AZs.

Name	Mandatory	Type	Description
vpc_id	Yes	String	VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs.
subnet_id	Yes	String	Network ID of the subnet. To obtain this parameter value, use 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 subnet ID through the VPC API. For details, see Querying Subnets.
security_group_id	Yes	String	Security group which the instance is associated with. To obtain this parameter value, use 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 through the VPC API. For details, see Querying Security Groups.
charge_info	No	Object	Billing mode. For details, see Table 4-30 .
os_type	No	String	OS type. The default value is Euler, which is case sensitive. Values: • Euler (default value) • Hce: Huawei Cloud EulerOS 2.0.

Table 4-26 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	DB engine. Value: GaussDB . It is case-insensitive.
version	No	String	DB engine version. If this parameter is not specified, the latest version is used by default.

Table 4-27 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Deployment model. The value is case-insensitive and can be enterprise (enterprise edition) for distributed instances and centralization_standard for centralized instances.
consistency	Yes	String	Transaction consistency type. The value is case-insensitive and can be: • strong: strong consistency • eventual: eventual consistency
replication_mode	Yes	String	Replication mode for the standby node. The value can only be set to sync , indicating that data is synchronized in synchronous mode.

Table 4-28 backup_strategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	Backup time window. The creation of an automated backup will be triggered during the backup time window. The value cannot be left blank or negative. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC 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. Example value: • 08:00-09:00 • 23:00-00:00
keep_days	No	Integer	Retention days for specific backup files. Value: 1 to 36500.

Table 4-29 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Disk type.
size	Yes	Integer	Storage. For example, if this parameter is set to 40, 40 GB of storage is allocated to the created instance. ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 24 TB) and must be a multiple of (Number of shards x 4 GB).

Table 4-30 chargeInfo field data structure description

Name	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode.

Response Parameters

Table 4-31 Response parameters

Name	Type	Description
instance	Object	Instance information. For details, see Table 4-32 .
job_id	String	Instance creation task ID.

Table 4-32 instance description

Name	Type	Description
id	String	Instance ID.
name	String	Instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-insensitive), digits, hyphens (-), and underscores (_).
status	String	Instance status. For example, BUILD indicates that the instance is being created.
datastore	Object	Database information. For details, see Table 4-33 .
ha	Object	Database deployment model. For details, see Table 4-34 .
replica_num	Integer	Number of replicas.
port	String	Database port, which is the same as the request parameter.
backup_strategy	Object	Automated backup policy. For details, see Table 4-35 .

Name	Type	Description
flavor_ref	String	Specification code. The value cannot be left blank.
volume	Object	Volume information. For details, see Table 4-36 .
region	String	Region ID.
availability_zone	String	AZ ID.
vpc_id	String	VPC ID.
subnet_id	String	Network ID of the subnet.
security_group_id	String	Security group to which the instance belongs.
charge_info	Object	Payment mode. For details, see Table 4-37 .

Table 4-33 datastore field data structure description

Name	Type	Description
type	String	DB engine. Value: GaussDB
version	String	DB engine version.

Table 4-34 ha field data structure description

Name	Type	Description
mode	String	Deployment model. The value is case-insensitive and can be enterprise (enterprise edition).
replication_mode	String	Replication mode for the standby node. The value can only be set to sync , indicating that data is synchronized in synchronous mode.
consistency	String	Transaction consistency type. This parameter is reserved for GaussDB. Value: • strong: strong consistency • eventual: eventual consistency

Name	Type	Description
consistency_protocol	String	Replica consistency protocol. The value can be quorum (default value) or paxos . If it is not specified, the default value is used.

Table 4-35 backup_strategy field data structure description

Name	Type	Description
start_time	String	Backup time window. The creation of an automated backup will be triggered during the backup time window. The value cannot be left blank. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC 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. Example value: • 08:00-09:00 • 23:00-00:00 If backup_strategy in the request body is left blank, 02:00-03:00 is returned for start_time by default.
keep_days	Integer	Retention days for specific backup files. Value range: 1 to 732. If the backup_strategy field is not specified in the request body, keep_days in the response body is set to .

Table 4-36 volume field data structure description

Name	Type	Description
type	String	Disk type. Its value is case-sensitive and can be: • ULTRAHIGH: SSD.
size	Integer	Storage.

Table 4-37 charge_info field data structure description

Name	Type	Description
charge_mode	String	Billing mode.

Example Request

- Creating a distributed instance with the following configurations: independent deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.2/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-independent-02",
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "enterprise",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "sharding_num": 3,
  "coordinator_num": 3,
  "replica_num": 3,
  "port": 8000
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.2/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-ha-01",
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
}
```

```
"volume": {
  "type": "ULTRAHIGH",
  "size": 120
},
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
  "start_time": "17:00-18:00",
  "keep_days": 7
},
"charge_info": {
  "charge_mode": "postPaid"
},
"password": "xxxxxx",
"configuration_id": "",
"time_zone": "UTC+08:00",
"ha": {
  "mode": "centralization_standard",
  "consistency": "strong",
  "replication_mode": "sync"
},
"replica_num": 3,
"port": 8000
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.2/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-ha-02",
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "centralization_standard",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "replica_num": 3,
  "port": 8000
}
```

Example Response

- Distributed instance in the independent deployment (pay-per-use billing, DB engine V2.0-2.7, single AZ, 3 CNs, 3 shards, 3 replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,ccc",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "postPaid"
    }
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Distributed instance (one-year yearly/monthly billing, DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent-02",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",

```

```
    "keep_days": 7
  },
  "enterprise_project_id": "0",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "availability_zone": "bbb,ccc",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1,
    "is_auto_renew": false,
    "is_auto_pay": false
  }
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-ha-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "region": "aaa",
    "replica_num": 3,
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,ccc",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "charge_info": {
      "charge_mode": "postPaid"
    },
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f"
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-ha-02",
```

```
{
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-2.7"
  },
  "ha": {
    "mode": "Enterprise",
    "replication_mode": "sync",
    "consistency": "strong"
  },
  "port": "8000",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "replica_num": 3,
  "region": "aaa",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "enterprise_project_id": "0",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "availability_zone": "bbb,ccc",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1,
    "is_auto_renew": false,
    "is_auto_pay": false
  }
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

Status Code

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

Error Code

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

4.4.2 Adding CNs and DN Shards and Scaling Up Storage

Function

This API is used to add CNs, add DN shards, and scale up storage. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

- Scaling up storage

- The storage space must be a multiple of (Number of shards x 4 GB).
- All nodes must be available.

URI

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

Table 4-38 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request

Table 4-39 Parameter description

Name	Mandatory	Type	Description
expand_cluster	No	Object	This parameter is mandatory when you add CNs or shards. For details, see Table 4-40 .
enlarge_volume	No	Object	New storage space after scaling up. This parameter is mandatory for scaling up storage. For details, see Table 4-43 .

Table 4-40 expand_cluster field data structure description

Name	Mandatory	Type	Description
coordinators	No	Array of Coordinators objects	This parameter is mandatory for adding CNs. For details, see Table 4-41 .
shard	No	Shard object	This parameter is mandatory for adding shards. For details, see Table 4-42 .

Table 4-41 coordinators parameter description

Name	Mandatory	Type	Description
az_code	Yes	String	AZs to which CNs are to be added. If multiple CNs need to be added, enter the AZ where each CN is located.

Table 4-42 shard parameter description

Name	Mandatory	Type	Description
count	Yes	Integer	Number of shards to be added.

Table 4-43 enlarge_volume field data structure description

Name	Mandatory	Type	Description
size	Yes	Integer	Storage space, which must always be a multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 24 TB).

Response Parameters

Table 4-44 Response parameters

Name	Type	Description
job_id	String	Task ID. This parameter is returned when your instance is billed at a pay-per-use basis.

Example Request

- Adding a CN

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/action
{
  "expand_cluster": {
    "coordinators": [
      {
      }
    ]
  }
}
```

- Adding multiple CNs

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/action
{
  "expand_cluster": {
    "coordinators": [
      {
      },
      {
      },
      {
      }
    ]
  }
}
```

- Adding a DN shard

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/action
{
  "expand_cluster": {
    "shard": {
      "count": 1
    }
  }
}
```

- Scaling up storage to 400 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/action
{
  "enlarge_volume": {
```

```
    "size": 400
  }
}
```

Example Response

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

Status Code

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

Error Code

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

4.4.3 Deleting a DB Instance

Function

This API is used to delete a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-45 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Name	Mandatory	Description
instance_id	Yes	Explanation: Instance ID, which is the unique identifier of an instance. Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

None

Response Parameters

Table 4-46 Parameter description

Name	Type	Description
job_id	String	Explanation: ID of the instance deletion task. Value range: UUID format

Example Request

Deleting a DB instance

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14
```

Example Response

```
{
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Status Code

- Normal
202

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

Error Code

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

4.4.4 Resetting a Database Password

Function

This API is used to reset a database password. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-47 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	DB instance ID.

Request Parameters

Table 4-48 Parameter description

Name	Mandatory	Type	Description
password	Yes	String	Password for user root . The password must: • Consist of 8 to 32 characters. • Contain at least three types of the following characters: Uppercase letters, lowercase letters, digits, and the following special characters: ~! @# %^*_-=+?, • Support weak password verification.

Response Parameters

None

Example Request

Changing the password of user **root**

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsae3435in01/password
{
  "password": "*****"
}
```

Example Response

```
{}
```

Status Code

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

Error Code

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

4.4.5 Changing a DB Instance Name

Function

This API is used to change an instance name. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-49 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

Table 4-50 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	DB instance name. Instances can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).

Response Parameters

Table 4-51 Response parameters

Name	Type	Description
job_id	String	Task ID for changing the instance name.

Example Request

Changing the instance name to **instance-name**

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsae3435in14/name
{
  "name": "instance-name"
}
```

Example Response

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

Status Code

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

Error Code

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

4.4.6 Rebooting a DB Instance

Function

This API is used to reboot a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

The instance cannot reboot when it is being created, scaled, restored, or its instance specifications is being changed.

URI

POST [https://{Endpoint}/v3/{project_id}/instances/{instance_id}/restart](#)

Table 4-52 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.

Request Parameters

None

Response Parameters

Table 4-53 Response parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Request

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsae3435in14/restart
```

Example Response

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

Status Code

- Normal
202

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

Error Code

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

4.4.7 Switching Roles of the Primary and Standby DN in Shards

Function

This API is used to perform a primary/standby DN switchover for one or more shards. In a shard, only one standby node can be promoted to primary. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/switch-shard

Table 4-54 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	DB instance ID.

Request Parameters

Table 4-55 Parameter description

Name	Mandatory	Type	Description
shards	Yes	Array	Nodes. You can switch standby DN's of multiple shards to primary DN's. The node information is the node IDs and component IDs of shards whose standby DN's are promoted to primary. For details, see Table 4-56 .

Table 4-56 shards parameter description

Name	Mandatory	Type	Description
node_id	Yes	String	ID of the node where the standby DN to be promoted to primary is deployed.
component_id	Yes	String	ID of the standby DN to be promoted to primary. It contains up to 7 characters. It cannot be null, an empty string or spaces. Before verifying and using it, spaces are automatically filtered out. The value contains at least three types of the following: uppercase letters, lowercase letters, digits, and underscores (_). For details about how to obtain the component ID, see Querying the Components of a DB Instance .

Response Parameters

Table 4-57 Response parameters

Name	Type	Description
job_id	String	ID of the task for switching standby DN's of multiple shards to primary DN's.

Example Request

Switching roles of primary and standby DN's in multiple shards

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/switch-shard
{
  "shards": [
    {
      "node_id": "0bc478b4d132494a8f7b804da521b4b2no14",
      "component_id": "dn_6001"
    },
    {
      "node_id": "53dee94c50574d36a0060db0a6b644f6no14",
      "component_id": "dn_6004"
    }
  ]
}
```

Example Response

Roles of the primary and standby DN's in the shards switched.

```
{
  "job_id": "e96bbb23-e053-4bd0-b0b7-16ad3f5d9b6d"
}
```

Status Code

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

Error Code

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

4.4.8 Querying the Components of a DB Instance

Function

This API is used to query components of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET `https://{Endpoint}/v3/{project_id}/instances/{instance_id}/components`

Table 4-58 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Explanation: Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	String	Yes	DB instance ID.
limit	Integer	No	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.
offset	Integer	No	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed.

Name	Type	Mandatory	Description
component_type	String	No	Component type. If this parameter is ALL (default value), all types of components are queried. CM : CMS components Value: • ALL • CN • DN • CM • GTM • ETCD
availability_zone_id	String	No	ID of the AZ where the primary component is located. The default value is ALL , indicating that component information of nodes in all AZs of the instance is queried. When you query the AZ where a primary DN is located, the information of all DNs in the same shard as the primary DN is displayed. When you query the AZ where a CN is located, only the CN information in the AZ is displayed. When you query the AZ where a component (except CNs or DNs) is located, information about all components of the same type is returned. If there is no such a component, no information is returned.

Request Parameters

None

Response Parameters

Table 4-59 Parameter description

Name	Type	Description
nodes	Array of objects	Component details. For details, see Table 4-60 .
total_count	Integer	Total number of records.

Table 4-60 nodes description

Name	Type	Description
id	String	Node ID.
components	Array of objects	Component information under the instance node. For details, see Table 4-61 .
name	String	Node name.
availability_zone_id	String	Code of the AZ where the node is located.
description	String	AZ description.
status	String	Node status.

Table 4-61 components description

Name	Type	Description
id	String	Component ID. - Global Transaction Manager (GTM): manages the status of transactions. - Cluster Management Server (CMS): manages the instance status. - Data node (DN): stores and queries table data. - Coordinator node (CN): stores database metadata, distributes and executes query tasks, and then returns the query results from DNs to applications. - Editable Text Configuration Daemon (ETCD): serves as a distributed key-value storage system used for configuration sharing and service discovery (registration and search).
role	String	Node role. master: primary node slave: standby node

Name	Type	Description
status	String	Component status. • Primary: primary component • Normal: The component is normal. • Down: The component is abnormal. • Standby: standby component • StateFollower: standby ETCD • StateLeader: primary ETCD • StateCandidate: arbitration ETCD
distributed_id	String	Group ID. This parameter is used to identify DNs in the same shard. For other components, the value is an empty string.
type	String	Node type. Value: DN , CN , GTM , CM , or ETCD .
detail	String	Details.

Example Request

Querying the components of a DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dd93e98e103b4fc4b5a978a6bd6f03a9in14/components
```

Example Response

Components of the centralized instance queried.

```
{
  "nodes": [
    {
      "components": [
        {
          "id": "cm_1",
          "role": "master",
          "status": "Primary",
          "distributed_id": "",
          "type": "CM",
          "detail": ""
        },
        {
          "id": "etcd_7001",
          "role": "master",
          "status": "StateLeader",
          "distributed_id": "",
          "type": "ETCD",
          "detail": ""
        },
        {
          "id": "dn_6001",
          "role": "master",
          "status": "Primary",
          "distributed_id": "60011",

```

```
        "type": "DN",
        "detail": "Normal"
    }
},
"id": "7d19f72f8f514564bd92962a6fbddb7dno14",
"name": "gauss-9e1a_root_0",
"availability_zone_id": "cn-southwest-244a",
"description": "az1",
"status": "normal"
},
{
    "components": [
        {
            "id": "cm_3",
            "role": "slave",
            "status": "Standby",
            "distributed_id": "",
            "type": "CM",
            "detail": ""
        },
        {
            "id": "etcd_7003",
            "role": "slave",
            "status": "StateFollower",
            "distributed_id": "",
            "type": "ETCD",
            "detail": ""
        },
        {
            "id": "dn_6003",
            "role": "slave",
            "status": "Standby",
            "distributed_id": "60011",
            "type": "DN",
            "detail": "Normal"
        }
    ],
    "id": "aafc2e14234d4c9eadb481fb0a09a865no14",
    "name": "gauss-9e1a_root_2",
    "availability_zone_id": "cn-southwest-244a",
    "description": "az1",
    "status": "normal"
},
{
    "components": [
        {
            "id": "cm_2",
            "role": "slave",
            "status": "Standby",
            "distributed_id": "",
            "type": "CM",
            "detail": ""
        },
        {
            "id": "etcd_7002",
            "role": "slave",
            "status": "StateFollower",
            "distributed_id": "",
            "type": "ETCD",
            "detail": ""
        },
        {
            "id": "dn_6002",
            "role": "slave",
            "status": "Standby",
            "distributed_id": "60011",
            "type": "DN",
            "detail": "Normal"
        }
    ]
}
```

```
    ],
    "id": "d6c6c6e6b48c41d79d99d7240751d744no14",
    "name": "gauss-9e1a_root_1",
    "availability_zone_id": "cn-southwest-244a",
    "description": "az1",
    "status": "normal"
  }
],
"total_count": 3
}
```

Status Code

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

Error Codes

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

4.4.9 Changing the vCPUs and Memory of a DB Instance

Function

This API is used to change the vCPUs and memory of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

- The OS architecture of the new specifications must be the same as that of the old specifications.

URI

PUT https://{Endpoint}/v3/{project_id}/instance/{instance_id}/flavor

Table 4-62 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

Table 4-63 Parameter description

Name	Mandatory	Type	Description
flavor_ref	Yes	String	New specification code. To obtain its value, see the Specification Code column in Table 6-4 . To obtain its value, see Querying Instance Specifications .
is_auto_pay	No	Boolean	Whether the order will be automatically paid after yearly/monthly instances are 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

Table 4-64 Response parameter description

Name	Type	Description
job_id	String	ID of changing instance specifications. This parameter is returned only when DB instances are billed at a pay-per-use basis.

Example Request

Changing the specifications of a pay-per-use instance to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instance/dsfae23fsfdsae3435in14/flavor
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in"
}
```

Changing the specifications of a yearly/monthly DB instance from 8 vCPUs and 64 GB to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instance/dsfae23fsfdsae3435in14/flavor
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in",
  "is_auto_pay": true
}
```

Example Response

Instance specifications changed.

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

Status Code

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

Error Code

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

4.4.10 Changing the vCPUs and Memory of a DB Instance

Function

This API is used to change the vCPUs and memory of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

- The OS architecture of the new specifications must be the same as that of the old specifications.

URI

PUT `https://{Endpoint}/v3/{project_id}/instances/{instance_id}/flavor`

Table 4-65 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

Table 4-66 Parameter description

Name	Mandatory	Type	Description
flavor_ref	Yes	String	New specification code. For details on how to obtain the specification code, see Table 6-4 . To obtain its value, see the spec_code field in Querying Instance Specifications .
is_auto_pay	No	Boolean	Payment method. When creating a yearly/monthly instance, you can specify whether to automatically pay with your account. This parameter does not affect the payment method 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

Table 4-67 Response parameter description

Name	Type	Description
job_id	String	ID of changing instance specifications. This parameter is returned only when you change the specifications of a pay-per-use instance.

Example Request

Changing the specifications of a pay-per-use instance to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsdae3435in14/flavor
```

```
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in"
}
```

Changing the specifications of a yearly/monthly instance from 8 vCPUs and 64 GB to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/flavor
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in",
  "is_auto_pay": true
}
```

Example Response

Instance specifications are changed.

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

Status Code

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

Error Codes

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

4.4.11 Checking Whether Host Load Is Unbalanced Due to a Primary/Standby Switchover

Function

This API is used to check whether the host load is unbalanced due to a primary/standby switchover. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-68 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	DB instance ID.

Request Parameters

None

Response Parameters

Table 4-69 Parameter description

Name	Type	Description
balanced	Boolean	Whether the host load is unbalanced due to a primary/standby switchover. • true: balanced. • false: unbalanced.

Example Request

Checking whether host load is unbalanced due to a primary/standby switchover

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/balance
```

Example Response

The host load is balanced.

```
{  
  "balanced": true  
}
```

Status Code

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

Error Code

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

4.4.12 Querying Solution Template Settings

Function

This API is used to query the number of replicas, shards, and nodes corresponding to a specified instance or deployment mode. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

The request parameters **solution** and **instance_id** cannot be both empty. If the parameters are both configured, the value of **instance_id** is used.

URI

GET https://{Endpoint}/v3/{project_id}/deployment-form

Table 4-70 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	No	DB instance ID.

Name	Mandatory	Description
solution	No	Solution template name. triset : HA (1 primary + 2 standby)

Request Parameters

None

Response Parameters

Table 4-71 Parameter description

Name	Type	Description
initial_node_num	Integer	Number of initial nodes. If solution is set to triset , this parameter is returned. Otherwise, null is returned.
solution	String	Solution template name.
shard_num	Integer	Number of shards.
replica_num	Integer	Number of replicas.

Example Request

Querying solution template settings

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/fff3cb7f644d4fc9a3c58f2bfe239b9e/
deployment-form?solution=triset
```

Example Response

Solution template settings queried.

```
{
  "initial_node_num" : 3,
  "solution" : "triset",
  "shard_num" : 1,
  "replica_num" : 3
}
```

Status Code

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

Error Code

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

4.4.13 Querying EIPs Bound to a DB Instance

Function

This API is used to query EIPs bound to a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/public-ips?
offset={offset}&limit={limit}

Table 4-72 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	String	Yes	DB instance ID.
offset	Integer	No	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number.
limit	Integer	No	Number of records to be queried. The default value is 50 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 50 .

Request Parameters

None

Response Parameters

Table 4-73 Parameter description

Name	Type	Description
public_ips	Array of objects	EIPs bound to an instance. For details, see Table 4-74 .
total_count	Integer	Total number of records.

Table 4-74 public_ips field data structure description

Name	Type	Description
public_ip_id	String	EIP ID.
public_ip_type	String	EIP type.
port_id	String	Port ID.
public_ip_addresses	String	EIP.
private_ip_addresses	String	Private IP address.
bandwidth_id	String	Bandwidth ID.
bandwidth_name	String	Bandwidth name.
bandwidth_share_type	String	Bandwidth sharing type.
bandwidth_size	Integer	Bandwidth range.
applied_at	String	Modification 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. For example, in the Beijing time zone, the offset is +08:00 .

Example Request

Querying EIPs bound to a DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/599628f2665841b2a66fa2780fad0c25/instances/e0984e23578c4296950336e613d99d32in14/public-ips?offset=0&limit=1
```

Example Response

EIPs bound to the instance queried.

```
{
  "public_ips": [ {
    "public_ip_id": "78458261-5175-4254-8242-5959115d379a",
    "public_ip_type": "5_g-vm",
    "port_id": "a8d606bf-7e20-463d-afed-b7fc2909aa7d",
    "public_ip_address": "100.95.156.144",
    "private_ip_address": "192.168.0.133",
    "applied_at": "2022-08-09T03:06:52+0800",
    "bandwidth_id": "7ae23d75-3150-4957-94ae-9352b15f140e",
    "bandwidth_name": "Bandwidth_2021-12-08-16-39-27",
    "bandwidth_size": 5,
    "bandwidth_share_type": "PER"
  } ],
  "total_count": 1
}
```

Status Code

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

Error Code

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

4.4.14 Validating Password Strength

Function

This API is used to verify the security of user **root** password. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{Endpoint}/v3/{project_id}/weak-password-verification

Table 4-75 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-76 Parameter description

Name	Mandatory	Type	Description
password	Yes	String	Password of the database account.

Response Parameters

Table 4-77 Parameter description

Parameter	Type	Description
is_weak_password	Boolean	Whether the password is weak. true: It is a weak password. false: It is not a weak password.

Example Request

Checking whether the password of a database account is weak

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/weak-password-verification
{
```

```
{  
  "password" : "*****"  
}
```

Example Response

Weak password verification succeeded.

```
{  
  "is_weak_password" : false  
}
```

Status Code

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

Error Code

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

4.4.15 Binding or Unbinding an EIP

Function

This API is used to bind an EIP to an instance node or unbind an EIP from an instance node. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/nodes/{node_id}/public-ip

Table 4-78 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.
node_id	Yes	Node ID.

Request Parameters

Table 4-79 Parameter description

Parameter	Mandatory	Type	Description
action	Yes	String	Operation identifier. Value: • BIND: An EIP is bound. • UNBIND: An EIP is unbound.
public_ip	Yes	String	EIP.
public_ip_id	Yes	String	EIP ID.

Response Parameters

Table 4-80 Parameter description

Parameter	Type	Description
job_id	String	Job ID.

Example Request

- Binding an EIP to a GaussDB instance

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/nodes/0bc478b4d132494a8f7b804da521b4b2no14/public-ip
{
  "action": "BIND",
  "public_ip": "10.154.218.161",
  "public_ip_id": "45da4782-e0c8-4aa4-a290-b8740014f710"
}
```

- Unbinding an EIP from a GaussDB instance

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/nodes/0bc478b4d132494a8f7b804da521b4b2no14/public-ip
{
  "action": "UNBIND",
  "public_ip": "10.154.218.161",
  "public_ip_id": "45da4782-e0c8-4aa4-a290-b8740014f710"
}
```

Example Response

EIP bounded or unbounded.

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

Status Code

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

Error Code

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

4.4.16 Querying the SSL Certificate Download Address of a DB Instance

Function

This API is used to query the address for downloading the SSL certificate of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{*Endpoint*}/v3/{project_id}/instances/{instance_id}/ssl-cert/download-link

Table 4-81 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.

Request Parameters

None

Response Parameters

Table 4-82 Parameter description

Parameter	Type	Description
download_link	String	Download address of the SSL certificate.

Example Request

Querying the address for downloading the SSL certificate of a DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/ssl-cert/download-link
```

Example Response

Address for downloading the SSL certificate queried.

```
{
  "download_link": "https://***/Certificate_Download.zip"
}
```

Status Code

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

Error Code

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

4.4.17 Querying the Instance Quotas of a Tenant

Function

This API is used to query the instance quotas of a tenant. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-83 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

None

Response Parameters

Table 4-84 Parameter description

Parameter	Type	Description
quotas	object	Explanation: Instance quota of a tenant. For details, see Table 4-85 .

Table 4-85 quotas

Parameter	Type	Description
resources	Array of objects	Explanation: Resource objects. For details, see Table 4-86 .

Table 4-86 resources

Parameter	Type	Description
type	String	Explanation: Quota of a specified type. Value range: instance: indicates the instance quota.
used	Integer	Explanation: Number of created resources. Value range: None
quota	Integer	Explanation: Maximum resource quota. Value range: None

Example Request

Querying the instance quotas of a tenant

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/project-quotas
```

Example Response

Instance quotas of the tenant queried.

```
{
  "quotas": {
    "resources": [ {
      "type": "instance",
      "used": 4,
      "quota": 50
    } ]
  }
}
```

Status Code

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

Error Code

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

4.4.18 Starting a DB Instance or Node

Function

This API is used to start a DB instance or node. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{endpoint}/v3/{project_id}/instances/{instance_id}/db-startup

Table 4-87 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.

Request Parameters

Table 4-88 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value.
X-Language	No	String	Language. Default value: en-us Value range: • zh-cn • en-us

Table 4-89 Request body parameters

Parameter	Mandatory	Type	Description
node_ids	Yes	Array of strings	ID of the node to be started. The value cannot be null. If the value is left blank, the instance is started.

Response Parameters

Table 4-90 Parameter description

Parameter	Type	Description
job_id	String	ID of the asynchronous task for starting a DB instance or node.

Table 4-91 Parameter description

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Example Request

Starting a node

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/
cc94568cb5a54e4a8ab5dff95e64a5e0br14/instances/d8e6ca5a624745bcb546a227aa3ae1cfin14/db-startup
{
  "node_ids": ["187ff420e15c467eaaef226154eb1578no14","4ed9cbb0d61144e0802a82c0ab0e1de5no14"]
}
```

Example Response

Node started.

```
{
  "job_id": "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Code

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

Error Code

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

4.4.19 Querying CNs

Function

This API is used to query CNs. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-92 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID, which is compliant with the UUID format.

Request Parameters

None

Response Parameters

Table 4-93 Response body parameters

Parameter	Type	Description
instance_id	String	Instance ID.
max_reduction_num	Integer	Maximum number of nodes that can be deleted at a time.
nodes	Array of Table 4-94 objects	Node information list.

Table 4-94 CnInfoBeforeReduce

Parameter	Type	Description
id	String	Node ID.

Parameter	Type	Description
name	String	Node name.
status	String	Node status. • normal: The node is normal. • abnormal: The node is abnormal. • creating: The node is being created. • createfail: The node fails to be created.
availability_zone	String	AZ.
support_reduce	Boolean	Whether the node can be deleted.

Example Request

Querying CNs

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/coordinators
```

Example Response

CNs queried.

```
{
  "instance_id": "cc6fd964d93f4003851dfc29d57d30a5in14",
  "max_reduction_num": 10,
  "nodes": [ {
    "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
    "name": "UTS-gauss-7362_gaussdbv5cn_0",
    "status": "normal",
    "availability_zone": "az2",
    "support_reduce": true
  }, {
    "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
    "name": "UTS-gauss-7362_gaussdbv5cn_1",
    "status": "normal",
    "availability_zone": "az3",
    "support_reduce": true
  } ]
}
```

Status Code

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

Error Code

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

4.4.20 Querying Storage Autoscaling Policies of a DB Instance

Function

This API is used to query storage autoscaling policies of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/auto-enlarge-policy

Table 4-95 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID, which is compliant with the UUID format.

Request Parameters

None

Response Parameters

Table 4-96 Response body parameters

Parameter	Type	Description
switch_option	Boolean	Whether to enable or disable storage autoscaling.

Parameter	Type	Description
limit_volume_size	Integer	Maximum storage that can be automatically scaled to.
min_volume_size	Integer	Minimum storage that can be automatically scaled to.
max_volume_size	Integer	Maximum storage that the system can provide for the instance.
trigger_available_percent	Integer	Percentage of available storage. The storage will be automatically scaled up if the available storage drops to or below the value of this parameter.
percents	Array of integers	Percentages of available storage that you can choose from.
step_size	Integer	Scaling step when the storage is scaled by fixed size.
step_percent	Integer	Scaling step when the storage is scaled by percentage.

Example Request

Querying storage autoscaling policies of a DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/auto-enlarge-policy
```

Example Response

Storage autoscaling policies queried.

```
{
  "switch_option" : true,
  "limit_volume_size" : 200,
  "min_volume_size" : 160,
  "max_volume_size" : 240,
  "trigger_available_percent" : 20,
  "percents": [
    20,
    25,
    50
  ],
  "step_size": 200,
  "step_percent": null
}
```

Status Code

- Normal
200
- Abnormal

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

Error Code

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

4.4.21 Querying Instance Statistics

Function

This API is used to query instance statistics. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{*Endpoint*}/v3/instances-statistics

Request Parameters

None

Response Parameters

Table 4-97 Response body parameters

Parameter	Type	Description
total_count	Integer	Total number of instances.
instances_statistics	Array of Table 4-98 objects	Instance statistics.

Table 4-98 instances_statistics

Parameter	Type	Description
status	String	Instance status.
count	Integer	Number of instances.

Example Request

Querying instance statistics

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/instances-statistics
```

Example Response

Instance statistics queried.

```
{
  "total_count" : "10",
  "instances_statistics" : [ {
    "status" : "normal",
    "count" : 1
  }, {
    "status" : "abnormal",
    "count" : 2
  }, {
    "status" : "creating",
    "count" : 3
  }, {
    "status" : "createfail",
    "count" : 4
  } ]
}
```

Status Code

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

Error Code

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

4.4.22 Querying Enterprise Projects

Function

This API is used to query the enterprise projects. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

The resource type and operating system of instances must support the **pidstat** command.

URI

GET https://{*Endpoint*}/v3/{*project_id*}/enterprise-projects?
name_keyword={*name_keyword*}&offset={*offset*}&limit={*limit*}

Table 4-99 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.
name_keyword	No	String	Keyword of the enterprise project name.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number.
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 1000 .

Request Parameters

None

Response Parameters

Table 4-100 Response parameters

Parameter	Type	Description
enterprise_projects	Array of objects	Enterprise projects.
total_count	Integer	Total number of enterprise projects.

Table 4-101 enterprise_projects field data structure description

Parameter	Type	Description
id	String	Enterprise project ID.
name	String	Enterprise project name.
description	String	Enterprise project description.
status	String	Enterprise project status 1 : enabled. 2 : disabled
created_at	String	Creation time, in UTC format, for example, 2018-05-18T06:49:06Z.
updated_at	String	Modification time, in UTC format, for example, 2018-05-28T02:21:36Z .

Example Request

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/enterprise-projects?
name_keyword=auto&offset=0&limit=100
```

Example Response

```
{
  "enterprise_projects" : [ {
    "id" : "6fbcf2f3-3164-4d32-9a3e-a8886dc38c24",
    "name" : "auto_test",
    "description" : "auto_test description",
    "status" : "1",
    "created_at" : "2018-05-18T06:49:06Z",
    "updated_at" : "2018-05-28T02:21:36Z"
  } ],
  "total_count" : 1
}
```

Status Code

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

Error Code

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

4.4.23 Querying Advanced Features

Function

This API is used to query the advanced features of the current instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/advance-features

Table 4-102 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

Table 4-103 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-104 Response body parameters

Parameter	Type	Description
features	Array of Table 4 FeatureResult	Advanced features.

Table 4-105 FeatureResult

Parameter	Type	Description
name	String	Feature name.
status	String	Whether the feature is enabled. Value range: • true • false
description	String	Feature description.
type	String	Feature value type. Value range: • integer • string • boolean
value	String	Feature value.
range	String	Feature value range.
range_description	String	Feature scope description.

Example Request

Querying the advanced features of the current instance and checking whether each feature is enabled

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/e73893ef73754465a8bd2e0857bbf13ein14/advance-features
```

Example Response

```
{
  "features": [
    {
      "name": "ledger",
      "status": "off",
      "description": "anti-proof database,"
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Whether to enable the ledger database function. The value on indicates the function is enabled, and the value off indicates that the function is disabled. If it is enabled, a new tamper-proof mode can be created and the common mode can be changed to the tamper-proof mode."
    },
    {
      "name": "ilm",
      "status": "off",
      "description": "Advanced compression",
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Whether to enable OLTP table compression for data lifecycle management. The value on indicates that the function is enabled, and the value off indicates that the function is disabled."
    }
  ]
}
```

```
    },
    {
      "name": "security",
      "status": "off",
      "description": "Dynamic data masking",
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Set this parameter to on when a security policy is required. However, this occupies system resources and affects system performance."
    }
  ]
}
```

Status Code

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

Error Code

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

4.4.24 Enabling or Disabling Advanced Features

Function

This API is used to enable or disable advanced features. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

POST https://{Endpoint}/v3/{project_id}/instances/{instance_id}/advance-features

Table 4-106 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Parameter	Mandatory	Description
instance_id	Yes	Instance ID.

Request Parameters

Table 4-107 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-108 Request body parameters

Parameter	Mandatory	Type	Description
params	Yes	Object	Features to be modified. Its value is in JSON format and can be obtained from the response parameters in Querying Advanced Features . The key and value , respectively, correspond to name and range_description in the response parameters of the API for querying advanced features. { "key" : "value" }

Response Parameters

Table 4-109 Parameter description

Parameter	Type	Description
job_id	String	Task ID.

Example Request

Enabling or disabling advanced feature

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/e73893ef73754465a8bd2e0857bbf13ein14/advance-features
{
  "params": {
    "ledger": "on",
    "security": "on",
    "ilm": "on",
    "vectordb": "on"
  }
}
```

Example Response

```
{
  "job_id": "9cb66b27111669609799e022d08d6c3a"
}
```

Status Code

- Normal
202

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

Error Code

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

4.5 Parameter Configuration

4.5.1 Obtaining Parameter Templates

Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET [https://{Endpoint}/v3.2/{project_id}/configurations?
offset={offset}&limit={limit}](https://{Endpoint}/v3.2/{project_id}/configurations?offset={offset}&limit={limit})

Table 4-110 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Parameter	Mandatory	Type	Description
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Restrictions: None Value range: [0, 2 ³¹ -1] Default value: 0 (indicating that the query starts from the first data record.)
limit	No	Integer	Explanation: Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Restrictions: None Value range: [1, 100] Default value: 100

Request Parameters

None

Response Parameters

Table 4-111 Parameter description

Parameter	Type	Description
configurations	Array of objects	Explanation: Parameter template information. For details, see Table 4-112 .

Parameter	Type	Description
count	Integer	Explanation: Total number of records. Value range: [0, 2 ³¹ - 1]

Table 4-112 configurations field data structure description

Parameter	Type	Description
id	String	Explanation: Unique ID of a parameter template. Value range: The value can contain 36 characters. Only letters and digits are allowed.
name	String	Explanation: Parameter template name. Value range: The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed
description	String	Explanation: Parameter template description. Value range: The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>&
datastore_version	String	Explanation: Engine version. Value range: None
datastore_name	String	Explanation: Engine name. Value range: GaussDB
ha_mode	String	Explanation: Instance type. Value range: The value is case-sensitive.

Parameter	Type	Description
created	String	Explanation: Creation time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55. Value range: None
updated	String	Explanation: Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55. Value range: None
user_defined	Boolean	Explanation: Whether the parameter template is a custom template. Value range: false: The parameter template is a default template. true: The parameter template is a custom template.

Example Request

Obtaining parameter templates

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.2/054b61972980d4552f0bc00ac8d3f5cd/configurations?offset=1&limit=3
```

Example Response

Parameter templates queried.

```
{
  "count": 3,
  "configurations": [
    {
      "id": "b000d7c91f1749da87315700793a11d4pr14",
      "name": "Default-GaussDB-EE-1.0-Dist-Combined (4 replicas)",
      "description": "Default parameter template for GaussDB-Enterprise Edition-1.0-Distributed-combined (4 replicas)",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "V2.0-1.0",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    },
    {
      "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
      "name": "Default-Finance-Edition-GaussDB-1.3-Combined",
      "description": "Default parameter template for Finance Edition GaussDB 1.3-Combined",
      "created": "2022-03-23 07:20:11",
```

```
{
  "updated": "2022-03-23 07:20:11",
  "datastore_version": "V2.0-1.1",
  "datastore_name": "GaussDB",
  "ha_mode": "combined",
  "user_defined": false
},
{
  "id": "0f44b65521a8414d8b8811df810d94ccpr14",
  "name": "Default-Finance-Disaster-GaussDB-1.3-Combined",
  "description": "Default parameter template for Finance Disaster GaussDB 1.3-Combined",
  "created": "2022-03-23 07:20:11",
  "updated": "2022-03-23 07:20:11",
  "datastore_version": "V2.0-1.2",
  "datastore_name": "GaussDB",
  "ha_mode": "combined",
  "user_defined": false
}
]
```

Status Code

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

Error Code

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

4.5.2 Obtaining the Parameters of a Specified DB Instance

Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3.2/{project_id}/instances/{instance_id}/configurations

Table 4-113 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.

Request Parameters

Table 4-114 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token . The value of the token is that of X-Subject-Token in the response header.
X-Language	No	String	Language. Default value: en-us Value range: • zh-cn • en-us

Response Parameters

Table 4-115 Parameter description

Parameter	Type	Description
datastore_version	String	Engine version.
datastore_name	String	Engine name.
created	String	Creation time in the "yyyy-MM-dd HH:mm:ss" format.
updated	String	Update time in the "yyyy-MM-ddHH:mm:ss" format.
configuration_parameters	Array of objects	Parameters defined by users based on the default parameter templates. For details, see Table 4-116 .

Table 4-116 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
restart_required	Boolean	Whether a reboot is required after the parameter is modified.
value_range	String	Parameter value range.
type	String	Parameter type. The value can be string , integer , boolean , list , or float . Value: • string • integer • boolean • list • float
description	String	Parameter description.

Example Request

Obtaining parameters of a specified DB instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/  
v3.2/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in14/configurations
```

Example Response

Parameters of the instance queried.

```
{  
  "created": "2022-04-11 10:46:59",  
  "updated": "2022-04-11 10:46:59",  
  "datastore_version": "V2.0-2.0",  
  "datastore_name": "GaussDB",  
  "configuration_parameters": [  
    {  
      "name": "audit_system_object",  
      "value": "12295",  
      "type": "integer",  
      "description": "Determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB  
Kernel database objects. GaussDB Kernel database objects include databases, users, schemas, and tables.  
You can change the parameter value to audit only the operations on required database objects. During a  
forcible primary/standby failover, set audit_system_object to the maximum value and audit all DDL objects.  
If the parameter value is incorrectly changed, DDL audit logs will be lost. Contact customer service  
personnel to change it.",  
      "restart_required": false,  
      "value_range": "0-2097151"  
    }  
  ]  
}
```

Status Code

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

Error Code

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

4.5.3 Modifying Parameters of a Specified DB Instance

Function

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

- Learn how to [authenticate](#) this API.

Constraints

The values of the modified parameters must be within the default value range of the specified database version.

URI

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

Table 4-117 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

Table 4-118 Parameter description

Name	Mandatory	Type	Description
values	Yes	Map<String,String>	Parameter values defined by users based on the default parameter templates. Example: For failed_login_attempts: 4 , failed_login_attempts indicates the parameter name, and 4 indicated the changed parameter value.

Response Parameters

Table 4-119 Parameter description

Name	Type	Description
restart_required	Boolean	Whether the instance needs to be rebooted. • true: indicates that the instance needs to be rebooted. • false: indicates that the instance does not need to be rebooted.
job_id	String	Task ID for modifying the parameters of a specified instance.

Example Request

- Changing the value of **failed_login_attempts** to **4** (The change is applied without a DB instance reboot.)

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/configurations
{
  "values": {
    "failed_login_attempts": "4"
  }
}
```

- Changing the value of **track_activity_query_size** to **2048** and the value of **max_replication_slots** to **25** (The changes are applied after the instance is rebooted.)

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/configurations
{
  "values": {
    "track_activity_query_size": "2048",
    "max_replication_slots": "25"
  }
}
```

Example Response

- Parameter modified (The instance does not need to be rebooted).

```
{
  "restart_required": false,
  "job_id": "5a08604b-7820-4cf1-9356-b378c4fac694"
}
```

- Parameter modified (The instance needs to be rebooted).

```
{
  "restart_required": true,
  "job_id": "e51532df-b94d-4fbc-9cf0-aea030ade45d"
}
```

Status Code

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

Error Code

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

4.5.4 Creating a Parameter Template

Function

This API is used to create a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-120 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-121 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Name of the parameter template, which must be unique. The template name can contain up to 64 characters. It can contain only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Parameter template description. This parameter is left blank by default. Up to 256 characters are displayed. Carriage return characters or special characters (>!"&'=) are not allowed.
parameter_values	No	Map<String,String>	Mapping between parameter names and parameter values. You can specify parameter values based on a default parameter template.
datastore	Yes	object	DB engine information. To obtain the value, see Querying DB Engine Versions . For details, see Table 4-122 .

Table 4-122 datastore parameter description

Name	Mandatory	Type	Description
engine_version	Yes	String	DB engine version.
instance_mode	Yes	String	Deployment model. Value: • ha: centralized deployment

Response Parameters

Table 4-123 Parameter description

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
created_at	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. For example, in the Beijing time zone, the offset is shown as +0800 .

Example Request

- Creating a parameter template for GaussDB 2.3 centralized instances

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/configurations
{
  "name": "paramTemplate",
  "description": "",
  "parameter_values": {
    "audit_system_object": "12294"
  },
  "datastore": {
    "engine_version": "2.3",
    "instance_mode": "ha"
  }
}
```

Example Response

Parameter template created.

```
{
  "id" : "137eeaf0cc884ca4adffa9ebd101c115pr14",
  "name" : "paramTemplate-del",
  "created_at" : "2022-08-09T03:06:52+0800"
}
```

Status Code

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

Error Codes

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

4.5.5 Deleting a Parameter Template

Function

This API is used to delete a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-124 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.

Request Parameters

None

Response Parameters

None

Example Request

Deleting a parameter template

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

Example Response

None

Status Code

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

Error Code

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

4.5.6 Querying Details About a Parameter Template

Function

This API is used to query details about a parameter template based on the parameter template ID. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-125 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 4-126 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token . The value of the token is that of X-Subject-Token in the response header.
X-Language	No	String	Language. Default value: en-us Values: • zh-cn • en-us

Response Parameters

Table 4-127 Parameter description

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
description	String	Parameter template description.
engine_version	String	Engine version.
instance_model	String	Deployment model. Value: • ha: centralized deployment
created_at	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. For example, in the Beijing time zone, the offset is +0800 .

Parameter	Type	Description
updated_at	String	Modification 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. For example, in the Beijing time zone, the offset is +0800 .
configuration_parameters	Array of objects	Parameter details. For details about the parameters, see Table 4-128 .

Table 4-128 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Name of a specific parameter.
value	String	Value of a specific parameter.
need_restart	Boolean	Whether the instance needs to be rebooted. true : Instance needs to be rebooted. false : Instance does not need to be rebooted.
readonly	Boolean	Whether the parameter is read-only. true : read only false : editable
value_range	String	Parameter value range.
data_type	String	Parameter type. The value can be string , integer , boolean , list , all , or float .
description	String	Parameter description.

Example Request

Querying details about a parameter template

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

Example Response

Parameter template details queried.

```
{
  "id": "3ca44134a16d4bbab8eb701e025b19f7pr14",
  "name": "GaussDB_2b87a799-515",
  "description": "ParamGroup for instance.",
  "engine_version": "V2.0-2.3",
  "instance_mode": "ha",
```

```
"created_at": "2022-08-05T08:15:07+0800",
"updated_at": "2022-08-09T03:06:52+0800",
"configuration_parameters": [
  {
    "name": "audit_system_object",
    "value": "12294",
    "need_restart": false,
    "readonly": false,
    "value_range": "1-65536",
    "data_type": "integer",
    "description": "This parameter determines whether to audit the CREATE, DROP, and ALTER
operations on GaussDB Kernel database objects. GaussDB Kernel database objects include DATABASE,
USER, SCHEMA, and TABLE. You can change the value of this parameter to audit only the operations on
required database objects. In scenarios where a standby node is forcibly elected as primary, you are advised
to set audit_system_object to the maximum value and audit all DDL objects. Improper modification of this
parameter will cause loss of DDL audit logs. Contact the customer service to change the parameter value."
  }
]
```

Status Code

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

Error Code

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

4.5.7 Replicating a Parameter Template

Function

This API is used to replicate a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-129 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	ID of the parameter template to be replicated.

Request Parameters

Table 4-130 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Name of the replicated parameter template, which cannot be the same as that of an existing parameter template. The value can contain 1 to 64 characters. It can contain only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.).
description	No	String	Parameter template description. This parameter is left blank by default. The description must consist of up to 256 characters. Carriage return characters or special characters (>! <"&'=) are not allowed.

Response Parameters

Table 4-131 Parameter description

Parameter	Type	Description
config_id	String	ID of the replicated parameter template.

Example Request

Replicating a parameter template

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/
configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/copy
{
  "name": "paramTemplate-1233",
  "description": "Description"
}
```

Example Response

Parameter template replicated.

```
{
  "config_id": "3ca44134a16d4bbab8eb701e025b19f7pr14"
}
```

Status Code

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

Error Code

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

4.5.8 Resetting a Parameter Template

Function

This API is used to reset a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

Only custom parameter templates can be reset.

URI

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

Table 4-132 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	String	Yes	Parameter template ID.

Request Parameters

None

Response Parameters

None

Example Request

Resetting a parameter template

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/599628f2665841b2a66fa2780fadc025/
configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/reset
```

Example Response

None

Status Code

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

Error Code

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

4.5.9 Obtaining the Differences of Two Parameter Templates

Function

This API is used to obtain the differences of two parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-133 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-134 Parameter description

Name	Mandatory	Type	Description
source_id	Yes	String	ID of the source parameter template to be compared.
target_id	Yes	String	ID of the target parameter template to be compared. The deployment model of the target parameter template must be the same as that of the source parameter template.

Response Parameters

Table 4-135 Parameter description

Parameter	Type	Description
differences	Array of objects	Differences between parameter templates. For details, see Table 4-136 .

Table 4-136 differences field data structure description

Parameter	Type	Description
name	String	Parameter name.
source_value	String	Parameter value of the source parameter template.
target_value	String	Parameter value of the target parameter template.

Example Request

Obtaining the differences of two parameter templates

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/
configurations/comparison
{
  "source_id": "3e9f722f27c9477089bdf576b33f9d8epr14",
  "target_id": "a51fcdde022a4ea8a016a3c4671644f4pr14"
}
```

Example Response

Differences of two parameter templates queried.

```
{
  "differences": [ {
    "name": "audit_system_object",
    "source_value": "12289",
    "target_value": "12295"
  } ]
}
```

Status Code

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

Error Code

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

4.5.10 Querying Instances That a Parameter Template Can Be Applied To

Function

This API is used to query the instances that the current parameter template can be applied to. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/configurations/{config_id}/applicable-instances

Table 4-137 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.

Request Parameters

None

Response Parameters

Table 4-138 Parameter description

Parameter	Type	Description
instances	Array of objects	Parameter template information. For details, see Table 4-139 .
total_count	Integer	Total number of records.

Table 4-139 instances field data structure description

Parameter	Type	Description
instance_id	String	DB instance ID.
instance_name	String	DB instance name.

Example Request

Querying instances that the current parameter template can be applied to

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/applicable-instances
```

Example Response

Instances that the current parameter template can be applied to queried.

```
{
  "instances": [
```

```
{
  "instance_id": "1995a67680474481b3e42ac1474e32e0in14",
  "instance_name": "gauss-a283"
},
{
  "instance_id": "8303819fd8744ef69f34595e9710a33din14",
  "instance_name": "gauss-2423-lt-master"
}
],
"total_count": 2
}
```

Status Code

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

Error Code

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

4.5.11 Checking Whether the Parameter Template Name Exists

Function

This API is used to check whether the parameter template name exists. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET [https://{Endpoint}/v3/{project_id}/configurations/name-validation?
name={name}](https://{Endpoint}/v3/{project_id}/configurations/name-validation?name={name})

Table 4-140 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
name	Yes	String	Parameter template name. The template name can contain 1 to 64 characters. It can contain only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.).

Request Parameters

None

Response Parameters

Table 4-141 Parameter description

Parameter	Type	Description
exist	Boolean	Verification result. • true: The name already exists. • false: The name does not exist.

Example Request

Checking whether the parameter template name exists

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/054b61972980d4552f0bc00ac8d3f5cd/configurations/name-validation?name=paramTemplate-a9f3
```

Example Response

Check result returned.

```
{
  "exist" : false
}
```

Status Code

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

Error Code

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

4.5.12 Applying a Parameter Template

Function

This API is used to apply a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-142 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 4-143 Parameter description

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

Response Parameters

Table 4-144 Parameter description

Parameter	Type	Description
job_id	String	Asynchronous task ID for applying a parameter template.

Example Request

Applying a parameter template

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/054b61972980d4552f0bc00ac8d3f5cd/
configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/apply
{
  "instance_ids" : [ "5362449138da4e408dbae5152ca26640in14",
"ea926816f0154066830d12ebec8562din14" ]
}
```

Example Response

Parameter template applied.

```
{
  "job_id" : "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Code

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

Error Code

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

4.5.13 Querying Application Records of a Parameter Template

Function

This API is used to view application records of a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project_id}/configurations/{config_id}/applied-histories

Table 4-145 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed.

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.

Request Parameters

None

Response Parameters

Table 4-146 Parameter description

Parameter	Type	Description
histories	Array of objects	Application records. For details, see Table 4-147 .
total_count	Integer	Total number of records.

Table 4-147 histories field data structure description

Parameter	Type	Description
instance_id	String	DB instance ID.
instance_name	String	DB instance name.
apply_result	String	Application status. • SUCCESS • FAILED • APPLYING
applied_at	String	Application 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. For example, in the Beijing time zone, the offset is shown as +0800 .

Parameter	Type	Description
error_code	String	Error code of the failure cause, for example, DBS.280005.

Example Request

Querying application records of a parameter template

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/applied-histories
```

Example Response

Application records of the parameter template queried.

```
{
  "histories": [
    {
      "instance_id": "1995a67680474481b3e42ac1474e32e0in14",
      "instance_name": "gauss-a283",
      "apply_result": "SUCCESS",
      "applied_at": "2022-08-09T03:06:52+0800",
      "error_code": ""
    },
    {
      "instance_id": "8303819fd8744ef69f34595e9710a33din14",
      "instance_name": "gauss-2423-lt-master",
      "apply_result": "FAILED",
      "applied_at": "2022-08-09T03:06:52+0800",
      "error_code": "DBS.280005"
    }
  ],
  "total_count": 2
}
```

Status Code

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

Error Code

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

4.5.14 Querying Change History of a Parameter Template

Function

This API is used to query the change history of a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-148 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
config_id	Yes	String	Parameter template ID.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed.
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.

Request Parameters

None

Response Parameters

Table 4-149 Parameter description

Parameter	Type	Description
histories	Array of objects	Parameter template information. For details, see Table 4-150 .
total_count	Integer	Total number of records.

Table 4-150 histories field data structure description

Parameter	Type	Description
parameter_name	String	Parameter name.
old_value	String	Old parameter value.
new_value	String	New parameter value.
update_result	String	Change status. • SUCCESS • FAILED
updated_at	String	Modification 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. For example, in the Beijing time zone, the offset is +0800 .

Example Request

Querying the change history of a parameter template

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/histories
```

Example Response

Change history of the parameter template queried.

```
{
  "histories": [ {
    "parameter_name": "audit_system_object",
    "old_value": "12295",
    "new_value": "12298",
    "update_result": "SUCCESS",
    "updated_at": "2022-08-09T03:06:52+0800"
  } ],
}
```

```
"total_count" : 1  
}
```

Status Code

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

Error Code

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

4.6 Version Upgrade

4.6.1 Querying Versions That a DB Instance Can Be Upgraded To

Function

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3.1/{project_id}/instances/{instance_id}/db-upgrade/candidate-versions

Table 4-151 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.

Request Parameters

None

Response Parameters

Table 4-152 Response parameters

Parameter	Type	Description
upgrade_type_list	Array of Table 4-153 objects	Upgrade types.
rollback_enabled	Boolean	Whether rollback is supported. • true: Rollback is supported. • false: Rollback is not supported.
source_version	String	Source instance version.
target_version	String	Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned.
roll_upgrade_progress	Table 4-155 object	AZ information during the rolling upgrade.

Parameter	Type	Description
upgrade_candidate_versions	Array of strings	Versions that can be upgraded to, including minor and major versions. An empty array is returned during a rolling upgrade.
hotfix_upgrade_candidate_versions	Array of strings	Hot patch versions that can be updated.
hotfix_rollback_candidate_versions	Array of strings	Hot patch versions that can be rolled back.

Table 4-153 upgrade_type_list

Parameter	Type	Description
upgrade_type	String	Upgrade type. • grey: Gray upgrade • inplace: In-place upgrade • hotfix: Hot patch update
enable	Boolean	Whether the upgrade type is available. • true: yes • false: no
upgrade_action_list	Array of Table 4-154 objects	Upgrade actions.
is_parallel_upgrade	Boolean	Whether intra-AZ parallel upgrade is supported. • true: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later. • false: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later. • null: The current instance is not in the upgrade process.

Table 4-154 upgrade_action_list

Parameter	Type	Description
upgrade_action	String	Upgrade action. • upgrade: Rolling upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback
enable	Boolean	Whether the upgrade action is available. • true: yes • false: no

Table 4-155 roll_upgrade_progress

Parameter	Type	Description
not_fully_upgraded_az	String	AZs that have not been upgraded. Multiple AZs are separated by commas (,).
already_upgraded_az	String	AZs that have upgraded. Multiple AZs are separated by commas (,).
az_description_map	Map<String,String>	AZ description.

Example Request

Querying versions that a DB instance can be upgraded to

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/db-upgrade/candidate-versions
```

Example Response

Target version, shard status, and AZ status in the rolling upgrade returned.

```
{
  "upgrade_type_list": [
    {
      "upgrade_type": "grey",
      "upgrade_action_list": [
        {
          "upgrade_action": "commit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        }
      ]
    }
  ]
}
```

```
        "upgrade_action": "upgrade",
        "enable": true
      },
      {
        "upgrade_action": "upgradeAutoCommit",
        "enable": true
      }
    ],
    "enable": true,
    "is_parallel_upgrade": null
  },
  {
    "upgrade_type": "hotfix",
    "upgrade_action_list": null,
    "enable": false,
    "is_parallel_upgrade": null
  },
  {
    "upgrade_type": "inplace",
    "upgrade_action_list": [
      {
        "upgrade_action": "upgradeAutoCommit",
        "enable": true
      }
    ],
    "enable": true,
    "is_parallel_upgrade": null
  }
],
"rollback_enabled": false,
"source_version": "V2.0-8.102.0",
"target_version": null,
"roll_upgrade_progress": {
  "not_fully_upgraded_az": "cn-southwest-244a,cn-southwest-244b,cn-southwest-244c",
  "already_upgraded_az": "",
  "az_description_map": {
    "cn-southwest-244c": "az3",
    "cn-southwest-244b": "az2",
    "cn-southwest-244a": "az1"
  }
},
"upgrade_candidate_versions": [
  "V2.0-8.300.0",
  "V2.0-8.103.0"
],
"hotfix_upgrade_candidate_versions": [],
"hotfix_rollback_candidate_versions": []
}
```

Status Code

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

Error Code

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

4.7 Backup and Restoration

4.7.1 Querying an Automated Backup Policy

Function

This API is used to query an automated backup policy. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-156 Parameter description

Name	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	Instance ID.

Request Parameters

None

Response Parameters

Table 4-157 Parameter description

Parameter	Type	Description
backup_policy	Object	Backup policy information. For details, see Table 4-158 .

Table 4-158 backup_policy field data structure description

Parameter	Type	Description
keep_days	Integer	Full backup retention days. Value: 1 to 732 Minimum value: 1 Maximum value: 732
start_time	String	Full backup time window. The creation of an automated backup will be triggered during the backup time window. The value must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC 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.
period	String	Full backup period. Data will be automatically backed up on the selected days every week. The value is a number separated by commas (,), indicating the days of the week. Example value: • 1,2,3,4 indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday. • 1,2,3,4,5,6,7 indicates that an automated backup is performed every day from Monday to Sunday. • 1,3,5 indicates that an automated backup is performed on Monday, Wednesday, and Friday.
differential_period	Integer	Differential backup period. An automated differential backup will be performed on the specified minutes.
rate_limit	Integer	Upload speed at which data is uploaded to OBS. 0 MB/s indicates that the speed is not limited. The upload speed is related to the bandwidth.
prefetch_block	Integer	Number of prefetch pages from the modified pages in the disk table file during a differential backup. When modified pages are adjacent (for example, with a bulk data load), you can set this parameter to a large value. When modified pages are scattered (for example, random update), you can set this parameter to a small value. The default value is 64 .
filesplit_size	Integer	This field has been deprecated.

Parameter	Type	Description
file_split_size	Integer	Size by which full and differential backup files are split, in GB. The value is from 0 to 1024 , but it must be a multiple of 4. The default value is 4 . 0 indicates the size is not limited.
enable_standby_backup	Boolean	Whether to enable backup on a standby node. • true: This function is enabled. • false: This function is disabled.

Example Request

Querying an automated backup policy

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsd3435in14/backups/policy
```

Example Response

Automated backup policy queried.

```
{
  "backup_policy": {
    "period": "1,2,3,4,5,6,7",
    "keep_days": 7,
    "start_time": "18:00-19:00",
    "differential_period": 30,
    "rate_limit": 75,
    "prefetch_block": 64,
    "file_split_size": 4,
    "enable_standby_backup": false
  }
}
```

Status Code

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

Error Code

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

4.7.2 Querying Backups

Function

This API is used to obtain backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

This API can be used to query only manual and automated full backups.

URI

GET https://{Endpoint}/v3.2/{project_id}/backups?
instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&of
fset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}

Table 4-159 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	No	String	Explanation: Instance ID, which uniquely identifies an instance and is used to query the backups of an instance. Restrictions: This parameter is mandatory when you query log backups. Value range: The value is compliant with the UUID format and can contain 32 characters. Only letters and digits are allowed. Default value: None

Parameter	Mandatory	Type	Description
backup_id	No	String	Explanation: Backup ID, which uniquely identifies an instance backup and is used to query information about a backup. Restrictions: None Value range: The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed. Default value: None
backup_type	No	String	Explanation: Backup type. Restrictions: None Value range: • auto: instance-level automated full backup • manual: instance-level manual full backup Default value: None
offset	No	Integer	Explanation: Index offset. The query starts from the next piece of data indexed by this parameter. Restrictions: None Value range: [0, 10 ¹⁰ -1] Default value: 0 (indicating that the query starts from the first data record.)

Parameter	Mandatory	Type	Description
limit	No	Integer	Explanation: Number of records to be queried. Restrictions: None Value range: [0, 100] Default value: 100
begin_time	No	String	Explanation: Query start 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. Example: 2022-05-09T16:01:10+0800. Restrictions: This parameter can be used together with end_time . If end_time is not used, the backups created after begin_time are returned. If end_time is used, the backups created between begin_time and end_time are returned. Value range: None Default value: None

Parameter	Mandatory	Type	Description
end_time	No	String	Explanation: Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. Example: 2022-05-09T16:01:10+0800. Restrictions: This parameter can be used together with begin_time . If begin_time is not used, the backups created before end_time are returned. If begin_time is used, the backups created between begin_time and end_time are returned. Value range: None Default value: None

Request Parameters

None

Response Parameters

Table 4-160 Parameter description

Parameter	Type	Description
backups	Array of objects	Explanation: Backup information. For details, see Table 4-161 .
total_count	Long	Explanation: Total number of backup files. Value range: [0, 2 ⁶³ - 1]. The actual value depends on the number of backups in the backup list.

Table 4-161 backups field data structure description

Parameter	Type	Description
id	String	Explanation: Backup ID, which uniquely identifies a backup. Value range: The value can contain 36 characters. Only letters and digits are allowed.
name	String	Explanation: Backup name. Value range: None
description	String	Explanation: Description of the backup file. Value range: The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &
begin_time	String	Explanation: Backup start 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. Example: 2022-05-09T16:01:10+0800. Value range: None
end_time	String	Explanation: Backup end 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. Example: 2022-05-09T16:01:10+0800. Value range: None
status	String	Explanation: Backup status. Value range: ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed

Parameter	Type	Description
size	Double	Explanation: Backup size in MB. Value range: The value is determined by the backup size.
type	String	Explanation: Backup type. Value range: • auto: instance-level automated full backup • manual: instance-level manual full backup
datastore	Object	Explanation: Database information. For details, see Table 4-162 .
instance_id	String	Explanation: ID of the instance to which the backup belongs. Value range: The value can contain 32 characters. Only letters and digits are allowed.

Table 4-162 datastore field data structure description

Parameter	Type	Description
type	String	Explanation: DB engine. The value is case-insensitive and can be: GaussDB . Value range: None
version	String	Explanation: DB engine version. If this parameter is not specified, the latest version is used by default. Value range: None

Example Request

- Querying all backups

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.2/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.2/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

Example Response

Backups queried.

```
{
  "backups": [
    {
      "id": "a696cd25e4fc453aa503650225cece8bbr14",
      "name": "GaussDB-hly-ha-20220509080110906",
      "status": "FAILED",
      "size": 0.0,
      "type": "auto",
      "datastore": {
        "type": "GaussDB",
        "version": "V2.0-1.4"
      },
      "begin_time": "2022-05-09T16:01:10+0800",
      "end_time": "2022-05-09T16:04:31+0800",

      "instance_id": "164abc6d35114095bb849d007b19db3bin14"
    },
    {
      "id": "5651c62a7f12461c98020dd3abfe24ccbr14",
      "name": "GaussDB-hly-master-20220509022658257",
      "status": "FAILED",
      "size": 0.0,
      "type": "auto",
      "datastore": {
        "type": "GaussDB",
        "version": "V2.0-1.4"
      },
      "begin_time": "2022-05-09T10:26:58+0800",
      "end_time": "2022-05-09T10:30:17+0800",

      "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
    }
  ],
  "total_count": 2
}
```

Status Code

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

Error Code

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

4.7.3 Creating a Manual Backup

Function

This API is used to create a manual backup. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

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

Table 4-163 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-164 Parameter description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	DB instance ID.
name	Yes	String	Backup name. It must contain 4 to 64 characters and start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed. Minimum characters: 4 Maximum characters: 64

Parameter	Mandatory	Type	Description
description	No	String	Backup description. It contains up to 256 characters and cannot contain the following special characters: > <"&'= Maximum characters: 256

Example Request

Creating a manual full backup for a DB instance

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/
backupslicy
{
  "instance_id" : "7e01ac5ac5274957ba506f3851d11d51in14",
  "name" : "backupwqwq3",
  "description" : "manual backup"
}
```

Response Parameters

Table 4-165 Response body parameters

Parameter	Type	Description
backup	Object	Backup information. For details, see Table 4-166 .
job_id	String	Task ID.

Table 4-166 backup field data structure description

Parameter	Type	Description
id	String	Backup ID.
name	String	Backup name, which must be unique.
description	String	Backup description.
begin_time	String	Backup start 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.

Parameter	Type	Description
status	String	Backup status. Value: ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed
type	String	Backup type. Value: manual (manual full backup).
instance_id	String	DB instance ID.

Example Response

```
{
  "backup": {
    "id": "e76112bfb2074871bf54cb8df5af7f64br14",
    "name": "backuppwqwq32",
    "description": "manual backup",
    "status": "BUILDING",
    "type": "manual",
    "begin_time": "2022-05-09T18:02:31+0800",
    "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
  },
  "job_id": "e4733090-b2c8-4ea7-a33a-f55f65723fb3"
}
```

Status Code

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

Error Code

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

4.7.4 Obtaining the Link for Downloading a Backup File

Function

This API is used to obtain the link for downloading a backup file. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

This API is used to obtain the links for downloading manual and automated full backups of GaussDB.

URI

GET https://{Endpoint}/v3/{project_id}/backup-files?backup_id={backup_id}

Table 4-167 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
backup_id	Yes	String	Backup ID, which is compliant with the UUID format.

Request Parameters

None

Response Parameters

Table 4-168 Response body parameters

Name	Type	Mandatory	Description
files	Array of Table 4-169	Yes	Backup file information.
bucket	String	Yes	Name of the bucket where the file is located.

Table 4-169 files

Name	Type	Mandatory	Description
name	String	Yes	File name.
size	Long	Yes	File size, in KB.
download_link	String	Yes	Link for downloading the backup file.
link_expired_time	String	Yes	Link expiration time. The format is "yyyy-mm-ddThh:mm:ssZ". T is the separator between calendar and hourly notation of time. Z indicates the time zone offset.

Table 4-170 Response body parameters

Name	Type	Mandatory	Description
error_code	String	Yes	Error code.
error_msg	String	Yes	Error message.

Example Request

Obtaining the link for downloading a backup file

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/
backup-files/e28d08754b1a490fb2b3540ed013a7fbbr14?
backup_id=2f4ddb93b9014b0893d81d2e472f30febr14
```

Example Response

Status code **200**

```
{
  "files": [
    {
      "name": "43e4feaab48f11e89039fa163ebaa7e4br01.xxx",
      "size": 2803,
      "download_link": "https://obs.domainname.com/rdsbucket.username.1/xxxxxx",
      "link_expired_time": "2018-08-016T10:15:14+0000"
    }
  ],
  "bucket": "rdsbucket.bucketname"
}
```

Status code **default**

```
{
  "error_code": "DBS.200022",
  "error_msg": "Failed to obtain the download link of a backup file."
}
```

Status Code

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

Error Code

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

4.7.5 Deleting a Manual Backup

Function

This API is used to delete a manual backup. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

DELETE https://{Endpoint}/v3/{project_id}/backups/{backup_id}

Table 4-171 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
backup_id	Yes	String	Manual backup ID.

Request Parameters

None

Response Parameters

Table 4-172 Response body parameters

Parameter	Type	Description
backup_id	String	Backup ID.
backup_name	String	Backup file name.

Example Request

Deleting a manual backup

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/backups/e28d08754b1a490fb2b3540ed013a7fbb14
```

Example Response

Manual backup deleted.

```
{
  "backup_id" : "85755cb697234111bfc4970795ca9018br14",
  "backup_name" : "backup-d6e1"
}
```

Status Code

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

Error Code

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

4.7.6 Querying the Restoration Time Range

Function

This API is used to query the restoration time range of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

```
GET https://{Endpoint}/v3/{project_id}/instances/{instance_id}/restore-time?date={date}
```

Table 4-173 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Explanation: Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None
instance_id	Yes	String	Instance ID.
date	Yes	String	Date to be queried. The value is in the "yyyy-mm-dd" format, and the time zone is UTC.

Request Parameters

None

Response Parameters

Table 4-174 Parameter description

Parameter	Type	Description
restore_time	Array of objects	Restoration time ranges. For details, see Table 4-175 .

Table 4-175 restore_time field data structure description

Parameter	Type	Description
start_time	Long	Start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC+8.

Parameter	Type	Description
end_time	Long	End time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC+8.

Example Request

Querying the restoration time range

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/d2113b7c60154636b94bea1320b6a874in14/restore-time?date=2022-04-17
```

Example Response

Restoration time range queried.

```
{
  "restore_time": [
    {
      "start_time": 1652084311000,
      "end_time": 1652092839000
    },
    {
      "start_time": 1652092847000,
      "end_time": 1652094792000
    }
  ]
}
```

Status Code

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

Error Code

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

4.7.7 Restoring Data to a New instance

Function

This API is used to restore data to a new DB instance using backups. Before calling this API:

- Learn how to [authenticate](#) this API.

Constraints

The DB engine versions and instance types of the original and new instances must be the same.

The specifications of the new instance must be greater than or equal to those of the original instance.

URI

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

Table 4-176 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Explanation: Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Restrictions: None Value range: The value can contain 32 characters. Only letters and digits are allowed. Default value: None

Request Parameters

Table 4-177 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	DB instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	AZ ID. The value cannot be empty. You can deploy GaussDB in the same AZ or across three different AZs, and use commas (,) to separate AZs. For example: • To deploy a DB instance in the same AZ, enter three same AZ IDs. • To deploy a DB instance across three different AZs, enter three different AZ IDs.
flavor_ref	Yes	String	Specification code. The value cannot be empty. To obtain its value, see the spec_code field in Querying Instance Specifications .
volume	Yes	Object	Volume information. For details, see Table 4-178 .
vpc_id	Yes	String	VPC ID. To obtain this parameter value, use the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details. • Method 2: See the section "Querying VPCs" in the <i>Virtual Private Cloud API Reference</i>.
subnet_id	Yes	String	Network ID of the subnet. To obtain this parameter value, use 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: See section "Querying Subnets" in the <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: See the section "Querying Security Groups" in the <i>Virtual Private Cloud API Reference</i>.
password	Yes	String	Database password. The GaussDB database password must: Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*-_ = +?, Enter a strong password to improve security, preventing security risks such as brute force cracking.
charge_info	No	Object	Billing mode, which can be pay-per-use. For details, see Table 4-179.
backup_strategy	No	Object	Automated backup policy.
restore_point	Yes	Object	Restoration information. For details, see Table 4-180.
configuration_id	No	String	Parameter template ID. If this parameter is not specified, the default parameter template is used.

Parameter	Mandatory	Type	Description
port	No	String	Port number used by the database to provide services for external systems, ranging from 1024 to 39998. If you do not configure this parameter, the default value 8000 is used. The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.
time_zone	No	String	UTC time zone. • If this parameter is not specified, GaussDB uses UTC by default. • If this parameter is specified, the value ranges from UTC-12:00 to UTC +12:00 at the full hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30.

Table 4-178 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Disk type.
size	Yes	Integer	Storage space, which must be at least equal to that of the original instance. For example, if this parameter is set to 40 , 40 GB of storage is allocated to the instance. ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 16 TB) and must be a multiple of (Number of shards x 4 GB).

Table 4-179 charge_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode. postPaid : pay-per-use billing.

Table 4-180 restore_point field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Source instance ID.
backup_id	No	String	ID of the backup to be restored.

Response Parameters

Table 4-181 Parameter description

Parameter	Type	Description
instance	Object	Instance information. For details, see Table 4-182 .
job_id	String	Task ID for restoring data to a new DB instance.

Table 4-182 instance description

Parameter	Type	Description
id	String	Instance ID.
name	String	DB instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
status	String	Instance status. For example, BUILD indicates that the instance is being created.
datastore	Object	Database information. For details, see Table 4-183 .

Parameter	Type	Description
ha	Object	Instance deployment model. For details, see Table 4-184 .
port	String	Database port. The default value is 8000 .
volume	Object	Volume information. For details, see Table 4-185 .
backup_strategy	Object	Automated backup policy. For details, see Table 4-186 .
replica_num	Integer	Number of replicas.
region	String	Region ID.
flavor_ref	String	Specification code.
availability_zone	String	AZ ID. You can deploy your instance in the same AZ or across three different AZs, and use commas (,) to separate AZs.
vpc_id	String	VPC ID.
subnet_id	String	Subnet ID.
security_group_id	String	Security group ID.
charge_info	Object	Billing mode, which can be pay-per-use. For details, see Table 4-187 .

Table 4-183 datastore field data structure description

Parameter	Type	Description
type	String	DB engine. Value: • GaussDB
version	String	DB engine version.

Table 4-184 ha field data structure description

Parameter	Type	Description
mode	String	For distributed instances, the return value is enterprise (enterprise edition). For centralized instances, the return value is centralization_standard (centralized edition).

Parameter	Type	Description
replication_mode	String	Replication mode for the standby node. The value can only be set to sync , indicating that data is synchronized in synchronous mode.
consistency	String	(GaussDB reserved parameter) Transaction consistency type. The value can be strong or eventual . Value: • strong • eventual

Table 4-185 volume field data structure description

Parameter	Type	Description
type	String	Disk type.
size	Integer	Disk size. When restoring a distributed GaussDB instance, you need to specify the size to be a multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 16 TB).

Table 4-186 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	This field has been deprecated.
keep_days	Integer	This field has been deprecated.

Table 4-187 charge_info field data structure description

Parameter	Type	Description
charge_mode	String	Billing mode. postPaid : pay-per-use billing.

Example Request

- ```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "targetInst",
 "availability_zone": "aaa,bbb,ccc",
```

```
"volume": {
 "size": 160
},

"vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
"subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
"security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
"password": "*****",
"restore_point": {
 "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin14",
 "backup_id": "2f4ddb93b9014b0893d81d2e472f30febr14"
},

"configuration_id": "52e86e87445847a79bf807ceda213165pr01",
"port": 8000,

"time_zone": "UTC+04:00"
}
```

## Response

Data is resorted to the new instance.

```
{
 "instance": {
 "id": "2gfdsh844a4023a776fc5c5fb71fb4in14",
 "name": "gaussdb-instance-rep2",
 "status": "BUILD",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "ha": {
 "mode": "enterprise",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "volume": {

 "size": 160
 },
 "port": "8000",
 "replica_num": 3,
 "region": "regionA",

 "availability_zone": "aaa,bbb,ccc",
 "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
 "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
 "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
 "charge_info": {
 "charge_mode": "postPaid"
 },
 },
 "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

## Status Code

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

## Error Code

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

## 4.7.8 Querying Instances That Can Be Used for Backups and Restorations

### Function

This API is used to query the instances that can be used for backups and restorations. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

The **restore\_time** and **backup\_id** parameters cannot be both left blank.

### URI

GET [https://{Endpoint}/v3.1/{project\\_id}/restorable-instances](https://{Endpoint}/v3.1/{project_id}/restorable-instances)

**Table 4-188** Parameter description

| Parameter    | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| backup_id    | No        | Instance backup ID. You can use the backup ID to query the instance topology information and filter the queried instances (including the number of nodes and replicas of instances). If this parameter is left blank, <b>restore_time</b> is used.                                                                         |
| restore_time | No        | Specific point of time. If the backup ID is left blank, this parameter is used to query the instance topology information and filter the queried instances.                                                                                                                                                                |

| Parameter          | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| source_instance_id | No        | ID of the DB instance to be restored. <ul style="list-style-type: none"><li>If <b>backup_id</b> is not left blank, <b>source_instance_id</b> is optional.</li><li>If <b>backup_id</b> is left blank and <b>restore_time</b> is not left blank, <b>source_instance_id</b> is mandatory.</li><li><b>source_instance_id</b> and <b>backup_id</b> cannot be both left blank.</li></ul> |
| offset             | No        | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number.                                                                                                                                  |
| limit              | No        | Number of records to be queried. The default value is <b>100</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                                                                                                                                                      |

## Request Parameters

None

## Response Parameters

**Table 4-189** Parameter description

| Parameter   | Type             | Description                                                                                             |
|-------------|------------------|---------------------------------------------------------------------------------------------------------|
| instances   | Array of objects | Instances that can be used for backups and restorations. For details, see <a href="#">Table 4-190</a> . |
| total_count | Integer          | Total number of queried instances.                                                                      |

**Table 4-190** instances parameter data structure description

| Parameter     | Type   | Description       |
|---------------|--------|-------------------|
| instance_name | String | DB instance name. |
| instance_id   | String | Instance ID.      |
| volume_type   | String | Storage type.     |

| Parameter        | Type   | Description                                                                                                                                                                               |
|------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_volume_size | Number | Storage space, in GB                                                                                                                                                                      |
| version          | String | Instance version                                                                                                                                                                          |
| mode             | String | Deployment model. <ul style="list-style-type: none"><li>• <b>Ha</b>: centralized deployment</li><li>• <b>Independent</b>: independent deployment</li></ul>                                |
| instance_mode    | String | Instance model. <ul style="list-style-type: none"><li>• <b>enterprise</b>: enterprise edition</li><li>• <b>standard</b>: standard edition</li><li>• <b>basic</b>: basic edition</li></ul> |

## Example Request

Querying instances that can be used for backups and restorations

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0611f1bd8b00d5d32f17c017f15b599f/
restorable-instances?
source_instance_id=88efb3753dc844829c380edff7798eecin14&backup_id=d3f223e9c35d450ea0692bdbff686
e45br14
```

## Example Response

Instances that can be used for backups and restorations queried.

```
{
 "instances": [
 {
 "instance_name": "gaussdb",
 "instance_id": "3ea6d6463c9a4baf9a47c5b74464307cin14",
 "volume_type": "ULTRAHIGH",
 "data_volume_size": 500,
 "version": "V2.0-8.102",
 "mode": "Ha",
 "instance_mode": "enterprise"
 }
],
 "total_count": 1
}
```

## Status Code

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

## Error Code

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

## 4.7.9 Querying Information About the Original Instance Based on a Specific Point of Time or a Backup File

### Function

This API is used to query the information of the original instance based on a specific point of time or a backup file. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

The **restore\_time** and **backup\_id** parameters cannot be both left blank.

- If **backup\_id** is not left blank, the query is performed based on **backup\_id**.
- If **backup\_id** is left blank, the query is performed based on **restore\_time**.
- If **restore\_time** and **backup\_id** are both specified, the query is performed based on **backup\_id**.

### URI

GET https://{*Endpoint*}/v3.1/{project\_id}/instance-snapshot?  
instance\_id={instance\_id}&restore\_time={restore\_time}&backup\_id={backup\_id}

**Table 4-191** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | No        | String | Original instance ID.<br>If <b>restore_time</b> is specified, <b>instance_id</b> is mandatory.                                                                                                                                                                                                                             |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restore_time | No        | String | This parameter is mandatory when you want to view DB instance backups based on a specified point in time.<br><br>Instance information at a time point in the UNIX timestamp format, in milliseconds. The time zone is UTC. |
| backup_id    | No        | String | Backup ID.                                                                                                                                                                                                                 |

## Request Parameters

None

## Response Parameters

**Table 4-192** Parameter description

| Parameter        | Type   | Description                                                                                                                                                                                                                  |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cluster_mode     | String | Instance deployment model.<br>Value: <ul style="list-style-type: none"><li>• <b>Ha</b>: centralized deployment</li><li>• <b>Independent</b>: independent deployment</li><li>• <b>Combined</b>: combined deployment</li></ul> |
| instance_model   | String | Instance model.<br>Value: <ul style="list-style-type: none"><li>• <b>basic</b>: basic edition</li><li>• <b>standard</b>: standard edition</li><li>• <b>enterprise</b>: enterprise edition</li></ul>                          |
| data_volume_size | String | Storage space, in GB                                                                                                                                                                                                         |

| Parameter       | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| solution        | String  | Solution template type.<br>Value: <ul style="list-style-type: none"><li>• <b>single</b>: single node</li><li>• <b>double</b>: 1 primary + 1 standby (2 nodes)</li><li>• <b>triset</b>: 1 primary + 2 standby</li><li>• <b>logger</b>: 1 primary + 1 standby + 1 log</li><li>• <b>loggerdorado</b>: 1 primary + 1 standby + 1 log (shared storage)</li><li>• <b>quadruset</b>: 1 primary + 3 standby</li><li>• <b>hws</b>: distributed (independent deployment)</li></ul> |
| node_num        | Integer | Number of nodes.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| coordinator_num | Integer | Number of CNs.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| sharding_num    | Integer | Number of shards.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| replica_num     | Integer | Number of replicas.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| engine_version  | String  | Engine version.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0483b6b16e954cb88930a360d2c4e663/instance-snapshot
```

## Example Response

```
{
 "cluster_mode" : "Ha",
 "instance_mode" : "enterprise",
 "data_volume_size" : "200",
 "solution" : "triset",
 "node_num" : 3,
 "coordinator_num" : 0,
 "sharding_num" : 3,
 "replica_num" : 3,
 "engine_version" : "V2.0-2.2.90"
}
```

## Status Code

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

## Error Code

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

## 4.7.10 Restoring Data to the Original or Existing Instance

### Function

This API is used to restore data to the original DB instance or an existing DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

POST [https://{endpoint}/v3/{project\\_id}/instances/recovery](https://{endpoint}/v3/{project_id}/instances/recovery)

**Table 4-193** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

### Request Parameters

**Table 4-194** Parameter description

| Parameter | Mandatory | Type   | Description                                                                                  |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------|
| source    | Yes       | Object | Instance from which the backup was created. For details, see <a href="#">Table 4-195</a> .   |
| target    | Yes       | Object | The instance to which the backup is restored. For details, see <a href="#">Table 4-196</a> . |

**Table 4-195** source field data structure description

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id  | Yes       | String | DB instance ID.                                                                                                                                                                                                                                                                                                                                 |
| type         | Yes       | String | Restoration type. The available values are as follows: <ul style="list-style-type: none"><li>• <b>backup</b> (default value): Data is restored using backups. In this case, <b>backup_id</b> is mandatory.</li><li>• <b>timestamp</b>: Data is restored using point-in-time recovery. In this case, <b>restore_time</b> is mandatory.</li></ul> |
| backup_id    | No        | String | Backup ID used for restoration. It indicates the ID of the full backup corresponding to <b>schema_type</b> . This parameter must be specified when backups are used for restoration.                                                                                                                                                            |
| restore_time | No        | String | Timestamp to which data is restored to using point-in-time recovery. You can query the available time range by calling the <a href="#">Querying the Restoration Time Range</a> API.                                                                                                                                                             |

**Table 4-196** target field data structure description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                           |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id | Yes       | String | ID of the DB instance which the backup will be restored to. <ul style="list-style-type: none"><li>• When restoring data to the original instance, enter the original instance ID.</li><li>• When restoring data to an existing DB instance, enter the existing instance ID.</li></ul> |

## Response Parameters

**Table 4-197** Response body parameters

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

## Example Request

Restoring data to the original or existing instance

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/recovery
{
 "source": {
 "instance_id": "5362449138da4e408dbae5152ca26640in14",
 "type": "backup",
 "backup_id": "cc94568cb5a54e4a8ab5dff95e64a5e0br14"
 },
 "target": {
 "instance_id": "5362449138da4e408dbae5152ca26640in14"
 }
}
```

## Example Response

Data restored to the original or existing instance.

```
{
 "job_id": "a03b1b8a-b756-467c-8a49-38720c3d23ec"
}
```

## Status Code

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

## Error Code

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

# 4.8 Log Management

## 4.8.1 Creating a Slow Query Log Download Task

### Function

This API is used to create a slow query log download task. Before calling this API:

- Learn how to [authenticate](#) this API.

## URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/slow-log/download](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/slow-log/download)

**Table 4-198** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID, which is compliant with the UUID format.                                                                                                                                                                                                                                                                           |

## Request Parameters

None

## Response Parameters

**Table 4-199** Response body parameters

| Parameter | Type                                  | Description                                                                           |
|-----------|---------------------------------------|---------------------------------------------------------------------------------------|
| list      | Array of SlowLogDown loadInfo objects | Downloaded slow query log information. For details, see <a href="#">Table 4-200</a> . |

Table 4-200 SlowLogDownloadInfo field data structure description

| Parameter   | Type   | Description                    |
|-------------|--------|--------------------------------|
| id          | String | Slow query log ID.             |
| instance_id | String | Instance ID.                   |
| node_id     | String | Node ID.                       |
| workflow_id | String | Workflow ID.                   |
| file_name   | String | File name.                     |
| file_size   | String | File size in bytes.            |
| file_link   | String | Link for downloading the file. |
| bucket_name | String | Bucket name                    |
| created_at  | Long   | Creation time.                 |
| updated_at  | Long   | Update time.                   |
| version     | String | Version.                       |
| status      | String | Status.                        |
| message     | String | Message.                       |

Example Request

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/slow-log/download
```

Example Response

NOTICE

When a request is delivered for the first time, the response is an empty list.

```
{
 "list" : []
}
```

```
{
 "list" : [{
 "id" : "64d7bad3-6665-4590-baa2-eb5394e49625",
 "instance_id" : "9b2f4cc6cd584c67bc179a2bfb37f90in14",
 "node_id" : "9d8c79cc41074452977a564b335220f5no14",
 "workflow_id" : "7d77153c12dde-4f3c-a333-7d30503267f2",
 "file_name" :
"c7025305deb34ae9af1be94f698e7949_slowlog_download__9d8c79cc41074452977a564b335220f5no1420230823024331782",
 "file_size" : "719.0",
 "file_link" : "****",
 "bucket_name" : null,
 "created_at" : 1692758611782,
 "updated_at" : 1692758611782,
 }]
}
```

```
{
 "version" : null,
 "status" : "EXPORTING",
 "message" : null
}, {
 "id" : "4712c3b1-d26a-49d4-9652-211d6ac106c5",
 "instance_id" : "9b2f4cc6cd584c67bc179a2bfbb37f90in14",
 "node_id" : "9d03b0a73ebd415eb2f692862f326cb7no14",
 "workflow_id" : "7d77153c12dde-4805-bd0b-d70c803a873a",
 "file_name" :
"c7025305deb34ae9af1be94f698e7949_slowlog_download__9d03b0a73ebd415eb2f692862f326cb7no142023
0823024331727",
 "file_size" : "719.0",
 "file_link" : "****",
 "bucket_name" : null,
 "created_at" : 1692758611727,
 "updated_at" : 1692758611727,
 "version" : null,
 "status" : "EXPORTING",
 "message" : null
}]
}
```

## Status Code

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

## Error Code

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

## 4.8.2 Querying Downloaded Slow Query Log Information

### Function

This API is used to query downloaded slow query log information. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/slow-log/download](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/slow-log/download)

**Table 4-201** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID, which is compliant with the UUID format.                                                                                                                                                                                                                                                                           |

## Request Parameters

None

## Response Parameters

**Table 4-202** Response body parameters

| Parameter | Type                                  | Description                                                                           |
|-----------|---------------------------------------|---------------------------------------------------------------------------------------|
| list      | Array of SlowLogDown loadInfo objects | Downloaded slow query log information. For details, see <a href="#">Table 4-203</a> . |

**Table 4-203** SlowLogDownloadInfo field data structure description

| Parameter   | Type   | Description        |
|-------------|--------|--------------------|
| id          | String | Slow query log ID. |
| instance_id | String | Instance ID.       |
| node_id     | String | Node ID.           |

| Parameter   | Type   | Description                    |
|-------------|--------|--------------------------------|
| workflow_id | String | Workflow ID.                   |
| file_name   | String | File name.                     |
| file_size   | String | File size in bytes.            |
| file_link   | String | Link for downloading the file. |
| bucket_name | String | Bucket name                    |
| created_at  | Long   | Creation time.                 |
| updated_at  | Long   | Update time.                   |
| version     | String | Version.                       |
| status      | String | Status.                        |
| message     | String | Message.                       |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/slow-log/download
```

## Example Response

```
{
 "list": [{
 "id": "64d7bad3-6665-4590-baa2-eb5394e49625",
 "instance_id": "9b2f4cc6cd584c67bc179a2bfb37f90in14",
 "node_id": "9d8c79cc41074452977a564b335220f5no14",
 "workflow_id": "7d77153c12dde-4f3c-a333-7d30503267f2",
 "file_name":
 "c7025305deb34ae9af1be94f698e7949_slowlog_download__9d8c79cc41074452977a564b335220f5no142023
 0823024331782",
 "file_size": "719.0",
 "file_link": "****",
 "bucket_name": null,
 "created_at": 1692758611782,
 "updated_at": 1692758611782,
 "version": null,
 "status": "success",
 "message": null
 }, {
 "id": "4712c3b1-d26a-49d4-9652-211d6ac106c5",
 "instance_id": "9b2f4cc6cd584c67bc179a2bfb37f90in14",
 "node_id": "9d03b0a73ebd415eb2f692862f326cb7no14",
 "workflow_id": "7d77153c12dde-4805-bd0b-d70c803a873a",
 "file_name":
 "c7025305deb34ae9af1be94f698e7949_slowlog_download__9d03b0a73ebd415eb2f692862f326cb7no142023
 0823024331727",
 "file_size": "719.0",
 "file_link": "****",
 "bucket_name": null,
 "created_at": 1692758611727,
 "updated_at": 1692758611727,
 "version": null,
 "status": "success",
 "message": null
 }
]
```

```
}]
}
```

## Status Code

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

## Error Code

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

# 4.9 Database and Account Management

## 4.9.1 Creating a Database

### Function

This API is used to create a database in a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

This API can only be used to create a single database. This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.

### URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/database](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/database)

**Table 4-204** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                          |
|-------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>To obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                         |

## Request Parameters

**Table 4-205** Parameter description

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                          |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | Yes       | String | Database name.<br>The value can contain 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with <b>pg</b> or a digit, and must be different from template database names. Template databases include <b>postgres</b> , <b>template0</b> , <b>template1</b> , and <b>templetem</b> . |
| character_set | No        | String | Character set.                                                                                                                                                                                                                                                                                                       |
| owner         | No        | String | Database user. The default value is <b>root</b> . The value must be an existing username and must be different from system usernames.<br>System users: <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , and <b>rdsRepl</b> .                                                                                  |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| template   | No        | String | Name of the database template. The value can be <b>template0</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| lc_collate | No        | String | Database collation. The default value is <b>C</b> .<br>Comparison of the same string in different collations may have different results. For example, the execution result of <b>select 'a'&gt;'A'</b> ; is <b>false</b> when this parameter is set to <b>en_US.utf8</b> and is <b>true</b> when this parameter is set to <b>'C'</b> . If a database is migrated from Oracle to GaussDB, this parameter needs to be set to <b>'C'</b> to meet your expectations. You can query the supported collations from the <b>pg_collation</b> table. |
| lc_ctype   | No        | String | Database classification. The default value is <b>C</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Response Parameters

None

## Example Request

Creating a database named **gaussdb\_test**

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/database
{
 "name": "gaussdb_test",
 "owner": "test",
 "template": "template0",
 "character_set": "UTF8",
 "lc_collate": "en_US.UTF-8",
 "lc_ctype": "en_US.UTF-8"
}
```

## Example Response

None

## Status Code

- Normal

200

- Abnormal

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

## Error Codes

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

## 4.9.2 Creating a Database Account

### Function

This API is used to create a database account for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.
- This API can only be used to create an account at a time.

### URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/db-user](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/db-user)

**Table 4-206** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                                    |

## Request Parameters

**Table 4-207** Parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | Name of the database user, which must be unique.<br><br>The username contains 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with <b>pg</b> or a digit and must be different from system usernames.<br><br>System users: <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>root</b> .                                                                                                |
| password  | Yes       | String | Password of the database user.<br><br>The value cannot be empty and contains 8 to 32 characters. It cannot be the same as the <b>name</b> value or the <b>name</b> value in reverse order. The value must contain at least three types of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*_-=+?.<br><br>Enter a strong password to improve security, preventing security risks such as brute force cracking. |

## Response Parameters

None

## Example Request

Creating a database account named **db**s

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-user
{
 "name" : "dbs",
 "password" : "*****"
}
```

## Example Response

None

## Status Code

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

## Error Code

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

## 4.9.3 Creating a Database Schema

### Function

This API is used to create a database schema in a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.

### URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/schema](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/schema)

**Table 4-208** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                               |

## Request Parameters

**Table 4-209** Parameter description

| Parameter | Mandatory | Type             | Description                                                                                                                                                                           |
|-----------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| db_name   | Yes       | String           | Database name.<br>The name cannot be a template database and must be an existing database name.<br>Template databases include <b>postgres</b> , <b>template0</b> , <b>template1</b> . |
| schemas   | Yes       | Array of objects | Schemas. Each element is the schema information associated with the database. A single request supports a maximum of 20 elements. For details, see <a href="#">Table 4-210</a> .      |

**Table 4-210** schemas field data structure description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | Schema name.<br>The value can contain 1 to 63 characters. Only letters, digits, and underscores (_) are allowed. It cannot start with <b>pg</b> or a digit, and must be different from template database names and existing schema names.<br>Template databases include <b>postgres</b> , <b>template0</b> , <b>template1</b> .<br>Existing schemas include <b>public</b> and <b>information_schema</b> . |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                            |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| owner     | Yes       | String | Owner of the schema.<br>The value cannot be a system user and must be an existing database username.<br><br>System users: <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , and <b>rdsRepl</b> . |

## Response Parameters

None

## Example Request

Creating multiple schemas in the **gaussdb\_test** database

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/schema
{
 "db_name": "gaussdb_test",
 "schemas": [{
 "name": "rds",
 "owner": "teste123"
 }, {
 "name": "rds001",
 "owner": "teste123"
 }]
}
```

## Example Response

None

## Status Code

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

## Error Code

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

## 4.9.4 Configuring Permissions of Database Accounts

### Function

This API is used to configure permissions of database accounts for a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

## Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.
- By default, read-only users have the **create** and **usage** permissions on the public schemas.
- You can only authorize one schema to one user at a time.

## URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/db-privilege](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/db-privilege)

**Table 4-211** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                                    |

## Request Parameters

**Table 4-212** Parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                   |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| db_name   | Yes       | String | Database name.<br><br>The name cannot be a template database and must be an existing database name.<br><br>Template databases include <b>postgres</b> , <b>template0</b> , <b>template1</b> . |

| Parameter | Mandatory | Type             | Description                                                                                                                                               |
|-----------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| users     | Yes       | Array of objects | Database accounts. Each element is a database account. A single request supports a maximum of 50 elements. For details, see <a href="#">Table 4-213</a> . |

**Table 4-213** users field data structure description

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                         |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name        | Yes       | String  | Database account.<br>The value cannot be a system user and must be an existing account.<br>System users: <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , <b>rdsRepl</b> , and <b>root</b> . |
| readonly    | Yes       | Boolean | Permission of the database account. <ul style="list-style-type: none"><li>• <b>true</b>: read only</li><li>• <b>false</b>: read and write</li></ul>                                                 |
| schema_name | Yes       | String  | Schema name.<br>The name cannot be <b>public</b> or <b>information_schema</b> , and must be an existing schema name.                                                                                |

## Example Request

Configuring permissions for multiple accounts of the **gaussdb\_test** database

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-privilege
{
 "db_name": "gaussdb_test",
 "users": [{
 "name": "rds",
 "readonly": false,
 "schema_name": "teste123"
 }, {
 "name": "rds001",
 "readonly": true,
 "schema_name": "teste134"
 }, {
 "name": "rds002",
 "readonly": false,
 "schema_name": "teste135"
 }]
}
```

```
}]
}
```

## Example Response

None

## Status Code

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

## Error Code

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

# 4.9.5 Resetting a Password for a Database Account

## Function

This API is used to reset a password for a database account. Before calling this API:

- Learn how to [authenticate](#) this API.

## Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.
- This API can be used to reset the password of only one database account at a time.

## URI

PUT [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/db-user/password](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/db-user/password)

**Table 4-214** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                                    |

## Request Parameters

**Table 4-215** Parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                         |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | Username of the database. It cannot be system usernames. System users: <b>rdsAdmin</b> , <b>rdsMetric</b> , <b>rdsBackup</b> , and <b>rdsRepl</b> . |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| password  | Yes       | String | Password of the database account.<br>Value:<br>The value cannot be empty and contains 8 to 32 characters. It cannot be the same as the <b>name</b> value or the <b>name</b> value in reverse order. It also cannot be the same as the old password. The value must contain at least three types of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*-_+=? ,<br>Enter a strong password to improve security, preventing security risks such as brute force cracking. |

## Response Parameters

None

## Example Request

Resetting the password for database account **root**

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-user/password
{
 "name" : "root",
 "password" : "*****"
}
```

## Example Response

None

## Status Code

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

### Error Code

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

## 4.9.6 Querying Databases

### Function

This API is used to query databases of a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/databases

Table 4-216 Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | <b>Explanation:</b><br>DB instance ID.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                                                     |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | <b>Explanation:</b><br>Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to <b>1</b> and <b>limit</b> is set to <b>10</b> , only the 11th to 20th records on the 2nd page are displayed.<br><b>Restrictions:</b><br>The value must be a non-negative number.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.) |
| limit     | No        | Integer | <b>Explanation:</b><br>Number of records displayed per page.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>10                                                                                                                                                                                                                                                                                                                                 |

## Request Parameters

None

## Response Parameters

**Table 4-217** Parameter description

| Parameter | Type             | Description                                                                                                          |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| databases | Array of objects | <b>Explanation:</b><br>Each element in the list indicates a database. For details, see <a href="#">Table 4-218</a> . |

| Parameter   | Type    | Description                                                                                                                                              |
|-------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| total_count | Integer | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1]. The actual value depends on the number of instances. |

**Table 4-218** databases field data structure description

| Parameter     | Type   | Description                                                                                                                 |
|---------------|--------|-----------------------------------------------------------------------------------------------------------------------------|
| name          | String | <b>Explanation:</b><br>Database name.<br><b>Value range:</b><br>None                                                        |
| owner         | String | <b>Explanation:</b><br>Database owner.<br><b>Value range:</b><br>None                                                       |
| character_set | String | <b>Explanation:</b><br>Character set used by the database, such as <b>UTF8</b> .<br><b>Value range:</b><br>None             |
| collate_set   | String | <b>Explanation:</b><br>Database collation, such as <b>en_US.UTF-8</b> .<br><b>Value range:</b><br>None                      |
| size          | String | <b>Explanation:</b><br>Database size, in MB.<br><b>Value range:</b><br>None                                                 |
| datatype      | String | <b>Explanation:</b><br>Character set used by the database, for example, <b>en_US.UTF-8</b> .<br><b>Value range:</b><br>None |

| Parameter          | Type   | Description                                                                                                                   |
|--------------------|--------|-------------------------------------------------------------------------------------------------------------------------------|
| compatibility_type | String | <b>Explanation:</b><br>Database compatibility type, for example, <b>GaussDB</b> and <b>M</b> .<br><b>Value range:</b><br>None |

## Example Request

Querying databases

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/databases
```

## Example Response

Databases queried.

```
{
 "databases": [
 {
 "name": "gaussdb_test",
 "owner": "root",
 "size": "25 MB",
 "datatype": "en_US.UTF-8",
 "character_set": "UTF8",
 "collate_set": "en_US.UTF-8",
 "compatibility_type": "GaussDB"
 },
 {
 "name": "gaussdb_test1",
 "owner": "root",
 "size": "25 MB",
 "datatype": "en_US.UTF-8",
 "character_set": "UTF8",
 "collate_set": "en_US.UTF-8",
 "compatibility_type": "GaussDB"
 },
 {
 "name": "gaussdb_test2",
 "owner": "root",
 "size": "25 MB",
 "datatype": "en_US.UTF-8",
 "character_set": "UTF8",
 "collate_set": "en_US.UTF-8",
 "compatibility_type": "GaussDB"
 }
],
 "total_count": 3
}
```

## Status Code

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

Error Code

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

4.9.7 Querying Database Users

Function

This API is used to query database users for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/db-users

Table 4-219 Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | <b>Explanation:</b><br>Instance ID, which is the unique identifier of an instance.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                         |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | <b>Explanation:</b><br>Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to <b>1</b> and <b>limit</b> is set to <b>10</b> , only the 11th to 20th data records are displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 2 <sup>31</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.) |
| limit     | No        | Integer | <b>Explanation:</b><br>Number of records displayed per page.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>10                                                                                                                                                                                                                                                                                  |

## Request Parameters

None

## Response Parameters

**Table 4-220** Parameter description

| Parameter | Type             | Description                                                                                                               |
|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------|
| users     | Array of objects | <b>Explanation:</b><br>Each element in the list indicates a database user. For details, see <a href="#">Table 4-221</a> . |

| Parameter   | Type    | Description                                                                                        |
|-------------|---------|----------------------------------------------------------------------------------------------------|
| total_count | Integer | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1] |

**Table 4-221** users field data structure description

| Parameter   | Type    | Description                                                                                            |
|-------------|---------|--------------------------------------------------------------------------------------------------------|
| name        | String  | <b>Explanation:</b><br>Username.<br><b>Value range:</b><br>None                                        |
| attribute   | Object  | <b>Explanation:</b><br>Permission attributes of a user. For details, see <a href="#">Table 4-222</a> . |
| memberof    | String  | <b>Explanation:</b><br>Default permissions of a user.<br><b>Value range:</b><br>None                   |
| lock_status | Boolean | <b>Explanation:</b><br>Whether the user is locked.<br><b>Value range:</b><br>true or false             |

**Table 4-222** attribute field data structure description

| Parameter | Type    | Description                                                                                                              |
|-----------|---------|--------------------------------------------------------------------------------------------------------------------------|
| rolsuper  | Boolean | <b>Explanation:</b><br>Check whether the user has the administrator permissions.<br><b>Value range:</b><br>true or false |

| Parameter      | Type    | Description                                                                                                                                                                                                         |
|----------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rolinherit     | Boolean | <b>Explanation:</b><br>Whether the user automatically inherits permissions of roles to which the user belongs.<br><b>Value range:</b><br>true or false                                                              |
| rolcreatorole  | Boolean | <b>Explanation:</b><br>Whether the user can create other sub-users.<br><b>Value range:</b><br>true or false                                                                                                         |
| rolcreatedb    | Boolean | <b>Explanation:</b><br>Whether the user has the permissions to create databases.<br><b>Value range:</b><br>true or false                                                                                            |
| rolcanlogin    | Boolean | <b>Explanation:</b><br>Whether the user has the permissions to log in to a database.<br><b>Value range:</b><br>true or false                                                                                        |
| rolconntlimit  | Integer | <b>Explanation:</b><br>Maximum number of concurrent connections to an instance. The value <b>-1</b> indicates that there are no limitations on the number of concurrent connections.<br><b>Value range:</b><br>None |
| rolreplication | Boolean | <b>Explanation:</b><br>Whether the user is a replication role.<br><b>Value range:</b><br>true or false                                                                                                              |
| rolbypassrls   | Boolean | <b>Explanation:</b><br>Whether the user bypasses each row-level security policy.<br><b>Value range:</b><br>true or false                                                                                            |

| Parameter           | Type   | Description                                                                     |
|---------------------|--------|---------------------------------------------------------------------------------|
| rolpassworddeadline | String | <b>Explanation:</b><br>Password expiration time.<br><b>Value range:</b><br>None |

## Example Request

Querying database users

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-users
```

## Example Response

Database users queried.

```
{
 "users": [
 {
 "name": "root",
 "attribute": {
 "rolsuper": false,
 "rolinherit": true,
 "rolcreatorole": true,
 "rolcreatedb": true,
 "rolcanlogin": true,
 "rolconntlimit": -1,
 "rolreplication": false,
 "rolbypassrls": false,
 "rolpassworddeadline": ""
 },
 "memberof":
 "{gs_role_copy_files,gs_role_signal_backend,gs_role_tablespace,gs_role_replication,gs_role_account_lock}",
 "lock_status": false
 }
],
 "total_count": 1
}
```

## Status Code

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

## Error Code

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

## 4.9.8 Querying Database Schemas

### Function

This API is used to query database schemas of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

Databases cannot be queried when the DB instance is in the abnormal state.

### URI

GET https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/schemas?  
db\_name={db\_name}

**Table 4-223** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id | Yes       | String  | <b>Explanation:</b><br>Instance ID, which is the unique identifier of an instance.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                                                                                                                    |
| db_name     | Yes       | String  | <b>Explanation:</b><br>Database name.<br><b>Restrictions:</b><br>It must be different from template databases. Template databases include <b>postgres</b> , <b>template0</b> , <b>template1</b> .<br><b>Value range:</b><br>None<br><b>Default value:</b><br>None                                                                                                                                                                          |
| offset      | No        | Integer | <b>Explanation:</b><br>Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to <b>1</b> and <b>limit</b> is set to <b>10</b> , only the 11th to 20th records are displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 2 <sup>31</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.) |

| Parameter | Mandatory | Type    | Description                                                                                                                                                    |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | <b>Explanation:</b><br>Number of records displayed per page.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>10 |

## Request Parameters

None

## Response Parameters

**Table 4-224** Parameter description

| Parameter        | Type             | Description                                                                                                                                              |
|------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_schemas | Array of objects | <b>Explanation:</b><br>Database schema information. Each element in the list indicates a database schema. For details, see <a href="#">Table 4-225</a> . |
| total_count      | Integer          | <b>Explanation:</b><br>Total number of database schemas.<br><b>Value range:</b><br>[1, 2 <sup>31</sup> - 1]                                              |

**Table 4-225** database\_schemas field data structure description

| Parameter   | Type   | Description                                                        |
|-------------|--------|--------------------------------------------------------------------|
| schema_name | String | <b>Explanation:</b><br>Schema name.<br><b>Value range:</b><br>None |

| Parameter | Type   | Description                                                         |
|-----------|--------|---------------------------------------------------------------------|
| owner     | String | <b>Explanation:</b><br>Schema owner.<br><b>Value range:</b><br>None |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu//0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/schemas?db_name=dbname
```

## Example Response

```
{
 "database_schemas": [{
 "owner": "root",
 "schema_name": "rds-test"
 }, {
 "owner": "root",
 "schema_name": "testdb1"
 }],
 "total_count": 2
}
```

## Status Code

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

## Error Code

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

## 4.9.9 Deleting a Database

### Function

This API is used to delete a database from a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

This API can only be used to delete a single database. This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, or abnormal.

## URI

DELETE https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/database?  
database\_name={database\_name}

**Table 4-226** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                                    |

## Request Parameters

None

## Response Parameters

None

## Example Request

Deleting the GaussDB database **gaussdb\_test**

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/database?
database_name=gaussdb_test
```

## Example Response

```
{}
```

## Status Code

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

## Error Code

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

# 4.10 Tag Management

## 4.10.1 Querying Tags of a Specific Instance

### Function

This API is used to query user tags of a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/tags

**Table 4-227** Parameter description

| Parameter   | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                                    |

### Request Parameters

None

## Response Parameters

**Table 4-228** Parameter description

| Parameter   | Type             | Description                                                  |
|-------------|------------------|--------------------------------------------------------------|
| tags        | Array of objects | User tags.<br>For details, see <a href="#">Table 4-229</a> . |
| total_count | Integer          | Total number of records.                                     |

**Table 4-229** tags field data structure description

| Parameter | Type             | Description |
|-----------|------------------|-------------|
| key       | String           | Tag key.    |
| value     | Array of strings | Tag value.  |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/tags
```

## Example Response

```
{
 "tags": [{
 "key": "key1",
 "value": ["value1", "value2"]
 }, {
 "key": "key2",
 "value": ["value2", "value3"]
 }],
 "total_count": 2
}
```

## Status Code

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

## Error Code

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

## 4.10.2 Querying Tags of a Project

### Function

This API is used to query all user tags in a project. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET [https://{Endpoint}/v3/{project\\_id}/tags](https://{Endpoint}/v3/{project_id}/tags)

**Table 4-230** Parameter description

| Parameter  | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

### Request Parameters

None

### Response Parameters

**Table 4-231** Parameter description

| Parameter | Type             | Description                                                 |
|-----------|------------------|-------------------------------------------------------------|
| tags      | Array of objects | All tags.<br>For details, see <a href="#">Table 4-232</a> . |

**Table 4-232** tags field data structure description

| Parameter | Type             | Description                                                                                                                                                                                     |
|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String           | Tag key. It can contain up to 36 Unicode characters and cannot be blank. Only digits, uppercase letters, lowercase letters, underscores (_), and hyphens (-) are allowed.                       |
| value     | Array of strings | Tag value. It can contain up to 43 Unicode characters and can be an empty string. Only digits, uppercase letters, lowercase letters, underscores (_), periods (.), and hyphens (-) are allowed. |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/tags
```

## Example Response

```
{
 "tags": [{
 "key": "key1",
 "value": ["value1", "value2"]
 }, {
 "key": "key2",
 "value": ["value2", "value3"]
 }]
}
```

## Status Code

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

## Error Code

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

## 4.10.3 Querying Predefined Tags

### Function

This API is used to query predefined tags. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

```
GET https://{Endpoint}/v3/{project_id}/predefined-tags
```

Table 4-233 Request Parameters

| Parameter  | Type   | IN   | Man<br>dator<br>y | Description                                                                                                                                                                                                                                                                                                                        |
|------------|--------|------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | string | path | Yes               | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters.<br>Only letters and digits are allowed.<br><b>Default value:</b><br>None |

Request Parameters

None

Response Parameters

Table 4-234 Parameter description

| Parameter | Type            | Description                                                                        |
|-----------|-----------------|------------------------------------------------------------------------------------|
| tags      | Array of arrays | <b>Explanation:</b><br>All tags.<br>For details, see <a href="#">Table 4-235</a> . |

Table 4-235 tags field data structure description

| Parameter | Type   | Description                                                      |
|-----------|--------|------------------------------------------------------------------|
| key       | String | <b>Explanation:</b><br>Tag key.<br><b>Value range:</b><br>None   |
| values    | Array  | <b>Explanation:</b><br>Tag value.<br><b>Value range:</b><br>None |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0549b4a43100d4f32f51c01c2fe4acdb/
predefined-tags
```

## Example Response

```
{
 "tags" : [{
 "key" : "RDS_DDS_EPS",
 "values" : ["RDS_DDS_TMS"]
 }]
}
```

## Status Code

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

## Error Code

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

## 4.10.4 Adding Tags for a DB Instance

### Function

This API is used to add user tags to a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

POST [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/tags](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/tags)

**Table 4-236** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                          |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>To obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID.                                                                                                                                                                                                                                                                                         |

## Request Parameters

**Table 4-237** Parameter description

| Parameter | Mandatory | Type             | Description                                                              |
|-----------|-----------|------------------|--------------------------------------------------------------------------|
| tags      | Yes       | Array of objects | User tags to be added.<br>For details, see <a href="#">Table 4-238</a> . |

**Table 4-238** tags parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Tag key.<br>A tag key can contain up to 128 characters. It cannot start with <b>_sys_</b> or a space, and cannot end with a space. Only letters, digits, spaces, and the following special characters are allowed: <code>_:=+~@</code> |

| Parameter | Mandatory | Type   | Description                                                                                                                                         |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| value     | Yes       | String | Tag value.<br>A tag value can contain up to 255 characters. Only letters, digits, spaces, and the following special characters are allowed: _./=+-@ |

## Response Parameters

**Table 4-239** Parameter description

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

## Example Request

Creating a user tag whose key is 1 and value is 2

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/tags
{
 "tags": [{
 "key": "1",
 "value": "2"
 }]
}
```

## Example Response

```
{
 "instance_id": "dsfae23fsfdsae3435in01",
 "instance_name": "Gauss-a87h"
}
```

## Status Code

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

## Error Codes

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

## 4.10.5 Deleting Tags of a DB Instance

### Function

This API is used to delete tags of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

DELETE https://{Endpoint}/v3/{project\_id}/instances/{instance\_id}/tag?key={key}

**Table 4-240** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID, which is compliant with the UUID format.                                                                                                                                                                                                                                                                           |

**Table 4-241** Query parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key.    |

### Request Parameters

None

## Response Parameters

**Table 4-242** Response body parameters

| Parameter     | Type   | Description         |
|---------------|--------|---------------------|
| result        | String | Processing results. |
| instance_id   | String | Instance ID.        |
| instance_name | String | Instance name.      |

## Example Request

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/V3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/tag?key=demo
```

## Example Response

```
{
 "result" : "succeed",
 "instance_id" : "8475b0ed1ca149f2887952a27fda1739in14",
 "instance_name" : "gaussdb-01"
}
```

## Status Code

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

## Error Code

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

# 4.11 Quota Management

## 4.11.1 Modifying Enterprise Project Quotas

### Function

This API is used to modify enterprise project quotas. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

PUT https://{Endpoint}/v3/{project\_id}/enterprise-projects/quotas

**Table 4-243** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

## Request Parameters

**Table 4-244** Parameter description

| Parameter  | Mandatory | Type             | Description                                                                         |
|------------|-----------|------------------|-------------------------------------------------------------------------------------|
| eps_quotas | Yes       | Array of objects | Enterprise quotas to be modified.<br>For details, see <a href="#">Table 4-245</a> . |

**Table 4-245** EpsQuotasOption parameter description

| Parameter              | Mandatory | Type    | Description                                                                      |
|------------------------|-----------|---------|----------------------------------------------------------------------------------|
| enterprise_projects_id | Yes       | String  | Enterprise project ID.                                                           |
| instance_quota         | No        | Integer | Instance quota. Value: <i>Number of created instances</i> - <b>100,000</b>       |
| vcpus_quota            | No        | Integer | CPU quota. Value: <b>Actually vCPUs</b> - <b>2,147,483,646</b> .                 |
| ram_quota              | No        | Integer | Memory quota, in GB. Value: <i>Actually used memory</i> - <b>2,147,483,646</b> . |

| Parameter    | Mandatory | Type    | Description                                                             |
|--------------|-----------|---------|-------------------------------------------------------------------------|
| volume_quota | No        | Integer | Storage quota, GB. Value: <i>Actually used storage - 2,147,483,646.</i> |

## Response Parameters

None

## Example Request

Configuring quotas for an enterprise project (1,000 instances, 100,000 vCPUs, 200,000 GB of memory, and 1,000,000 GB of storage)

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/enterprise-projects/quotas
{
 "eps_quotas": [
 {
 "enterprise_projects_id": "0",
 "instance_quota": 1000,
 "vcpus_quota": 100000,
 "ram_quota": 200000,
 "volume_quota": 1000000
 }
]
}
```

## Example Response

None

## Status Code

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

## Error Code

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

## 4.11.2 Querying Enterprise Project Quotas

### Function

This API is used to query enterprise project quotas. Before calling this API:

- Learn how to [authenticate](#) this API.

## URI

GET https://{Endpoint}/v3/{project\_id}/enterprise-projects/quotas

**Table 4-246** Parameter description

| Parameter             | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id            | Yes       | String  | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                        |
| enterprise_project_id | No        | String  | Enterprise project ID.<br>- Do not transfer this parameter if enterprise multi-project service is not enabled.<br>- If enterprise multi-project service is enabled but this parameter is not transferred, the default enterprise project is used.                                                                                                                                      |
| offset                | No        | Integer | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to <b>0</b> and <b>limit</b> is set to <b>10</b> , only the 1st to 10th records are displayed. |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                  |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | Number of records to be queried. The default value is <b>100</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b> . For example, if this parameter is set to <b>10</b> , a maximum of 10 records can be displayed. |

## Request Parameters

None

## Response Parameters

**Table 4-247** Parameter description

| Parameter   | Type             | Description                                                                |
|-------------|------------------|----------------------------------------------------------------------------|
| eps_quotas  | Array of objects | Enterprise project details. For details, see <a href="#">Table 4-248</a> . |
| total_count | Integer          | Total number of records.                                                   |

**Table 4-248** eps\_quotas field data structure description

| Parameter               | Type    | Description                                                                           |
|-------------------------|---------|---------------------------------------------------------------------------------------|
| enterprise_project_id   | String  | Enterprise project ID.                                                                |
| enterprise_project_name | String  | Enterprise project name.                                                              |
| instance_eps_quota      | Integer | EPS instance quota. The value <b>-1</b> indicates that the quota is not limited.      |
| vcpus_eps_quota         | Integer | EPS compute quota. The value <b>-1</b> indicates that the quota is not limited.       |
| volume_eps_quota        | Integer | EPS storage quota in GB. The value <b>-1</b> indicates that the quota is not limited. |
| instance_used           | Integer | Used EPS instance quota.                                                              |
| vcpus_used              | Integer | Used EPS compute quota.                                                               |

| Parameter   | Type    | Description                    |
|-------------|---------|--------------------------------|
| volume_used | Integer | Used EPS storage quota, in GB. |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/enterprise-projects/quotas
```

## Example Response

```
{
 "eps_quotas": [{
 "enterprise_project_id": "2c049d98-3347-494f-8767-99af6b3aa5f0",
 "enterprise_project_name": "default",
 "instance_eps_quota": 100,
 "vcpus_eps_quota": 1500,
 "ram_eps_quota": 20000,
 "volume_eps_quota": 100000,
 "instance_used": 33,
 "vcpus_used": 1460,
 "ram_used": 19680,
 "volume_used": 8840
 }, {
 "enterprise_project_id": "2c049d98-3347-494f-8767-99af6b3aa5f0",
 "enterprise_project_name": "11111",
 "instance_eps_quota": -1,
 "vcpus_eps_quota": -1,
 "ram_eps_quota": -1,
 "volume_eps_quota": -1,
 "instance_used": 2,
 "vcpus_used": 54,
 "ram_used": 384,
 "volume_used": 680
 }, {
 "enterprise_project_id": "bd91e1eb-2e33-4f17-a8d4-05eb2c805781",
 "enterprise_project_name": "quota_at_gaussdbv5_test",
 "instance_eps_quota": -1,
 "vcpus_eps_quota": -1,
 "ram_eps_quota": -1,
 "volume_eps_quota": -1,
 "instance_used": 1,
 "vcpus_used": 240,
 "ram_used": 1920,
 "volume_used": 480
 }],
 "total_count": 3
}
```

## Status Code

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

## Error Code

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

## 4.12 Task Management

### 4.12.1 Obtaining Task Information

#### Function

This API is used to obtain information about a task with a specified ID. Before calling this API:

- Learn how to [authenticate](#) this API.

#### URI

GET `https://{Endpoint}/v3/{project_id}/jobs?id={id}`

**Table 4-249** Request Parameters

| Parameter  | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                          |
|------------|--------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | String | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>To obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| id         | String | Yes       | <b>Explanation:</b><br>Task ID. This parameter value indicates the asynchronous task ID returned by APIs (except APIs for applying a parameter template and creating a manual backup).<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>UUID format<br><b>Default value:</b><br>None        |

## Request Parameters

None

## Response Parameters

**Table 4-250** Parameter description

| Parameter | Type   | Description                                                                             |
|-----------|--------|-----------------------------------------------------------------------------------------|
| job       | Object | <b>Explanation:</b><br>Task information. For details, see <a href="#">Table 4-251</a> . |

**Table 4-251** job field data structure description

| Parameter | Type   | Description                                                                                                                                                                                                                                                                              |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Task ID.<br><b>Value range:</b><br>UUID format                                                                                                                                                                                                                    |
| name      | String | <b>Explanation:</b><br>Task name.<br><b>Value range:</b><br>None                                                                                                                                                                                                                         |
| status    | String | <b>Explanation:</b><br>Task execution status<br><b>Value range:</b> <ul style="list-style-type: none"><li>• <b>Running:</b> The task is being executed.</li><li>• <b>Completed:</b> The task is successfully executed.</li><li>• <b>Failed:</b> The task fails to be executed.</li></ul> |
| created   | String | <b>Explanation:</b><br>Creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset.<br>Example: 2021-07-12T09:22:04+0800.<br><b>Value range:</b><br>None                      |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                    |
|-------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ended       | String | <b>Explanation:</b><br>End time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset.<br>Example: 2021-07-12T09:22:04+0800.<br><b>Value range:</b><br>None |
| progress    | String | <b>Explanation:</b><br>Task execution progress.<br>The execution progress (such as "60%", indicating the task execution progress is 60%) is displayed only when the task is being executed. Otherwise, "" is returned.<br><b>Value range:</b><br>None          |
| instance    | Object | <b>Explanation:</b><br>Instance on which the task is executed.<br>For details, see <a href="#">Table 4-252</a> .                                                                                                                                               |
| fail_reason | String | <b>Explanation:</b><br>Task failure information.<br><b>Value range:</b><br>None                                                                                                                                                                                |

**Table 4-252** instance field data structure description

| Parameter | Type   | Description                                                                                                                                                                            |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Instance ID, which is the unique identifier of an instance.<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed. |

| Parameter | Type   | Description                                                                                                                                                                                                   |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | String | <b>Explanation:</b><br>DB instance name.<br><b>Value range:</b><br>The value must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. |

## Example Request

Obtaining information about a task with a specified ID

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0549b4a43100d4f32f51c01c2fe4acdb/jobs?id=5cbb8a90-2253-4cff-8a13-49aa8f31dfb5
```

## Example Response

Information queried.

```
{
 "job": {
 "id": "5cbb8a90-2253-4cff-8a13-49aa8f31dfb5",
 "name": "CreateGaussDBV5Instance",
 "status": "Completed",
 "created": "2021-07-12T09:22:04+0800",
 "ended": "2021-07-12T10:10:13+0800",
 "progress": "",
 "instance": {
 "id": "b34f8c791f2643578510c093aa2351a8in14",
 "name": "gauss-c1a3"
 },
 "fail_reason": null
 }
}
```

## Status Code

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

## Error Codes

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

## 4.12.2 Querying Tasks

### Function

This API is used to query the tasks in the task center. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

The tasks of the last month can be queried at most.

### URI

GET [https://{Endpoint}/v3/{project\\_id}/tasks](https://{Endpoint}/v3/{project_id}/tasks)

**Table 4-253** Parameter description

| Parameter  | Mandator<br>y | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|------------|---------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes           | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| status     | No            | String | Task status. Value: <ul style="list-style-type: none"><li>• <b>Running</b></li><li>• <b>Completed</b></li><li>• <b>Failed</b></li></ul>                                                                                                                                                                                         |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name       | No        | String  | Task name. <ul style="list-style-type: none"><li>• <b>CreateGaussDBV5Instance:</b> Creating a DB instance</li><li>• <b>BackupSnapshotGaussDBV5Instance:</b> Creating a manual backup</li><li>• <b>CloneGaussDBV5NewInstance:</b> Restoring data to a new DB instance</li><li>• <b>RestoreGaussDBV5Instance:</b> Restoring data to the original DB instance</li><li>• <b>RestoreGaussDBV5InstanceToExistedInst:</b> Restoring data to an existing DB instance</li><li>• <b>DeleteGaussDBV5Instance:</b> Deleting a DB instance</li><li>• <b>EnlargeGaussDBV5Volume:</b> Scaling up storage</li><li>• <b>ResizeGaussDBV5Flavor:</b> Changing specifications</li><li>• <b>GaussDBV5ExpandClusterCN:</b> Adding coordinator nodes</li><li>• <b>GaussDBV5ExpandClusterDN:</b> Adding shards</li></ul> |
| start_time | No        | String  | Start time. The value is a UNIX timestamp, in milliseconds. The time zone is UTC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| end_time   | No        | String  | End time. The value is a UNIX timestamp, in milliseconds. The time zone is UTC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| offset     | No        | Integer | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| limit      | No        | Integer | Number of records to be queried. The default value is <b>100</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Request Parameters

None

## Response Parameters

**Table 4-254** Parameter description

| Parameter   | Type             | Description                                                  |
|-------------|------------------|--------------------------------------------------------------|
| tasks       | Array of objects | Task list.<br>For details, see <a href="#">Table 4-255</a> . |
| total_count | Integer          | Number of tasks.                                             |

**Table 4-255** tasks field data structure description

| Parameter     | Type   | Description                                                                                                                                                                                                                                 |
|---------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_info | Object | Information about the instance associated with the task.<br>For details, see <a href="#">Table 4-256</a> .                                                                                                                                  |
| job_id        | String | Task ID.                                                                                                                                                                                                                                    |
| name          | String | Task name.                                                                                                                                                                                                                                  |
| status        | String | Task status.                                                                                                                                                                                                                                |
| process       | String | Task progress, in percentage (%)                                                                                                                                                                                                            |
| created_at    | String | Creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> . |
| ended_at      | String | End time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> .      |
| fail_reason   | String | Failure cause.                                                                                                                                                                                                                              |

**Table 4-256** instance\_info field data structure description

| Parameter       | Type   | Description       |
|-----------------|--------|-------------------|
| instance_id     | String | Instance ID.      |
| instance_name   | String | DB instance name. |
| instance_status | String | Instance status.  |

## Example Request

- Querying running tasks

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?status=Running&name=CreateGaussDBV5Instance&offset=1&limit=10
```

- Querying completed tasks

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?status=Completed&name=CreateGaussDBV5Instance&offset=1&limit=10
```

- Querying failed tasks

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?status=Failed&name=CreateGaussDBV5Instance&offset=1&limit=10
```

## Example Response

Tasks queried.

```
{
 "tasks": [{
 "instance_info": {
 "instance_id": "ce2dce50f365430abe161bab79495a6ein14",
 "instance_name": "gauss-6568-zzh",
 "instance_status": "creating"
 },
 "job_id": "03bc055a-135c-4245-8bd8-b0bc6d3350b3",
 "name": "CreateGaussDBV5Instance",
 "status": "Failed",
 "process": "",
 "created_at": "2022-08-05T08:15:07+0800",
 "ended_at": "2022-08-09T03:06:52+0800",
 "fail_reason": "500000"
 }, {
 "instance_info": {
 "instance_id": "20ba433bd7ee40da9cf35064f04f9e4cin14",
 "instance_name": "gauss-7875-lt-m",
 "instance_status": "deleted"
 },
 "job_id": "2cc16e0b-75ab-4a28-9453-16517e990bba",
 "name": "DeleteGaussDBV5Instance",
 "status": "Completed",
 "process": "",
 "created_at": "2022-08-06T09:15:07+0800",
 "ended_at": "2022-08-10T03:06:52+0800",
 "fail_reason": null
 }],
 "total_count": 2
}
```

## Status Code

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

## Error Code

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

## 4.12.3 Deleting a Task Record

### Function

This API is used to delete a task record. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

DELETE https://{*Endpoint*}/v3/{project\_id}/jobs/{job\_id}

**Table 4-257** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| job_id     | Yes       | String | Task ID.                                                                                                                                                                                                                                                                                                                        |

### Request Parameters

None

## Response Parameters

None

## Example Request

Deleting a task record

```
DELETE https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/jobs/6b00c41d-d54f-4bcb-80da-566ccedc2b5d
```

## Example Response

Task record deleted.

```
{}
```

## Status Code

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

## Error Code

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

# 4.13 Recycle Bin

## 4.13.1 Modifying the Recycling Policy

### Function

This API is used to modify the recycling policy. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

PUT https://{*Endpoint*}/v3/{project\_id}/recycle-policy

**Table 4-258** Parameter description

| Parameter  | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

## Request Parameters

**Table 4-259** Parameter description

| Parameter      | Mandatory | Type   | Description                                                      |
|----------------|-----------|--------|------------------------------------------------------------------|
| recycle_policy | Yes       | Object | Recycling policy. For details, see <a href="#">Table 4-260</a> . |

**Table 4-260** recycle\_policy field data structure description

| Parameter                | Mandatory | Type    | Description                                                |
|--------------------------|-----------|---------|------------------------------------------------------------|
| retention_period_in_days | Yes       | Integer | Deleted instance retention period.<br>Value range: 1 to 7. |

## Response Parameters

**Table 4-261** Parameter description

| Parameter | Type   | Description                                                                        |
|-----------|--------|------------------------------------------------------------------------------------|
| result    | String | Modification result. <b>SUCCESS</b> indicates that the modification is successful. |

## Example Request

Setting the retention period of deleted instances to 5 days

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/
recycle-policy
{
 "recycle_policy": {
 "retention_period_in_days": 5
 }
}
```

## Response

```
{
 "result": "SUCCESS"
}
```

## Status Code

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

## Error Code

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

## 4.13.2 Querying the Recycling Policy

### Function

This API is used to query the recycling policy. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET https://{Endpoint}/v3/{project\_id}/recycle-policy

**Table 4-262** Parameter description

| Parameter  | Mandatory | Description                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

## Request Parameters

None

## Response Parameters

**Table 4-263** Parameter description

| Parameter                | Type   | Description                                                                                |
|--------------------------|--------|--------------------------------------------------------------------------------------------|
| retention_period_in_days | String | <b>Explanation:</b><br>Deleted instance retention period.<br><b>Value range:</b><br>1 to 7 |

## Example Request

Querying the recycling policy

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/recycle-policy
```

## Example Response

Recycling policy queried.

```
{
 "retention_period_in_days": "5"
}
```

## Status Code

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

## Error Code

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

## 4.13.3 Querying All DB Engine Instances in the Recycle Bin

### Function

This API is used to query all DB engine instances in the recycle bin. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET [https://{Endpoint}/v3.1/{project\\_id}/recycle-instances](https://{Endpoint}/v3.1/{project_id}/recycle-instances)

**Table 4-264** Parameter description

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_name | No        | String | DB instance name.                                                                                                                                                                                                                                                                                                          |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to <b>0</b> and <b>limit</b> is set to <b>10</b> , only the 1st to 10th records are displayed. |
| limit     | No        | Integer | Number of records to be queried. The default value is <b>50</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>50</b> . For example, if this parameter is set to <b>10</b> , a maximum of 10 records can be displayed.                                                                                                             |

## Request Parameters

None

## Response Parameters

**Table 4-265** Parameter description

| Parameter   | Type             | Description                                                                                        |
|-------------|------------------|----------------------------------------------------------------------------------------------------|
| total_count | Integer          | Total number of records.                                                                           |
| instances   | Array of objects | Information about all instances in the recycle bin. For details, see <a href="#">Table 4-266</a> . |

**Table 4-266** instances field data structure description

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| id        | String | Instance ID.      |
| name      | String | DB instance name. |

| Parameter             | Type   | Description                                                                                                                                                                                                                                       |
|-----------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_mode               | String | Deployment model.<br>Value: <ul style="list-style-type: none"><li>● <b>Ha</b>: centralized deployment</li><li>● <b>Independent</b>: independent deployment</li></ul>                                                                              |
| engine_version        | String | Engine version.                                                                                                                                                                                                                                   |
| pay_model             | String | Billing mode.<br><b>0</b> : pay-per-use<br><b>1</b> : yearly/monthly                                                                                                                                                                              |
| created_at            | String | Creation time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as <b>+0800</b> . |
| deleted_at            | String | Deletion time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as <b>+0800</b> . |
| volume_type           | String | Disk type.<br>Value: <ul style="list-style-type: none"><li>● <b>high</b>: high I/O</li><li>● <b>ultrahigh</b>: ultra-high I/O</li><li>● <b>essd</b>: extreme SSD</li></ul>                                                                        |
| data_vip              | String | Private IP address.                                                                                                                                                                                                                               |
| enterprise_project_id | String | Enterprise project ID. The value <b>0</b> indicates the default enterprise project.                                                                                                                                                               |
| recycle_backup_id     | String | Backup ID. (Backup ID in the backup information generated when the instance is deleted.)                                                                                                                                                          |
| recycle_status        | String | Backup status in the recycle bin.<br>Value: <ul style="list-style-type: none"><li>● <b>Running</b></li><li>● <b>Active</b></li></ul>                                                                                                              |

| Parameter | Type   | Description                                                                                                                                                                                       |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode      | String | Product type.<br>Value: <ul style="list-style-type: none"><li>● <b>basic</b>: basic edition</li><li>● <b>standard</b>: standard edition</li><li>● <b>enterprise</b>: enterprise edition</li></ul> |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/619d3e78f61b4be68bc5aa0b59edcf7b/recycle-instances
```

## Example Response

```
{
 "total_count" : 2,
 "instances" : [{
 "id" : "21f20e55999947a9938ad0453b757e72in14",
 "name" : "gaussdbv5_CCv20_bms_default_1_20220827012852",
 "ha_mode" : "Ha",
 "engine_version" : "V2.0-2.3.0",
 "pay_model" : 0,
 "created_at" : "2022-08-09T09:26:44.000+08:00",
 "deleted_at" : "2022-08-09T09:26:44.000+08:00",
 "volume_type" : "localssd",
 "data_vip" : "25.213.0.41 / 25.213.0.188 / 25.213.0.101 / 25.213.0.82",
 "enterprise_project_id" : 0,
 "recycle_backup_id" : "00b755ed678e41d18c74b28e2ad41bdcbr14",
 "recycle_status" : "Active",
 "mode" : "enterprise"
 }, {
 "id" : "a9df5b52b32e4571b1b6425a78a32956in14",
 "name" : "ecs-lxy-backup-3",
 "ha_mode" : "Ha",
 "engine_version" : "V2.0-2.3.0",
 "pay_model" : 0,
 "created_at" : "2022-08-09T09:26:44.000+08:00",
 "deleted_at" : "2022-08-09T09:26:44.000+08:00",
 "volume_type" : "ultrahigh",
 "data_vip" : "173.202.10.246 / 173.202.10.205 / 173.202.10.175",
 "enterprise_project_id" : 0,
 "recycle_backup_id" : "ef393704ef0045d1b6226b6f2cdc48a7br14",
 "recycle_status" : "Active",
 "mode" : "enterprise"
 }]
}
```

## Status Code

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

## Error Code

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

# 5 Historical APIs

## 5.1 DB Instance Management

### 5.1.1 Creating a DB Instance

#### Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

#### URI

POST [https://{Endpoint}/v3.1/{project\\_id}/instances](https://{Endpoint}/v3.1/{project_id}/instances)

**Table 5-1** Parameter description

| Name       | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

## Request Parameters

**Table 5-2** Request parameters

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name                  | Yes       | String | Instance name.<br>Instances of the same type can have same names under the same tenant.<br>The name must consist of 4 to 64 characters and start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed.                                                                                                              |
| datastore             | Yes       | Object | Database information.<br>For details, see <a href="#">Table 5-3</a> .                                                                                                                                                                                                                                                                                             |
| ha                    | Yes       | Object | Instance deployment model. For details, see <a href="#">Table 5-4</a> .                                                                                                                                                                                                                                                                                           |
| configuration_id      | No        | String | Parameter template ID. If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.                                                                                                                                                                                                        |
| port                  | No        | String | Port number used by the database to provide services for external systems. If you do not configure this parameter, the default value <b>8000</b> is used. Value range: <b>1024 to 39998</b> . The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124. |
| password              | Yes       | String | Database password.<br>The password must:<br>Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*_-=+?,.).<br>Enter a strong password to improve security, preventing security risks such as brute force cracking.                                              |
| backup_strategy       | No        | Object | Backup policy.<br>For details, see <a href="#">Table 5-5</a> .                                                                                                                                                                                                                                                                                                    |
| enterprise_project_id | No        | String | Enterprise project ID. This parameter is suitable only for enterprise tenants.                                                                                                                                                                                                                                                                                    |

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| flavor_ref        | Yes       | String | Specification code. The value cannot be left blank. To obtain its value, see the <b>spec_code</b> field in <a href="#">Querying Instance Specifications</a> .                                                                                                                                                                                                                                                                                                         |
| volume            | Yes       | Object | Volume information.<br>For details, see <a href="#">Table 5-6</a> .                                                                                                                                                                                                                                                                                                                                                                                                   |
| region            | Yes       | String | Region ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| availability_zone | Yes       | String | AZ ID.<br>The value cannot be left blank. You can deploy a GaussDB instance in the same AZ or different AZs, and use commas (,) to separate AZs.                                                                                                                                                                                                                                                                                                                      |
| vpc_id            | Yes       | String | VPC ID. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and view the VPC ID in the VPC details page.</li><li>• Method 2: Query the VPC ID through the VPC API. For details, see <a href="#">Querying VPCs</a>.</li></ul>                                                                                                                                             |
| subnet_id         | Yes       | String | Network ID of the subnet. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>• Method 2: Query the subnet ID through the VPC API. For details, see <a href="#">Querying Subnets</a>.</li></ul>                                                       |
| security_group_id | Yes       | String | Security group which the instance is associated with. <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console. Choose <b>Access Control &gt; Security Groups</b> in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page.</li><li>• Method 2: Query the security group through the VPC API. For details, see <a href="#">Querying Security Groups</a>.</li></ul> |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                     |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_info | No        | Object | Billing mode.<br>For details, see <a href="#">Table 5-7</a> .                                                                                                                                   |
| os_type     | No        | String | OS type. The default value is <b>Euler</b> , which is case sensitive.<br>Values: <ul style="list-style-type: none"><li>• <b>Euler</b></li><li>• <b>Hce</b>: Huawei Cloud EulerOS 2.0.</li></ul> |

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

| Parameter | Mandatory | Type   | Description                                                                                   |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------|
| type      | Yes       | String | DB engine. Value:<br><b>GaussDB</b> . It is case-insensitive.                                 |
| version   | No        | String | DB engine version. If this parameter is not specified, the latest version is used by default. |

**Table 5-4** ha field data structure description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                 |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode        | Yes       | String | Deployment model. The value is case-insensitive and can be <b>enterprise</b> (enterprise edition) for distributed instances and <b>centralization_standard</b> for centralized instances.                   |
| consistency | Yes       | String | Transaction consistency type. The value is case-insensitive and can be: <ul style="list-style-type: none"><li>• <b>strong</b>: strong consistency</li><li>• <b>eventual</b>: eventual consistency</li></ul> |

| Parameter        | Mandatory | Type   | Description                                                                                                                                 |
|------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------|
| replication_mode | Yes       | String | Replication mode for the standby node. The value can only be set to <b>sync</b> , indicating that data is synchronized in synchronous mode. |

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

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | Yes       | String  | Backup time window. The creation of an automated backup will be triggered during the backup time window.<br><br>The value cannot be left blank or negative. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> Example value: <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> |
| keep_days  | No        | Integer | Retention days for specific backup files. Value: <b>1</b> to <b>36500</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| type      | Yes       | String | Disk type.  |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | Yes       | Integer | Storage. For example, if this parameter is set to <b>40</b> , 40 GB of storage is allocated to the created instance.<br><br>ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 24 TB) and must be a multiple of (Number of shards x 4 GB). |

**Table 5-7** chargeInfo field data structure description

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---------------|
| charge_mode | Yes       | String | Billing mode. |

## Response Parameters

**Table 5-8** Response parameters

| Parameter | Type   | Description                                                           |
|-----------|--------|-----------------------------------------------------------------------|
| instance  | Object | Instance information.<br>For details, see <a href="#">Table 5-9</a> . |
| job_id    | String | Instance creation task ID.                                            |

**Table 5-9** instance description

| Parameter | Type   | Description                                                                                                                                                                                                                                              |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | Instance ID.                                                                                                                                                                                                                                             |
| name      | String | Instance name. Instances of the same type can have same names under the same tenant.<br><br>The value must consist of 4 to 64 characters and start with a letter. Only letters (case-insensitive), digits, hyphens (-), and underscores (_) are allowed. |

| Parameter         | Type    | Description                                                                              |
|-------------------|---------|------------------------------------------------------------------------------------------|
| status            | String  | Instance status. For example, <b>BUILD</b> indicates that the instance is being created. |
| datastore         | Object  | Database information.<br>For details, see <a href="#">Table 5-10</a> .                   |
| ha                | Object  | Database deployment model.<br>For details, see <a href="#">Table 5-11</a> .              |
| replica_num       | Integer | Number of replicas.                                                                      |
| port              | String  | Database port, which is the same as the request parameter.                               |
| backup_strategy   | Object  | Automated backup policy.<br>For details, see <a href="#">Table 5-12</a> .                |
| flavor_ref        | String  | Specification code. The value cannot be left blank.                                      |
| volume            | Object  | Volume information.<br>For details, see <a href="#">Table 5-13</a> .                     |
| region            | String  | Region ID.                                                                               |
| availability_zone | String  | AZ ID.                                                                                   |
| vpc_id            | String  | VPC ID.                                                                                  |
| subnet_id         | String  | Network ID of the subnet.                                                                |
| security_group_id | String  | Security group which the instance is associated with.                                    |
| charge_info       | Object  | Payment mode.<br>For details, see <a href="#">Table 5-14</a> .                           |

**Table 5-10** datastore field data structure description

| Parameter | Type   | Description                  |
|-----------|--------|------------------------------|
| type      | String | DB engine. Value:<br>GaussDB |
| version   | String | DB engine version.           |

**Table 5-11** ha field data structure description

| Parameter            | Type   | Description                                                                                                                                                                                                       |
|----------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode                 | String | Deployment model. The value is case-insensitive and can be <b>enterprise</b> (enterprise edition).                                                                                                                |
| replication_mode     | String | Replication mode for the standby node. The value can only be set to <b>sync</b> , indicating that data is synchronized in synchronous mode.                                                                       |
| consistency          | String | Transaction consistency type. This parameter is reserved for GaussDB. Values: <ul style="list-style-type: none"><li>• <b>strong</b>: strong consistency</li><li>• <b>eventual</b>: eventual consistency</li></ul> |
| consistency_protocol | String | Replica consistency protocol. The value can be <b>quorum</b> (default value) or <b>paxos</b> . If it is not specified, the default value is used.                                                                 |

**Table 5-12** backup\_strategy field data structure description

| Parameter  | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | <p>Backup time window. The creation of an automated backup will be triggered during the backup time window.</p> <p>The value cannot be left blank. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format.</p> <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> <p>Example value:</p> <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> <p>If <b>backup_strategy</b> in the request body is left blank, <b>02:00-03:00</b> is returned for <b>start_time</b> by default.</p> |
| keep_days  | Integer | <p>Retention days for specific backup files.</p> <p>Value range: 1–732. If the <b>backup_strategy</b> field is not specified in the request body, <b>keep_days</b> in the response body is set to .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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

| Parameter | Type    | Description                                                                                                                               |
|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------|
| type      | String  | Disk type.<br>Its value is case-sensitive and can be: <ul style="list-style-type: none"><li>• <b>ULTRAHIGH</b>, indicating SSD.</li></ul> |
| size      | Integer | Storage.                                                                                                                                  |

**Table 5-14** charge\_info field data structure description

| Parameter   | Type   | Description   |
|-------------|--------|---------------|
| charge_mode | String | Billing mode. |

## Example Request

- Creating a distributed instance in the independent deployment (one-year yearly/monthly billing, DB engine 2.7, three AZs, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-independent-02",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "enterprise",
 "consistency": "strong",
 "replication_mode": "sync"
 },
}
```

```
"sharding_num": 3,
"coordinator_num": 3,
"replica_num": 3,
"port": 8000
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 2.7, single AZ, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-ha-01",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "replica_num": 3,
 "port": 8000
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine 2.7, three AZs, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-ha-02",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
}
```

```
{
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "replica_num": 3,
 "port": 8000
}
```

## Example Response

- Distributed instance in the independent deployment (pay-per-use billing, DB engine 2.7, single AZ, 3 CNs, 3 shards, 3 replicas, 8 vCPUs and 64 GB) created.

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-independent-01",
 "status": "BUILD",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,ccc",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "postPaid"
 }
 },
 "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Distributed instance (one-year yearly/monthly billing, DB engine 2.7, three AZs, three CNs, three shards, three replicas, 8 vCPUs and 64 GB) created.

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-independent-02",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 }
 }
}
```

```
{
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,ccc",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1,
 "is_auto_renew": false,
 "is_auto_pay": false
 }
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 2.7, single AZ, and 8 vCPUs | 64 GB

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-ha-01",
 "status": "BUILD",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "region": "aaa",
 "replica_num": 3,
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,ccc",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 }
}
```

```
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f"
 },
 "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine 2.7, three AZs, and 8 vCPUs | 64 GB

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbabb3143in14",
 "name": "user1-v3-ha-02",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,ccc",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1,
 "is_auto_renew": false,
 "is_auto_pay": false
 }
 },
 "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

## Status Code

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

## Error Code

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

## 5.1.2 Creating a DB Instance (v3)

### Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

POST [https://{Endpoint}/v3/{project\\_id}/instances](https://{Endpoint}/v3/{project_id}/instances)

**Table 5-15** Parameter description

| Parameter  | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

### Request Parameters

**Table 5-16** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                             |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | Instance name.<br>Instances of the same type can have same names under the same tenant.<br>The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_). |

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                               |
|------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| datastore        | Yes       | Object | Database information.<br>For details, see <a href="#">Table 5-17</a> .                                                                                                                                                                                                                                                                                    |
| ha               | Yes       | Object | Instance deployment model. For details, see <a href="#">Table 5-18</a> .                                                                                                                                                                                                                                                                                  |
| configuration_id | No        | String | Parameter template ID. If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.                                                                                                                                                                                                |
| port             | No        | String | Port number used by the database to provide services for external systems, ranging from 1024 to 39998. If you do not configure this parameter, the default value <b>8000</b> is used. The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124. |
| password         | Yes       | String | Database password.<br>The GaussDB database password must:<br>Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#\$%^&*()-_+= []{};,:<.>/?<br>Enter a strong password to improve security, preventing security risks such as brute force cracking.         |
| backup_strategy  | No        | Object | Backup policy.<br>For details, see <a href="#">Table 5-19</a> .                                                                                                                                                                                                                                                                                           |
| flavor_ref       | Yes       | String | Specification code. The value cannot be empty. For details on how to obtain the GaussDB specification code, see <a href="#">DB Instance Specifications</a> .                                                                                                                                                                                              |
| volume           | Yes       | Object | Volume information.<br>For details, see <a href="#">Table 5-20</a> .                                                                                                                                                                                                                                                                                      |
| region           | Yes       | String | Region ID.                                                                                                                                                                                                                                                                                                                                                |

| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| availability_zone | Yes       | String  | AZ ID.<br>The value cannot be empty. You can deploy GaussDB in the same AZ or across three different AZs, and use commas (,) to separate AZs. For example: <ul style="list-style-type: none"><li>To deploy a DB instance in the same AZ, enter three same AZ IDs.</li><li>To deploy a DB instance across three different AZs, enter three different AZ IDs.</li></ul>                                                                                                                                       |
| vpc_id            | Yes       | String  | VPC ID. To obtain this parameter value, use the following methods: <ul style="list-style-type: none"><li>Method 1: Log in to the VPC console and view the VPC ID in the VPC details.</li><li>Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>.</li></ul>                                                                                                                                                                                                                         |
| subnet_id         | Yes       | String  | Network ID of the subnet. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"><li>Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>.</li></ul>                                                                                                                       |
| security_group_id | Yes       | String  | Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"><li>Method 1: Log in to the VPC console. Choose <b>Access Control &gt; Security Groups</b> in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page.</li><li>Method 2: See "Querying Security Groups" in <i>Virtual Private Cloud API Reference</i>.</li></ul> |
| charge_info       | No        | Object  | Billing mode.<br>For details, see <a href="#">Table 5-21</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| sharding_num      | No        | Integer | This parameter is available only for distributed instances. Number of shards.                                                                                                                                                                                                                                                                                                                                                                                                                               |

| Parameter       | Mandatory | Type    | Description                                                                                                                            |
|-----------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------|
| coordinator_num | No        | Integer | This parameter is available only for distributed instances. Number of CNs. The number of CNs cannot exceed twice the number of shards. |

**Table 5-17** datastore field data structure description

| Parameter | Mandatory | Type   | Description                                                                                   |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------|
| type      | Yes       | String | DB engine. Value: <b>GaussDB</b> . It is case-insensitive.                                    |
| version   | No        | String | DB engine version. If this parameter is not specified, the latest version is used by default. |

**Table 5-18** ha field data structure description

| Parameter        | Mandatory | Type   | Description                                                                                                                                                          |
|------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode             | Yes       | String | Deployment model. Its value is <b>enterprise</b> for distributed instances and <b>centralization_standard</b> for primary/standby instances. It is case-insensitive. |
| consistency      | Yes       | String | Transaction consistency type. The value can be <b>strong</b> or <b>eventual</b> and is case-insensitive.                                                             |
| replication_mode | Yes       | String | Replication mode for the standby node. Valid value:<br><b>sync</b><br><b>NOTE</b><br><b>sync</b> indicates synchronous replication.                                  |

**Table 5-19** backup\_strategy field data structure description

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | Yes       | String  | <p>Backup time window. The creation of an automated backup will be triggered during the backup time window.</p> <p>The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format.</p> <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> <p>Example value:</p> <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> |
| keep_days  | No        | Integer | <p>Retention days for specific backup files.</p> <p>Value: <b>0</b> to <b>732</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

**Table 5-20** volume field data structure description

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                      |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | Yes       | String  | Disk type.                                                                                                                                                                                                                                                                       |
| size      | Yes       | Integer | <p>Disk size. For example, if this parameter is set to <b>40</b>, 40 GB of storage is allocated to the created instance.</p> <p>ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 16 TB) and must be a multiple of (Number of shards x 4).</p> |

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

| Parameter   | Mandatory | Type   | Description   |
|-------------|-----------|--------|---------------|
| charge_mode | Yes       | String | Billing mode. |

## Response Parameters

**Table 5-22** Response parameters

| Parameter | Type   | Description                                                            |
|-----------|--------|------------------------------------------------------------------------|
| instance  | Object | Instance information.<br>For details, see <a href="#">Table 5-23</a> . |
| job_id    | String | Instance creation task ID.                                             |

**Table 5-23** instance description

| Parameter   | Type    | Description                                                                                                                                                                                                                                               |
|-------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String  | Instance ID.                                                                                                                                                                                                                                              |
| name        | String  | Instance name. Instances of the same type can have same names under the same tenant.<br>The value must consist of 4 to 64 characters and start with a letter. It is case-insensitive and contains only letters, digits, hyphens (-), and underscores (_). |
| status      | String  | Instance status. For example, <b>BUILD</b> indicates that the instance is being created.                                                                                                                                                                  |
| datastore   | Object  | Database information.<br>For details, see <a href="#">Table 5-24</a> .                                                                                                                                                                                    |
| ha          | Object  | Database deployment model.<br>For details, see <a href="#">Table 5-25</a> .                                                                                                                                                                               |
| replica_num | Integer | Number of replicas.                                                                                                                                                                                                                                       |
| port        | String  | Database port, which is the same as the request parameter.                                                                                                                                                                                                |

| Parameter         | Type   | Description                                                                                                                                                  |
|-------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backup_strategy   | Object | Automated backup policy.<br>For details, see <a href="#">Table 5-26</a> .                                                                                    |
| flavor_ref        | String | Specification code. The value cannot be empty. For details on how to obtain the GaussDB specification code, see <a href="#">DB Instance Specifications</a> . |
| volume            | Object | Volume information.<br>For details, see <a href="#">Table 5-27</a> .                                                                                         |
| region            | String | Region ID.                                                                                                                                                   |
| availability_zone | String | AZ ID.                                                                                                                                                       |
| vpc_id            | String | VPC ID.                                                                                                                                                      |
| subnet_id         | String | Network ID of the subnet.                                                                                                                                    |
| security_group_id | String | Security group to which the instance belongs.                                                                                                                |
| charge_info       | Object | Payment mode.<br>For details, see <a href="#">Table 5-28</a> .                                                                                               |

**Table 5-24** datastore field data structure description

| Parameter | Type   | Description        |
|-----------|--------|--------------------|
| type      | String | DB engine. Value:  |
| version   | String | DB engine version. |

**Table 5-25** ha field data structure description

| Parameter        | Type   | Description                                                                                                                              |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------|
| mode             | String | The value can be <b>enterprise</b> (Enterprise Edition). It is case-insensitive.                                                         |
| replication_mode | String | Replication mode for the standby node.<br>Valid value:<br><b>sync</b> .<br><b>NOTE</b><br><b>sync</b> indicates synchronous replication. |
| consistency      | String | (GaussDB reserved parameter) Transaction consistency type. The value can be <b>strong</b> or <b>eventual</b> .                           |

**Table 5-26** backup\_strategy field data structure description

| Parameter  | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | <p>Backup time window. The creation of an automated backup will be triggered during the backup time window.</p> <p>The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format.</p> <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> <p>Example value:</p> <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> <p>If <b>backup_strategy</b> in the request body is left blank, <b>02:00-03:00</b> is returned for <b>start_time</b> by default.</p> |
| keep_days  | Integer | <p>Retention days for specific backup files. The value ranges from 1 to 732. If the <b>backup_strategy</b> field is not specified in the request body, <b>keep_days</b> in the response body is set to 7 days by default.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Table 5-27** volume field data structure description

| Parameter | Type    | Description                                                                                                                                                                                                       |
|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | String  | <p>Disk type.</p> <p>Its value is case-sensitive and can be:</p> <ul style="list-style-type: none"><li>• <b>ULTRAHIGH</b>, indicating SSD.</li></ul>                                                              |
| size      | Integer | <p>Disk size.</p> <p>When creating a distributed instance, you need to specify the size to be a multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 16 TB).</p> |

**Table 5-28** charge\_Info field data structure description

| Parameter   | Type   | Description   |
|-------------|--------|---------------|
| charge_mode | String | Billing mode. |

## Example Request

- Creating a distributed DB instance in the independent deployment (pay-per-use billing, DB engine 1.4, single AZ, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-independent-01",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "enterprise",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "sharding_num": 3,
 "coordinator_num": 3,
 "replica_num": 3,
 "port": 8000,
}
```

- Creating a distributed DB instance in the independent deployment (one-year yearly/monthly billing, DB engine 1.4, three AZs, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-independent-02",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
}
```

```
,
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
},
"charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
},
"password": "xxxxxx",
"configuration_id": "",

"time_zone": "UTC+08:00",
"ha": {
 "mode": "enterprise",
 "consistency": "strong",
 "replication_mode": "sync"
},
"sharding_num": 3,
"coordinator_num": 3,
"replica_num": 3,
"port": 8000,
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 1.4, single AZ, and 8 vCPUs | 64 GB

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-ha-01",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "postPaid",
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "replica_num": 3,
 "port": 8000,
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, yearly/monthly billing (1 year), DB engine 1.4, three AZs, and 8 vCPUs | 64 GB

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-ha-02",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "replica_num": 3,
 "port": 8000,
}
```

## Example Response

Instance of the enterprise edition created.

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbabb3143in14",
 "name": "user1-v3-independent",
 "status": "BUILD",
 "datastore": {
 "type": "",
 "version": "1.4"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong",
 "consistency_protocol": "quorum"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "backup_strategy": {
 "start_time": "17:00-18:00",

```

```
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,ccc",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "postPaid"
 }
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

## Status Code

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

## Error Code

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

## 5.1.3 Querying DB Instances

### Function

This API is used to query instances according to search criteria. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET https://{Endpoint}/v3.1/{project\_id}/instances?  
id={id}&name={name}&type={type}&datastore\_type={datastore\_type}&vpc\_id={vp  
c\_id}&subnet\_id={subnet\_id}&offset={offset}&limit={limit}

**Table 5-29** Parameter description

| Parameter  | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | String | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>To obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                                                                                                                                                                                                    |
| id         | String | No        | <b>Explanation:</b><br>Instance ID, which uniquely identifies an instance and is used to query instances in the instance list.<br><b>Restrictions:</b><br>The asterisk (*) is reserved for the system. If the instance ID starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*).<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter      | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name           | String | No        | <b>Explanation:</b><br>Instance name. You can query instances by instance name.<br><b>Restrictions:</b><br>The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*).<br><b>Value range:</b><br>The instance name must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.<br><b>Default value:</b><br>None |
| type           | String | No        | <b>Explanation:</b><br>Instance type. You can query instances by instance type.<br><b>Restrictions:</b><br>None<br><b>Values:</b> <ul style="list-style-type: none"><li>• <b>Enterprise</b> (case-sensitive): distributed instances (in the independent deployment).</li><li>• <b>Centralization_standard</b> (case-sensitive): centralized instances.</li></ul> <b>Default value:</b><br>None                                                                                                                                                                                                        |
| datastore_type | String | No        | <b>Explanation:</b><br>Database type, which is case insensitive. You can query instances by database type.<br><b>Restrictions:</b><br>None<br><b>Value:</b><br>GaussDB<br><b>Default value:</b><br>None                                                                                                                                                                                                                                                                                                                                                                                               |

| Parameter | Type    | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vpc_id    | String  | No        | <b>Explanation:</b><br>VPC ID. You can query instances by VPC where the instances are located. To obtain the value: <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and view the VPC ID in the VPC details page.</li><li>• Method 2: See the section "Querying VPCs" in the <i>Virtual Private Cloud API Reference</i>.</li></ul> <b>Restrictions:</b><br>None<br><b>Value:</b><br>UUID format<br><b>Default value:</b><br>None                                                                                                                 |
| subnet_id | String  | No        | <b>Explanation:</b><br>Network ID of the subnet. You can query DB instances by network ID of the subnet where the DB instances are located. To obtain the value: <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>• Method 2: See section "Querying Subnets" in the <i>Virtual Private Cloud API Reference</i>.</li></ul> <b>Restrictions:</b><br>None<br><b>Value range:</b><br>UUID format<br><b>Default value:</b><br>None |
| offset    | Integer | No        | <b>Explanation:</b><br>Index offset. The query starts from the next piece of data indexed by this parameter.<br><b>Restrictions:</b><br>The value must be a non-negative number.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.)                                                                                                                                                                                                                                             |

| Parameter   | Type    | Mandatory | Description                                                                                                                                                                                                                                              |
|-------------|---------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit       | Integer | No        | <b>Explanation:</b><br>Number of records to be queried.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>100                                                                                               |
| charge_mode | String  | No        | <b>Explanation:</b><br>Billing mode. You can query DB instances by billing mode.<br><b>Restrictions:</b><br>None<br><b>Values:</b> <ul style="list-style-type: none"><li>• <b>postPaid:</b> pay-per-use billing.</li></ul> <b>Default value:</b><br>None |

## Request Parameters

None

## Response Parameters

**Table 5-30** Parameter description

| Parameter   | Type             | Description                                                                                                                                                                   |
|-------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instances   | Array of objects | <b>Explanation:</b><br>Instance information.<br>For details, see <a href="#">Table 5-31</a> .                                                                                 |
| total_count | Integer          | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1]. The actual value depends on the number of instances in the instance list. |

**Table 5-31** instances field data structure description

| Parameter | Type   | Description                                                                                                                                                                                                        |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Instance ID, which is the unique identifier of an instance.<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.                             |
| name      | String | <b>Explanation:</b><br>Instance name.<br><b>Value range:</b><br>The instance name must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | String | <p><b>Explanation:</b><br/>Instance status.</p> <p><b>Values:</b></p> <ul style="list-style-type: none"><li>• If the value is <b>BUILD</b>, the instance is being created.</li><li>• If the value is <b>BUILD_FAILED</b>, the instance creation failed.</li><li>• If the value is <b>ACTIVE</b>, the instance is normal.</li><li>• If the value is <b>FAILED</b>, the instance is abnormal.</li><li>• If the value is <b>MODIFYING</b>, the storage is being scaled up or instance specifications are being changed.</li><li>• <b>REBOOTING</b>: The DB instance is being rebooted.</li><li>• If the value is <b>UPGRADING</b>, the instance is being upgraded.</li><li>• If the value is <b>RESTORING</b>, the instance is being restored.</li><li>• If the value is <b>SWITCHOVER</b>, the primary/standby switchover is being performed.</li><li>• If the value is <b>MIGRATING</b>, the instance is being migrated.</li><li>• If the value is <b>BACKING UP</b>, the instance is being backed up.</li><li>• If the value is <b>UPGRADE TO BE OBSERVED</b>, the instance upgrade is in the observation period.</li><li>• If the value is <b>STORAGE FULL</b>, the instance storage is full.</li><li>• If the value is <b>REPAIRING</b>, the instance is being repaired.</li><li>• If the value is <b>SHUTDOWN</b>, the instance is stopped.</li></ul> |

| Parameter   | Type         | Description                                                                                                                                                                                                                                |
|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| private_ips | List<String> | <b>Explanation:</b><br>Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DN of centralized instances are deployed are created.<br><b>Value range:</b><br>None |
| port        | Integer      | <b>Explanation:</b><br>Database port number.<br><b>Value range:</b><br>The GaussDB database port .                                                                                                                                         |
| type        | String       | <b>Explanation:</b><br>Instance type. The value is case-sensitive.<br><b>Values:</b>                                                                                                                                                       |
| ha          | Object       | <b>Explanation:</b><br>Instance high availability.<br>For details, see <a href="#">Table 5-32</a> .                                                                                                                                        |
| replica_num | Integer      | <b>Explanation:</b><br>Number of replicas.<br><b>Value range:</b><br>None                                                                                                                                                                  |
| region      | String       | <b>Explanation:</b><br>Region where the instance is deployed.<br><b>Value range:</b><br>None                                                                                                                                               |
| datastore   | Object       | <b>Explanation:</b><br>Database information.<br>For details, see <a href="#">Table 5-33</a> .                                                                                                                                              |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created           | String | <b>Explanation:</b><br>Creation time in the "yyyy-mm-dd hh:mm:ss timezone" format.<br><b>timezone</b> indicates the time zone, for example, 2024-07-02 08:32:07 UTC.<br>When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete.<br><b>Value range:</b><br>None |
| updated           | String | <b>Explanation:</b><br>Update time. The format is the same as that of the <b>created</b> field. For example: 2024-07-16 09:31:43 UTC<br>The value is empty when no instance has been created. After an instance is created, the value is not empty.<br><b>Value range:</b><br>None                                                                                                           |
| db_user_name      | String | <b>Explanation:</b><br>Default username.<br><b>Value range:</b><br>root                                                                                                                                                                                                                                                                                                                      |
| vpc_id            | String | <b>Explanation:</b><br>ID of the VPC where the instance is located.<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                                          |
| subnet_id         | String | <b>Explanation:</b><br>Network ID of the subnet, where the instance are located.<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                             |
| security_group_id | String | <b>Explanation:</b><br>Security group ID.<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                                                                    |

| Parameter          | Type             | Description                                                                                                                                                                         |
|--------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| flavor_ref         | String           | <b>Explanation:</b><br>Specification code. To obtain its value, see the <b>spec_code</b> field in <a href="#">Querying Instance Specifications</a> .<br><b>Value range:</b><br>None |
| flavor_info        | Object           | <b>Explanation:</b><br>Flavor information.<br>For details, see <a href="#">Table 5-34</a> .                                                                                         |
| volume             | Object           | <b>Explanation:</b><br>Volume information.<br>For details, see <a href="#">Table 5-35</a> .                                                                                         |
| backup_strategy    | Object           | <b>Explanation:</b><br>Backup policy.<br>For details, see <a href="#">Table 5-36</a> .                                                                                              |
| maintenance_window | String           | <b>Explanation:</b><br>Maintenance window in the UTC format.<br><b>Value range:</b><br>None                                                                                         |
| nodes              | Array of objects | <b>Explanation:</b><br>Instance node information.<br>For details, see <a href="#">Table 5-37</a> .                                                                                  |
| instance_mode      | String           | <b>Explanation:</b><br>Product type.<br><b>Values:</b><br><b>enterprise</b> indicates enterprise edition. .                                                                         |
| time_zone          | String           | <b>Explanation:</b><br>Time zone.<br><b>Value range:</b><br>None .                                                                                                                  |

**Table 5-32** ha field data structure description

| Parameter        | Type   | Description                                                                                                                                                                                                |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| consistency      | String | <b>Explanation:</b><br>Transaction consistency type.<br><b>Values:</b> <ul style="list-style-type: none"><li>• <b>strong</b>: strong consistency</li><li>• <b>eventual</b>: eventual consistency</li></ul> |
| replication_mode | String | <b>Explanation:</b><br>Replication mode for the standby node.<br><b>Value:</b><br>The value can only be set to <b>sync</b> , indicating that data is synchronized in synchronous mode.                     |

**Table 5-33** datastore field data structure description

| Parameter        | Type   | Description                                                                                                                                                                                          |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type             | String | <b>Explanation:</b><br>DB engine.<br><b>Value:</b><br>GaussDB                                                                                                                                        |
| version          | String | <b>Explanation:</b><br>Major version of the database.<br><b>Value:</b><br>Two-digit version, for example, 3.208.                                                                                     |
| complete_version | String | <b>Explanation:</b><br>Major version of the database.<br><b>Value:</b><br>Three-digit version, for example, 3.208.0.                                                                                 |
| hotfix_versions  | String | <b>Explanation:</b><br>Hot patch version that has been upgraded. After the hot patch version is successfully upgraded, the value of this parameter cannot be left blank. <b>Value range:</b><br>None |

| Parameter             | Type             | Description                                                                                                                                                                                                                                                                           |
|-----------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| target_version        | String           | <b>Explanation:</b><br>Target version that the database is being upgraded to.<br><b>Value range:</b><br>None                                                                                                                                                                          |
| hotfix_finished_times | Array of strings | <b>Explanation:</b><br>List of time when the hot patch installation is complete.<br>The time when the hot patch installation is complete is expressed in the "yyyy-mm-dd hh:mm:ss timezone" format.<br><b>timezone</b> indicates the time zone, for example, 2020-12-23 03:21:41 UTC. |

**Table 5-34** flavor\_info field data structure description

| Parameter | Type    | Description                                                              |
|-----------|---------|--------------------------------------------------------------------------|
| vcpu      | Integer | <b>Explanation:</b><br>Number of vCPUs.<br><b>Value range:</b><br>None   |
| mem       | Integer | <b>Explanation:</b><br>Memory size in GB.<br><b>Value range:</b><br>None |

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

| Parameter | Type    | Description                                                      |
|-----------|---------|------------------------------------------------------------------|
| type      | String  | <b>Explanation:</b><br>Disk type.<br><b>Values:</b>              |
| size      | Integer | <b>Explanation:</b><br>Disk size.<br><b>Value range:</b><br>None |

**Table 5-36** backup\_strategy field data structure description

| Parameter  | Type    | Description                                                                                                                                                                                                                                       |
|------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | <b>Explanation:</b><br>Backup time window. The creation of an automated backup will be triggered during the backup time window.<br>The value is the UTC time. The format is hh:mm-HH:MM, for example, 19:00-20:00.<br><b>Value range:</b><br>None |
| keep_days  | Integer | <b>Explanation:</b><br>Number of days to retain the generated backup files.<br><b>Value range:</b><br>[1, 732]                                                                                                                                    |

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

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                           |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Node ID.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed.                                                                                                                                                                   |
| name      | String | <b>Explanation:</b><br>Node name.<br><b>Value range:</b><br>The value must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.                                                                                                                                   |
| role      | String | <b>Explanation:</b><br>Node type, indicating the role of a node in an instance.<br><b>Values:</b> <ul style="list-style-type: none"><li>• <b>master:</b> primary node</li><li>• <b>slave:</b> standby node</li><li>• <b>secondary:</b> log node</li><li>• <b>readreplica:</b> read replica.</li></ul> |

| Parameter         | Type   | Description                                               |
|-------------------|--------|-----------------------------------------------------------|
| status            | String | <b>Explanation:</b><br>Node status.                       |
| availability_zone | String | <b>Explanation:</b><br>AZ.<br><b>Value range:</b><br>None |

## Example Request

- Querying all instances

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/97b026aa9cc4417888c14c84a1ad9860/instances
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/97b026aa9cc4417888c14c84a1ad9860/instances?
id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=GaussDB&vpc_id=1
9e5d45d-70fd-4a91-87e9-
b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10
```

## Example Response

Instance information queried.

```
{
 "instances": [
 {
 "id": "b331ed66cc3249f78bc20737308c01f4in14",
 "status": "ACTIVE",
 "name": "gauss-9e88",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "region": "eu-de",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7",
 "complete_version": "2.7.2",
 "hotfix_versions": "2.7.2.1,2.7.2.2"
 },
 "created": "2021-01-15 01:46:40 UTC",
 "updated": "2021-01-15 02:05:03 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "nodes": [
 {
 "id": "02ebf757aaf94074855f49cc6e0e4712no14",
 "name": "gauss-9e88_gaussdbv5cn_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.16.253",
```

```
 },
 {
 "id": "0a87b8ecbfeb46aba1409cfc0f0d5c34no14",
 "name": "gauss-9e88_gaussdbv5cn_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.28.81",
 "component_names": "cn_5002:"
 },
 {
 "id": "2d9fec1ab3834936b074d63acf48b1f2no14",
 "name": "gauss-9e88_gaussdbv5dn3_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "48bb08a2d635435891ac0caa1c0bf2e3no14",
 "name": "gauss-9e88_gaussdbv5dn1_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "5df830f652204827ada32f8bc28b107eno14",
 "name": "gauss-9e88_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "8a97a246cee841b38c5b47290d4c9c38no14",
 "name": "gauss-9e88_gaussdbv5cn_1",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.27.52",
 },
 {
 "id": "8c1a3f8eecca4d9e9974a868bb6dd942no14",
 "name": "gauss-9e88_gaussdbv5dn2_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
 "name": "gauss-9e88_gaussdbv5dn3_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
 "name": "gauss-9e88_gaussdbv5dn1_2",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "b046d28989ec4ae5a1a9ab20fe65f248no14",
 "name": "gauss-9e88_gaussdbv5dn2_2",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
],
}
```

```
{
 "id": "b614cc12fd3742dbb230245f88a7bf00no14",
 "name": "gauss-9e88_gaussdbv5dn3_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
},
{
 "id": "caba8e88c3c84ae58202f1f589490611no14",
 "name": "gauss-9e88_gaussdbv5dn2_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
}
],
"private_ips": [
 "192.168.16.253 / 192.168.28.81 / 192.168.27.52"
],

"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
 "vcpu": 2,
 "mem": 16
},
"switch_strategy": "Reliability",
"backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"enterprise_project_id": "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
},
{
 "id": "226b4afcc84c86bf1b9cb345d3b00fin14",
 "status": "ACTIVE",
 "name": "UTS-gauss-ad53-2C3D",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "region": "cn-xianhz-1",
 "datastore": {
 "type": "GaussDB",
 "version": "2.7",
 "complete_version": "2.7.2",
 "hotfix_versions": "2.7.2.1,2.7.2.2"
 },
 "created": "2021-01-08 09:18:27 UTC",
 "updated": "2021-01-14 13:25:03 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "nodes": [
 {
 "id": "07538a1def584cee99e2a5685eeab36ano14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_1",
 "role": "slave",
 "status": "ACTIVE",
```

```
 "availability_zone": "az2xahz"
 },
 {
 "id": "21f41baba1e2454f82331b7cb5aeabe5no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "2909771a3b3e4e3998f9388e77d22391no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "2bd9a90a5da242a6b0743a7f597f6106no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "77092f1dadb74d3ea13d28269cdd3590no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "a46bfaa6d5a24355a60fce7432b964cano14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "aa5277736f3844e2a7adeb9de529e2b1no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "b1d798e4ea7344dfa95032984bc6cfd7no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_1",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.29.231"
 },
 {
 "id": "b9a46540186f4c0781eabaa2a79594cbno14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "d283813030364060ab64371d50294977no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "eb7bce29b2284cd290405eaddc1b1a1eno14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
```

```
 "role": "master",
 "status": "FAILED",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.30.44",
 "public_ip": "10.154.217.248"
 }
],
"private_ips": [
 "192.168.29.231 / 192.168.30.44"
],
"public_ips": [
 "10.154.217.248"
],
"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
 "vcpu": 2,
 "mem": 16
},
"switch_strategy": "Reliability",
"backup_strategy": {
 "start_time": "18:00-19:00",
 "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
}
],
"total_count": 3
}
```

- **Querying instance details**

```
{
 "instances": [
 {
 "id": "706c65c3dd7d497ab16f5b3a113690abin14",
 "status": "ACTIVE",
 "name": "UTS-gauss-7362",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "region": "aaa",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "created": "2020-12-23 03:21:41 UTC",
 "updated": "2021-01-15 02:32:13 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 80
 },
 "nodes": [
 {
 "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE"
 },
 {

```

```
 "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
 "name": "UTS-gauss-7362_gaussdbv5cn_0",
 "role": "master",
 "status": "ACTIVE",
 },
 {
 "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE"
 },
 {
 "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_0",
 "role": "slave",
 "status": "ACTIVE"
 }
],
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
"flavor_info": {
 "vcpu": 8,
 "mem": 64
},
"charge_info": {
 "charge_mode": "postPaid"
},
"backup_strategy": {
 "start_time": "16:00-17:00",
 "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
}
],
"total_count": 1
}
```

## Status Code

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

## Error Codes

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

## 5.1.4 Querying DB Instances (v3)

### Function

This API is used to query instances according to search criteria. Before calling this API:

- Learn how to [authenticate](#) this API.

## URI

GET `https://{Endpoint}/v3/{project_id}/instances?id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vpc_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}`

**Table 5-38** Parameter description

| Parameter  | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | String | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the project ID, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                                                                                                                                                                     |
| id         | String | No        | <b>Explanation:</b><br>Instance ID, which uniquely identifies an instance. You can query instances by instance ID.<br>The asterisk (*) is reserved for the system. If the instance ID starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*).<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter      | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name           | String | No        | <b>Explanation:</b><br>DB instance name. You can query instances by instance name.<br><br>The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*).<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value must start with a letter and contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.<br><b>Default value:</b><br>None |
| type           | String | No        | <b>Explanation:</b><br>Instance type. You can query instances by instance type.<br><b>Restrictions:</b><br>None<br><b>Values:</b> <ul style="list-style-type: none"><li>• <b>Enterprise</b> (case-sensitive): distributed instances (in the independent deployment)</li><li>• <b>Centralization_standard</b> (case-sensitive): centralized instances.</li></ul> <b>Default value:</b><br>None                                                                                                                                                                                                            |
| datastore_type | String | No        | <b>Explanation:</b><br>Database type. Its value is case-insensitive. You can query the instances by database type.<br><b>Restrictions:</b><br>None<br><b>Value:</b><br>GaussDB<br><b>Default value:</b><br>None                                                                                                                                                                                                                                                                                                                                                                                          |

| Parameter | Type    | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vpc_id    | String  | No        | <b>Explanation:</b><br>VPC ID. You can query instances by VPC where the instances are located. To obtain the value: <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and view the VPC ID in the VPC details page.</li><li>• Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>.</li></ul> <b>Restrictions:</b><br>None<br><b>Value:</b><br>UUID format<br><b>Default value:</b><br>None                                  |
| subnet_id | String  | No        | <b>Explanation:</b><br>Network ID of the subnet. You can query instances by subnet. <ul style="list-style-type: none"><li>• Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>• Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>.</li></ul> <b>Restrictions:</b><br>None<br><b>Value:</b><br>UUID format<br><b>Default value:</b><br>None |
| offset    | Integer | No        | <b>Explanation:</b><br>Index offset. The query starts from the next piece of data indexed by this parameter.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 2 <sup>31</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.)                                                                                                                                                                                  |

| Parameter | Type    | Mandatory | Description                                                                                                                                                |
|-----------|---------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | Integer | No        | <b>Explanation:</b><br>Number of records to be queried.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>100 |

## Request Parameters

None

## Response Parameters

**Table 5-39** Response parameters

| Parameter   | Type             | Description                                                                                        |
|-------------|------------------|----------------------------------------------------------------------------------------------------|
| instances   | Array of objects | <b>Explanation:</b><br>Instance information.<br>For details, see <a href="#">Table 5-40</a> .      |
| total_count | Integer          | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1] |

**Table 5-40** instances field data structure description

| Parameter | Type   | Description                                                                                                                                |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Instance ID.<br><b>Value range:</b><br>The value can contain 32 characters.<br>Only letters and digits are allowed. |

| Parameter | Type   | Description                                                                                                                                                                                            |
|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | String | <b>Explanation:</b><br>Instance name.<br><b>Value range:</b><br>The value must start with a letter and contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. |

| Parameter   | Type         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | String       | <p><b>Explanation:</b><br/>Instance status.</p> <p><b>Values:</b><br/>If the value is <b>BUILD</b>, the instance is being created.<br/>If the value is <b>BUILD_FAILED</b>, the instance creation failed.<br/>If the value is <b>ACTIVE</b>, the instance is normal.<br/>If the value is <b>FAILED</b>, the instance is abnormal.<br/>If the value is <b>MODIFYING</b>, the storage is being scaled up or instance specifications are being changed.<br/>If the value is <b>EXPANDING</b>,<br/>If the value is <b>REBOOTING</b>, the instance is being rebooted.<br/>If the value is <b>UPGRADING</b>, the instance is being upgraded.<br/>If the value is <b>RESTORING</b>, the instance is being restored.<br/>If the value is <b>SWITCHOVER</b>, the primary/standby switchover is being performed.<br/>If the value is <b>MIGRATING</b>, the instance is being migrated.<br/>If the value is <b>BACKING UP</b>, the instance is being backed up.<br/>If the value is <b>UPGRADE TO BE OBSERVED</b>, the instance upgrade is in the observation period.<br/>If the value is <b>STORAGE FULL</b>, the instance storage is full.<br/>If the value is <b>SHUTDOWN</b>, the instance is stopped.<br/>If the value is <b>REPAIRING</b>, the instance is being repaired.</p> |
| private_ips | List<String> | <p><b>Explanation:</b><br/>Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DNs of centralized instances are deployed are created.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter   | Type    | Description                                                                                                                                                                                                                                                                                       |
|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port        | Integer | <b>Explanation:</b><br>Database port number.<br><b>Value range:</b><br>The GaussDB database port is from 1024 to 39998 (excluding the following which are occupied by the system and cannot be used: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 20049, 20050, 21731, and 21732). |
| type        | String  | <b>Explanation:</b><br>Instance type.<br><b>Values:</b><br>The value is case-sensitive.                                                                                                                                                                                                           |
| ha          | Object  | <b>Explanation:</b><br>Instance high availability. It includes parameters for transaction consistency type and standby node's replication mode.<br>For details, see <a href="#">Table 5-41</a> .                                                                                                  |
| replica_num | Integer | <b>Explanation:</b><br>Number of replicas.<br><b>Value range:</b><br>None                                                                                                                                                                                                                         |
| region      | String  | <b>Explanation:</b><br>Region where the instance is deployed.<br><b>Value range:</b><br>None                                                                                                                                                                                                      |
| datastore   | Object  | <b>Explanation:</b><br>Database information.<br>For details, see <a href="#">Table 5-42</a> .                                                                                                                                                                                                     |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created           | String | <b>Explanation:</b><br>Creation time in the "yyyy-mm-dd hh:mm:ss timezone" format.<br><b>timezone</b> indicates the time zone, for example, 2024-07-16 09:31:43 UTC.<br>When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete.<br><b>Value range:</b><br>None |
| updated           | String | <b>Explanation:</b><br>Update time. The format is the same as that of the <b>created</b> field, for example, 2024-07-16 09:31:43 UTC.<br>The return value is empty when no DB instance has been created. After a DB instance is created, the value is not empty.<br><b>Value range:</b><br>None                                                                                              |
| db_user_name      | String | <b>Explanation:</b><br>Default username.<br><b>Value range:</b><br>root                                                                                                                                                                                                                                                                                                                      |
| vpc_id            | String | <b>Explanation:</b><br>ID of the VPC to which the instance belongs<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                                           |
| subnet_id         | String | <b>Explanation:</b><br>ID of the subnet associated with the instance.<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                                        |
| security_group_id | String | <b>Explanation:</b><br>Security group ID.<br><b>Value:</b><br>UUID format                                                                                                                                                                                                                                                                                                                    |

| Parameter          | Type             | Description                                                                                                                                                                             |
|--------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| flavor_ref         | String           | <b>Explanation:</b><br>Specification code. For details on how to obtain the GaussDB specification code, see <a href="#">DB Instance Specifications</a> .<br><b>Value range:</b><br>None |
| flavor_info        | Object           | <b>Explanation:</b><br>Flavor information.<br>For details, see <a href="#">Table 5-43</a> .                                                                                             |
| volume             | Object           | <b>Explanation:</b><br>Volume information.<br>For details, see <a href="#">Table 5-44</a> .                                                                                             |
| backup_strategy    | Object           | <b>Explanation:</b><br>Backup policy.<br>For details, see <a href="#">Table 5-45</a> .                                                                                                  |
| maintenance_window | String           | <b>Explanation:</b><br>Maintenance time window, which is the UTC time. The format is hh:mm-HH:MM, for example, 18:00-22:00.<br><b>Value range:</b><br>None                              |
| nodes              | Array of objects | <b>Explanation:</b><br>Instance node information.<br>For details, see <a href="#">Table 5-46</a> .                                                                                      |
| instance_mode      | String           | <b>Explanation:</b><br>Instance product type.<br><b>Values:</b><br><b>enterprise</b> indicates enterprise edition.                                                                      |
| time_zone          | String           | <b>Explanation:</b><br>Time zone.<br><b>Value range:</b><br>None                                                                                                                        |

**Table 5-41** ha field data structure description

| Parameter        | Type   | Description                                                                                                                                                                                        |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| consistency      | String | <b>Explanation:</b><br>Transaction consistency type.<br><b>Value:</b><br>The value can be <b>strong</b> or <b>eventual</b> , indicating strong consistency and eventual consistency, respectively. |
| replication_mode | String | <b>Explanation:</b><br>Replication mode for the standby node.<br><b>Value:</b><br>The value can only be set to <b>sync</b> , indicating that data is synchronized in synchronous mode.             |

**Table 5-42** datastore field data structure description

| Parameter | Type   | Description                                                                                                                   |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------|
| type      | String | <b>Explanation:</b><br>DB engine.<br><b>Value:</b><br>GaussDB                                                                 |
| version   | String | <b>Explanation:</b><br>DB engine version.<br><b>Value:</b><br>The value depends on the DB engine version, for example, 8.200. |

**Table 5-43** flavor\_info field data structure description

| Parameter | Type    | Description                                                            |
|-----------|---------|------------------------------------------------------------------------|
| vcpu      | Integer | <b>Explanation:</b><br>Number of vCPUs.<br><b>Value range:</b><br>None |

| Parameter | Type    | Description                                                              |
|-----------|---------|--------------------------------------------------------------------------|
| mem       | Integer | <b>Explanation:</b><br>Memory size in GB.<br><b>Value range:</b><br>None |

**Table 5-44** volume field data structure description

| Parameter | Type    | Description                                                      |
|-----------|---------|------------------------------------------------------------------|
| type      | String  | <b>Explanation:</b><br>Disk type.<br><b>Values:</b>              |
| size      | Integer | <b>Explanation:</b><br>Disk size.<br><b>Value range:</b><br>None |

**Table 5-45** backup\_strategy field data structure description

| Parameter  | Type    | Description                                                                                                                                                                                                                                       |
|------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | <b>Explanation:</b><br>Backup time window. The creation of an automated backup will be triggered during the backup time window.<br>The value is the UTC time. The format is hh:mm-HH:MM, for example, 19:00-20:00.<br><b>Value range:</b><br>None |
| keep_days  | Integer | <b>Explanation:</b><br>Number of days to retain the generated backup files.<br><b>Value range:</b><br>[1, 732]                                                                                                                                    |

**Table 5-46** nodes field data structure description

| Parameter         | Type   | Description                                                                                                                                                         |
|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String | <b>Explanation:</b><br>Node ID.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed.                                 |
| name              | String | <b>Explanation:</b><br>Node name.<br><b>Value range:</b><br>The value must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed. |
| role              | String | <b>Explanation:</b><br>Node type, indicating the role of a node in an instance.<br><b>Value:</b><br><b>master</b> (primary node) or <b>slave</b> (standby node)     |
| status            | String | <b>Explanation:</b><br>Node status.                                                                                                                                 |
| availability_zone | String | <b>Explanation:</b><br>AZ.<br><b>Value range:</b><br>None                                                                                                           |

## Example Request

- Querying all instances

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/97b026aa9cc4417888c14c84a1ad9860/instances
```

- Querying instances based on search criteria

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/97b026aa9cc4417888c14c84a1ad9860/instances?
id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=GaussDB&vpc_id=1
9e5d45d-70fd-4a91-87e9-
b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10
```

## Example Response

- Instance information queried.

```
{
 "instances": [
 {
```

```
"id": "b331ed66cc3249f78bc20737308c01f4in14",
"status": "ACTIVE",
"name": "gauss-9e88",
"port": 8000,
"type": "Enterprise",
"ha": {
 "consistency": "strong",
 "replication_mode": "sync"
},
"region": "eu-de",
"region": "aaa",
"datastore": {
 "type": "GaussDB",
 "version": "1.3"
},
"created": "2021-01-15 01:46:40 UTC",
"updated": "2021-01-15 02:05:03 UTC",
"volume": {
 "type": "ULTRAHIGH",
 "size": 120
},
"nodes": [
 {
 "id": "02ebf757aaf94074855f49cc6e0e4712no14",
 "name": "gauss-9e88_gaussdbv5cn_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.16.253"
 },
 {
 "id": "0a87b8ecbfef46aba1409cfc0f0d5c34no14",
 "name": "gauss-9e88_gaussdbv5cn_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.28.81"
 },
 {
 "id": "2d9fec1ab3834936b074d63acf48b1f2no14",
 "name": "gauss-9e88_gaussdbv5dn3_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "48bb08a2d635435891ac0caa1c0bf2e3no14",
 "name": "gauss-9e88_gaussdbv5dn1_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "5df830f652204827ada32f8bc28b107eno14",
 "name": "gauss-9e88_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "8a97a246cee841b38c5b47290d4c9c38no14",
 "name": "gauss-9e88_gaussdbv5cn_1",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.27.52"
 },
 {
 "id": "8c1a3f8eecca4d9e9974a868bb6dd942no14",
```

```
 "name": "gauss-9e88_gaussdbv5dn2_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
 "name": "gauss-9e88_gaussdbv5dn3_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
 "name": "gauss-9e88_gaussdbv5dn1_2",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "b046d28989ec4ae5a1a9ab20fe65f248no14",
 "name": "gauss-9e88_gaussdbv5dn2_2",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "b614cc12fd3742dbb230245f88a7bf00no14",
 "name": "gauss-9e88_gaussdbv5dn3_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "caba8e88c3c84ae58202f1f589490611no14",
 "name": "gauss-9e88_gaussdbv5dn2_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 }
],
"private_ips": [
 "192.168.16.253 / 192.168.28.81 / 192.168.27.52"
],

"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
 "vcpu": 2,
 "mem": 16
},
"charge_info": {
 "charge_mode": "prePaid"
},
"backup_strategy": {
 "start_time": "19:00-20:00",
 "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"enterprise_project_id": "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
},
{
```

```
"id": "226b4afcfcc84c86bf1b9cb345d3b00fin14",
"status": "ACTIVE",
"name": "UTS-gauss-ad53-2C3D",
"port": 8000,
"type": "Enterprise",
"ha": {
 "consistency": "strong",
 "replication_mode": "sync"
},
"region": "cn-xianhz-1",
"datastore": {
 "type": "GaussDB",
 "version": "1.3"
},
"created": "2021-01-08 09:18:27 UTC",
"updated": "2021-01-14 13:25:03 UTC",
"volume": {
 "type": "ULTRAHIGH",
 "size": 120
},
"nodes": [
 {
 "id": "07538a1def584cee99e2a5685eeab36ano14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "21f41baba1e2454f82331b7cb5aeabe5no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "2909771a3b3e4e3998f9388e77d22391no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "2bd9a90a5da242a6b0743a7f597f6106no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "77092f1dadb74d3ea13d28269cdd3590no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "a46bfaa6d5a24355a60fce7432b964cano14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "aa5277736f3844e2a7adeb9de529e2b1no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 }
]
```

```
 },
 {
 "id": "b1d798e4ea7344dfa95032984bc6cf7no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_1",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.29.231"
 },
 {
 "id": "b9a46540186f4c0781eabaa2a79594cbno14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "d283813030364060ab64371d50294977no14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "eb7bce29b2284cd290405eaddc1b1a1eno14",
 "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
 "role": "master",
 "status": "FAILED",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.30.44",
 "public_ip": "10.154.217.248"
 }
],
 "private_ips": [
 "192.168.29.231 / 192.168.30.44"
],
 "public_ips": [
 "10.154.217.248"
],
 "replica_num": 3,
 "db_user_name": "root",
 "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
 "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
 "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
 "flavor_info": {
 "vcpu": 2,
 "mem": 16
 },
 "charge_info": {
 "charge_mode": "prePaid"
 },
 "backup_strategy": {
 "start_time": "18:00-19:00",
 "keep_days": 7
 },
 "maintenance_window": "18:00-22:00",
 "enterprise_project_id": "0",
 "time_zone": "UTC+08:00",
 "instance_mode": "enterprise"
},
{
 "id": "706c65c3dd7d497ab16f5b3a113690abin14",
 "status": "ACTIVE",
 "name": "UTS-gauss-7362",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
```

```
 "replication_mode": "sync"
 },
 "region": "cn-xianhz-1",
 "datastore": {
 "type": "GaussDB",
 "version": "1.2"
 },
 "created": "2020-12-23 03:21:41 UTC",
 "updated": "2021-01-15 02:32:13 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 80
 },
 "nodes": [
 {
 "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
 "name": "UTS-gauss-7362_gaussdbv5cn_0",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az2xahz",
 "private_ip": "192.168.26.70"
 },
 {
 "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 },
 {
 "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az2xahz"
 }
],
 "private_ips": [
 "192.168.26.70"
],

 "db_user_name": "root",
 "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
 "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
 "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
 "flavor_info": {
 "vcpu": 2,
 "mem": 16
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "16:00-17:00",
 "keep_days": 7
 },
 "maintenance_window": "18:00-22:00",
 "enterprise_project_id": "0",
 "time_zone": "UTC+08:00",
 "instance_mode": "enterprise"
},
```

```
{
 "id": "4ad42d079a3948d88c28d6236211b21ein14",
 "status": "ACTIVE",
 "name": "UTS-gauss-4336",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "region": "cn-xianhz-1",
 "datastore": {
 "type": "GaussDB",
 "version": "1.2"
 },
 "created": "2020-12-03 14:28:53 UTC",
 "updated": "2021-01-14 13:20:10 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 40
 },
 "nodes": [
 {
 "id": "254dbda6f03643519ad64b39481bd11cno14",
 "name": "UTS-gauss-4336_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az1xahz"
 },
 {
 "id": "6ad76d4db26443c2a93b280739a31558no14",
 "name": "UTS-gauss-4336_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az1xahz"
 },
 {
 "id": "9fdebfb821bdf444a8689b19c0ff588ceno14",
 "name": "UTS-gauss-4336_gaussdbv5cn_0",
 "role": "master",
 "status": "FAILED",
 "availability_zone": "az1xahz",
 "private_ip": "192.168.30.93"
 },
 {
 "id": "dd64bdbbc02a542d88823b1582f772d25no14",
 "name": "UTS-gauss-4336_gaussdbv5cn_1",
 "role": "master",
 "status": "ACTIVE",
 "availability_zone": "az1xahz",
 "private_ip": "192.168.29.232"
 },
 {
 "id": "de3c41461045466faf6c2b96eb709540no14",
 "name": "UTS-gauss-4336_gaussdbv5dn1_0",
 "role": "slave",
 "status": "ACTIVE",
 "availability_zone": "az1xahz"
 }
],
 "private_ips": [
 "192.168.30.93 / 192.168.29.232"
],
 "db_user_name": "root",
 "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
 "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
 "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
}
```

```
 "flavor_info": {
 "vcpu": 2,
 "mem": 16
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "18:00-19:00",
 "keep_days": 7
 },
 "maintenance_window": "18:00-22:00",
 "enterprise_project_id": "0",
 "time_zone": "UTC+08:00",
 "instance_mode": "enterprise"
 }
},
"total_count": 4
}
```

- **Querying instance details**

```
{
 "instances": [
 {
 "id": "706c65c3dd7d497ab16f5b3a113690abin14",
 "status": "ACTIVE",
 "name": "UTS-gauss-7362",
 "port": 8000,
 "type": "Enterprise",
 "ha": {
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "region": "aaa",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "created": "2020-12-23 03:21:41 UTC",
 "updated": "2021-01-15 02:32:13 UTC",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 80
 },
 "nodes": [
 {
 "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_2",
 "role": "master",
 "status": "ACTIVE",
 "region": "bbb",
 },
 {
 "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
 "name": "UTS-gauss-7362_gaussdbv5cn_0",
 "role": "master",
 "status": "ACTIVE",
 "region": "bbb",
 },
 {
 "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_1",
 "role": "slave",
 "status": "ACTIVE",
 "region": "bbb",
 },
 {
 "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
 "name": "UTS-gauss-7362_gaussdbv5dn1_0",
 "role": "slave",
 }
]
 }
]
}
```

```
 "status": "ACTIVE",
 "region": "bbb",
 }
],
 "db_user_name": "root",
 "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
 "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
 "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "flavor_info": {
 "vcpu": 8,
 "mem": 64
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "backup_strategy": {
 "start_time": "16:00-17:00",
 "keep_days": 7
 },
 "maintenance_window": "18:00-22:00",
 "enterprise_project_id": "0",
 "time_zone": "UTC+08:00",
 "instance_mode": "enterprise"
 }
],
"total_count": 1
}
```

## Status Code

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

## Error Code

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

# 5.2 Parameter Configuration

## 5.2.1 Obtaining Parameter Templates (v3.1)

### Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET https://{Endpoint}/v3.1/{project\_id}/configurations?  
offset={offset}&limit={limit}

Table 5-47 Parameter description

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String  | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                           |
| offset     | No        | Integer | <b>Explanation:</b><br>Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to <b>0</b> and <b>limit</b> is set to <b>10</b> , only the 1st to 10th records are displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 2^31-1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.) |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                               |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | <b>Explanation:</b><br>Number of records to be queried. For example, if this parameter is set to <b>10</b> , a maximum of 10 records can be displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>100 |

## Request Parameters

None

## Response Parameters

**Table 5-48** Parameter description

| Parameter      | Type             | Description                                                                                          |
|----------------|------------------|------------------------------------------------------------------------------------------------------|
| configurations | Array of objects | <b>Explanation:</b><br>Parameter template information. For details, see <a href="#">Table 5-49</a> . |
| count          | Integer          | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1]   |

**Table 5-49** configurations field data structure description

| Parameter | Type   | Description                                                                                                                                                   |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | <b>Explanation:</b><br>Unique ID of a parameter template.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed. |

| Parameter         | Type   | Description                                                                                                                                                                                                                           |
|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name              | String | <b>Explanation:</b><br>Parameter template name.<br><b>Value range:</b><br>The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed             |
| description       | String | <b>Explanation:</b><br>Parameter template description.<br><b>Value range:</b><br>The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>& |
| datastore_version | String | <b>Explanation:</b><br>Engine version.<br><b>Value range:</b><br>None                                                                                                                                                                 |
| datastore_name    | String | <b>Explanation:</b><br>Engine name.<br><b>Value:</b><br>GaussDB                                                                                                                                                                       |
| ha_mode           | String | <b>Explanation:</b><br>Instance type.<br><b>Values:</b><br>The value is case-sensitive.                                                                                                                                               |
| created           | String | <b>Explanation:</b><br>Creation time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55.<br><b>Value range:</b><br>None                                                                                            |
| updated           | String | <b>Explanation:</b><br>Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55.<br><b>Value range:</b><br>None                                                                                              |

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                     |
|--------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| user_defined | Boolean | <b>Explanation:</b><br>Whether the parameter template is a custom template.<br><b>Values:</b> <ul style="list-style-type: none"><li>● <b>false:</b> The parameter template is a default template.</li><li>● <b>true:</b> The parameter template is a custom template.</li></ul> |

## Example Request

Querying parameter templates

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/054b61972980d4552f0bc00ac8d3f5cd/configurations?offset=1&limit=3
```

## Example Response

Parameter templates queried.

```
{
 "count": 3,
 "configurations": [
 {
 "id": "b000d7c91f1749da87315700793a11d4pr14",
 "name": "Default-GaussDB-EE-1.0-Dist-Combined (4 replicas)",
 "description": "Default parameter template for GaussDB-Enterprise Edition-1.0-Distributed-combined (4 replicas)",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.0",
 "datastore_name": "GaussDB",
 "ha_mode": "combined",
 "user_defined": false
 },
 {
 "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
 "name": "Default-Finance-Edition-GaussDB-1.3-Combined",
 "description": "Default parameter template for Finance Edition GaussDB 1.3-Combined",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.1",
 "datastore_name": "GaussDB",
 "ha_mode": "combined",
 "user_defined": false
 },
 {
 "id": "0f44b65521a8414d8b8811df810d94ccpr14",
 "name": "Default-Finance-Disaster-GaussDB-1.3-Combined",
 "description": "Default parameter template for Finance Disaster GaussDB 1.3-Combined",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.2",
 "datastore_name": "GaussDB",
 "ha_mode": "combined",
 "user_defined": false
 }
]
}
```

```
]
 }
```

Status Code

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

Error Code

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

5.2.2 Obtaining Parameter Templates (v3)

Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.

URI

GET [https://{Endpoint}/v3/{project\\_id}/configurations?offset={offset}&limit={limit}](https://{Endpoint}/v3/{project_id}/configurations?offset={offset}&limit={limit})

Table 5-50 Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | <b>Explanation:</b><br>Index offset. For example, if this parameter is set to <b>0</b> and <b>limit</b> is set to <b>10</b> , only the 1st to 10th records are displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 2^31-1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.) |
| limit     | No        | Integer | <b>Explanation:</b><br>Number of records to be queried. For example, if this parameter is set to <b>10</b> , a maximum of 10 records can be displayed.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[1, 100]<br><b>Default value:</b><br>100                                                                                    |

Request Parameters

None

Response Parameters

Table 5-51 Response parameters

| Parameter      | Type             | Description                                                                                          |
|----------------|------------------|------------------------------------------------------------------------------------------------------|
| configurations | Array of objects | <b>Explanation:</b><br>Parameter template information. For details, see <a href="#">Table 5-52</a> . |

| Parameter | Type    | Description                                                                                        |
|-----------|---------|----------------------------------------------------------------------------------------------------|
| count     | Integer | <b>Explanation:</b><br>Total number of records.<br><b>Value range:</b><br>[0, 2 <sup>31</sup> - 1] |

**Table 5-52** configurations field data structure description

| Parameter         | Type   | Description                                                                                                                                                                                                                           |
|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String | <b>Explanation:</b><br>Unique ID of a parameter template.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed.                                                                         |
| name              | String | <b>Explanation:</b><br>Parameter template name.<br><b>Value range:</b><br>The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed             |
| description       | String | <b>Explanation:</b><br>Parameter template description.<br><b>Value range:</b><br>The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>& |
| datastore_version | String | <b>Explanation:</b><br>Engine version.<br><b>Value range:</b><br>None                                                                                                                                                                 |
| datastore_name    | String | <b>Explanation:</b><br>Engine name.<br><b>Value:</b><br>GaussDB                                                                                                                                                                       |
| ha_mode           | String | <b>Explanation:</b><br>Instance type.<br><b>Values:</b><br>The value is case-sensitive.                                                                                                                                               |

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                     |
|--------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created      | String  | <b>Explanation:</b><br>Creation time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55.<br><b>Value range:</b><br>None                                                                                                                                      |
| updated      | String  | <b>Explanation:</b><br>Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55.<br><b>Value range:</b><br>None                                                                                                                                        |
| user_defined | Boolean | <b>Explanation:</b><br>Whether the parameter template is a custom template.<br><b>Values:</b> <ul style="list-style-type: none"><li>● <b>false:</b> The parameter template is a default template.</li><li>● <b>true:</b> The parameter template is a custom template.</li></ul> |

### Example Request

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/054b61972980d4552f0bc00ac8d3f5cd/configurations?offset=1&limit=3
```

### Example Response

Parameter templates queried.

```
{
 "count": 3,
 "configurations": [
 {
 "id": "b000d7c91f1749da87315700793a11d4pr14",
 "name": "Default-Enterprise-Edition-GaussDB-1.0-INDEP",
 "description": "Default parameter template for Enterprise Edition GaussDB 1.0-Independent",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.0",
 "datastore_name": "GaussDB",
 "ha_mode": "enterprise",
 "user_defined": false
 },
 {
 "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
 "name": "Default-Enterprise-Edition-GaussDB-1.1-INDEP",
 "description": "Default parameter template for Enterprise Edition GaussDB 1.1-Independent",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.1",
 "datastore_name": "GaussDB",
```

```
 "ha_mode": "enterprise",
 "user_defined": false
 },
 {
 "id": "0f44b65521a8414d8b8811df810d94ccpr14",
 "name": "Default-Enterprise-Edition-GaussDB-1.2-INDEP",
 "description": "Default parameter template for Enterprise Edition GaussDB 1.2-Independent",
 "created": "2022-03-23 07:20:11",
 "updated": "2022-03-23 07:20:11",
 "datastore_version": "1.2",
 "datastore_name": "GaussDB",
 "ha_mode": "enterprise",
 "user_defined": false
 }
]
```

## Status Code

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

## Error Code

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

## 5.2.3 Obtaining the Parameters of a Specified Instance (v3.1)

### Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

GET [https://{Endpoint}/v3.1/{project\\_id}/instances/{instance\\_id}/configurations](https://{Endpoint}/v3.1/{project_id}/instances/{instance_id}/configurations)

**Table 5-53** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID.                                                                                                                                                                                                                                                                                                               |

## Request Parameters

**Table 5-54** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                      |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>You can obtain the token by calling the IAM API used to <a href="#">obtain a user token</a> .<br>The value of the token is that of <b>X-Subject-Token</b> in the response header. |
| X-Language   | No        | String | Language.<br>Default value: <b>en-us</b><br>Value range: <ul style="list-style-type: none"><li>• <b>zh-cn</b></li><li>• <b>en-us</b></li></ul>                                                   |

## Response Parameters

**Table 5-55** Parameter description

| Parameter                | Type             | Description                                                                                                         |
|--------------------------|------------------|---------------------------------------------------------------------------------------------------------------------|
| datastore_version        | String           | Engine version.                                                                                                     |
| datastore_name           | String           | Engine name.                                                                                                        |
| created                  | String           | Creation time in the "yyyy-MM-dd HH:mm:ss" format.                                                                  |
| updated                  | String           | Update time in the "yyyy-MM-ddHH:mm:ss" format.                                                                     |
| configuration_parameters | Array of objects | Parameters defined by users based on the default parameter templates. For details, see <a href="#">Table 5-56</a> . |

**Table 5-56** configuration\_parameters field data structure description

| Parameter        | Type    | Description                                                                                                                                                                                                                                                                                       |
|------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name             | String  | Parameter name.                                                                                                                                                                                                                                                                                   |
| value            | String  | Parameter value.                                                                                                                                                                                                                                                                                  |
| restart_required | Boolean | Whether a reboot is required after the parameter is modified.                                                                                                                                                                                                                                     |
| value_range      | String  | Parameter value range.                                                                                                                                                                                                                                                                            |
| type             | String  | Parameter type. The value can be <b>string</b> , <b>integer</b> , <b>boolean</b> , <b>list</b> , or <b>float</b> .<br>Value range: <ul style="list-style-type: none"><li>• <b>string</b></li><li>• <b>integer</b></li><li>• <b>boolean</b></li><li>• <b>list</b></li><li>• <b>float</b></li></ul> |
| description      | String  | Parameter description.                                                                                                                                                                                                                                                                            |

## Example Request

Querying parameters of a specified instance

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdae3435in14/configurations
```

## Example Response

Parameters of the instance queried.

```
{
 "created": "2022-04-11 10:46:59",
 "updated": "2022-04-11 10:46:59",
 "datastore_version": "2.0",
 "datastore_name": "GaussDB",
 "configuration_parameters": [
 {
 "name": "audit_system_object",
 "value": "12295",
 "type": "integer",
 "description": "Determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB
Kernel database objects. GaussDB Kernel database objects include databases, users, schemas, and tables.
You can change the parameter value to audit only the operations on required database objects. During a
forcible primary/standby failover, set audit_system_object to the maximum value and audit all DDL objects.
If the parameter value is incorrectly changed, DDL audit logs will be lost. Contact customer service
personnel to change it.",
 "restart_required": false,
 "value_range": "0-2097151"
 }
]
}
```

## Status Code

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

## Error Code

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

## 5.2.4 Obtaining the Parameters of a Specified DB Instance (v3)

### Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

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

**Table 5-57** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | <b>Explanation:</b><br>Instance ID.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                                                                                   |

## Request Parameters

None

## Response Parameters

**Table 5-58** Response parameters

| Parameter         | Type   | Description                                                           |
|-------------------|--------|-----------------------------------------------------------------------|
| datastore_version | String | <b>Explanation:</b><br>Engine version.<br><b>Value range:</b><br>None |

| Parameter                | Type             | Description                                                                                                                                |
|--------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| datastore_name           | String           | <b>Explanation:</b><br>Engine name.<br><b>Value range:</b><br>None                                                                         |
| created                  | String           | <b>Explanation:</b><br>Creation time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-05-14 07:31:11.<br><b>Value range:</b><br>None |
| updated                  | String           | <b>Explanation:</b><br>Update time in the "yyyy-MM-ddHH:mm:ss" format, for example, 2024-05-14 07:31:11.<br><b>Value range:</b><br>None    |
| configuration_parameters | Array of objects | <b>Explanation:</b><br>Parameters defined by users based on the default parameter templates. For details, see <a href="#">Table 5-59</a> . |

**Table 5-59** configuration\_parameters field data structure description

| Parameter        | Type    | Description                                                                                                                                                                                                                                        |
|------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name             | String  | <b>Explanation:</b><br>Parameter name.<br><b>Value range:</b><br>None                                                                                                                                                                              |
| value            | String  | <b>Explanation:</b><br>Parameter value.<br><b>Value range:</b><br>None                                                                                                                                                                             |
| restart_required | Boolean | <b>Explanation:</b><br>Whether a reboot is required after the parameter is modified.<br><b>Value range:</b> <ul style="list-style-type: none"><li>● <b>true:</b> A reboot is required.</li><li>● <b>false:</b> A reboot is not required.</li></ul> |

| Parameter   | Type   | Description                                                                                                                                                                               |
|-------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| value_range | String | <b>Explanation:</b><br>Parameter value range.<br><b>Value range:</b><br>None                                                                                                              |
| type        | String | <b>Explanation:</b><br>Parameter type.<br><b>Value range:</b> <ul style="list-style-type: none"><li>• string</li><li>• integer</li><li>• boolean</li><li>• list</li><li>• float</li></ul> |
| description | String | <b>Explanation:</b><br>Parameter description.<br><b>Value range:</b><br>None                                                                                                              |

## Example Request

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14/configurations
```

## Example Response

```
{
 "created": "2022-04-11 10:46:59",
 "updated": "2022-04-11 10:46:59",
 "datastore_version": "2.0",
 "datastore_name": "GaussDB",
 "configuration_parameters": [
 {
 "name": "audit_system_object",
 "value": "12295",
 "type": "integer",
 "description": "Whether to audit the CREATE, DROP, and ALTER operations on database objects",
 "restart_required": false,
 "value_range": "0-2097151"
 }
]
}
```

## Status Code

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

### Error Code

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

## 5.2.5 Querying Details About a Parameter Template

### Function

This API is used to query details about a parameter template based on the parameter template ID. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

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

Table 5-60 Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| config_id  | Yes       | String | Parameter template ID.                                                                                                                                                                                                                                                                                                     |

## Request Parameters

**Table 5-61** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                      |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | User token.<br>You can obtain the token by calling the IAM API used to <a href="#">obtain a user token</a> .<br>The value of the token is that of <b>X-Subject-Token</b> in the response header. |
| X-Language   | No        | String | Language.<br>Default value: <b>en-us</b><br>Value: <ul style="list-style-type: none"><li>• <b>zh-cn</b></li><li>• <b>en-us</b></li></ul>                                                         |

## Response Parameters

**Table 5-62** Parameter description

| Parameter      | Type   | Description                                                                                                                                                                                                                                 |
|----------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id             | String | Parameter template ID.                                                                                                                                                                                                                      |
| name           | String | Parameter template name.                                                                                                                                                                                                                    |
| description    | String | Parameter template description.                                                                                                                                                                                                             |
| engine_version | String | Engine version.                                                                                                                                                                                                                             |
| instance_model | String | Deployment model.<br>Values: <ul style="list-style-type: none"><li>• <b>ha</b>: centralized</li></ul>                                                                                                                                       |
| created_at     | String | Creation time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> . |

| Parameter                | Type             | Description                                                                                                                                                                                                                                     |
|--------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| updated_at               | String           | Modification time in the "yyyy-mm-ddThh:mm:ssZ" format.<br><b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is <b>+0800</b> . |
| configuration_parameters | Array of objects | Parameter details. For details about the parameters, see <a href="#">Table 5-63</a> .                                                                                                                                                           |

**Table 5-63** configuration\_parameters field data structure description

| Parameter    | Type    | Description                                                                                                                                         |
|--------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| name         | String  | Name of a specific parameter.                                                                                                                       |
| value        | String  | Value of a specific parameter.                                                                                                                      |
| need_restart | Boolean | Whether the instance needs to be rebooted.<br><b>true</b> : Instance needs to be rebooted.<br><b>false</b> : Instance does not need to be rebooted. |
| readonly     | Boolean | Whether the parameter is read-only.<br><b>true</b> : read only<br><b>false</b> : editable                                                           |
| value_range  | String  | Parameter value range.                                                                                                                              |
| data_type    | String  | Parameter type. The value can be <b>string</b> , <b>integer</b> , <b>boolean</b> , <b>list</b> , <b>all</b> , or <b>float</b> .                     |
| description  | String  | Parameter description.                                                                                                                              |

## Example Request

Querying details about a parameter template

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

## Example Response

Parameter template details queried.

```
{
 "id": "3ca44134a16d4bbab8eb701e025b19f7pr14",
 "name": "GaussDB_2b87a799-515",
 "description": "ParamGroup for instance.",
 "engine_version": "2.3",
 "instance_mode": "ha",
```

```
"created_at": "2022-08-05T08:15:07+0800",
"updated_at": "2022-08-09T03:06:52+0800",
"configuration_parameters": [
 {
 "name": "audit_system_object",
 "value": "12294",
 "need_restart": false,
 "readonly": false,
 "value_range": "1-65536",
 "data_type": "integer",
 "description": "This parameter determines whether to audit the CREATE, DROP, and ALTER
operations on GaussDB Kernel database objects. GaussDB Kernel database objects include DATABASE,
USER, SCHEMA, and TABLE. You can change the value of this parameter to audit only the operations on
required database objects. In scenarios where a standby node is forcibly elected as primary, you are advised
to set audit_system_object to the maximum value and audit all DDL objects. Improper modification of this
parameter will cause loss of DDL audit logs. Contact the customer service to change the parameter value."
 }
]
```

## Status Code

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

## Error Code

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

## 5.3 Version Upgrade

### 5.3.1 Querying Versions That a DB Instance Can Be Upgraded To

#### Function

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

- Learn how to [authenticate](#) this API.

#### URI

GET [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/db-upgrade/candidate-versions](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/db-upgrade/candidate-versions)

**Table 5-64** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | String | Instance ID.                                                                                                                                                                                                                                                                                                               |

## Request Parameters

None

## Response Parameters

**Table 5-65** Response Parameters

| Parameter             | Type                                        | Description                                                                                                                                                             |
|-----------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| upgrade_type_list     | Array of <a href="#">Table 5-66</a> objects | Upgrade types.                                                                                                                                                          |
| rollback_enabled      | Boolean                                     | Whether rollback is supported. <ul style="list-style-type: none"><li>• <b>true</b>: Rollback is supported.</li><li>• <b>false</b>: Rollback is not supported.</li></ul> |
| source_version        | String                                      | Source instance version.                                                                                                                                                |
| target_version        | String                                      | Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned.                                   |
| roll_upgrade_progress | <a href="#">Table 5-68</a> object           | AZ information during the rolling upgrade.                                                                                                                              |

| Parameter                          | Type             | Description                                                                                                                |
|------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------|
| upgrade_candidate_versions         | Array of strings | Versions that can be upgraded to, including minor and major versions. An empty array is returned during a rolling upgrade. |
| hotfix_upgrade_candidate_versions  | Array of strings | Hot patch versions that can be updated.                                                                                    |
| hotfix_rollback_candidate_versions | Array of strings | Hot patch versions that can be rolled back.                                                                                |

**Table 5-66** upgrade\_type\_list

| Parameter           | Type                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| upgrade_type        | String                                      | Upgrade type. <ul style="list-style-type: none"><li>• <b>grey</b>: Gray upgrade</li><li>• <b>inplace</b>: In-place upgrade</li><li>• <b>hotfix</b>: Hot patch installation</li></ul>                                                                                                                                                                                                                                                                                                                                                                          |
| enable              | Boolean                                     | Whether the upgrade type is available. <ul style="list-style-type: none"><li>• <b>true</b>: yes.</li><li>• <b>false</b>: no.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |
| upgrade_action_list | Array of <a href="#">Table 5-67</a> objects | Upgrade actions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| is_parallel_upgrade | Boolean                                     | Whether intra-AZ parallel upgrade is supported. <ul style="list-style-type: none"><li>• <b>true</b>: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later.</li><li>• <b>false</b>: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later.</li><li>• <b>null</b>: The current instance is not in the upgrade process.</li></ul> |

**Table 5-67** upgrade\_action\_list

| Parameter      | Type    | Description                                                                                                                                                                                                           |
|----------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| upgrade_action | String  | Upgrade action. <ul style="list-style-type: none"><li>• <b>upgrade</b>: Rolling upgrade</li><li>• <b>upgradeAutoCommit</b>: Auto-commit</li><li>• <b>commit</b>: Commit</li><li>• <b>rollback</b>: Rollback</li></ul> |
| enable         | Boolean | Whether the upgrade action is available. <ul style="list-style-type: none"><li>• <b>true</b>: yes.</li><li>• <b>false</b>: no.</li></ul>                                                                              |

**Table 5-68** roll\_upgrade\_progress

| Parameter             | Type               | Description                                                                |
|-----------------------|--------------------|----------------------------------------------------------------------------|
| not_fully_upgraded_az | String             | AZs that have not been upgraded. Multiple AZs are separated by commas (,). |
| already_upgraded_az   | String             | AZs that have upgraded. Multiple AZs are separated by commas (,).          |
| az_description_map    | Map<String,String> | AZ description.                                                            |

## Example Request

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/db-upgrade/candidate-versions
```

## Example Response

Target version, shard status, and AZ status in the rolling upgrade returned.

```
{
 "upgrade_type_list": [
 {
 "upgrade_type": "grey",
 "upgrade_action_list": [
 {
 "upgrade_action": "commit",
 "enable": false
 },
 {
 "upgrade_action": "rollback",
 "enable": false
 }
]
 }
]
}
```

```
{
 {
 "upgrade_action": "upgrade",
 "enable": true
 },
 {
 "upgrade_action": "upgradeAutoCommit",
 "enable": true
 }
],
"enable": true,
"is_parallel_upgrade": null
},
{
 "upgrade_type": "hotfix",
 "upgrade_action_list": null,
 "enable": false,
 "is_parallel_upgrade": null
},
{
 "upgrade_type": "inplace",
 "upgrade_action_list": [
 {
 "upgrade_action": "upgradeAutoCommit",
 "enable": true
 }
]
},
"enable": true,
"is_parallel_upgrade": null
}
],
"rollback_enabled": false,
"source_version": "8.102.0",
"target_version": null,
"roll_upgrade_progress": {
 "not_fully_upgraded_az": "cn-southwest-244a,cn-southwest-244b,cn-southwest-244c",
 "already_upgraded_az": "",
 "az_description_map": {
 "cn-southwest-244c": "az3",
 "cn-southwest-244b": "az2",
 "cn-southwest-244a": "az1"
 }
},
"upgrade_candidate_versions": [
 "8.300.0",
 "8.103.0"
],
"hotfix_upgrade_candidate_versions": [],
"hotfix_rollback_candidate_versions": []
}
```

## Status Code

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

## Error Code

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

## 5.4 Backup Management

## 5.4.1 Configuring an Automated Backup Policy

### Function

This API is used to configure an automated backup policy. Before calling this API:

- Learn how to [authenticate](#) this API.

### URI

PUT [https://{Endpoint}/v3/{project\\_id}/instances/{instance\\_id}/backups/policy](https://{Endpoint}/v3/{project_id}/instances/{instance_id}/backups/policy)

**Table 5-69** Parameter description

| Name        | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | Yes       | Instance ID.                                                                                                                                                                                                                                                                                                               |

### Request Parameters

**Table 5-70** Parameter description

| Name          | Mandatory | Type   | Description                                                                 |
|---------------|-----------|--------|-----------------------------------------------------------------------------|
| backup_policy | Yes       | Object | Backup policy information.<br>For details, see <a href="#">Table 5-71</a> . |

**Table 5-71** backup\_policy field data structure description

| Name      | Mandatory | Type    | Description                                                 |
|-----------|-----------|---------|-------------------------------------------------------------|
| keep_days | Yes       | Integer | Backup retention days.<br>The value ranges from 1 to 36500. |

| Name       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | Yes       | String | <p>Backup time window. The creation of an automated backup will be triggered during the backup time window.</p> <p>The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format.</p> <p>The value of <b>HH</b> must be 1 greater than the value of <b>hh</b>. The values of <b>mm</b> and <b>MM</b> must be the same and must be <b>00</b>.</p> <p>Example value:<br/>21:00-22:00</p> <p><b>NOTE</b><br/>This parameter indicates the time period (in UTC format) during which backup is performed. For example, if the local backup time is 05:00-06:00 and the time zone is UTC+08:00, set the parameter value to <b>21:00-22:00</b>. If the time zone is UTC+04:00, set the value to <b>01:00-02:00</b>.</p> |

| Name                | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| period              | Yes       | String | <p>Full backup period. An automated full backup is performed on the UTC date of each week.</p> <p>Value range: <b>1</b> to <b>7</b>. The value is a number separated by commas (,), indicating the days of the week.</p> <p>Example value:</p> <ul style="list-style-type: none"><li>• <b>1,2,3,4</b> indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday.</li><li>• <b>1,2,3,4,5,6,7</b> indicates that an automated backup is performed every day from Monday to Sunday.</li><li>• <b>1,3,5</b> indicates that an automated backup is performed on Monday, Wednesday, and Friday.</li></ul> <p><b>NOTE</b><br/>This parameter indicates the date (in UTC format) on which backup is performed. For example, if the local backup time is 05:00-06:00 on Monday and Tuesday, and the time zone is UTC+08:00, set the parameter value to <b>1,7</b>. If the time zone is UTC+04:00, set the value to <b>1,2</b>.</p> |
| differential_period | Yes       | String | <p>Differential backup interval. Interval for automated differential backup.</p> <p>Its value can be <b>15, 30, 60, 180, 360, 720</b>, or <b>1440</b>. The unit is minute.</p> <p>Example value: 30</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Name                  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rate_limit            | No        | Integer | Upload speed at which data is uploaded to OBS. <b>0 MB/s</b> indicates that the speed is not limited. The upload speed is related to the bandwidth.<br>Value range: <b>0-1024</b><br>Minimum value: 0 MB/s                                                                                                                                                                                                                                                    |
| prefetch_block        | No        | Integer | Number of prefetch pages from the modified pages in the disk table file during a differential backup. When modified pages are adjacent (for example, with a bulk data load), you can set this parameter to a large value. When modified pages are scattered (for example, random update), you can set this parameter to a small value. The default value is <b>64</b> .<br>Value: <b>1 to 8192</b><br>Minimum value: <b>1</b> .<br>Maximum value: <b>8192</b> |
| file_split_size       | No        | Integer | Size by which full and differential backup files are split, in GB. The value is from <b>0</b> to <b>1024</b> , but it must be a multiple of 4. The default value is <b>4</b> . <b>0</b> indicates the size is not limited.<br>Value range: <b>0-1024</b><br>Minimum value: <b>0</b><br>Maximum value: <b>1024</b>                                                                                                                                             |
| filesplit_size        | No        | Integer | Size by which full and differential backup files are split. Deprecated field. Leave it blank.                                                                                                                                                                                                                                                                                                                                                                 |
| enable_standby_backup | No        | Boolean | Whether to enable backup on a standby node. (It is not suitable for single-node instances and instances earlier than 3.100.0.)                                                                                                                                                                                                                                                                                                                                |

## Response Parameters

None

## Example Request

Configuring a backup policy for GaussDB (Set backup retention period to seven days and backup time window to 19:00-20:00)

```
PUT https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/backups/policy
{
 "backup_policy": {
 "keep_days": 7,
 "start_time": "19:00-20:00",
 "period": "1,2,3,4,5",
 "differential_period": "30",
 "rate_limit": 75,
 "prefetch_block": 64,
 "file_split_size": 4,
 "enable_standby_backup": false
 }
}
```

## Example Response

```
{}
```

## Status Code

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

## Error Code

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

## 5.4.2 Querying Backups (v3.1)

### Function

This API is used to query backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

This API can be used to query only manual and automated full backups.

URI

GET https://{Endpoint}/v3.1/{project\_id}/backups?  
instance\_id={instance\_id}&backup\_id={backup\_id}&backup\_type={backup\_type}&of  
fset={offset}&limit={limit}&begin\_time={begin\_time}&end\_time={end\_time}

Table 5-72 Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                                               |
| instance_id | No        | String | <b>Explanation:</b><br>Instance ID, which uniquely identifies an instance and is used to query the backups of an instance.<br><b>Restrictions:</b><br>This parameter is mandatory when you query log backups.<br><b>Value range:</b><br>The value is compliant with the UUID format and can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backup_id   | No        | String  | <b>Explanation:</b><br>Backup ID, which uniquely identifies an instance backup and is used to query information about a backup.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| backup_type | No        | String  | <b>Explanation:</b><br>Backup type.<br><b>Restrictions:</b><br>None<br><b>Value range:</b> <ul style="list-style-type: none"><li>• <b>auto:</b> instance-level automated full backup</li><li>• <b>manual:</b> instance-level manual full backup</li></ul> <b>Default value:</b><br>None                                                    |
| offset      | No        | Integer | <b>Explanation:</b><br>Index offset. The query starts from the next piece of data indexed by this parameter.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 10 <sup>10</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.)                                               |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit      | No        | Integer | <b>Explanation:</b><br>Number of records to be queried.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 100]<br><b>Default value:</b><br>100                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| begin_time | No        | String  | <b>Explanation:</b><br>Query start time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Restrictions:</b><br>This parameter can be used together with <b>end_time</b> . If <b>end_time</b> is not used, the backups created after <b>begin_time</b> are returned. If <b>end_time</b> is used, the backups created between <b>begin_time</b> and <b>end_time</b> are returned.<br><b>Value range:</b><br>None<br><b>Default value:</b><br>None |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| end_time  | No        | String | <b>Explanation:</b><br>Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Restrictions:</b><br>This parameter can be used together with <b>begin_time</b> . If <b>begin_time</b> is not used, the backups created before <b>end_time</b> are returned. If <b>begin_time</b> is used, the backups created between <b>begin_time</b> and <b>end_time</b> are returned.<br><b>Value range:</b><br>None<br><b>Default value:</b><br>None |

## Request Parameters

None

## Response Parameters

**Table 5-73** Parameter description

| Parameter   | Type             | Description                                                                                                                                                                    |
|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backups     | Array of objects | <b>Explanation:</b><br>Backup information.<br>For details, see <a href="#">Table 5-74</a> .                                                                                    |
| total_count | Long             | <b>Explanation:</b><br>Total number of backup files.<br><b>Value range:</b><br>[0, 2 <sup>63</sup> - 1]. The actual value depends on the number of backups in the backup list. |

**Table 5-74** backups field data structure description

| Parameter   | Type   | Description                                                                                                                                                                                                                                                               |
|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String | <b>Explanation:</b><br>Backup ID, which uniquely identifies a backup.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed.                                                                                                 |
| name        | String | <b>Explanation:</b><br>Backup name.<br><b>Value range:</b><br>None                                                                                                                                                                                                        |
| description | String | <b>Explanation:</b><br>Description of the backup file.<br><b>Value range:</b><br>The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &                                |
| begin_time  | String | <b>Explanation:</b><br>Backup start time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Value range:</b><br>None |
| end_time    | String | <b>Explanation:</b><br>Backup end time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between the calendar and the hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Value range:</b><br>None   |
| status      | String | <b>Explanation:</b><br>Backup status.<br><b>Value range:</b> <ul style="list-style-type: none"><li>● <b>BUILDING</b>: Backup in progress</li><li>● <b>COMPLETED</b>: Backup completed</li><li>● <b>FAILED</b>: Backup failed</li></ul>                                    |

| Parameter   | Type   | Description                                                                                                                                                                                                               |
|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size        | Double | <b>Explanation:</b><br>Backup size in MB.<br><b>Value range:</b><br>The value is determined by the backup size.                                                                                                           |
| type        | String | <b>Explanation:</b><br>Backup type.<br><b>Value range:</b> <ul style="list-style-type: none"><li>• <b>auto</b>: instance-level automated full backup</li><li>• <b>manual</b>: instance-level manual full backup</li></ul> |
| datastore   | Object | <b>Explanation:</b><br>Database information.<br>For details, see <a href="#">Table 5-75</a> .                                                                                                                             |
| instance_id | String | <b>Explanation:</b><br>ID of the instance to which the backup belongs.<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.                                                |

**Table 5-75** datastore field data structure description

| Parameter | Type   | Description                                                                                                                                         |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | String | <b>Explanation:</b><br>DB engine. The value is case-insensitive and can be:<br><b>GaussDB</b><br><b>Value range:</b><br>None                        |
| version   | String | <b>Explanation:</b><br>DB engine version. If this parameter is not specified, the latest version is used by default.<br><b>Value range:</b><br>None |

## Example Request

- Querying all backups

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3.1/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

## Example Response

Backups queried.

```
{
 "backups": [
 {
 "id": "a696cd25e4fc453aa503650225cece8bbr14",
 "name": "GaussDB-hly-ha-20220509080110906",
 "status": "FAILED",
 "size": 0.0,
 "type": "auto",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "begin_time": "2022-05-09T16:01:10+0800",
 "end_time": "2022-05-09T16:04:31+0800",
 "instance_id": "164abc6d35114095bb849d007b19db3bin14"
 },
 {
 "id": "5651c62a7f12461c98020dd3abfe24ccbr14",
 "name": "GaussDB-hly-master-20220509022658257",
 "status": "FAILED",
 "size": 0.0,
 "type": "auto",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "begin_time": "2022-05-09T10:26:58+0800",
 "end_time": "2022-05-09T10:30:17+0800",
 "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
 }
],
 "total_count": 167
}
```

## Status Code

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

## Error Code

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

## 5.4.3 Querying Backups (v3)

### Function

This API is used to obtain backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

This API is used to query only manual and automated full backups.

### URI

GET `https://{Endpoint}/v3/{project_id}/backups?instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}`

**Table 5-76** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance_id | No        | String | <b>Explanation:</b><br>Instance ID, which uniquely identifies an instance and is used to query the backups of an instance.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None                                            |
| backup_id   | No        | String | <b>Explanation:</b><br>Backup ID, which uniquely identifies an instance backup and is used to query information about a backup.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| backup_type | No        | String | <b>Explanation:</b><br>Backup type, which is used to query a certain type of backup.<br><b>Restrictions:</b><br>None<br><b>Value range:</b> <ul style="list-style-type: none"><li>• <b>auto:</b> automated full backup</li><li>• <b>manual:</b> manual full backup</li></ul> <b>Default value:</b><br>None                                 |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset     | No        | Integer | <b>Explanation:</b><br>Index offset. The query starts from the next piece of data indexed by this parameter.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 10 <sup>10</sup> -1]<br><b>Default value:</b><br>0 (indicating that the query starts from the first data record.)                                                                                                                                                                                                                                                                                                  |
| limit      | No        | Integer | <b>Explanation:</b><br>Number of records to be queried.<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>[0, 100]<br><b>Default value:</b><br>100                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| begin_time | No        | String  | <b>Explanation:</b><br>Query start time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Restrictions:</b><br>This parameter can be used together with <b>end_time</b> . If <b>end_time</b> is not used, the backups created after <b>begin_time</b> are returned. If <b>end_time</b> is used, the backups created between <b>begin_time</b> and <b>end_time</b> are returned.<br><b>Value range:</b><br>None<br><b>Default value:</b><br>None |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| end_time  | No        | String | <p><b>Explanation:</b></p> <p>Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset.</p> <p>Example:<br/>2022-05-09T16:01:10+0800.</p> <p><b>Restrictions:</b></p> <p>This parameter can be used together with <b>begin_time</b>. If <b>begin_time</b> is not used, the backups created before <b>end_time</b> are returned. If <b>begin_time</b> is used, the backups created between <b>begin_time</b> and <b>end_time</b> are returned.</p> <p><b>Value range:</b></p> <p>None</p> <p><b>Default value:</b></p> <p>None</p> |

Request Parameters

None

Response Parameters

Table 5-77 Response parameters

| Parameter   | Type             | Description                                                                                                                                                                            |
|-------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| backups     | Array of objects | <p><b>Explanation:</b></p> <p>Backup information.</p> <p>For details, see <a href="#">Table 5-78</a>.</p>                                                                              |
| total_count | Long             | <p><b>Explanation:</b></p> <p>Total number of backup files.</p> <p><b>Value range:</b></p> <p>[0, 2^63 - 1]. The actual value depends on the number of backups in the backup list.</p> |

**Table 5-78** backups field data structure description

| Parameter   | Type   | Description                                                                                                                                                                                                                                                        |
|-------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String | <b>Explanation:</b><br>Backup ID.<br><b>Value range:</b><br>The value can contain 36 characters. Only letters and digits are allowed.                                                                                                                              |
| name        | String | <b>Explanation:</b><br>Backup name.<br><b>Value range:</b><br>None                                                                                                                                                                                                 |
| description | String | <b>Explanation:</b><br>Description of the backup file.<br><b>Value range:</b><br>The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &                         |
| begin_time  | String | <b>Explanation:</b><br>Backup start time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. Example: 2022-05-09T16:01:10+0800.<br><b>Value range:</b><br>None  |
| end_time    | String | <b>Explanation:</b><br>Backup end time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset.<br>Example: 2022-05-09T16:01:10+0800.<br><b>Value range:</b><br>None |
| status      | String | <b>Explanation:</b><br>Backup status.<br><b>Value range:</b> <ul style="list-style-type: none"><li>● <b>BUILDING</b>: Backup in progress</li><li>● <b>COMPLETED</b>: Backup completed</li><li>● <b>FAILED</b>: Backup failed</li></ul>                             |

| Parameter   | Type   | Description                                                                                                                                                                                 |
|-------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size        | Double | <b>Explanation:</b><br>Backup size in MB.<br><b>Value range:</b><br>The value is determined by the backup size.                                                                             |
| type        | String | <b>Explanation:</b><br>Backup type.<br><b>Value range:</b> <ul style="list-style-type: none"><li>• <b>auto</b>: automated full backup</li><li>• <b>manual</b>: manual full backup</li></ul> |
| datastore   | Object | <b>Explanation:</b><br>Database information.<br>For details, see <a href="#">Table 5-79</a> .                                                                                               |
| instance_id | String | <b>Explanation:</b><br>ID of the instance to which the backup belongs.<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.                  |

**Table 5-79** datastore field data structure description

| Parameter | Type   | Description                                                                                                                                                                                                                                          |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | String | <b>Explanation:</b><br>DB engine. The value is case-insensitive and can be:<br><b>GaussDB</b><br><b>Value range:</b><br>None                                                                                                                         |
| version   | String | <b>Explanation:</b><br>DB engine version. If this parameter is not specified, the latest version is used by default.<br>DB engine version. If this parameter is not specified, the latest version is used by default.<br><b>Value range:</b><br>None |

## Example Request

- Querying all backups

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

## Example Response

```
{
 "backups": [
 {
 "id": "a696cd25e4fc453aa503650225cece8bbr14",
 "name": "GaussDB-hly-ha-20220509080110906",
 "description": null,
 "status": "FAILED",
 "size": 0.0,
 "type": "auto",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "begin_time": "2022-05-09T16:01:10+0800",
 "end_time": "2022-05-09T16:04:31+0800",
 "instance_id": "164abc6d35114095bb849d007b19db3bin14"
 },
 {
 "id": "5651c62a7f12461c98020dd3abfe24ccbr14",
 "name": "GaussDB-hly-master-20220509022658257",
 "description": null,
 "status": "FAILED",
 "size": 0.0,
 "type": "auto",
 "datastore": {
 "type": "GaussDB",
 "version": "1.4"
 },
 "begin_time": "2022-05-09T10:26:58+0800",
 "end_time": "2022-05-09T10:30:17+0800",
 "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
 }
],
 "total_count": 167
}
```

## Status Code

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

## Error Code

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

## 5.4.4 Querying Instances That Can Be Used for Backups and Restorations

### Function

This API is used to query the instances that can be used for backups and restorations. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

The **restore\_time** and **backup\_id** parameters cannot be both left blank.

### URI

GET [https://{Endpoint}/v3/{project\\_id}/restorable-instances](https://{Endpoint}/v3/{project_id}/restorable-instances)

**Table 5-80** Parameter description

| Parameter    | Mandatory | Description                                                                                                                                                                                                                                                                                                                |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| backup_id    | No        | Instance backup ID. You can use the backup ID to query the instance topology information and filter the queried instances (including the number of nodes and replicas of instances). If this parameter is left blank, <b>restore_time</b> is used.                                                                         |
| restore_time | No        | Specific point of time. If the backup ID is left blank, this parameter is used to query the instance topology information and filter the queried instances.                                                                                                                                                                |

| Parameter          | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| source_instance_id | No        | ID of the DB instance to be restored. <ul style="list-style-type: none"><li>If <b>backup_id</b> is not left blank, <b>source_instance_id</b> is optional.</li><li>If <b>backup_id</b> is left blank and <b>restore_time</b> is not left blank, <b>source_instance_id</b> is mandatory.</li><li><b>source_instance_id</b> and <b>backup_id</b> cannot be both left blank.</li></ul> |
| offset             | No        | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number.                                                                                                                                  |
| limit              | No        | Number of records to be queried. The default value is <b>100</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                                                                                                                                                      |

## Request Parameters

None

## Response Parameters

**Table 5-81** Parameter description

| Parameter   | Type             | Description                                                                                            |
|-------------|------------------|--------------------------------------------------------------------------------------------------------|
| instances   | Array of objects | Instances that can be used for backups and restorations. For details, see <a href="#">Table 5-82</a> . |
| total_count | Integer          | Total number of queried instances.                                                                     |

**Table 5-82** instances parameter data structure description

| Parameter     | Type   | Description       |
|---------------|--------|-------------------|
| instance_name | String | DB instance name. |
| instance_id   | String | Instance ID.      |
| volume_type   | String | Storage type.     |

| Parameter        | Type   | Description                                                                                                                                                                               |
|------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_volume_size | Number | Storage space, in GB                                                                                                                                                                      |
| version          | String | Instance version                                                                                                                                                                          |
| mode             | String | Deployment model. <ul style="list-style-type: none"><li>• <b>Ha</b>: centralized deployment</li><li>• <b>Independent</b>: independent deployment</li></ul>                                |
| instance_mode    | String | Instance model. <ul style="list-style-type: none"><li>• <b>enterprise</b>: enterprise edition</li><li>• <b>standard</b>: standard edition</li><li>• <b>basic</b>: basic edition</li></ul> |

## Example Request

Querying instances that can be used for backups and restorations

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0611f1bd8b00d5d32f17c017f15b599f/
restorable-instances?
source_instance_id=88efb3753dc844829c380edff7798eecin14&backup_id=d3f223e9c35d450ea0692bdbff686
e45br14
```

## Example Response

Instances that can be used for backups and restorations queried.

```
{
 "instances": [
 {
 "instance_name": "gaussdb",
 "instance_id": "3ea6d6463c9a4baf9a47c5b74464307cin14",
 "volume_type": "ULTRAHIGH",
 "data_volume_size": 500,
 "version": "8.102",
 "mode": "Ha",
 "instance_mode": "enterprise"
 }
],
 "total_count": 1
}
```

## Status Code

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

## Error Code

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

## 5.4.5 Querying Information About the Original Instance Based on a Specific Point of Time or a Backup File

### Function

This API is used to query the information of the original instance based on a specific point of time or a backup file. Before calling this API:

- Learn how to [authenticate](#) this API.

### Constraints

The **restore\_time** and **backup\_id** parameters cannot be both left blank.

- If **backup\_id** is not left blank, the query is performed based on **backup\_id**.
- If **backup\_id** is left blank, the query is performed based on **restore\_time**.
- If **restore\_time** and **backup\_id** are both specified, the query is performed based on **backup\_id**.

### URI

GET https://{*Endpoint*}/v3/{project\_id}/instance-snapshot?  
instance\_id={instance\_id}&restore\_time={restore\_time}&backup\_id={backup\_id}

**Table 5-83** Parameter description

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_id | No        | String | Original instance ID.<br>If <b>restore_time</b> is specified, <b>instance_id</b> is mandatory.                                                                                                                                                                                                                             |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restore_time | No        | String | This parameter is mandatory when you want to view DB instance backups based on a specified point in time.<br><br>Instance information at a time point in the UNIX timestamp format, in milliseconds. The time zone is UTC. |
| backup_id    | No        | String | Backup ID.                                                                                                                                                                                                                 |

## Request Parameters

None

## Response Parameters

**Table 5-84** Parameter description

| Parameter        | Type   | Description                                                                                                                                                                                                                  |
|------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cluster_mode     | String | Instance deployment model.<br>Value: <ul style="list-style-type: none"><li>• <b>Ha</b>: centralized deployment</li><li>• <b>Independent</b>: independent deployment</li><li>• <b>Combined</b>: combined deployment</li></ul> |
| instance_model   | String | Instance model.<br>Value: <ul style="list-style-type: none"><li>• <b>basic</b>: basic edition</li><li>• <b>standard</b>: standard edition</li><li>• <b>enterprise</b>: enterprise edition</li></ul>                          |
| data_volume_size | String | Storage space, in GB.                                                                                                                                                                                                        |

| Parameter       | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| solution        | String  | Solution template type.<br>Value: <ul style="list-style-type: none"><li>• <b>single</b>: single node</li><li>• <b>double</b>: 1 primary + 1 standby (2 nodes)</li><li>• <b>triset</b>: 1 primary + 2 standby</li><li>• <b>logger</b>: 1 primary + 1 standby + 1 log</li><li>• <b>loggerdorado</b>: 1 primary + 1 standby + 1 log (shared storage)</li><li>• <b>quadruset</b>: 1 primary + 3 standby</li><li>• <b>hws</b>: distributed (independent deployment)</li></ul> |
| node_num        | Integer | Number of nodes.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| coordinator_num | Integer | Number of CNs.                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| sharding_num    | Integer | Number of shards.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| replica_num     | Integer | Number of replicas.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| engine_version  | String  | Engine version.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/0483b6b16e954cb88930a360d2c4e663/instance-snapshot
```

## Example Response

```
{
 "cluster_mode" : "Ha",
 "instance_mode" : "enterprise",
 "data_volume_size" : "200",
 "solution" : "triset",
 "node_num" : 3,
 "coordinator_num" : 0,
 "sharding_num" : 3,
 "replica_num" : 3,
 "engine_version" : "2.2.90"
}
```

## Status Code

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

## Error Code

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

## 5.5 Recycle Bin

### 5.5.1 Querying All DB Engine Instances in the Recycle Bin

#### Function

This API is used to query all DB engine instances in the recycle bin. Before calling this API:

- Learn how to [authenticate](#) this API.

#### URI

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

**Table 5-85** Parameter description

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                |
|---------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | <b>Explanation:</b><br>Project ID of a tenant in a region.<br>For details about how to obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Restrictions:</b><br>None<br><b>Value range:</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default value:</b><br>None |
| instance_name | No        | String | DB instance name.                                                                                                                                                                                                                                                                                                          |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | Index offset. If <b>offset</b> is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is <b>0</b> , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to <b>0</b> and <b>limit</b> is set to <b>10</b> , only the 1st to 10th records are displayed. |
| limit     | No        | Integer | Number of records to be queried. The default value is <b>50</b> . The value cannot be a negative number. The minimum value is <b>1</b> and the maximum value is <b>50</b> . For example, if this parameter is set to <b>10</b> , a maximum of 10 records can be displayed.                                                                                                             |

## Request Parameters

None

## Response Parameters

**Table 5-86** Parameter description

| Parameter   | Type             | Description                                                                                       |
|-------------|------------------|---------------------------------------------------------------------------------------------------|
| total_count | Integer          | Total number of records.                                                                          |
| instances   | Array of objects | Information about all instances in the recycle bin. For details, see <a href="#">Table 5-87</a> . |

**Table 5-87** instances field data structure description

| Parameter | Type   | Description       |
|-----------|--------|-------------------|
| id        | String | Instance ID.      |
| name      | String | DB instance name. |

| Parameter             | Type   | Description                                                                                                                                                                                                                                       |
|-----------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_mode               | String | Deployment model.<br>Value: <ul style="list-style-type: none"><li>● <b>Ha</b>: centralized deployment</li><li>● <b>Independent</b>: independent deployment</li></ul>                                                                              |
| engine_version        | String | Engine version.                                                                                                                                                                                                                                   |
| pay_model             | String | Billing mode.<br><b>0</b> : pay-per-use<br><b>1</b> : yearly/monthly                                                                                                                                                                              |
| created_at            | String | Creation time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as <b>+0800</b> . |
| deleted_at            | String | Deletion time in the "yyyy-mm-ddThh:mm:ssZ" format. <b>T</b> is the separator between calendar and hourly notation of time. <b>Z</b> indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as <b>+0800</b> . |
| volume_type           | String | Disk type.<br>Values: <ul style="list-style-type: none"><li>● <b>high</b>: high I/O</li><li>● <b>ultrahigh</b>: ultra-high I/O</li><li>● <b>essd</b>: extreme SSD</li></ul>                                                                       |
| data_vip              | String | Private IP address.                                                                                                                                                                                                                               |
| enterprise_project_id | String | Enterprise project ID. The value <b>0</b> indicates the default enterprise project.                                                                                                                                                               |
| recycle_backup_id     | String | Backup ID. (Backup ID in the backup information generated when the instance is deleted.)                                                                                                                                                          |
| recycle_status        | String | Backup status in the recycle bin.<br>Values: <ul style="list-style-type: none"><li>● <b>Running</b></li><li>● <b>Active</b></li></ul>                                                                                                             |

| Parameter | Type   | Description                                                                                                                                                                                        |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode      | String | Product type.<br>Values: <ul style="list-style-type: none"><li>● <b>basic</b>: basic edition</li><li>● <b>standard</b>: standard edition</li><li>● <b>enterprise</b>: enterprise edition</li></ul> |

## Example Request

```
GET https://gaussdb-opengauss.eu-west-101.myhuaweicloud.eu/v3/619d3e78f61b4be68bc5aa0b59edcf7b/
recycle-instances
```

## Example Response

```
{
 "total_count": 2,
 "instances": [{
 "id": "21f20e55999947a9938ad0453b757e72in14",
 "name": "gaussdbv5_CCv20_bms_default_1_20220827012852",
 "ha_mode": "Ha",
 "engine_version": "2.3.0",
 "pay_model": 0,
 "created_at": "2022-08-09T09:26:44.000+08:00",
 "deleted_at": "2022-08-09T09:26:44.000+08:00",
 "volume_type": "localssd",
 "data_vip": "25.213.0.41 / 25.213.0.188 / 25.213.0.101 / 25.213.0.82",
 "enterprise_project_id": 0,
 "recycle_backup_id": "00b755ed678e41d18c74b28e2ad41bdcbr14",
 "recycle_status": "Active",
 "mode": "enterprise"
 }, {
 "id": "a9df5b52b32e4571b1b6425a78a32956in14",
 "name": "ecs-lxy-backup-3",
 "ha_mode": "Ha",
 "engine_version": "2.3.0",
 "pay_model": 0,
 "created_at": "2022-08-09T09:26:44.000+08:00",
 "deleted_at": "2022-08-09T09:26:44.000+08:00",
 "volume_type": "ultrahigh",
 "data_vip": "173.202.10.246 / 173.202.10.205 / 173.202.10.175",
 "enterprise_project_id": 0,
 "recycle_backup_id": "ef393704ef0045d1b6226b6f2cdc48a7br14",
 "recycle_status": "Active",
 "mode": "enterprise"
 }]
}
```

## Status Code

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

## Error Code

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

# 6 Appendix

## 6.1 Abnormal Request Results

Abnormal response description

Table 6-1 Abnormal response description

| Name       | Type   | Description                                                                                                                            |
|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| error_code | String | Specifies the error returned when a task submission exception occurs. For details about error codes, see <a href="#">Error Codes</a> . |
| error_msg  | String | Specifies the description of the error returned when a task submission exception occurs.                                               |

Response example

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

## 6.2 Status Codes

[Table 6-2](#) describes status codes.

**Table 6-2** Status codes

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

| Status Code | Message                       | Description                                                                                                                                                        |
|-------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 304         | Not Modified                  | The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy. |
| 305         | Use Proxy                     | The requested resource must be accessed through a proxy.                                                                                                           |
| 306         | Unused                        | The HTTP status code is no longer used.                                                                                                                            |
| 400         | BadRequest                    | Invalid request.<br>The client should not repeat the request without modifications.                                                                                |
| 401         | Unauthorized                  | The status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.      |
| 402         | Payment Required              | This status code is reserved for future use.                                                                                                                       |
| 403         | Forbidden                     | The server understood the request, but is refusing to fulfill it.<br>The client should not repeat the request without modifications.                               |
| 404         | NotFound                      | The requested resource cannot be found.<br>The client should not repeat the request without modifications.                                                         |
| 405         | MethodNotAllowed              | The method specified in the request is not supported for the requested resource.<br>The client should not repeat the request without modifications.                |
| 406         | Not Acceptable                | The server cannot fulfill the request according to the content characteristics of the request.                                                                     |
| 407         | Proxy Authentication Required | This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.                                                   |
| 408         | Request Time-out              | The server timed out waiting for the request.<br>The client may repeat the request without modifications at any later time.                                        |

| Status Code | Message                       | Description                                                                                                                                                                                                                                                                                                                                         |
|-------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 409         | Conflict                      | The request could not be processed due to a conflict.<br><br>This status code indicates that the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.                                                                                                    |
| 410         | Gone                          | The requested resource is no longer available.<br>The requested resource has been deleted permanently.                                                                                                                                                                                                                                              |
| 411         | Length Required               | The server refuses to process the request without a defined Content-Length.                                                                                                                                                                                                                                                                         |
| 412         | Precondition Failed           | The server does not meet one of the preconditions that the requester puts on the request.                                                                                                                                                                                                                                                           |
| 413         | Request Entity Too Large      | The request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server temporarily cannot process the request, the response will contain a Retry-After header field.                                                                                     |
| 414         | Request-URI Too Large         | The URI provided was too long for the server to process.                                                                                                                                                                                                                                                                                            |
| 415         | Unsupported Media Type        | The server is unable to process the media format in the request.                                                                                                                                                                                                                                                                                    |
| 416         | Requested range not satisfied | The requested range is invalid.                                                                                                                                                                                                                                                                                                                     |
| 417         | Expectation Failed            | The server fails to meet the requirements of the Expect request-header field.                                                                                                                                                                                                                                                                       |
| 422         | UnprocessableEntity           | The request is well-formed but is unable to be processed due to semantic errors.                                                                                                                                                                                                                                                                    |
| 429         | TooManyRequests               | The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires. |
| 500         | InternalServerError           | The server is able to receive the request but it could not understand the request.                                                                                                                                                                                                                                                                  |

| Status Code | Message                    | Description                                                                                                                              |
|-------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 501         | Not Implemented            | The server does not support the requested function.                                                                                      |
| 502         | Bad Gateway                | The server acting as a gateway or proxy receives an invalid response from a remote server.                                               |
| 503         | ServiceUnavailable         | The requested service is invalid.<br>The client should not repeat the request without modifications.                                     |
| 504         | ServerTimeout              | The request cannot be fulfilled within a given time. The response will reach the client only if the request carries a timeout parameter. |
| 505         | HTTP Version not supported | The server does not support the HTTP protocol version used in the request.                                                               |

## 6.3 Error Codes

The following table describes error codes.

**Table 6-3** Error code description

| Status Code | Error Code  | Error Message                                   | Description                                     | Troubleshooting                                                         |
|-------------|-------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------|
| 400         | DBS.20 0001 | Parameter error.                                | Parameter error.                                | Check whether the transferred parameters or URLs are correct.           |
| 400         | DBS.20 0004 | Parameter error.                                | Parameter error.                                | Check whether the transferred parameters or URLs are correct.           |
| 400         | DBS.20 0006 | The request is null. Enter a request parameter. | The request is null. Enter a request parameter. | Enter a request parameter and try again later.                          |
| 400         | DBS.20 0021 | Invalid DB instance name.                       | Invalid DB instance name.                       | Enter a valid instance name according to the instance name description. |
| 400         | DBS.20 0023 | Storage space is out of range.                  | Storage space is out of range.                  | Check whether the storage space is correct.                             |

| Status Code | Error Code  | Error Message                              | Description                                | Troubleshooting                                                        |
|-------------|-------------|--------------------------------------------|--------------------------------------------|------------------------------------------------------------------------|
| 400         | DBS.20 0024 | Invalid region.                            | Invalid region.                            | Enter a correct region ID.                                             |
| 400         | DBS.20 0025 | Invalid AZ.                                | Invalid AZ.                                | Check whether the AZ parameter is correct and whether the AZ exists.   |
| 400         | DBS.20 0026 | Invalid storage type.                      | Invalid storage type.                      | Check whether the storage type is correct and meets the requirements.  |
| 400         | DBS.20 0027 | Storage space must be a multiple of 10.    | Storage space must be a multiple of 10.    | Check whether the storage space is a multiple of 10.                   |
| 400         | DBS.20 0040 | The DB engine or version is not supported. | The DB engine or version is not supported. | Check whether the DB engine or version is supported.                   |
| 400         | DBS.20 0041 | Invalid database version.                  | Invalid database version.                  | Check whether the database version is supported.                       |
| 400         | DBS.20 0042 | The DB engine does not exist.              | The DB engine or version is not supported. | Check whether the database type or version is correct.                 |
| 400         | DBS.20 0043 | Invalid synchronize model.                 | Invalid synchronize model.                 | Check whether the synchronization mode is correct.                     |
| 400         | DBS.20 0048 | Invalid VPC ID.                            | Invalid VPC ID.                            | Check whether the VPC ID is correct.                                   |
| 400         | DBS.20 0049 | Invalid subnet ID.                         | Invalid subnet ID.                         | Check whether the subnet ID is correct.                                |
| 400         | DBS.20 0051 | Invalid HA mode.                           | Invalid HA mode.                           | Check whether the HA mode is correct.                                  |
| 400         | DBS.20 0052 | Invalid database root password.            | Invalid database root password.            | Check whether the password of user <b>root</b> meets the requirements. |
| 400         | DBS.20 0053 | The selected specifications do not exist.  | The selected specifications do not exist.  | Check whether the selected specifications are correct.                 |

| Status Code | Error Code  | Error Message                                                       | Description                                                         | Troubleshooting                                                                                                                                  |
|-------------|-------------|---------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.20 0054 | Invalid specifications.                                             | Invalid specifications.                                             | Check whether the specification code is correct, whether the specification exists in the current AZ, and whether the specification is supported. |
| 400         | DBS.20 0056 | The maximum number of nodes has been reached.                       | The maximum number of nodes has been reached.                       | Check whether the maximum number of nodes has been reached.                                                                                      |
| 400         | DBS.20 0063 | Invalid cluster mode.                                               | Invalid cluster mode.                                               | Check whether the cluster mode is valid.                                                                                                         |
| 400         | DBS.20 0068 | This is a weak password. Please enter a strong password.            | This is a weak password. Enter a strong password.                   | Enter a strong password as promoted.                                                                                                             |
| 400         | DBS.20 0086 | This operation is not allowed by the DB instance status.            | This operation is not allowed by the DB instance status.            | Check whether the instance status or the ongoing operation on the instance conflicts with the request.                                           |
| 400         | DBS.20 0087 | The number of tags added for the DB instance has reached the quota. | The number of tags added for the DB instance has reached the quota. | Check whether the number of tags added for the DB instance has reached the quota.                                                                |
| 400         | DBS.20 0098 | The tag already exists.                                             | The tag already exists.                                             | Check whether the tag exists.                                                                                                                    |
| 400         | DBS.20 0175 | The engine version is not permitted to enable force switch.         | Switchover cannot be enabled in the current engine version.         | Check whether the engine version is later than 1.2.2.                                                                                            |
| 400         | DBS.20 0203 | Failed to query the DB instance.                                    | Failed to query the DB instance.                                    | Check whether the queried instance exists or query the instance again.                                                                           |
| 400         | DBS.20 0302 | Storage space must be a multiple of 10.                             | Storage space must be a multiple of 10.                             | Check whether the storage space is a multiple of 10.                                                                                             |

| Status Code | Error Code  | Error Message                                                                                  | Description                                                                                    | Troubleshooting                                                                                    |
|-------------|-------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 400         | DBS.20 0303 | The scale-up times have reached the maximum value.                                             | The scale-up times have reached the maximum value.                                             | Check whether the number of scale-out times reaches the maximum value.                             |
| 400         | DBS.20 0306 | The new storage space must be greater than or equal to the original storage space.             | The new storage space must be greater than or equal to the original storage space.             | Check whether the new storage space must be greater than or equal to the original storage space.   |
| 400         | DBS.20 0308 | The new storage space after scaling up cannot be greater than that of the primary DB instance. | The new storage space after scaling up cannot be greater than that of the primary DB instance. | Check whether the new storage space after scaling up is greater than that of the primary instance. |
| 400         | DBS.20 0405 | Parameter error.                                                                               | Parameter error.                                                                               | Check whether the transferred parameters or URLs are correct.                                      |
| 400         | DBS.20 0461 | The parameter value is out of range.                                                           | The parameter value is out of range.                                                           | Check whether the parameter value is out of range.                                                 |
| 400         | DBS.20 0475 | New password should not equal to the old one.                                                  | New password should not equal to the old one.                                                  | Check whether the new password meets the requirements.                                             |
| 400         | DBS.20 0504 | Invalid database version.                                                                      | Invalid database version.                                                                      | Check whether the database version is supported.                                                   |
| 400         | DBS.20 0506 | Invalid KMS key ID.                                                                            | Invalid KMS.                                                                                   | Check whether the KMS is correct.                                                                  |
| 400         | DBS.20 0507 | The KMS key is invalid or has been deleted.                                                    | The KMS key is invalid or has been deleted.                                                    | Check whether the KMS is correct.                                                                  |
| 400         | DBS.20 0543 | The job does not exist.                                                                        | The job does not exist.                                                                        | Check whether the job is correct.                                                                  |

| Status Code | Error Code  | Error Message                                                                    | Description                                                                      | Troubleshooting                                                                                        |
|-------------|-------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 400         | DBS.20 0823 | The database does not exist.                                                     | The database does not exist.                                                     | Check whether the database name is valid.                                                              |
| 400         | DBS.20 0824 | The database account does not exist.                                             | The database account does not exist.                                             | Check whether the database username is valid.                                                          |
| 400         | DBS.20 0825 | Modifying permission is not allowed on read replicas.                            | Modifying permission is not allowed on read replicas.                            | Check whether you have the permission to perform this operation.                                       |
| 400         | DBS.20 0943 | Agent async request failed.                                                      | Failed to invoke the agent asynchronous request.                                 | Check whether the Agent connection is normal.                                                          |
| 400         | DBS.20 1004 | The backup type does not exist.                                                  | The backup type does not exist.                                                  | Check the backup type.                                                                                 |
| 400         | DBS.20 1014 | This operation is not allowed by the DB instance status.                         | This operation is not allowed by the DB instance status.                         | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 400         | DBS.20 1019 | The restoration task does not exist.                                             | The restoration task does not exist.                                             | Check whether there is a restoration task or data confirmation after restoration is required.          |
| 400         | DBS.20 1035 | The database name must be different from the original and target database names. | The database name must be different from the original and target database names. | Check whether the database name is correct.                                                            |
| 400         | DBS.20 1101 | Invalid backup cycle.                                                            | Invalid backup cycle.                                                            | Check whether the backup cycle is correct and meets the requirements.                                  |

| Status Code | Error Code  | Error Message                                      | Description                                        | Troubleshooting                                                                                                                                 |
|-------------|-------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.20 1103 | Invalid backup start time.                         | Invalid backup start time.                         | Check whether the backup start time meets the requirements and whether the requirements between the backup start time and end time are correct. |
| 400         | DBS.20 1106 | Invalid retention days.                            | Invalid retention days.                            | Check whether the retention days are valid.                                                                                                     |
| 400         | DBS.20 1203 | The backup file does not exist.                    | The backup file does not exist.                    | Check whether the backup exists and matches the instance.                                                                                       |
| 400         | DBS.20 1207 | The DB engine or version is not supported.         | The DB engine or version is not supported.         | Check whether the DB engine or version is supported.                                                                                            |
| 400         | DBS.20 1208 | The operation is not allowed by the backup status. | The operation is not allowed by the backup status. | View the operation constraints and perform operations according to the constraints.                                                             |
| 400         | DBS.20 1210 | Invalid backup name.                               | Invalid backup name.                               | Check whether the backup object name is valid.                                                                                                  |
| 400         | DBS.21 2002 | Incorrect parameter group quota.                   | Incorrect parameter template quota.                | Check whether parameter template quota is configured correctly.                                                                                 |
| 400         | DBS.21 2003 | Operation not allowed.                             | Operation not allowed.                             | Check whether the instance status or the ongoing operation on the instance conflicts with the request.                                          |
| 400         | DBS.21 2004 | Parameter group update error.                      | Parameter template update error.                   | Check whether the parameter is correctly specified.                                                                                             |
| 400         | DBS.21 2005 | The node does not belong to the group.             | The node does not belong to the group.             | Check whether the node and the group to which the node belongs are correct.                                                                     |
| 400         | DBS.21 2007 | The DB engine does not exist.                      | The DB engine does not exist.                      | Check whether the DB engine is correct.                                                                                                         |
| 400         | DBS.21 2008 | The DB engine is not supported.                    | The DB engine is not supported.                    | Check whether the DB engine is supported.                                                                                                       |

| Status Code | Error Code  | Error Message                                     | Description                                          | Troubleshooting                                              |
|-------------|-------------|---------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------|
| 400         | DBS.21 2009 | Task processing failed.                           | Task processing failed.                              | Try again later or contact technical support.                |
| 400         | DBS.21 2010 | The parameter group is being applied.             | The parameter template is being applied.             | Try again later.                                             |
| 400         | DBS.21 2011 | Application failed.                               | Application failed.                                  | Try again or contact technical support.                      |
| 400         | DBS.21 2012 | The parameter does not exist.                     | The parameter does not exist.                        | Check whether the parameter is correctly specified.          |
| 400         | DBS.21 2014 | The node does not have a default parameter group. | The node does not have a default parameter template. | Check the default parameter template.                        |
| 400         | DBS.21 2015 | Partial success.                                  | Partial success                                      | Check the failure cause or contact technical support.        |
| 400         | DBS.21 2016 | Parameter update failed.                          | Parameter update failed.                             | Check whether the parameter is correctly specified.          |
| 400         | DBS.21 2017 | Invalid parameter.                                | Invalid parameter.                                   | Check whether the parameter is correctly specified.          |
| 400         | DBS.21 2025 | Update failed.                                    | Update failed.                                       | Check the update failure cause or contact technical support. |
| 400         | DBS.21 2030 | The parameter template name already exists.       | The parameter template name already exists.          | Check whether the parameter is correctly specified.          |
| 400         | DBS.21 2032 | The parameter template has been applied.          | The parameter template has been applied.             | Check whether the parameter template is correct.             |
| 400         | DBS.21 2037 | Parameters are incorrectly set.                   | Parameters are incorrectly set.                      | Check whether the parameter settings are correct.            |

| Status Code | Error Code  | Error Message                                                                                                                              | Description                                                  | Troubleshooting                                          |
|-------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|
| 400         | DBS.21 6028 | Insufficient internal resource quota.                                                                                                      | Insufficient internal resource quota.                        | Check whether the internal resource quota is sufficient. |
| 400         | DBS.21 6030 | The queried node does not belong to the current instance.                                                                                  | The queried node does not belong to the current instance.    | Check whether the node information is correct.           |
| 400         | DBS.28 0001 | Parameter error.                                                                                                                           | Parameter error.                                             | Check whether the parameter is correctly specified.      |
| 400         | DBS.28 0006 | The request is null. Enter a request parameter.                                                                                            | The request is null. Enter a request parameter.              | Check whether the request parameter is correct.          |
| 400         | DBS.28 0124 | Invalid backup file id                                                                                                                     | The backup file ID is invalid.                               | Check whether the backup file ID is valid.               |
| 400         | DBS.28 0127 | Invalid backup description.                                                                                                                | Invalid backup description.                                  | Check whether the backup description is valid.           |
| 400         | DBS.28 0128 | The database information of the DB instance is not found. Check the database name to see whether the instance database information exists. | The database information of the DB instance cannot be found. | Check whether the database name is correct.              |
| 400         | DBS.28 0203 | This is a weak password. Please enter a strong password.                                                                                   | This is a weak password. Enter a strong password.            | Enter a strong password as promoted.                     |
| 400         | DBS.28 0204 | Invalid parameter.                                                                                                                         | Invalid parameter.                                           | Check whether the parameter is correctly specified.      |

| Status Code | Error Code  | Error Message                              | Description                                      | Troubleshooting                                                        |
|-------------|-------------|--------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------|
| 400         | DBS.28 0214 | Invalid retention days.                    | Invalid retention days.                          | Check whether the retention days are valid.                            |
| 400         | DBS.28 0215 | Invalid backup cycle.                      | Invalid backup cycle.                            | Check whether the backup cycle is valid.                               |
| 400         | DBS.28 0216 | Invalid backup start time.                 | Invalid backup start time.                       | Check whether the backup start time is valid.                          |
| 400         | DBS.28 0234 | Invalid DB instance name.                  | Invalid DB instance name.                        | Check whether the instance name is valid.                              |
| 400         | DBS.28 0235 | Invalid database type.                     | Invalid database type.                           | Check whether the database type is correct.                            |
| 400         | DBS.28 0236 | Invalid database version.                  | Invalid database version.                        | Check whether the database version is correct.                         |
| 400         | DBS.28 0237 | Datastore not specified.                   | Datastore not specified.                         | Check whether the datastore is valid.                                  |
| 400         | DBS.28 0238 | The DB engine or version is not supported. | The DB engine or version is not supported.       | Check whether the DB engine or version is supported.                   |
| 400         | DBS.28 0239 | Invalid specifications.                    | Invalid specifications.                          | Check whether the selected specifications are correct.                 |
| 400         | DBS.28 0241 | Invalid storage type.                      | Invalid storage type.                            | Check whether the storage type is correct and meets the requirements.  |
| 400         | DBS.28 0242 | Storage space is out of range.             | Storage space is out of range.                   | Check whether the storage space is correct.                            |
| 400         | DBS.28 0246 | Invalid database root password.            | Invalid database root password.                  | Check whether the password of user <b>root</b> meets the requirements. |
| 400         | DBS.28 0250 | Invalid backup retention days.             | The retention period of backup files is invalid. | Check whether the retention days are valid.                            |
| 400         | DBS.28 0251 | Invalid backup cycle.                      | Invalid backup cycle.                            | Check whether the backup cycle meets the requirements.                 |

| Status Code | Error Code  | Error Message                        | Description                          | Troubleshooting                                                                                                                                 |
|-------------|-------------|--------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.28 0253 | Invalid backup start time.           | Invalid backup start time.           | Check whether the backup start time meets the requirements and whether the requirements between the backup start time and end time are correct. |
| 400         | DBS.28 0270 | The parameter does not exist.        | The parameter does not exist.        | Check whether the parameter is correctly specified.                                                                                             |
| 400         | DBS.28 0271 | The parameter value is out of range. | The parameter value is out of range. | Check whether the parameter is correctly specified.                                                                                             |
| 400         | DBS.28 0272 | The tag key must be unique.          | The tag key must be unique.          | Check whether the tag key is unique.                                                                                                            |
| 400         | DBS.28 0277 | Invalid object name.                 | The object name is invalid.          | Check whether the object name is valid.                                                                                                         |
| 400         | DBS.28 0285 | Invalid AZ.                          | Invalid AZ.                          | Check whether the AZ parameter is correct and whether the AZ exists.                                                                            |
| 400         | DBS.28 0288 | Invalid FlavorRef.                   | Invalid flavor.                      | Check whether the flavor is valid.                                                                                                              |
| 400         | DBS.28 0311 | Invalid storage space size.          | Invalid storage space.               | Check whether the storage space is valid.                                                                                                       |
| 400         | DBS.28 0325 | Invalid storage information.         | Invalid storage information.         | Check whether the storage information is valid.                                                                                                 |
| 400         | DBS.28 0342 | Invalid cluster mode.                | Invalid cluster mode.                | Check whether the cluster mode is valid.                                                                                                        |
| 400         | DBS.28 0364 | Invalid database port.               | Invalid database port.               | Check whether the database port is valid.                                                                                                       |
| 400         | DBS.28 0365 | Invalid billing mode.                | Invalid billing mode.                | Check whether the billing mode is correct.                                                                                                      |
| 400         | DBS.28 0402 | Invalid HA mode.                     | Invalid HA mode.                     | Check whether the HA mode is valid.                                                                                                             |

| Status Code | Error Code  | Error Message                                                                        | Description                                                  | Troubleshooting                                          |
|-------------|-------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|
| 400         | DBS.28 0404 | Invalid DB instance ID or node ID format.                                            | Invalid DB instance ID or node ID format.                    | Check whether the instance ID is valid.                  |
| 400         | DBS.28 0407 | Invalid node ID.                                                                     | The node ID is invalid.                                      | Check whether the node ID is valid.                      |
| 400         | DBS.28 0416 | Invalid backup end time.                                                             | Invalid backup end time.                                     | Check whether the backup end time is valid.              |
| 400         | DBS.28 0433 | Invalid enterprise project ID.                                                       | Invalid enterprise project ID.                               | Check whether the enterprise project ID is valid.        |
| 400         | DBS.28 0434 | Invalid specification code.                                                          | Invalid specification code.                                  | Check whether the specification code is valid.           |
| 400         | DBS.28 0439 | Invalid records. The number of records must be an integer less than or equal to 100. | Invalid value. Enter a positive integer of no more than 100. | Check whether the number of queried records is valid.    |
| 400         | DBS.28 0440 | Invalid offset, please enter a non negative integer.                                 | Invalid offset. Enter a positive integer or zero.            | Check whether the offset is valid.                       |
| 400         | DBS.28 0447 | Invalid time zone.                                                                   | The time zone is invalid.                                    | Check whether the parameter is correctly specified.      |
| 400         | DBS.28 0600 | Invalid coordinator node quantity.                                                   | Invalid number of coordinating nodes.                        | Check whether the number of coordinator nodes is valid.  |
| 400         | DBS.28 0601 | Invalid shard quantity.                                                              | Invalid shard quantity.                                      | Check whether the number of shards is valid.             |
| 400         | DBS.28 0604 | Invalid number of added shards for cluster capacity expansion.                       | Invalid number of added shards.                              | Check whether the number of shards to be added is valid. |

| Status Code | Error Code  | Error Message                                                  | Description                                                    | Troubleshooting                                                                              |
|-------------|-------------|----------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 400         | DBS.28 0618 | Differential backup cycle invalid.                             | Differential backup cycle invalid.                             | Check whether the differential backup cycle is valid.                                        |
| 400         | DBS.28 0628 | Invalid replica count.                                         | Invalid number of replicas.                                    | Check whether the number of replicas is valid.                                               |
| 400         | DBS.28 0629 | The database version does not support two-replica instances.   | The database version does not support two-replica instances.   | Check whether the number of replicas is valid, or change the database version and try again. |
| 400         | DBS.28 0630 | Two-replica instances can only be deployed within a single AZ. | Two-replica instances can only be deployed within a single AZ. | Check whether the two-replica instances are deployed within a single AZ.                     |
| 400         | DBS.28 0631 | Invalid database name.                                         | Invalid database name.                                         | Check whether the database name is valid.                                                    |
| 400         | DBS.28 0632 | Invalid schema.                                                | Invalid schema.                                                | Check whether the database schema is valid.                                                  |
| 400         | DBS.28 0633 | Invalid source node group.                                     | Invalid source node group.                                     | Check whether the source node group is valid.                                                |
| 400         | DBS.28 0634 | Invalid target node group.                                     | Invalid target node group.                                     | Check whether the target node group is valid.                                                |
| 400         | DBS.28 0635 | Invalid Solution                                               | The solution is invalid.                                       | Check whether the parameter is correctly specified.                                          |
| 400         | DBS.29 0000 | Parameter error.                                               | Parameter error.                                               | Check whether the transferred parameters or URLs are correct and meet the requirements.      |
| 400         | DBS.29 0001 | Parameter error.                                               | Parameter error.                                               | Check whether the parameter is correctly specified.                                          |

| Status Code | Error Code | Error Message                                                                  | Description                                                                    | Troubleshooting                                                                                        |
|-------------|------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 403         | DBS.200010 | The DB instance ID or user ID may be null, or the operation is not authorized. | The DB instance ID or user ID may be null, or the operation is not authorized. | Check whether the instance ID or user ID is correct, or whether the access permissions are authorized. |
| 403         | DBS.200044 | Resource not found or permission denied.                                       | Resource not found or permission denied.                                       | Change the resource ID or check the access permissions.                                                |
| 403         | DBS.200174 | No permission to enable force switch.                                          | No permissions to configure forcible switchover.                               | Check whether you have permissions to configure forcible switchover.                                   |
| 403         | DBS.200604 | The DB instance ID or user ID may be null, or the operation is not authorized. | The DB instance ID or user ID may be null, or the operation is not authorized. | Check whether the instance ID or user ID is correct, or whether the access permissions are authorized. |
| 403         | DBS.200810 | You are not allowed to create databases on read replicas.                      | You are not allowed to create databases on read replicas.                      | Check what operations are allowed on read replicas.                                                    |
| 403         | DBS.200819 | You are not allowed to delete database users on read replicas.                 | You are not allowed to delete database users on read replicas.                 | Check what operations are allowed on read replicas.                                                    |
| 403         | DBS.280020 | The account is restricted.                                                     | Your account is restricted.                                                    | Check whether the account has sufficient permissions.                                                  |
| 400         | DBS.280800 | This operation is not allowed by the cluster status.                           | This operation is not allowed by the cluster status.                           | Check whether the cluster is running properly.                                                         |

| Status Code | Error Code | Error Message                                                                       | Description                                                                      | Troubleshooting                                                                                                                  |
|-------------|------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.280804 | This operation is not allowed for primary/standby instances with kernel version 1.x | This operation is not allowed for centralized instances with kernel version 1.x. | Check the kernel version of the instance. Upgrade the kernel version if necessary.                                               |
| 400         | DBS.280828 | The component ID must be the standby DN ID.                                         | The component ID must be the standby DN ID.                                      | Check the component ID status. The primary DN ID is not allowed.                                                                 |
| 403         | DBS.201003 | Resource not found or permission denied.                                            | Resource not found or permission denied.                                         | Change the resource ID or check the required access permissions.                                                                 |
| 403         | DBS.280015 | Resource not found or permission denied.                                            | Resource not found or permission denied.                                         | Change the resource ID or check the required access permissions.                                                                 |
| 403         | DBS.280056 | Invalid token.                                                                      | Invalid token.                                                                   | Check whether the token is correct, or obtain a new token and try again.                                                         |
| 404         | DBS.200002 | The DB instance does not exist.                                                     | The DB instance does not exist.                                                  | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.200008 | The ECS information of the DB instance cannot be found.                             | The ECS information of the DB instance cannot be found.                          | Check whether the instance ECS is normal.                                                                                        |
| 404         | DBS.200013 | The original DB instance does not exist.                                            | The original DB instance does not exist.                                         | Check whether the original instance exists.                                                                                      |

| Status Code | Error Code | Error Message                                                    | Description                                                      | Troubleshooting                                                                                                                  |
|-------------|------------|------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 404         | DBS.200045 | The DB instance does not exist.                                  | The DB instance does not exist.                                  | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.200050 | The security group does not exist or does not belong to the VPC. | The security group does not exist or does not belong to the VPC. | Check whether the security group is correctly configured.                                                                        |
| 404         | DBS.200408 | The DB instance abnormal, no normal nodes.                       | The instance is abnormal and no normal node exists.              | Check the instance or node status.                                                                                               |
| 404         | DBS.200470 | The region or AZ does not exist.                                 | The region or AZ does not exist.                                 | Enter a correct region ID or an AZ.                                                                                              |
| 404         | DBS.200501 | The subnet does not exist or does not belong to the VPC.         | The subnet does not exist or does not belong to the VPC.         | Check whether the subnet is correct.                                                                                             |
| 404         | DBS.200503 | The VPC does not exist or does not belong to the user.           | The VPC does not exist or does not belong to the user.           | Check whether the VPC is correct.                                                                                                |
| 404         | DBS.200602 | The DB instance does not exist.                                  | The DB instance does not exist.                                  | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.201010 | The backup file does not exist.                                  | The backup file does not exist.                                  | Check whether the backup exists and matches the instance.                                                                        |

| Status Code | Error Code  | Error Message                                                                         | Description                                                                           | Troubleshooting                                                                                                                  |
|-------------|-------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 404         | DBS.20 1028 | The DB instance does not exist.                                                       | The DB instance does not exist.                                                       | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.21 2001 | The parameter group does not exist.                                                   | The parameter template does not exist.                                                | Check whether the parameter template exists.                                                                                     |
| 404         | DBS.21 2013 | The object does not exist.                                                            | The object does not exist.                                                            | Check whether the object exists.                                                                                                 |
| 404         | DBS.29 0002 | The selected specifications do not exist.                                             | The selected specifications do not exist.                                             | Check whether the selected specifications are correct.                                                                           |
| 404         | DBS.29 0005 | The DB instance does not exist.                                                       | The DB instance does not exist.                                                       | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.29 0011 | The DB instance does not exist.                                                       | The DB instance does not exist.                                                       | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 404         | DBS.29 0013 | Resource not found.                                                                   | Resource not found.                                                                   | Check whether the transferred parameters are correct and whether the DB instance exists.                                         |
| 409         | DBS.20 0011 | Another operation is being performed on the DB instance or the DB instance is faulty. | Another operation is being performed on the DB instance or the DB instance is faulty. | Check whether the instance status or the ongoing operation on the instance conflicts with the request.                           |

| Status Code | Error Code  | Error Message                                                                              | Description                                                                                | Troubleshooting                                                                                        |
|-------------|-------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 409         | DBS.20 0019 | This operation conflicts with the currently running task, please troubleshoot by yourself. | This operation conflicts with the task that is being performed.                            | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 409         | DBS.20 0022 | The DB instance name already exists.                                                       | The DB instance name already exists.                                                       | Enter an instance name that is different from existing instance names.                                 |
| 409         | DBS.20 0047 | Another operation is being performed on the DB instance or the DB instance is faulty.      | Another operation is being performed on the DB instance or the DB instance is faulty.      | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 409         | DBS.20 0316 | This operation cannot be performed because the DB instance status is Storage full.         | This operation cannot be performed because the DB instance status is <b>Storage full</b> . | Check whether the instance storage space is full.                                                      |
| 409         | DBS.20 0402 | Invalid operation.                                                                         | Invalid operation.                                                                         | Check whether the operation is valid.                                                                  |
| 409         | DBS.20 0826 | The database name already exists.                                                          | The database name already exists.                                                          | Check whether the database name is valid.                                                              |
| 409         | DBS.20 0827 | The database user already exists.                                                          | The database user already exists.                                                          | Check whether the database user is valid.                                                              |
| 409         | DBS.20 0828 | Built-in database accounts cannot be edited.                                               | This is an internal account of the database and cannot be operated by users.               | Check whether you have required operation permissions.                                                 |

| Status Code | Error Code | Error Message                                                                                   | Description                                                                                     | Troubleshooting                                                                                        |
|-------------|------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 409         | DBS.201201 | The backup name already exists.                                                                 | The backup name already exists.                                                                 | Check whether the object exists.                                                                       |
| 409         | DBS.201202 | Another operation is being performed on the DB instance or the DB instance is faulty.           | Another operation is being performed on the DB instance or the DB instance is faulty.           | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 409         | DBS.201205 | Backup is in progress, please wait.                                                             | Backup is in progress.                                                                          | Wait until the backup is complete and try again.                                                       |
| 409         | DBS.212006 | Another operation is being performed on the DB instance or the DB instance is faulty.           | Another operation is being performed on the DB instance or the DB instance is faulty.           | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 409         | DBS.212033 | Failed to change parameter template values because the DB instance is currently being operated. | Failed to change parameter template values because the DB instance is currently being operated. | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 409         | DBS.280011 | This operation cannot be performed because the DB instance is abnormal or has been deleted.     | The DB instance is abnormal or has been deleted.                                                | Check whether the instance status is normal or whether the instance has been deleted.                  |

| Status Code | Error Code | Error Message                                            | Description                                              | Troubleshooting                                                                                        |
|-------------|------------|----------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 409         | DBS.280406 | Operation not allowed by the DB instance type or status. | Operation not allowed by the DB instance type or status. | Check whether the instance status or the ongoing operation on the instance conflicts with the request. |
| 413         | DBS.200046 | The number of DB instances has reached the quota.        | The number of DB instances has reached the quota.        | Check whether the number of DB instances has reached the quota.                                        |
| 413         | DBS.290003 | The number of DB instances has reached the quota.        | The number of DB instances has reached the quota.        | Check whether the number of DB instances has reached the quota.                                        |
| 422         | DBS.212019 | The parameter cannot be processed.                       | Parameter error.                                         | Check whether the parameter is correctly specified.                                                    |
| 500         | DBS.108000 | Server failure.                                          | Server failure.                                          | Contact the customer service administrator or try again.                                               |
| 500         | DBS.108002 | Server failure.                                          | Server failure.                                          | Contact the customer service administrator or try again.                                               |
| 500         | DBS.108005 | Server failure.                                          | Server failure.                                          | Contact the customer service administrator or try again.                                               |
| 500         | DBS.200005 | Server failure.                                          | Server failure.                                          | Contact the customer service administrator or try again.                                               |
| 500         | DBS.200208 | Server failure.                                          | Server failure.                                          | Contact the customer service administrator or try again.                                               |
| 500         | DBS.200811 | Failed to create the database.                           | Failed to create the database.                           | Check the failure cause or contact technical support.                                                  |
| 500         | DBS.200821 | Failed to modify database user permissions.              | Failed to modify database user permissions.              | Check whether you have required permissions.                                                           |
| 500         | DBS.213002 | Failed to process the request.                           | Failed to process the request.                           | Contact the customer service administrator or try again.                                               |

| Status Code | Error Code | Error Message                                                            | Description                                                        | Troubleshooting                                          |
|-------------|------------|--------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------|
| 500         | DBS.213004 | Failed to process the request.                                           | Failed to process the request.                                     | Contact the customer service administrator or try again. |
| 500         | DBS.290006 | Failed to process the request.                                           | Failed to process the request.                                     | Contact the customer service administrator or try again. |
| 500         | DBS.290015 | Failed to process the request.                                           | Failed to process the request.                                     | Contact the customer service administrator or try again. |
| 400         | DBS.280266 | Storage space must be a multiple of 10.                                  | Storage space must be a multiple of 10.                            | Check whether the storage space is a multiple of 10.     |
| 400         | DBS.280611 | Storage space must be a common multiple of 4GB and the number of shards. | The storage space must be a multiple of (Number of shards x 4 GB). | Check whether the storage space meets requirements.      |
| 400         | DBS.280612 | Storage space excess max limit for current shard number.                 | The selected storage space exceeds the upper limit.                | Check whether the storage space meets requirements.      |
| 400         | DBS.280243 | Invalid region.                                                          | Invalid region.                                                    | Enter a correct region ID.                               |
| 400         | DBS.200505 | The subnet does not exist or does not belong to the VPC.                 | The subnet does not exist or does not belong to the VPC.           | Enter a correct subnet and try again later.              |
| 404         | DBS.200502 | The security group does not exist or does not belong to the VPC.         | The security group does not exist or does not belong to the VPC.   | Enter a correct security group and try again later.      |
| 400         | DBS.200065 | Invalid retention days.                                                  | Invalid retention days.                                            | Check whether the retention days are valid.              |
| 400         | DBS.280602 | Invalid HA consistency.                                                  | Invalid HA consistency.                                            | Check whether the HA consistency is valid.               |

| Status Code | Error Code  | Error Message                                                | Description                                                        | Troubleshooting                                                                                                                  |
|-------------|-------------|--------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.28 0262 | Invalid synchronize model.                                   | Invalid synchronize model.                                         | Check whether the synchronize model is valid.                                                                                    |
| 400         | DBS.20 0057 | Invalid parameter template ID.                               | Invalid parameter template ID.                                     | Enter a correct parameter template ID and try again later.                                                                       |
| 404         | DBS.20 0058 | The parameter template does not exist.                       | The parameter template does not exist.                             | Check whether the parameter template exists.                                                                                     |
| 400         | DBS.20 0059 | Invalid database port.                                       | Invalid database port.                                             | Check whether the database port is valid.                                                                                        |
| 400         | DBS.28 0654 | The Ha instance is not supported to cancel parallel restore. | Parallel restoration cannot be canceled for centralized instances. | Cancel parallel restoration in the request body based on the <i>API Reference</i> .                                              |
| 400         | DBS.28 0613 | Please use specifications of data nodes.                     | Use the specifications of data nodes.                              | Check whether the specifications of data nodes are correct.                                                                      |
| 404         | DBS.20 0355 | Resource not found.                                          | Resource not found.                                                | Check whether the resources exist and try again.                                                                                 |
| 400         | DBS.20 0061 | Invalid billing mode.                                        | Invalid billing mode.                                              | Check whether the billing mode is valid.                                                                                         |
| 400         | DBS.20 1218 | The backup file is not manual.                               | The backup file is not a manual backup file.                       | Select a manual backup file.                                                                                                     |
| 404         | DBS.28 0022 | The DB instance does not exist.                              | The DB instance does not exist.                                    | Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists. |
| 400         | DBS.28 0408 | Invalid project ID.                                          | Invalid project ID.                                                | Check whether the project ID is valid.                                                                                           |

| Status Code | Error Code  | Error Message                                                                           | Description                                                                    | Troubleshooting                                                                              |
|-------------|-------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 400         | DBS.28 0607 | Exceeding the upper limit of data nodes number in a single expand request.              | The number of data nodes to be added at a time exceeds the upper limit.        | Check whether the number of data nodes to be added at a time reaches the upper limit.        |
| 400         | DBS.20 0082 | The available IP addresses in the selected subnet are insufficient.                     | The available IP addresses in the selected subnet are insufficient.            | Enter a correct subnet where there are available IP addresses and try again later.           |
| 400         | DBS.28 0606 | Expanding coordinator nodes and data nodes at the same time is not supported currently. | Coordinator nodes and data nodes cannot be added at the same time.             | View the related constraints and try again.                                                  |
| 400         | DBS.28 0608 | Exceeding the upper limit of coordinator nodes number in a single expand request.       | The number of coordinator nodes to be added at a time exceeds the upper limit. | Check whether the number of coordinator nodes to be added at a time reaches the upper limit. |
| 400         | DBS.28 0609 | Expand cluster request must contain at least one node type to expand.                   | At least one type of node needs to be added.                                   | View the related constraints and try again.                                                  |
| 400         | DBS.30 1024 | The backup file is not normal.                                                          | The backup file status is abnormal.                                            | Check the status of the backup file.                                                         |
| 400         | DBS.28 0651 | Failed to create all DB schemas.                                                        | Failed to create all DB schemas.                                               | Check the input schema parameters and try again.                                             |
| 400         | DBS.28 0652 | Failed to create some DB schemas.                                                       | Failed to create some DB schemas.                                              | Check the input schema parameters and try again.                                             |

| Status Code | Error Code | Error Message                                                                       | Description                                                                          | Troubleshooting                                                                                               |
|-------------|------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| 400         | DBS.200029 | Incorrect username or password parameter.                                           | Incorrect username or password.                                                      | Enter the correct username and password.                                                                      |
| 400         | DBS.280132 | Database name not entered.                                                          | The database name is not specified.                                                  | Enter a database name.                                                                                        |
| 400         | DBS.280661 | Illegal instance specification, which does not exist or does not match the instance | Illegal instance specification, which does not exist or does not match the instance. | Check the input specification parameters based on the instance.                                               |
| 400         | DBS.280626 | DR relationship established between primary and DR instances.                       | A DR relationship has been established between primary and DR instances.             | Check whether a DR relationship has been established between primary and DR instances.                        |
| 400         | DBS.280638 | The DR relationship does not exist.                                                 | The DR relationship does not exist.                                                  | Check whether the DR relationship exists.                                                                     |
| 400         | DBS.280806 | Cross-region DR operation failed.                                                   | Cross-region DR operation failed.                                                    | Check whether the project ID of the current region is valid.                                                  |
| 400         | DBS.280667 | Invalid shard component ID.                                                         | Invalid shard component ID.                                                          | Check whether the component ID is valid.                                                                      |
| 400         | DBS.280668 | Component IDs are from the same shard.                                              | Component IDs are from the same shard.                                               | Check whether component IDs are from different shards.                                                        |
| 400         | DBS.280676 | The component ID does not belong to the current node ID.                            | The component ID does not belong to the current node ID.                             | Check whether the component ID belongs to the corresponding node ID during the primary/standby DN switchover. |

| Status Code | Error Code    | Error Message                                                                                                          | Description                                                                                                           | Troubleshooting                                                     |
|-------------|---------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 400         | DBS.20 0478   | Failed to change the password.                                                                                         | Failed to change the password.                                                                                        | Check whether the password is correct.                              |
| 400         | DBS.20 0062   | Invalid database username.                                                                                             | Invalid database username.                                                                                            | Enter a valid database username.                                    |
| 400         | DBS.28 0653   | Invalid database template. Use the template0.                                                                          | Invalid database template. Use the template0.                                                                         | Enter a valid template name.                                        |
| 400         | DBS.20 0064   | Invalid retention days.                                                                                                | Invalid retention days.                                                                                               | Set the retention period to a valid value.                          |
| 400         | DBS.06 010001 | Instance status is invalid.                                                                                            | The instance status is invalid.                                                                                       | Check the instance status.                                          |
| 400         | DBS.06 020003 | An operation that conflicts with the current operation is in progress.                                                 | An operation that conflicts with the current operation is in progress.                                                | Check whether another operation is being performed on the instance. |
| 400         | DBS.06 020152 | Incremental restoration in progress for the primary instance. Perform this operation when there is no DR relationship. | Incremental restoration in progress for the DR instance. Select an instance without a DR relationship as DR instance. | Check the DR status of the current instance.                        |
| 400         | DBS.06 020153 | Incremental restoration failed for the DR instance. Perform this operation when there is no DR relationship.           | Incremental restoration failed for the DR instance. Select an instance without a DR relationship as DR instance.      | Check the DR status of the current instance.                        |

| Status Code | Error Code    | Error Message                                                                                                                        | Description                                                                                                                          | Troubleshooting                                                                                                                      |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.06 020154 | Promotion to primary in progress for the DR instance. Perform this operation when there is no DR relationship.                       | Promotion to primary in progress for the DR instance. Perform this operation when there is no DR relationship.                       | Check the DR status of the current instance.                                                                                         |
| 400         | DBS.06 020175 | Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress. | Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress. | Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress. |
| 400         | DBS.06 020177 | Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.                           | Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.                           | Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.                           |
| 400         | DBS.06 020180 | Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.              | Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.              | Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.              |
| 400         | DBS.06 020161 | The xlog_keep_radio field is invalid.                                                                                                | The <b>xlog_keep_radio</b> field is invalid.                                                                                         | The <b>xlog_keep_radio</b> field is invalid.                                                                                         |

| Status Code | Error Code    | Error Message                                                                  | Description                                      | Troubleshooting                                                                                                                                              |
|-------------|---------------|--------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 400         | DBS.06 020162 | This operation is not supported.                                               | This operation is not supported.                 | This operation is not supported.                                                                                                                             |
| 400         | DBS.06 280105 | This feature is not enabled.                                                   | This feature is not enabled.                     | Enable the feature on the O&M management platform.                                                                                                           |
| 400         | DBS.06 010013 | Parameter error: \$ {parameterName}\$ {parameterValue}                         | The parameter is invalid.                        | Enter a valid parameter value.                                                                                                                               |
| 400         | DBS.21 6003   | Permission denied.                                                             | No permission.                                   | Check whether the account has sufficient permissions.                                                                                                        |
| 400         | DBS.06 280032 | New OS does not match original instance.                                       | New OS does not match original instance.         | Check whether the OS of the new DB instance matches that of the original DB instance.                                                                        |
| 400         | DBS.06 280033 | The selected deployment model of the \$ {resourceType} type cannot be created. | The selected deployment model cannot be created. | Check whether the current resource type supports the creation of the instance.                                                                               |
| 400         | DBS.06 010018 | Failed to obtain the instance volume information.                              | The disk information fails to be obtained.       | Check whether the remote interface for obtaining disk information is successfully invoked or whether an exception occurs during disk information processing. |
| 400         | DBS.06 010041 | None of the configuration parameter values to be modified are changed.         | All modified parameter values remain unchanged.  | Enter a value that is different from the current value.                                                                                                      |

| Status Code | Error Code   | Error Message                                                                                    | Description                                                                           | Troubleshooting                                 |
|-------------|--------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------|
| 400         | DBS.06020109 | This operation is not supported because \$ {paramName} is not enabled. Contact customer service. | Operation not supported because \$ {paramName} is disabled. Contact customer service. | Contact customer service to enable the feature. |
| 400         | DBS.200920   | The number of batch operation exceeds the maximum. Please check.                                 | The number of objects included in a batch operation exceeds the maximum.              | Reduce the length of the request parameter.     |

## 6.4 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 using 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 the specified criteria.

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

The following is an example response. **id** indicates the project ID, and **name** indicates the project name.

```
{
 "projects": [
 {
 "domain_id": "65382450e8f64ac0870cd180d14e684b",
 "is_domain": false,
 "parent_id": "65382450e8f64ac0870cd180d14e684b",
 "name": "project_name",
 "description": "",
 "links": {
 "next": null,

```

```
 "previous": null,
 "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
 },
 "id": "a4a5d4098fb4474fa22cd05f897d6b99",
 "enabled": true
}
],
"links": {
 "next": null,
 "previous": null,
 "self": "https://www.example.com/v3/projects"
}
}
```

## Obtaining a Project ID from the Console

**Step 1** Register yourself on the management console and log in to it.

**Step 2** Move your pointer over the username and in the displayed drop-down list, select **My Credentials**.

On the **My Credential** page, view the project ID and name in the project list.

----End

## 6.5 Obtaining an Endpoint

### Obtaining a GaussDB Endpoint

The endpoint information of GaussDB consists of the service name, region ID, and external domain name. The format is as follows: *{service\_name}.{region0\_id}.{external\_global\_domain\_name}*

- *{service\_name}*: service name abbreviation, which is case-insensitive, for example, **gaussdb**.
- *{region0\_id}*: value of **region0\_id** in the "1.2 Basic\_Parameters" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during installation.
- *{external\_global\_domain\_name}*: value of the **external\_global\_domain\_name** parameter in the "1.2 Basic\_Parameters" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during installation.

#### NOTE

Before calling GaussDB APIs, configure the **hosts** file on the local PC as follows:

```
{apigw_float_ip} {service_name}.{region0_id}.{external_global_domain_name}
```

- *{apigw\_float\_ip}*: value of the **AGW-LB-Float-IP** parameter in the "2.1 Tool\_generated\_IP\_Params" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during the installation.
- *{service\_name}*: service name abbreviation, which is case-insensitive, for example, **gaussdb**.
- *{region0\_id}*: value of **region0\_id** in the "1.2 Basic\_Parameters" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during installation.
- *{external\_global\_domain\_name}*: value of the **external\_global\_domain\_name** parameter in the "1.2 Basic\_Parameters" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during installation.

Example:

```
172.202.2.10 gaussdb.sa-fb-1.songshanghu-x86-1.com
```

## Obtaining the Endpoint of the IAM Service

To obtain the endpoint of the IAM service, log in to DBS Operation System, choose **Instance O&M > Configuration Management > System Parameters**, and enter **iamEndpoint** in the search box and obtain the value following **https://**. For example:

```
iam-cache-proxy.sa-fb-1.songshanghu-x86-1.com:26335
```

### NOTE

Before calling an API to obtain a token, configure the **hosts** file on the local PC as follows:

```
{mo_float_ip} {iam_url}
```

- *{mo\_float\_ip}*: value of the **ManageOne-Tenant-Float-IP** parameter in the "2.1 Tool\_generated\_IP\_Params" sheet of the *xxx\_export\_all\_EN.xlsm* file exported during the installation. If there are multiple regions, search for the base installation project of the primary region that provides Global services.
- *{iam\_url}*: value between **https://** and **:26335** in the **iamEndpoint** parameter.

Example value:

```
172.202.0.119 iam-cache-proxy.sa-fb-1.songshanghu-x86-1.com
```

## 6.6 Replication Mode Table

Replication mode table

| Replication Mode | Description | Remarks |
|------------------|-------------|---------|
| sync             | Synchronous | N/A     |

## 6.7 DB Instance Specifications

This section describes the GaussDB instance specifications.

**Table 6-4** Instance specifications

| Specific<br>ation<br>Type   | Specification Code                         | vCPUs | Memory<br>(GB) |
|-----------------------------|--------------------------------------------|-------|----------------|
| General-<br>enhance<br>d II | gaussdb.opengauss.ee.dn.c3.2xlarge.x864.in | 8     | 32             |
|                             | gaussdb.opengauss.ee.dn.m4.2xlarge.8.in    | 8     | 64             |
|                             | gaussdb.opengauss.ee.dn.c3.4xlarge.x864.in | 16    | 64             |
|                             | gaussdb.opengauss.ee.dn.m4.4xlarge.8.in    | 16    | 128            |

| Specific<br>ation<br>Type | Specification Code                              | vCPUs | Memory<br>(GB) |
|---------------------------|-------------------------------------------------|-------|----------------|
|                           | gaussdb.opengauss.ee.dn.c3.8xl<br>arge.x864.in  | 32    | 128            |
|                           | gaussdb.opengauss.ee.dn.m4.8x<br>large.8.in     | 32    | 256            |
|                           | gaussdb.opengauss.ee.dn.c3.16x<br>large.x864.in | 64    | 256            |
|                           | gaussdb.opengauss.ee.dn.m4.16<br>xlarge.8.in    | 64    | 512            |