Virtual Private Network

# API Reference

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# 1 Before You Start

## 1.1 Overview

A Virtual Private Network (VPN) establishes an encrypted, Internet-based communication tunnel between your network and a Virtual Private Cloud (VPC). By default, Elastic Cloud Servers (ECSs) in a VPC cannot communicate with devices in your on-premises data center or private network. To enable communication between them, you can enable a VPN.

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

If you plan to use APIs of the VPN service, ensure that you are familiar with concepts of VPN. For details, see **Service Overview** in the VPN product documentation.

NOTE

There are two editions of VPN: Classic VPN and Enterprise Edition VPN. This document applies only to Enterprise Edition VPN.

## 1.2 API Calling

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

## 1.3 Endpoints

An endpoint is the request address for calling an API. Endpoints vary according to services and regions.

# 1.4 Constraints

The number of VPN resources that you can create is determined by your quota. You can view or increase the quota by referring to **What Quotas Does a VPN Have?**.

For more constraints, see description of each API.

# 1.5 Basic Concepts

- Account

  An account is created upon successful registration. The account has full access permissions on all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, and using it to perform routine management is not recommended. Instead, you are advised to create Identity and Access Management (IAM) users and grant routine management permissions to the users.

- User

  You can use your account to create IAM users for routine management of specific cloud services. These users have their own identity credentials (such as passwords and access keys).

  To view your account ID and IAM user ID, log in to the console, click your account in the upper right corner, and choose **My Credentials**. The account name, username, and password will be required for API authentication.

- Region

  Regions are divided based on geographical locations and network latency. Public services, such as ECS, Elastic Volume Service (EVS), Object Storage Service (OBS), VPC, Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region.

  Regions are classified into universal regions and dedicated regions.

  - A universal region provides universal cloud services for common tenants.
  - A dedicated region provides specific services for specific tenants.

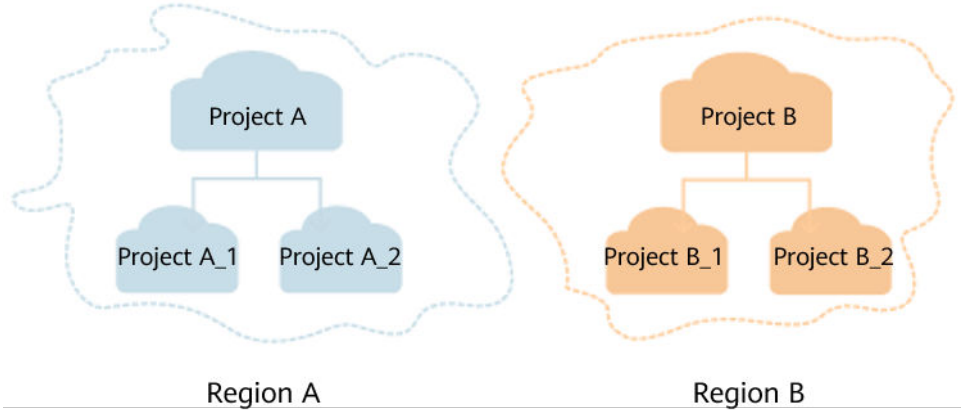
- Availability zone (AZ)

  An AZ comprises one or more physical data centers equipped with independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Compute, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are connected using high-speed optical fibers, allowing you to build highly available systems across AZs.

- Project

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

**Figure 1-1** Project isolation model




To view a project ID, log in to the console, click your account in the upper right corner, and choose **My Credentials**.

- Enterprise project

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

  For more information about enterprise projects and how to obtain enterprise project IDs, see the **Enterprise Management User Guide**.

# 2 API Overview

Table 2-1 lists the APIs provided by the VPN service. For details about API permissions, see Permission Policies and Supported Actions.

**Table 2-1** VPN APIs

| API Type | Description |
| --- | --- |
| VPN Gateway | APIs for creating, querying, updating, and deleting VPN gateways. |
| Customer Gateway | APIs for creating, querying, updating, and deleting customer gateways. |
| VPN Connection | APIs for creating, querying, updating, and deleting VPN connections. |
| VPN Connection Monitoring | APIs for creating, querying, and deleting VPN connection health checks. |
| Quota | API for querying quotas. |

# 3 Calling APIs

## 3.1 Request

This section describes the structure of a REST API request, and uses the IAM API for **obtaining a user token** as an example to demonstrate how to call an API. The obtained token can then be used to authenticate the calling of other APIs.

**Request URI**

A request URI is in the following format:

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

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

**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. |
| resource-path | Resource path of an API. Obtain the path from the URI of an API. For example, the **resource-path** of the API for obtaining a user token is **/v3/auth/tokens**. |
| query-string | (Optional) Query parameter. Ensure that a question mark (?) is included in front of each query parameter, which is in the format of *Parameter name*=*Parameter value*. For example, **?limit=10** indicates that a maximum of 10 data records can be queried. |

NOTE

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

### Request Methods

The HTTP protocol defines the following request methods for sending requests to a server.

**Table 3-2** HTTP methods

| Method | Description |
| --- | --- |
| GET | Requests a server to return specified resources. |
| PUT | Requests a server to update specified resources. |
| POST | Requests a server to add resources or perform special operations. |
| DELETE | Requests a server to delete a specified resource (for example, an object). |
| HEAD | Requests resource headers from a server. |
| PATCH | Requests a server to update part of specified resources.<br>If the requested resource does not exist, the server may create a resource using the PATCH method. |

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

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokens
```

### Request Header

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

For details about common request headers, see **Table 3-3**.

**Table 3-3** Common fields in request headers

| Parameter | Description | Mandatory | Example |
| --- | --- | --- | --- |
| Host | Specifies the server to which a request is sent, which can be obtained from the URL of the service API. The value is in the format of *Host name:Port number*. If the port number is not specified, the default port is used. The default port number for **https** is **443**. | No<br>This field is mandatory for access key (AK)/secret access key (SK) authentication. | code.test.com<br>or<br>code.test.com:443 |
| Content-Type | Specifies the type (or format) of a message body. The default value *application/json* is recommended. Other values will be described in the specific APIs. | Yes | application/json |
| Content-Length | Specifies the length of a request body, in bytes. | No | 3495 |
| X-Project-Id | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. | No<br>This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario. | e9993fc7**********baa340f9c0f4 |

| Parameter | Description | Mandatory | Example |
| --- | --- | --- | --- |
| X-Auth-Token | Specifies a user token.<br>A user token is carried in a response to the API for **obtaining a user token**. This API is the only one that does not require authentication.<br>The value of **X-Subject-Token** in the response header is the token. | No<br>This field is mandatory for token authentication. | The following is part of an example token:<br>MIIPAgYJKoZIhvcNAQc-Co...ggg1BBIINPXsidG9rZ |

NOTE

APIs also support AK/SK authentication, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added to the request.

For details about AK/SK authentication, see **Authentication**.

The API for **obtaining a user token** does not require authentication. As such, only the **Content-Type** field needs to be added to the requests for calling this API. An example of such requests is as follows:

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokensContent-Type:application/json
```

**Request Body**

This part is optional. A request body is generally sent in a structured format (for example, JSON or XML), which is specified by **Content-Type** in the request header. It 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.

Request bodies vary according to APIs. Some APIs do not require a request body, such as the APIs called using the GET and DELETE methods.

For the API used to **obtain a user token**, you can obtain the request parameters and parameter description from the API request. The following provides an example request with a body included. Replace ***username***, ***domainname***, ********* (login password), and ***xxxxxxxxxxxxxxxxx*** (project name, for example, **cn-north-1**) with the actual values.

NOTE

The **scope** field specifies where a token takes effect. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see **Obtaining a User Token**.

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/tokensContent-Type:application/json
{
```

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

If all data required by an API request is available, you can send the request to call the API through **curl**, **Postman**, or coding. In the response to the API for obtaining a user token, **x-subject-token** carries a user token. You can use this token to authenticate the calling of other APIs.

# 3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token authentication: Requests are authenticated using tokens.
- AK/SK authentication: Requests are encrypted using AK/SK pairs. AK/SK authentication is recommended as it is more secure than token authentication.

**Token Authentication**

NOTE

A token is valid for 24 hours. When using a token for authentication, cache it to avoid frequent calling.

A token is used to acquire temporary permissions. During API authentication using a token, the token is added to the request header to get permissions for calling the API. You can obtain a token by calling the API used to **obtain a user token**.

A cloud service can be deployed as either a project-level service or global service.

- For a project-level service, you need to obtain a project-level token by setting **auth.scope** in the request body to **project**.
- For a global service, you need to obtain a global token by setting **auth.scope** in the request body to **domain**.

A project-level token is required for calling APIs of the VPN service. As such, set **auth.scope** in the request body to **project** when you call the API for **obtaining a user token**.

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

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

After obtaining a token, add the **X-Auth-Token** field specifying the token to the request header when calling other APIs. For example, when the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** to the request header as follows:

```
POST https://iam.cn-north-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

### AK/SK Authentication

NOTE

AK/SK authentication supports API requests with a body size not larger than 12 MB. For API requests with larger sizes, use token authentication.

In AK/SK-based authentication, AK/SK is used to sign requests, and the signature is then added to the request header for authentication.

- AK: access key, which is a unique identifier used together with an SK to sign requests cryptographically.
- SK: secret access key, which is used together with an AK to sign requests cryptographically. It identifies a request sender and prevents the requests from being modified.

In AK/SK authentication, you can use an AK/SK to sign requests based on the signature algorithm or using the signing SDK. For details about how to sign requests and use the signing SDK, see **API Request Signing Guide**.

NOTE

Different from the SDKs provided by services, the signing SDK is used only for signing.

## 3.3 Response

### Status Code

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

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a response. For more information, see **7.2 Status Codes**.

For example, if status code **201** is returned after you call the API for **obtaining a user token**, the request is successful.

**Response Header**

Like 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** field carries a user token. You can use this token to authenticate the calling of other APIs.

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


**Response Body**

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

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

```
{
    "token": {
        "expires_at": "2022-09-10T06:52:13.855000Z",
        "methods": [
            "password"
        ],
        "catalog": [
            {
                "endpoints": [
                    {
                        "region_id": "cn-north-04",
.....
```

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

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

**error_code** specifies an error code, and **error_msg** describes the error.

# 4 APIs of Enterprise Edition VPN

## 4.1 VPN Gateway

### 4.1.1 Creating a VPN Gateway

#### Function

This API is used to create a VPN gateway.

#### Calling Method

For details, see **3 Calling APIs**.

#### URI

POST /v5/{project_id}/vpn-gateways

**Table 4-1** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

#### Request

- Request parameters

**Table 4-2** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpn_gateway | **CreateVgwRequestBodyContent** object | Yes | Specifies the VPN gateway object. |

**Table 4-3** CreateVgwRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies the name of a VPN gateway.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.).<br>• If this parameter is not specified, a name in the format of **vpngw-******** is automatically generated, for example, **vpngw-a45b**. |
| network_type | String | No | • Specifies the network type of the VPN gateway. A public VPN gateway (**public**) uses EIPs to connect to a customer gateway. A private VPN gateway (**private**) uses private IP addresses in a VPC to connect to a customer gateway.<br>• The value can be **public** or **private**.<br>• The default value is **public**. |
| attachment_type | String | No | • Specifies the association mode.<br>• The value can be **vpc** or **er**.<br>• The default value is **vpc**. |
| er_id | String | No | • Specifies the ID of the enterprise router instance to which the VPN gateway connects.<br>• The value is a UUID containing 36 characters. Set this parameter only when **attachment_type** is set to **er**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpc_id | String | No | • Function description:<br>– When **attachment_type** is set to **vpc**, **vpc_id** specifies the ID of the service VPC associated with the VPN gateway.<br>– When **attachment_type** is set to **er**, **vpc_id** specifies the ID of the access VPC used by the VPN gateway. In this case, any VPC ID can be used.<br>• The value is a UUID containing 36 characters. When **attachment_type** is set to **vpc**, this parameter is mandatory. When **attachment_type** is set to **er**, this parameter is optional; if both **vpc_id** and **access_vpc_id** are set, the **access_vpc_id** value is used.<br>You can obtain the VPC ID by **querying VPCs**. |
| local_subnets | Array of String | No | • Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises customer subnet through a VPN.<br>A maximum of 50 local subnets can be specified for each VPN gateway. For example, a local subnet can be 192.168.52.0/24.<br>• Set this parameter only when **attachment_type** is set to **vpc**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| connect_subnet | String | No | • Specifies the ID of the VPC subnet used by the VPN gateway.<br>• The value is a UUID containing 36 characters.<br>When **attachment_type** is set to **vpc**, this parameter is mandatory. When **attachment_type** is set to **er**, this parameter is optional; if both **connect_subnet** and **access_subnet_id** are set, the **access_subnet_id** value is used.<br>When **attachment_type** is set to **er**, the subnet must have at least two idle IP addresses.<br>When **attachment_type** is set to **vpc**, the subnet must have at least four idle IP addresses if the values of **access_subnet_id** and **connect_subnet** are the same or must have at least two idle IP addresses if the values of **access_subnet_id** and **connect_subnet** are different. |
| bgp_asn | Long | No | • Specifies the BGP AS number of the VPN gateway.<br>• The value ranges from 1 to 4294967295.<br>• The default value is 64512. |
| flavor | String | No | • Specifies the specifications of the VPN gateway.<br>• Value range:<br>– Basic<br>– Professional1<br>– Professional2<br>• This parameter cannot be set to **Basic** when **network_type** is **private** or when **attachment_type** is **er**.<br>• The default value is **Professional1**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| availability_zone_ids | Array of String | No | • Specifies the AZ where the VPN gateway is to be deployed. If this parameter is not specified, an AZ is automatically selected for the VPN gateway. You can obtain the AZ list by referring to **4.1.6 Querying the AZs of VPN Gateways**.<br>• If two or more AZs are returned when you **query the AZ list of VPN gateways**, enter two AZs. If only one AZ is returned, enter this AZ. If no AZ is returned, the VPN gateway cannot be created. |
| enterprise_project_id | String | No | • Specifies an enterprise project ID.<br>• The value is a UUID (36 characters) or 0.<br>• The default value is 0, indicating that the resource belongs to the default enterprise project. |
| eip1 | **CreateRequestEip** object | No | • Specifies the first EIP of the VPN gateway using the active-active mode or the active EIP of the VPN gateway using the active-standby mode.<br>• Set this parameter only when **network_type** is set to **public**. |
| eip2 | **CreateRequestEip** object | No | • Specifies the second EIP of the VPN gateway using the active-active mode or the standby EIP of the VPN gateway using the active-standby mode.<br>• Set this parameter only when **network_type** is set to **public**. |
| access_vpc_id | String | No | • Specifies the ID of the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters.<br>• By default, the value is the same as the value of **vpc_id**.<br>You can obtain the VPC ID by **querying VPCs**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| access_subnet_id | String | No | • Specifies the ID of the subnet in the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters.<br>When **attachment_type** is set to **er**, the subnet must have at least two idle IP addresses.<br>When **attachment_type** is set to **vpc**, the subnet must have at least four idle IP addresses if the values of **access_subnet_id** and **connect_subnet** are the same or must have at least two idle IP addresses if the values of **access_subnet_id** and **connect_subnet** are different.<br>• By default, the value is the same as the value of **connect_subnet**. |
| ha_mode | String | No | • Specifies the HA mode of the gateway. The value can be **active-active** or **active-standby**.<br>• Value range: active-active, active-standby<br>• Default value: **active-active** |
| access_private_ip_1 | String | No | • Specifies private IP address 1 of a private VPN gateway. Set this parameter if a private VPN gateway needs to use specified IP addresses. In active/standby gateway mode, the specified IP address is the active IP address. In active-active gateway mode, the specified IP address is active IP address 1.<br>• Value range: allocatable IP addresses in the access subnet<br>• This parameter must be specified together with **access_private_ip_2**, and the two parameters must have different values. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| access_private_ip_2 | String | No | • Specifies private IP address 2 of a private VPN gateway. Set this parameter if a private VPN gateway needs to use specified IP addresses. In active/standby gateway mode, the specified IP address is the standby IP address. In active-active gateway mode, the specified IP address is active IP address 2.<br>• Value range: allocatable IP addresses in the access subnet<br>• This parameter must be specified together with **access_private_ip_1**, and the two parameters must have different values. |
| tags | Array of **VpnResourceTag** objects | No | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |

**Table 4-4** CreateRequestEip

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| id | String | No | • Specifies an EIP ID.<br>• The value is a UUID containing 36 characters.<br>• Set this parameter only when an existing EIP is used. The value cannot be the ID of an EIP using shared bandwidth or the ID of a frozen EIP.<br>You can obtain the EIP ID by referring to **Querying EIPs**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| type | String | No | • Specifies the EIP type.<br>• The value is a string of 0 to 36 characters.<br>For the value range, see the **type** field in **Table 7 in Assigning an EIP**. The value **5_bgp** is preferred if it is supported.<br>• Set this parameter only when a new EIP is used.<br>For more constraints, see the **type** field in **Table 4 in Assigning an EIP**. |
| bandwidth_size | Integer | No | • Specifies the bandwidth (Mbit/s) of an EIP. The maximum EIP bandwidth varies according to regions and depends on the EIP service. You can submit a service ticket to increase the maximum EIP bandwidth under your account.<br>• The value ranges from 1 to 1000. For details, see the EIP documentation.<br>• Set this parameter only when a new EIP is used.<br>The value cannot be greater than 100 when **flavor** is set to **Basic**. The value cannot be greater than 300 when **flavor** is set to **Professional1**. The value cannot be greater than 1000 when **flavor** is set to **Professional2**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| bandwidth_name | String | No | • Specifies the bandwidth name of an EIP.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.).<br>• Set this parameter only when a new EIP is used.<br>• When a new EIP is used and this parameter is not set, an EIP bandwidth name in the format of **vpngw-bandwidth-******** is automatically generated, for example, **vpngw-bandwidth-e1fa**. |

**Table 4-5** VpnResourceTag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | Yes | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example requests
  a. Create a VPN gateway that uses existing EIPs and is associated with a VPC.

```
POST https://{Endpoint}/v5/{project_id}/vpn-gateways

{
    "vpn_gateway": {
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "local_subnets": [
            "192.168.0.0/24", "192.168.1.0/24"
        ],
```

```
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "eip1": {
            "id": "cff40e5e-demo-a8df-va86-7366077bf097"
        },
        "eip2": {
            "id": "d290f1ee-demo-a8df-va86-d701748f0851"
        }
    }
}
```

b. Create a VPN gateway that uses new EIPs and is associated with an enterprise router.

```
POST https://{Endpoint}/v5/{project_id}/vpn-gateways

{
    "vpn_gateway": {
        "name": "vpngw-1234",
        "attachment_type": "er",
        "er_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "vpc_id": "584a238f-demo-a8df-va86-edca746f6277",
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "bgp_asn": 65533,
        "flavor": "Professional2",
        "availability_zone_ids": [
            "cn-south-1f",
            "cn-south-1e"
        ],
        "eip1": {
            "type": "5_bgp",
            "charge_mode": "bandwidth",
            "bandwidth_size": 1000,
            "bandwidth_name": "vpngw-bandwidth-1391"
        },
        "eip2": {
            "type": "5_bgp",
            "charge_mode": "bandwidth",
            "bandwidth_size": 1000,
            "bandwidth_name": "vpngw-bandwidth-1392"
        }
    }
}
```

c. Create a private VPN gateway associated with a VPC.

```
POST https://{Endpoint}/v5/{project_id}/vpn-gateways

{
    "vpn_gateway": {
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "local_subnets": [
            "192.168.0.0/24", "192.168.1.0/24"
        ],
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "network_type": "private"
    }
}
```

## Response

- Response parameters

  Returned status code 201: successful operation

**Table 4-6** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_gateway | **ResponseVpnGateway** object | Specifies the VPN gateway object. |
| request_id | String | Specifies a request ID. |

**Table 4-7** ResponseVpnGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| nam | String | • Specifies a VPN gateway name. If no VPN gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| network_typ | String | • Specifies the network type of the VPN gateway.<br>• The value can be **public** or **private**.<br>• The default value is **public**. |
| attachment_type | String | • Specifies the association mode.<br>• The value can be **vpc** or **er**. |
| er_id | String | Specifies the ID of the enterprise router instance to which the VPN gateway connects. This parameter is available only when **attachment_type** is set to **er**. |
| vpc_id | String | When **attachment_type** is set to **vpc**, **vpc_id** specifies the ID of the service VPC associated with the VPN gateway.<br>When **attachment_type** is set to **er**, **vpc_id** specifies the ID of the access VPC used by the VPN gateway. |

| Parameter | Type | Description |
| --- | --- | --- |
| local_subnets | Array of String | Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises network through a VPN. For example, a local subnet can be 192.168.52.0/24. This parameter is available only when **attachment_type** is set to **vpc**. |
| connect_subnet | String | Specifies the ID of the VPC subnet used by the VPN gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the VPN gateway. |
| flavor | String | • Specifies the specifications of the VPN gateway.<br>• Value range:<br>**Basic**: The maximum forwarding bandwidth is 100 Mbit/s.<br>**Professional1**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional2**: The maximum forwarding bandwidth is 1 Gbit/s. |
| connection_number | Integer | Specifies the maximum number of VPN connections supported for the VPN gateway. |
| used_connection_number | Integer | Specifies the number of VPN connections that have been used by the VPN gateway. |
| used_connection_group | Integer | Specifies the number of VPN connection groups that have been used by the VPN gateway. A connection group consists of two connections between a customer gateway and a VPN gateway. By default, 10 VPN connection groups are included free of charge with the purchase of a VPN gateway. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID (36 characters) or 0. |
| access_vpc_id | String | • Specifies the ID of the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| access_subnet_id | String | • Specifies the ID of the subnet in the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| ha_mode | String | • Specifies the HA mode of the gateway. The value can be **active-active** or **active-standby**.<br>• Value range: active-active, active-standby<br>• Default value: **active-active** |
| policy_template | **PolicyTemplate** object | Specifies a policy template. This parameter is returned only for a VPN gateway that supports access via non-fixed IP addresses. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-8** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

**Table 4-9** PolicyTemplate

| Parameter | Type | Description |
| --- | --- | --- |
| ike_policy | **IkePolicy** object | Specifies the IKE policy object. |

| Parameter | Type | Description |
| --- | --- | --- |
| ipsec_policy | IpsecPolicy object | Specifies the IPsec policy object. |

**Table 4-10** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

**Table 4-11** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |

| Parameter | Type | Description |
| --- | --- | --- |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |

- Example responses

  a. Response to the request for creating a VPN gateway that uses existing EIPs and is associated with a VPC

```
{
   "vpn_gateway": {
      "id": "134f9fb1-demo-a8df-va86-2040a5c13325",
      "name": "vpngw-9f24",
      "network_type": "public",
      "attachment_type": "vpc",
      "vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
      "local_subnets": ["192.168.0.0/24"],
      "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "bgp_asn": 64512,
      "flavor": "Professional1",
      "connection_number": 200,
      "used_connection_number": 0,
      "used_connection_group": 0,
      "enterprise_project_id": "0",
      "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
      "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "ha_mode": "active-active"
   },
   "request_id": "7b37532a-d6e4-46b9-98dc-9169ec2ca58f"
}
```

  b. Response to the request for creating a VPN gateway that uses new EIPs and is associated with an enterprise router

```
{
   "vpn_gateway": {
      "id": "80ac167b-demo-a8df-va86-a9a2a23223b8",
      "name": "vpngw-1234",
      "network_type": "public",
      "attachment_type": "er",
      "er_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
      "bgp_asn": 65533,
      "flavor": "Professional2",
      "connection_number": 200,
      "used_connection_number": 0,
      "used_connection_group": 0,
      "enterprise_project_id": "0",
      "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
      "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "ha_mode": "active-active"
   },
   "request_id": "cd71cade-bfbd-410b-b672-4bfe46cfc311"
}
```

  c. Response to the request for creating a private VPN gateway associated with a VPC

```
{
  "vpn_gateway": {
    "id": "80ac167b-demo-a8df-va86-a9a2a23223b8",
    "name": "vpngw-1234",
    "network_type": "private",
    "attachment_type": "vpc",
    "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
    "local_subnets": ["192.168.0.0/24", "192.168.1.0/24"],
    "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "bgp_asn": 65533,
    "flavor": "Professional2",
    "connection_number": 200,
    "used_connection_number": 0,
    "used_connection_group": 0,
    "enterprise_project_id": "0",
    "access_vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
    "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "ha_mode": "active-active"
  },
  "request_id": "cd71cade-bfbd-410b-b672-4bfe46cfc311"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.1.2 Querying a Specified VPN Gateway

### Function

This API is used to query a VPN gateway with a specified gateway ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/vpn-gateways/{vgw_id}

**Table 4-12** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vgw_id | String | Yes | Specifies a VPN gateway ID. |

### Request

- Request parameters

  None

- Example request
  GET https://{Endpoint}/v5/{project_id}/vpn-gateways/{vgw_id}

## Response

- Response parameters

  Returned status code 200: successful query

  **Table 4-13** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_gateway | ResponseVpnGateway object | Specifies the VPN gateway object. |
| request_id | String | Specifies a request ID. |

  **Table 4-14** ResponseVpnGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN gateway name. If no VPN gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| network_type | String | • Specifies the network type of the VPN gateway.<br>• The value can be **public** or **private**.<br>• The default value is **public**. |
| status | String | • Specifies the status of the VPN gateway.<br>• Value range:<br>**PENDING_CREATE**: creating<br>**PENDING_UPDATE**: updating<br>**PENDING_DELETE**: deleting<br>**ACTIVE**: normal<br>**FAULT**: abnormal<br>**FREEZED**: frozen |

| Parameter | Type | Description |
| --- | --- | --- |
| attachment_type | String | • Specifies the association mode.<br>• The value can be **vpc** or **er**. |
| certificate_id | String | • Specifies the certificate ID.<br>• The value is a UUID containing 36 characters. |
| er_id | String | Specifies the ID of the enterprise router instance to which the VPN gateway connects. This parameter is available only when **attachment_type** is set to **er**. |
| vpc_id | String | • When **attachment_type** is set to **vpc**, **vpc_id** specifies the ID of the service VPC associated with the VPN gateway.<br>• When **attachment_type** is set to **er**, **vpc_id** specifies the ID of the access VPC used by the VPN gateway. |
| local_subnets | Array of String | Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises network through a VPN. For example, a local subnet can be 192.168.52.0/24. This parameter is available only when **attachment_type** is set to **vpc**. |
| connect_subnet | String | Specifies the ID of the VPC subnet used by the VPN gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the VPN gateway. |
| flavor | String | • Specifies the specifications of the VPN gateway.<br>• Value range:<br>**Basic**: The maximum forwarding bandwidth is 100 Mbit/s.<br>**Professional1**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional1-NonFixedIP**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional2**: The maximum forwarding bandwidth is 1 Gbit/s.<br>**Professional2-NonFixedIP**: The maximum forwarding bandwidth is 1 Gbit/s. |

| Parameter | Type | Description |
| --- | --- | --- |
| availability_zone_ids | Array of String | Specifies the AZ where the VPN gateway is deployed. This parameter is available when an AZ is specified. If no AZ is specified, this parameter is available only when the VPN gateway is in ACTIVE state. |
| connection_number | Integer | Specifies the maximum number of VPN connections supported for the VPN gateway. |
| used_connection_number | Integer | Specifies the number of VPN connections that have been used by the VPN gateway. |
| used_connection_group | Integer | Specifies the number of VPN connection groups that have been used by the VPN gateway. A connection group consists of two connections between a customer gateway and a VPN gateway. By default, 10 VPN connection groups are included free of charge with the purchase of a VPN gateway. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. If no enterprise project ID is specified during VPN gateway creation, 0 is returned, indicating that the resource belongs to the default enterprise project.<br>Note that 0 is not the ID of an existing enterprise project. |
| eip1 | **ResponseEip** object | Specifies the first EIP of the VPN gateway using the active-active mode or the active EIP of the VPN gateway using the active-standby mode. This parameter is available when the VPN gateway is in ACTIVE state. |
| eip2 | **ResponseEip** object | Specifies the second EIP of the VPN gateway using the active-active mode or the standby EIP of the VPN gateway using the active-standby mode. This parameter is available when the VPN gateway is in ACTIVE state. |
| created_at | String | Specifies the time when the VPN gateway is created. This parameter is available when the VPN gateway is in ACTIVE state. |

| Parameter | Type | Description |
| --- | --- | --- |
| updated_at | String | Specifies the last update time. This parameter is available when the VPN gateway is in ACTIVE state. |
| access_vpc_id | String | • Specifies the ID of the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| access_subnet_id | String | • Specifies the ID of the subnet in the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| access_private_ip_1 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the first private IP address of the VPN gateway in active-active mode or the active private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |
| access_private_ip_2 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the second private IP address of the VPN gateway in active-active mode or the standby private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |
| ha_mode | String | • Specifies the HA mode of the gateway. The value can be **active-active** or **active-standby**.<br>• Value range: active-active, active-standby<br>• Default value: **active-active** |
| policy_template | **PolicyTemplate** object | Indicates a policy template. This parameter is returned only for a VPN gateway that supports access via non-fixed IP addresses. |

| Parameter | Type | Description |
| --- | --- | --- |
| supported_flavors | Array of String | Specifies the specification to which the gateway can be upgraded. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-15** ResponseEip

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies an EIP ID.<br>• The value is a UUID containing 36 characters. If the default enterprise project is used, 0 is returned. |
| ip_version | Integer | • Specifies the EIP version.<br>• The value can only be **4**, indicating IPv4 address. |
| ip_billing_info | String | • Specifies the EIP order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |
| type | String | • Specifies the EIP type.<br>• For the value range, see the **type** field in **Table 7 in Assigning an EIP**. |
| ip_address | String | • Specifies an EIP, that is, a public IPv4 address.<br>• The value is an IPv4 address, for example, 88.***.***.11. |
| charge_mode | String | • Specifies the bandwidth billing mode of an EIP.<br>• Value range:<br>**bandwidth**: billed by bandwidth<br>**traffic**: billed by traffic |
| bandwidth_id | String | • Specifies the bandwidth ID of an EIP.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| bandwidth_size | Integer | • Specifies the bandwidth (Mbit/s) of an EIP. The maximum EIP bandwidth varies according to regions and depends on the EIP service. You can submit a service ticket to increase the maximum EIP bandwidth under your account.<br>• The value ranges from 1 to 1000. |
| bandwidth_name | String | • Specifies the bandwidth name of an EIP.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| bandwidth_billing_info | String | • Specifies the EIP bandwidth order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |

**Table 4-16** PolicyTemplate

| Parameter | Type | Description |
| --- | --- | --- |
| ike_policy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsec_policy | **IpsecPolicy** object | Specifies the IPsec policy object. |

**Table 4-17** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |

| Parameter | Type | Description |
| --- | --- | --- |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

**Table 4-18** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |

**Table 4-19** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example responses
  a. Example response to the request for querying a public VPN gateway associated with an enterprise router

```
{
    "vpn_gateway": {
        "id": "66ddeacb-demo-a8df-va86-9a414b5bd7d5",
        "name": "vpngw-5bd6",
        "network_type": "public",
        "status": "ACTIVE",
        "attachment_type": "er",
        "er_id": "c62fad0d-demo-a8df-va86-e06c4c351b9f",
        "bgp_asn": 64512,
        "flavor": "Professional1",
        "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
        "connection_number": 200,
        "used_connection_number": 0,
        "used_connection_group": 0,
        "enterprise_project_id": "0",
        "eip1": {
            "id": "0f6d1415-demo-a8df-va86-edb2ee97c9cc",
            "ip_version": 4,
            "type": "5_bgp",
            "ip_address": "88.***.***.251",
            "charge_mode": "bandwidth",
            "bandwidth_id": "e93767cc-demo-a8df-va86-bac2987f90a4",
            "bandwidth_size": 300,
            "bandwidth_name": "vpngw-bandwidth-10c3"
        },
        "eip2": {
            "id": "7b46b62f-demo-a8df-va86-6b8e44312416",
            "ip_version": 4,
            "type": "5_bgp",
            "ip_address": "88.***.***.102",
            "charge_mode": "bandwidth",
            "bandwidth_id": "bde3557e-demo-a8df-va86-629a3754ae07",
            "bandwidth_size": 300,
            "bandwidth_name": "vpngw-bandwidth-18bd"
        },
        "created_at": "2022-11-28T02:22:27.24Z",
        "updated_at": "2022-11-28T02:22:27.24Z",
        "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
        "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "ha_mode": "active-active"
    },
```

```
  "request_id": "28b795f8-d431-4f1e-93ab-1c401a82b799"
}
```

b. Example response to the request for querying a private VPN gateway associated with a VPC

```
{
  "vpn_gateway": {
    "id": "66ddeacb-demo-a8df-va86-9a414b5bd7d5",
    "name": "vpngw-5bd6",
    "network_type": "private",
    "status": "ACTIVE",
    "attachment_type": "vpc",
    "vpc_id": "91a74241-demo-a8df-va86-9b5f98c66c8c",
    "local_subnets": ["192.168.0.0/24"],
    "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "bgp_asn": 64512,
    "flavor": "Professional1",
    "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
    "connection_number": 200,
    "used_connection_number": 0,
    "used_connection_group": 0,
    "enterprise_project_id": "0",
    "created_at": "2022-11-28T02:22:27.24Z",
    "updated_at": "2022-11-28T02:22:27.24Z",
    "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
    "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "access_private_ip_1": "192.168.146.45",
    "access_private_ip_2":  "192.168.146.77",
    "ha_mode": "active-active"
  },
  "request_id": "28b795f8-d431-4f1e-93ab-1c401a82b799"
}
```

c. Example response to the request for querying a public VPN gateway that is associated with a VPC and supports access via non-fixed IP addresses

```
{
  "vpn_gateway":{
    "id":"66ddeacb-demo-a8df-va86-9a414b5bd7d5",
    "name":"vpngw-5bd6",
    "network_type":"public",
    "status":"ACTIVE",
    "attachment_type":"vpc",
    "vpc_id":"c62fad0d-demo-a8df-va86-e06c4c351b9f",
    "local_subnets":[
      "192.168.0.0/24"
    ],
    "connect_subnet":"fd75bf7b-demo-a8df-va86-db13f03e299a",
    "bgp_asn":64512,
    "flavor":"Professional1-NonFixedIP",
    "availability_zone_ids":[
      "cn-north-7c"
    ],
    "connection_number":200,
    "used_connection_number":0,
    "used_connection_group":0,
    "enterprise_project_id":"0",
    "ha_mode":"active-standby",
    "eip1":{
      "id":"0f6d1415-demo-a8df-va86-edb2ee97c9cc",
      "ip_version":4,
      "type":"5_bgp",
      "ip_address":"88.***.***.251",
      "charge_mode":"bandwidth",
      "bandwidth_id":"e93767cc-demo-a8df-va86-bac2987f90a4",
      "bandwidth_size":300,
      "bandwidth_name":"vpngw-bandwidth-10c3"
    },
    "eip2":{
      "id":"7b46b62f-demo-a8df-va86-6b8e44312416",
      "ip_version":4,
```

```
            "type":"5_bgp",
            "ip_address":"88.***.***.102",
            "charge_mode":"bandwidth",
            "bandwidth_id":"bde3557e-demo-a8df-va86-629a3754ae07",
            "bandwidth_size":300,
            "bandwidth_name":"vpngw-bandwidth-18bd"
        },
        "policy_template":{
            "ike_policy":{
                "encryption_algorithm":"aes-128",
                "dh_group":"group20",
                "authentication_algorithm":"sha2-256",
                "lifetime_seconds":86400
            },
            "ipsec_policy":{
                "authentication_algorithm":"sha2-256",
                "encryption_algorithm":"aes-128",
                "pfs":"group20",
                "lifetime_seconds":3600
            }
        },
        "created_at":"2022-11-28T02:22:27.24Z",
        "updated_at":"2022-11-28T02:22:27.24Z",
        "access_vpc_id":"4d03fe2d--demo-a8df-va86-6def96440f2b",
        "access_subnet_id":"fd75bf7b--demo-a8df-va86-e-db13f03e299a"
    },
    "request_id":"28b795f8-d431-4f1e-93ab-1c401a82b799"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.1.3 Querying the VPN Gateway List

### Function

This API is used to query the VPN gateway list.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/vpn-gateways

**Table 4-20** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

**Table 4-21** Parameter in a query request

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| enterprise_project_id | Array | No | Specifies an enterprise project ID. |

## Request

- Request parameters

  None

- Example requests

  a. Query all VPN gateways.

  ```
  GET https://{Endpoint}/v5/{project_id}/vpn-gateways
  ```

  b. Query VPN gateways based on a specified enterprise project ID.

  ```
  GET https://{Endpoint}/v5/{project_id}/vpn-gateways?
  enterprise_project_id={enterprise_project_id}
  ```

## Response

- Response parameters

  Returned status code 200: successful query

  **Table 4-22** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_gateways | Array of **ResponseVpnGateway** objects | Specifies gateway Information. |
| request_id | String | Specifies a request ID. |

  **Table 4-23** ResponseVpnGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN gateway name. If no VPN gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

| Parameter | Type | Description |
| --- | --- | --- |
| network_type | String | • Specifies the network type of the VPN gateway.<br>• The value can be **public** or **private**.<br>• The default value is **public**. |
| status | String | • Specifies the status of the VPN gateway.<br>• Value range:<br>**PENDING_CREATE**: creating<br>**PENDING_UPDATE**: updating<br>**PENDING_DELETE**: deleting<br>**ACTIVE**: normal<br>**FAULT**: abnormal<br>**FREEZED**: frozen |
| attachment_type | String | • Specifies the association mode.<br>• The value can be **vpc** or **er**. |
| er_id | String | Specifies the ID of the enterprise router instance to which the VPN gateway connects. This parameter is available only when **attachment_type** is set to **er**. |
| vpc_id | String | • When **attachment_type** is set to **vpc**, **vpc_id** specifies the ID of the service VPC associated with the VPN gateway.<br>• When **attachment_type** is set to **er**, **vpc_id** specifies the ID of the access VPC used by the VPN gateway. |
| local_subnets | Array of String | Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises network through a VPN. For example, a local subnet can be 192.168.52.0/24. This parameter is available only when **attachment_type** is set to **vpc**. |
| connect_subnet | String | Specifies the ID of the VPC subnet used by the VPN gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the VPN gateway. |

| Parameter | Type | Description |
| --- | --- | --- |
| flavor | String | • Specifies the specifications of the VPN gateway.<br>• Value range:<br>**Basic**: The maximum forwarding bandwidth is 100 Mbit/s.<br>**Professional1**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional1-NonFixedIP**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional2**: The maximum forwarding bandwidth is 1 Gbit/s.<br>**Professional2-NonFixedIP**: The maximum forwarding bandwidth is 1 Gbit/s. |
| availability_zone_ids | Array of String | Specifies the AZ where the VPN gateway is deployed. This parameter is available when an AZ is specified. If no AZ is specified, this parameter is available only when the VPN gateway is in ACTIVE state. |
| connection_number | Integer | Specifies the maximum number of VPN connections supported for the VPN gateway. |
| used_connection_number | Integer | Specifies the number of VPN connections that have been used by the VPN gateway. |
| used_connection_group | Integer | Specifies the number of VPN connection groups that have been used by the VPN gateway. A connection group consists of two connections between a customer gateway and a VPN gateway. By default, 10 VPN connection groups are included free of charge with the purchase of a VPN gateway. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. If no enterprise project ID is specified during VPN gateway creation, 0 is returned, indicating that the resource belongs to the default enterprise project.<br>Note that 0 is not the ID of an existing enterprise project. |

| Parameter | Type | Description |
| --- | --- | --- |
| eip1 | **ResponseEip** object | Specifies the first EIP used by the VPN gateway. This parameter is available when the VPN gateway is in ACTIVE state. |
| eip2 | **ResponseEip** object | Specifies the second EIP used by the VPN gateway. This parameter is available when the VPN gateway is in ACTIVE state. |
| created_at | String | Specifies the time when the VPN gateway is created. This parameter is available when the VPN gateway is in ACTIVE state. |
| updated_at | String | Specifies the last update time. This parameter is available when the VPN gateway is in ACTIVE state. |
| access_vpc_id | String | • Specifies the ID of the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| access_subnet_id | String | • Specifies the ID of the subnet in the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| access_private_ip_1 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the first private IP address of the VPN gateway in active-active mode or the active private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |

| Parameter | Type | Description |
| --- | --- | --- |
| access_private_ip_2 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the second private IP address of the VPN gateway in active-active mode or the standby private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |
| ha_mode | String | • Specifies the HA mode of the gateway. The value can be **active-active** or **active-standby**.<br>• Value range: active-active, active-standby<br>• Default value: **active-active** |
| policy_template | **PolicyTemplate** object | Indicates a policy template. This parameter is returned only for a VPN gateway that supports access via non-fixed IP addresses. |
| supported_flavors | Array of String | Specifies the specification to which the gateway can be upgraded. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-24** ResponseEip

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies an EIP ID.<br>• The value is a UUID containing 36 characters. If the default enterprise project is used, 0 is returned. |
| ip_version | Integer | • Specifies the EIP version.<br>• The value can only be **4**, indicating IPv4 address. |

| Parameter | Type | Description |
| --- | --- | --- |
| ip_billing_info | String | • Specifies the EIP order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |
| type | String | • Specifies the EIP type.<br>• For the value range, see the **type** field in **Table 7 in Assigning an EIP**. |
| ip_address | String | • Specifies an EIP, that is, a public IPv4 address.<br>• The value is an IPv4 address, for example, 88.***.***.11. |
| charge_mode | String | • Specifies the bandwidth billing mode of an EIP.<br>• Value range:<br>**bandwidth**: billed by bandwidth<br>**traffic**: billed by traffic |
| bandwidth_id | String | • Specifies the bandwidth ID of an EIP.<br>• The value is a UUID containing 36 characters. |
| bandwidth_size | Integer | • Specifies the bandwidth (Mbit/s) of an EIP. The maximum EIP bandwidth varies according to regions and depends on the EIP service. You can submit a service ticket to increase the maximum EIP bandwidth under your account.<br>• The value ranges from 1 to 1000. |
| bandwidth_name | String | • Specifies the bandwidth name of an EIP.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

| Parameter | Type | Description |
| --- | --- | --- |
| bandwidth_billing_info | String | • Specifies the EIP bandwidth order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |

**Table 4-25** PolicyTemplate

| Parameter | Type | Description |
| --- | --- | --- |
| ike_policy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsec_policy | **IpsecPolicy** object | Specifies the IPsec policy object. |

**Table 4-26** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

**Table 4-27** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |

**Table 4-28** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example responses

  a. Response to the request for querying all VPN gateways

```
{
   "vpn_gateways": [{
      "id": "8e1d0686-demo-a8df-va86-91f32fa1dfc8",
      "name": "vpngw-1af3",
      "network_type": "public",
      "status": "ACTIVE",
      "attachment_type": "vpc",
      "vpc_id": "91a74241-demo-a8df-va86-9b5f98c66c8c",
```

```
    "local_subnets": ["192.168.15.0/24"],
    "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "bgp_asn": 64512,
    "flavor": "Professional1",
    "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
    "connection_number": 200,
    "used_connection_number": 0,
    "used_connection_group": 0,
    "enterprise_project_id": "0",
    "eip1": {
        "id": "8ff5d6b5-demo-a8df-va86-b9d598033153",
        "ip_version": 4,
        "type": "5_bgp",
        "ip_address": "88.***.***.111",
        "charge_mode": "bandwidth",
        "bandwidth_id": "aa62f8f2-demo-a8df-va86-b05b2b999715",
        "bandwidth_size": 300,
        "bandwidth_name": "vpngw-bandwidth-13a3"
    },
    "eip2": {
        "id": "08e7e927-demo-a8df-va86-26a6394021eb",
        "ip_version": 4,
        "type": "5_bgp",
        "ip_address": "88.***.***.199",
        "charge_mode": "bandwidth",
        "bandwidth_id": "887d61f7-demo-a8df-va86-38ee8232e27c",
        "bandwidth_size": 300,
        "bandwidth_name": "vpngw-bandwidth-1afb"
    },
    "created_at": "2022-11-28T02:36:16.834Z",
    "updated_at": "2022-11-28T02:36:16.834Z",
    "access_vpc_id": "91a74241-demo-a8df-va86-9b5f98c66c8c",
    "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "ha_mode": "active-active"
}, {
    "id": "66ddeacb-demo-a8df-va86-9a414b5bd7d5",
    "name": "vpngw-2be4",
    "network_type": "public",
    "status": "ACTIVE",
    "attachment_type": "er",
    "er_id": "c62fad0d-demo-a8df-va86-e06c4c351b9f",
    "bgp_asn": 64512,
    "flavor": "Professional1",
    "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
    "connection_number": 200,
    "used_connection_number": 0,
    "used_connection_group": 0,
    "enterprise_project_id": "0",
    "eip1": {
        "id": "0f6d1415-demo-a8df-va86-edb2ee97c9cc",
        "ip_version": 4,
        "type": "5_bgp",
        "ip_address": "88.***.***.251",
        "charge_mode": "bandwidth",
        "bandwidth_id": "e93767cc-demo-a8df-va86-bac2987f90a4",
        "bandwidth_size": 300,
        "bandwidth_name": "vpngw-bandwidth-10c3"
    },
    "eip2": {
        "id": "7b46b62f-demo-a8df-va86-6b8e44312416",
        "ip_version": 4,
        "type": "5_bgp",
        "ip_address": "88.***.***.102",
        "charge_mode": "bandwidth",
        "bandwidth_id": "bde3557e-demo-a8df-va86-629a3754ae07",
        "bandwidth_size": 300,
        "bandwidth_name": "vpngw-bandwidth-18bd",
    },
    "created_at": "2022-11-28T02:22:27.24Z",
```

```
    "updated_at": "2022-11-28T02:22:27.24Z",
    "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
    "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
    "ha_mode": "active-active"
  },{
    "id":"66ddeacb-demo-a8df-va86-9a414b5bd7d5",
    "name":"vpngw-5bd6",
    "network_type":"public",
    "status":"ACTIVE",
    "attachment_type":"vpc",
    "vpc_id":"c62fad0d-demo-a8df-va86-e06c4c351b9f",
    "local_subnets":[
      "192.168.0.0/24"
    ],
    "connect_subnet":"fd75bf7b--demo-a8df-va86-db13f03e299a",
    "bgp_asn":64512,
    "flavor":"Professional1-NonFixedIP",
    "availability_zone_ids":[
      "cn-north-7c"
    ],
    "connection_number":200,
    "used_connection_number":0,
    "used_connection_group":0,
    "enterprise_project_id":"0",
    "ha_mode":"active-standby",
    "eip1":{
      "id":"0f6d1415-demo-a8df-va86-edb2ee97c9cc",
      "ip_version":4,
      "type":"5_bgp",
      "ip_address":"88.***.***.251",
      "charge_mode":"bandwidth",
      "bandwidth_id":"e93767cc-demo-a8df-va86-bac2987f90a4",
      "bandwidth_size":300,
      "bandwidth_name":"vpngw-bandwidth-10c3"
    },
    "eip2":{
      "id":"7b46b62f-demo-a8df-va86-6b8e44312416",
      "ip_version":4,
      "type":"5_bgp",
      "ip_address":"88.***.***.102",
      "charge_mode":"bandwidth",
      "bandwidth_id":"bde3557e-demo-a8df-va86-629a3754ae07",
      "bandwidth_size":300,
      "bandwidth_name":"vpngw-bandwidth-18bd"
    },
    "policy_template":{
      "ike_policy":{
        "encryption_algorithm":"aes-128",
        "dh_group":"group20",
        "authentication_algorithm":"sha2-256",
        "lifetime_seconds":86400
      },
      "ipsec_policy":{
        "authentication_algorithm":"sha2-256",
        "encryption_algorithm":"aes-128",
        "pfs":"group20",
        "lifetime_seconds":3600
      }
    },
    "created_at":"2022-11-28T02:22:27.24Z",
    "updated_at":"2022-11-28T02:22:27.24Z",
    "access_vpc_id":"4d03fe2d--demo-a8df-va86-6def96440f2b",
    "access_subnet_id":"fd75bf7b--demo-a8df-va86-e-db13f03e299a"
  }],
  "request_id": "de1b6caf-d024-4dac-850e-645af40c84f3"
}
```


b. Response to the request for querying VPN gateways based on a specified enterprise project ID

```
{
  "vpn_gateways": [{
      "id": "8e1d0686-demo-a8df-va86-91f32fa1dfc8",
      "name": "vpngw-1af3",
      "network_type": "public",
      "status": "ACTIVE",
      "attachment_type": "vpc",
      "vpc_id": "91a74241-demo-a8df-va86-9b5f98c66c8c",
      "local_subnets": ["192.168.15.0/24"],
      "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "bgp_asn": 64512,
      "flavor": "Professional1",
      "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
      "connection_number": 200,
      "used_connection_number": 0,
      "used_connection_group": 0,
      "enterprise_project_id": "7354dda9-demo-a8df-va86-a6b08fb92043",
      "eip1": {
          "id": "8ff5d6b5-demo-a8df-va86-b9d598033153",
          "ip_version": 4,
          "type": "5_bgp",
          "ip_address": "88.***.***.111",
          "charge_mode": "bandwidth",
          "bandwidth_id": "aa62f8f2-demo-a8df-va86-b05b2b999715",
          "bandwidth_size": 300,
          "bandwidth_name": "vpngw-bandwidth-13a3"
      },
      "eip2": {
          "id": "08e7e927-demo-a8df-va86-26a6394021eb",
          "ip_version": 4,
          "type": "5_bgp",
          "ip_address": "88.***.***.199",
          "charge_mode": "bandwidth",
          "bandwidth_id": "887d61f7-demo-a8df-va86-38ee8232e27c",
          "bandwidth_size": 300,
          "bandwidth_name": "vpngw-bandwidth-1afb"
      },
      "created_at": "2022-11-28T02:36:16.834Z",
      "updated_at": "2022-11-28T02:36:16.834Z",
      "access_vpc_id": "91a74241-demo-a8df-va86-9b5f98c66c8c",
      "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "ha_mode": "active-active"
  }, {
      "id": "66ddeacb-demo-a8df-va86-9a414b5bd7d5",
      "name": "vpngw-2be4",
      "network_type": "private",
      "status": "ACTIVE",
      "attachment_type": "er",
      "er_id": "c62fad0d-demo-a8df-va86-e06c4c351b9f",
      "bgp_asn": 64512,
      "flavor": "Professional1",
      "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
      "connection_number": 200,
      "used_connection_number": 0,
      "used_connection_group": 0,
      "enterprise_project_id": "7354dda9-demo-a8df-va86-a6b08fb92043",
      "access_private_ip_1": "192.168.4.7",
      "access_private_ip_2": "192.168.4.99",
      "created_at": "2022-11-28T02:22:27.24Z",
      "updated_at": "2022-11-28T02:22:27.24Z",
      "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
      "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "ha_mode": "active-active"
  },{
      "id":"66ddeacb-demo-a8df-va86-9a414b5bd7d5",
      "name":"vpngw-5bd6",
      "network_type":"public",
      "status":"ACTIVE",
      "attachment_type":"vpc",
```

```
    "vpc_id":"c62fad0d-demo-a8df-va86-e06c4c351b9f",
    "local_subnets":[
        "192.168.0.0/24"
    ],
    "connect_subnet":"fd75bf7b--demo-a8df-va86-db13f03e299a",
    "bgp_asn":64512,
    "flavor":"Professional1-NonFixedIP",
    "availability_zone_ids":[
        "cn-north-7c"
    ],
    "connection_number":200,
    "used_connection_number":0,
    "used_connection_group":0,
    "enterprise_project_id":"0",
    "ha_mode":"active-standby",
    "eip1":{
        "id":"0f6d1415-demo-a8df-va86-edb2ee97c9cc",
        "ip_version":4,
        "type":"5_bgp",
        "ip_address":"88.***.***.251",
        "charge_mode":"bandwidth",
        "bandwidth_id":"e93767cc-demo-a8df-va86-bac2987f90a4",
        "bandwidth_size":300,
        "bandwidth_name":"vpngw-bandwidth-10c3"
    },
    "eip2":{
        "id":"7b46b62f-demo-a8df-va86-6b8e44312416",
        "ip_version":4,
        "type":"5_bgp",
        "ip_address":"88.***.***.102",
        "charge_mode":"bandwidth",
        "bandwidth_id":"bde3557e-demo-a8df-va86-629a3754ae07",
        "bandwidth_size":300,
        "bandwidth_name":"vpngw-bandwidth-18bd"
    },
    "policy_template":{
        "ike_policy":{
            "encryption_algorithm":"aes-128",
            "dh_group":"group20",
            "authentication_algorithm":"sha2-256",
            "lifetime_seconds":86400
        },
        "ipsec_policy":{
            "authentication_algorithm":"sha2-256",
            "encryption_algorithm":"aes-128",
            "pfs":"group20",
            "lifetime_seconds":3600
        }
    },
    "created_at":"2022-11-28T02:22:27.24Z",
    "updated_at":"2022-11-28T02:22:27.24Z",
    "access_vpc_id":"4d03fe2d--demo-a8df-va86-6def96440f2b",
    "access_subnet_id":"fd75bf7b--demo-a8df-va86-e-db13f03e299a"
  }],
  "request_id": "bfa819a1-e824-4799-8e72-21a35dad97c9"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.1.4 Updating a VPN Gateway

### Function

This API is used to update a VPN gateway with a specified gateway ID.

## Calling Method

For details, see **3 Calling APIs**.

## URI

PUT /v5/{project_id}/vpn-gateways/{vgw_id}

**Table 4-29** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vgw_id | String | Yes | Specifies the ID of a VPN gateway instance. |

## Request

- Request parameters

**Table 4-30** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpn_gateway | **UpdateVgwRequestBodyContent** object | Yes | Specifies the VPN gateway object. |

**Table 4-31** UpdateVgwRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies the name of a VPN gateway.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| local_subnets | Array of String | No | • Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises network through a VPN. For example, a local subnet can be 192.168.52.0/24.<br>• You can set this parameter only when **attachment_type** is set to **vpc**. A maximum of 50 local subnets can be configured for each VPN gateway. |
| eip_id_1 | String | No | • Specifies the ID of the new EIP, which is used as the first EIP of the VPN gateway in active-active mode or the active EIP of the VPN gateway in active-standby mode. Before binding a new EIP, unbind the original EIP from the VPN gateway by referring to **Updating an EIP**.<br>• The value is a UUID containing 36 characters. You can set this parameter only when **network_type** is set to **public**. |
| eip_id_2 | String | No | • Specifies the ID of the new EIP, which is used as the second EIP of the VPN gateway in active-active mode or the standby EIP of the VPN gateway in active-standby mode. Before binding a new EIP, unbind the original EIP from the VPN gateway by referring to **Updating an EIP**.<br>• The value is a UUID containing 36 characters. You can set this parameter only when **network_type** is set to **public**. |
| policy_template | **PolicyTemplate** object | No | • Configures a policy template.<br>• This parameter is used to update the policy template of a VPN gateway whose specification is Professional1-NonFixedIP or Professional2-NonFixedIP. |

**Table 4-32** PolicyTemplate

| Parameter | Type | Description |
| --- | --- | --- |
| ike_policy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsec_policy | **IpsecPolicy** object | Specifies the IPsec policy object. |

**Table 4-33** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

**Table 4-34** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |

| Parameter | Type | Description |
| --- | --- | --- |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |

- Example requests

  a. Updating a VPN gateway that does not support access via non-fixed IP addresses

```
PUT https://{Endpoint}/v5/{project_id}/vpn-gateways/{vgw_id}

{
   "vpn_gateway": {
      "name": "vpngw-4321",
      "local_subnets": [
         "192.168.0.0/24"
      ],
      "eip_id_1": "f1469b4a-demo-a8df-va86-bb7de91cf493",
      "eip_id_2": "6ad8e297-demo-a8df-va86-da0f885ccb98"
   }
}
```

  b. Updating the policy template of a VPN gateway that supports access via non-fixed IP addresses

```
PUT https://{Endpoint}/v5/{project_id}/vpn-gateways/{vgw_id}
{
   "vpn_gateway":{
      "policy_template":{
         "ike_policy":{
            "authentication_algorithm":"sha2-256",
            "encryption_algorithm":"aes-128-gcm-16",
            "dh_group":"group21",
            "lifetime_seconds":86400
         },
         "ipsec_policy":{
            "authentication_algorithm":"sha2-256",
            "encryption_algorithm":"aes-128-gcm-16",
            "pfs":"disable",
            "lifetime_seconds":3600
         }
      }
   }
}
```

## Response

- Response parameters

  Returned status code 200: successful operation

**Table 4-35** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_gateway | **ResponseVpnGateway** object | Specifies the VPN gateway object. |
| request_id | String | Specifies a request ID. |

**Table 4-36** ResponseVpnGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN gateway name. If no VPN gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| network_type | String | • Specifies the network type of the VPN gateway.<br>• The value can be **public** or **private**.<br>• The default value is **public**. |
| attachment_type | String | • Specifies the association mode.<br>• The value can be **vpc** or **er**. |
| er_id | String | Specifies the ID of the enterprise router instance to which the VPN gateway connects. This parameter is available only when **attachment_type** is set to **er**. |
| vpc_id | String | • When **attachment_type** is set to **vpc**, **vpc_id** specifies the ID of the service VPC associated with the VPN gateway.<br>• When **attachment_type** is set to **er**, **vpc_id** specifies the ID of the access VPC used by the VPN gateway. |

| Parameter | Type | Description |
| --- | --- | --- |
| local_subnets | Array of String | Specifies a local subnet. This subnet is a cloud-side subnet that needs to communicate with an on-premises network through a VPN. For example, a local subnet can be 192.168.52.0/24. This parameter is available only when **attachment_type** is set to **vpc**. |
| connect_subnet | String | Specifies the ID of the VPC subnet used by the VPN gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the VPN gateway. |
| flavor | String | • Specifies the specifications of the VPN gateway.<br>• Value range:<br>**Basic**: The maximum forwarding bandwidth is 100 Mbit/s.<br>**Professional1**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional1-NonFixedIP**: The maximum forwarding bandwidth is 300 Mbit/s.<br>**Professional2**: The maximum forwarding bandwidth is 1 Gbit/s.<br>**Professional2-NonFixedIP**: The maximum forwarding bandwidth is 1 Gbit/s. |
| availability_zone_ids | Array of String | Specifies the AZ where the VPN gateway is deployed. This parameter is available when an AZ is specified. If no AZ is specified, this parameter is available only when the VPN gateway is in ACTIVE state. |
| connection_number | Integer | Specifies the maximum number of VPN connections supported for the VPN gateway. |
| used_connection_number | Integer | Specifies the number of VPN connections that have been used by the VPN gateway. |

| Parameter | Type | Description |
| --- | --- | --- |
| used_connection_group | Integer | Specifies the number of VPN connection groups that have been used by the VPN gateway. A connection group consists of two connections between a customer gateway and a VPN gateway. By default, 10 VPN connection groups are included free of charge with the purchase of a VPN gateway. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. If no enterprise project ID is specified during VPN gateway creation, 0 is returned, indicating that the resource belongs to the default enterprise project.<br>Note that 0 is not the ID of an existing enterprise project. |
| eip1 | **ResponseEip** object | Specifies the first EIP of the VPN gateway in the active-active mode or the active EIP of the VPN gateway in the active-standby mode. This parameter is available when the VPN gateway is in ACTIVE state. |
| eip2 | **ResponseEip** object | Specifies the second EIP of the VPN gateway in the active-active mode or the standby EIP of the VPN gateway in the active-standby mode. This parameter is available when the VPN gateway is in ACTIVE state. |
| created_at | String | Specifies the time when the VPN gateway is created. This parameter is available when the VPN gateway is in ACTIVE state. |
| updated_at | String | Specifies the last update time. This parameter is available when the VPN gateway is in ACTIVE state. |
| access_vpc_id | String | • Specifies the ID of the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |
| access_subnet_id | String | • Specifies the ID of the subnet in the access VPC used by the VPN gateway.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| access_private_ip_1 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the first private IP address of the VPN gateway in active-active mode or the active private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |
| access_private_ip_2 | String | Specifies a private IP address used by the VPN gateway to connect to a customer gateway when the network type is private network. This address is the second private IP address of the VPN gateway in active-active mode or the standby private IP address of the VPN gateway in the active-standby mode.<br>An example is 192.168.52.9. This parameter is available only when **network_type** is set to **private**. |
| ha_mode | String | • Specifies the HA mode of the gateway. The value can be **active-active** or **active-standby**.<br>• Value range: active-active, active-standby |
| policy_template | **PolicyTemplate** object | Indicates a policy template. This parameter is returned only for a VPN gateway that supports access via non-fixed IP addresses. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-37** ResponseEip

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies an EIP ID.<br>• The value is a UUID containing 36 characters. If the default enterprise project is used, 0 is returned. |

| Parameter | Type | Description |
| --- | --- | --- |
| ip_version | Integer | • Specifies the EIP version.<br>• The value can only be **4**, indicating IPv4 address. |
| ip_billing_info | String | • Specifies the EIP order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |
| type | String | • Specifies the EIP type.<br>• For the value range, see the **type** field in **Table 7 in Assigning an EIP**. |
| ip_address | String | • Specifies an EIP, that is, a public IPv4 address.<br>• The value is an IPv4 address, for example, 88.***.***.11. |
| charge_mode | String | • Specifies the bandwidth billing mode of an EIP.<br>• Value range:<br>**bandwidth**: billed by bandwidth<br>**traffic**: billed by traffic |
| bandwidth_id | String | • Specifies the bandwidth ID of an EIP.<br>• The value is a UUID containing 36 characters. |
| bandwidth_size | Integer | • Specifies the bandwidth (Mbit/s) of an EIP. The maximum EIP bandwidth varies according to regions and depends on the EIP service. You can submit a service ticket to increase the maximum EIP bandwidth under your account.<br>• The value ranges from 1 to 1000. For details, see the EIP documentation. |
| bandwidth_name | String | • Specifies the bandwidth name of an EIP.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

| Parameter | Type | Description |
| --- | --- | --- |
| bandwidth_billing_info | String | • Specifies the EIP bandwidth order information.<br>• The value is in the format of *order_id*:*product_id*:*region_id*:*project_id*, for example: CS22********LIBIV:00301-******-0--0:br-iaas-odin1:0605768a**********c006c7e484aa |

**Table 4-38** PolicyTemplate

| Parameter | Type | Description |
| --- | --- | --- |
| ike_policy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsec_policy | **IpsecPolicy** object | Specifies the IPsec policy object. |

**Table 4-39** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

**Table 4-40** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, or **sha2-256**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, or **aes-128**. |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |

**Table 4-41** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example responses

  a. Response to the request for updating a VPN gateway that does not support access via non-fixed IP addresses

```
{
    "vpn_gateway": {
        "id": "620d99b8-demo-a8df-va86-200b868f2d7d",
        "name": "vpngw-4321",
        "attachment_type": "vpc",
        "network_type": "public",
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
```

```
      "local_subnets": [
         "192.168.0.0/24"
      ],
      "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "bgp_asn": 64512,
      "flavor": "Professional1",
      "availability_zone_ids": ["cn-south-1f", "cn-south-1e"],
      "connection_number": 200,
      "used_connection_number": 0,
      "used_connection_group": 0,
      "enterprise_project_id": "0",
      "eip1": {
         "id": "f1469b4a-demo-a8df-va86-bb7de91cf493",
         "ip_version": 4,
         "type": "5_bgp",
         "ip_address": "88.***.***.102",
         "charge_mode": "bandwidth",
         "bandwidth_id": "cff40e5e-demo-a8df-va86-7366077bf097",
         "bandwidth_size": 300,
         "bandwidth_name": "vpngw-bandwidth-1391"
      },
      "eip2": {
         "id": "6ad8e297-demo-a8df-va86-da0f885ccb98",
         "ip_version": 4,
         "type": "5_bgp",
         "ip_address": "88.***.***.188",
         "charge_mode": "bandwidth",
         "bandwidth_id": "d290f1ee-demo-a8df-va86-d701748f0851",
         "bandwidth_size": 300,
         "bandwidth_name": "vpngw-bandwidth-1392"
      },
   "created_at": "2022-09-15T08:56:09.386Z",
      "updated_at": "2022-09-15T11:13:13.677Z",
      "access_vpc_id": "0cf79a3f-demo-a8df-va86-d7ace626b0fa",
      "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
      "ha_mode": "active-active"
   },
   "request_id": "33a2b77a-65f9-4fa0-90bd-4bd42038eb41"
}
```


b. Response to the request for updating a VPN gateway that supports access via non-fixed IP addresses


```
{
   "vpn_gateway":{
      "id":"620d99b8-demo-a8df-va86-200b868f2d7d",
      "name":"vpngw-4321",
      "attachment_type":"vpc",
      "network_type":"public",
      "vpc_id":"cb4a631d-demo-a8df-va86-ca3fa348c36c",
      "local_subnets":[
         "192.168.0.0/24"
      ],
      "connect_subnet":"f5741286-demo-a8df-va86-2c82bd9ee114",
      "bgp_asn":64512,
      "flavor":"Professional1",
      "availability_zone_ids":[
         "cn-south-1f",
         "cn-south-1e"
      ],
      "connection_number":200,
      "used_connection_number":0,
      "used_connection_group":0,
      "enterprise_project_id":"0",
      "eip1":{
         "id":"f1469b4a-demo-a8df-va86-bb7de91cf493",
         "ip_version":4,
         "type":"5_bgp",
         "ip_address":"88.***.***.102",
         "charge_mode":"bandwidth",
         "bandwidth_id":"cff40e5e-demo-a8df-va86-7366077bf097",
```

```
            "bandwidth_size":300,
            "bandwidth_name":"vpngw-bandwidth-1391"
        },
        "eip2":{
            "id":"6ad8e297-demo-a8df-va86-da0f885ccb98",
            "ip_version":4,
            "type":"5_bgp",
            "ip_address":"88.***.***.188",
            "charge_mode":"bandwidth",
            "bandwidth_id":"d290f1ee-demo-a8df-va86-d701748f0851",
            "bandwidth_size":300,
            "bandwidth_name":"vpngw-bandwidth-1392"
        },
        "created_at":"2022-09-15T08:56:09.386Z",
        "updated_at":"2022-09-15T11:13:13.677Z",
        "access_vpc_id":"0cf79a3f-demo-a8df-va86-d7ace626b0fa",
        "access_subnet_id":"f5741286-demo-a8df-va86-2c82bd9ee114",
        "ha_mode":"active-active",
        "policy_template":{
            "ike_policy":{
                "authentication_algorithm":"sha2-256",
                "encryption_algorithm":"aes-128-gcm-16",
                "dh_group":"group21",
                "lifetime_seconds":86400
            },
            "ipsec_policy":{
                "authentication_algorithm":"sha2-256",
                "encryption_algorithm":"aes-128-gcm-16",
                "pfs":"disable",
                "lifetime_seconds":3600
            }
        }
    },
    "request_id":"33a2b77a-65f9-4fa0-90bd-4bd42038eb41"
}
```


c. Response returned when a VPN gateway being created fails to be updated


```
{
    "error_code":"VPN.0003",
    "error_msg":"resource (type=GATEWAY, ID=ff9bdca6-demo-a8df-va86-e4bcc1ea52bc) is not ready, currently CREATING",
    "request_id": "abafe41c-7744-41af-bf3d-4452872af799"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.1.5 Deleting a VPN Gateway

### Function

This API is used to delete a VPN gateway with a specified gateway ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

DELETE /v5/{project_id}/vpn-gateways/{vgw_id}

**Table 4-42** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vgw_id | String | Yes | Specifies the ID of a VPN gateway instance. |

### Request

- Request parameters

  None

- Example request

```
DELETE https://{Endpoint}/v5/{project_id}/vpn-gateways/{vgw_id}
```

### Response

- Response parameters

  Returned status code 204: successful deletion

- Example response

  Response returned when a VPN gateway being created fails to be deleted

```
{
    "error_code":"VPN.0003",
    "error_msg":"resource (type=GATEWAY, ID=ff9bdca6-demo-a8df-va86-e4bcc1ea52bc) is not ready, currently CREATING",
    "request_id": "1d94a4e8-fdc2-7bfd-943e-19bfa9b234ac"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.1.6 Querying the AZs of VPN Gateways

### Function

This API is used to query the AZs of VPN gateways.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/vpn-gateways/availability-zones

**Table 4-43** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

## Request

- Request parameters

  None

- Example request

```
GET https://{Endpoint}/v5/{project_id}/vpn-gateways/availability-zones
```

## Response

- Response parameters

  Returned status code 200: successful operation

**Table 4-44** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| availability_zones | **AvailabilityZones** object | Specifies the list of AZs. |
| request_id | String | Specifies a request ID. |

**Table 4-45** AvailabilityZones

| Parameter | Type | Description |
| --- | --- | --- |
| basic | **VpnGatewayAvailabilityZones** object | Indicates that the specification of VPN gateways is Basic. |
| professional1 | **VpnGatewayAvailabilityZones** object | Indicates that the specification of VPN gateways is Professional1. |
| Professional1-NonFixedIP | **VpnGatewayAvailabilityZones** object | Indicates that the specification of VPN gateways is Professional1-NonFixedIP. |
| professional2 | **VpnGatewayAvailabilityZones** object | Indicates that the specification of VPN gateways is Professional2. |

| Parameter | Type | Description |
| --- | --- | --- |
| Professional2-NonFixedIP | VpnGatewayAvailabilityZones object | Indicates that the specification of VPN gateways is Professional2-NonFixedIP. |

**Table 4-46** VpnGatewayAvailabilityZones

| Parameter | Type | Description |
| --- | --- | --- |
| vpc | Array of String | Specifies the list of AZs for VPN gateways associated with VPCs. |
| er | Array of String | Specifies the list of AZs for VPN gateways associated with enterprise routers. |

- Example response

```
{
    "availability_zones": {
        "basic": {
            "vpc": ["cn-south-1f"],
            "er": []
        },
        "professional1": {
            "vpc": ["cn-south-1f", "cn-south-1e", "cn-south-1c"],
            "er": ["cn-south-1f"]
        },
        "professional2": {
            "vpc": ["cn-south-1f", "cn-south-1e", "cn-south-1c"],
            "er": ["cn-south-1f"]
        },
    },
    "request_id": "b60309ab-812c-4269-9de4-fb9a65e6db16"
}
```

### Status Codes

For details, see 7.2 Status Codes.

# 4.2 Customer Gateway

## 4.2.1 Creating a Customer Gateway

### Function

This API is used to create a customer gateway to which a VPN gateway connects.

### Calling Method

For details, see 3 Calling APIs.

## URI

POST /v5/{project_id}/customer-gateways

**Table 4-47** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

## Request

- Request parameters

**Table 4-48** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| customer_gateway | **CreateCgwRequestBodyContent** object | Yes | Specifies the customer gateway object. |

**Table 4-49** CreateCgwRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies the name of a customer gateway. If this parameter is not specified, a name in the format of **cgw-******** is automatically generated, for example, **cgw-21a3**.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| id_type | String | No | • Specifies the identifier type of a customer gateway.<br>• The value can be **ip** or **fqdn**.<br>• The default value is **ip**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| id_value | String | Yes | • Specifies the identifier of a customer gateway.<br>• The value is a string of 1 to 128 characters. When **id_type** is set to **ip**, the value is an IPv4 address in dotted decimal notation, for example, 192.168.45.7. When **id_type** is set to **fqdn**, the value is a string of characters that can contain uppercase letters, lowercase letters, digits, and special characters. Spaces and the following special characters are not supported: & < > [ ] \ ?. |
| bgp_asn | Long | No | • Specifies the BGP AS number of the customer gateway.<br>• The value ranges from 1 to 4294967295.<br>• Set this parameter only when **id_type** is set to **ip**. |
| tags | Array of **VpnResourceTag** object | No | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |

**Table 4-50** VpnResourceTag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | Yes | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example request

```
POST https://{Endpoint}/v5/{project_id}/vpn/customer-gateways

{
   "customer_gateway": {
      "name": "cgw-2abf",
      "id_type": "ip",
      "id_value": "10.***.***.21",
      "bgp_asn": 65000,
   }
}
```

## Response

- Response parameters

  Returned status code 201: successful creation

**Table 4-51** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| customer_gateway | ResponseCustomerGateway object | Specifies the customer gateway object. |
| request_id | String | Specifies a request ID. |

**Table 4-52** ResponseCustomerGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a customer gateway name. If no customer gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| id_type | String | • Specifies the identifier type of a customer gateway.<br>• The value can be **ip** or **fqdn**. |
| id_value | String | Specifies the identifier of a customer gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the customer gateway. This parameter is available only when **id_type** is set to **ip**. |

| Parameter | Type | Description |
| --- | --- | --- |
| created_at | String | Specifies the time when the customer gateway is created. |
| updated_at | String | Specifies the last update time. |
| tags | Array of VpnResourceTag objects | Specifies a tag list. |

**Table 4-53** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example response

```
{
    "customer_gateway": {
        "id": "03c0aa3d-demo-a8df-va86-9d82473765d4",
        "name": "cgw-2abf",
        "id_type": "ip",
        "id_value": "10.***.***.21",
        "bgp_asn": 65000,
        "created_at": "2021-12-21T16:49:28.108+08:00",
        "updated_at": "2021-12-21T16:49:28.108+08:00"
    },
    "request_id": "7e0383bf-a7fb-461b-a926-baa8a795bf1a"
}
```

## Status Codes

For details, see 7.2 Status Codes.

# 4.2.2 Querying a Specified Customer Gateway

## Function

This API is used to query a customer gateway with a specified gateway ID.

## Calling Method

For details, see **3 Calling APIs**.

## URI

GET /v5/{project_id}/customer-gateways/{customer_gateway_id}

**Table 4-54** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| customer_gateway_id | String | Yes | Specifies a customer gateway ID. |

## Request

- Request parameters

  None

- Example request

```
GET https://{Endpoint}/v5/{project_id}/customer-gateways/{customer_gateway_id}
```

## Response

- Response parameters

  Returned status code 200: successful query

**Table 4-55** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| customer_gateway | **ResponseCustomerGateway** object | Specifies the customer gateway object. |
| request_id | String | Specifies a request ID. |

**Table 4-56** ResponseCustomerGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| name | String | • Specifies a customer gateway name. If no customer gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| id_type | String | • Specifies the identifier type of a customer gateway.<br>• The value can be **ip** or **fqdn**. |
| id_value | String | Specifies the identifier of a customer gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the customer gateway. This parameter is available only when **id_type** is set to **ip**. |
| created_at | String | Specifies the time when the customer gateway is created. |
| updated_at | String | Specifies the last update time. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-57** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example response

```
{
    "customer_gateway": {
```

```
        "id": "03c0aa3d-demo-a8df-va86-9d82473765d4",
        "name": "cgw-ba08",
        "id_type": "ip",
        "id_value": "10.***.***.21",
        "bgp_asn": 65000,
        "created_at": "2021-12-21T16:49:28.108+08:00",
        "updated_at": "2021-12-21T16:49:28.108+08:00"
    },
    "request_id": "8111d315-5024-45c9-8ee3-5ef676edb0d1"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.2.3 Querying the Customer Gateway List

### Function

This API is used to query the customer gateway list.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/customer-gateways

**Table 4-58** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

**Table 4-59** Parameter in a query request

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| limit | Integer | No | • Specifies the number of records returned on each page during pagination query.<br>• The value ranges from 0 to 200.<br>• The default value is 200. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| marker | String | No | • Specifies the start flag for querying the current page. If this parameter is left blank, the first page is queried. The **marker** for querying the next page is the **next_marker** in the **page_info** object returned on the current page.<br>• This parameter must be used together with **limit**. |

## Request

- Request parameters

  None

- Example request

```
GET https://{Endpoint}/v5/{project_id}/customer-gateways?limit={limit}&marker={marker}
```

## Response

- Response parameters

  Returned status code 200: successful query

**Table 4-60** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| customer_gateways | Array of **ResponseCustomerGateway** objects | Specifies the customer gateway object. |
| total_count | Long | Specifies the total number of a tenant's customer gateways. |
| page_info | **PageInfo** object | Specifies pagination information. |
| request_id | String | Specifies a request ID. |

**Table 4-61** ResponseCustomerGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| name | String | • Specifies a customer gateway name. If no customer gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| id_type | String | • Specifies the identifier type of a customer gateway.<br>• The value can be **ip** or **fqdn**. |
| id_value | String | Specifies the identifier of a customer gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the customer gateway. This parameter is available only when **id_type** is set to **ip**. |
| created_at | String | Specifies the time when the customer gateway is created. |
| updated_at | String | Specifies the last update time. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-62** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

**Table 4-63** PageInfo

| Parameter | Type | Description |
| --- | --- | --- |
| next_marker | String | Specifies the marker of the next page. The value is the time when the last resource in the last query response was created. |
| current_count | Integer | Specifies the number of resources in the list. If the value of **current_count** is less than the value of **limit** in the query request, the current page is the last page. |

- Example response

```
{
    "customer_gateways": [{
        "id": "e67d6e27-demo-a8df-va86-be9a0f0168e9",
        "name": "cgw-a45b",
        "id_type": "ip",
        "id_value": "100.***.***.81",
        "bgp_asn": 65588,
        "created_at": "2022-11-28T07:36:24.923Z",
        "updated_at": "2022-11-28T07:36:24.923Z"
    }, {
        "id": "312067bb-demo-a8df-va86-09dc941bbffc",
        "name": "cgw-21a3",
        "id_type": "fqdn",
        "id_value": "123******456",
        "created_at": "2022-11-28T06:25:01.937Z",
        "updated_at": "2022-11-28T06:25:01.937Z"
    }],
    "total_count": 2,
    "page_info": {
        "next_marker": "2022-11-28T06:25:01.937Z",
        "current_count": 2
    },
    "request_id": "82a108d9-0929-42e9-adb7-e146c04c587c"
}
```

## Status Codes

For details, see **7.2 Status Codes**.

# 4.2.4 Updating a Customer Gateway

## Function

This API is used to update a customer gateway with a specified gateway ID. Only the gateway name and certificate can be updated. To modify other parameters, you need to create another customer gateway.

## Calling Method

For details, see **3 Calling APIs**.

## URI

PUT /v5/{project_id}/customer-gateways/{customer_gateway_id}

**Table 4-64** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| customer_gateway_id | String | Yes | Specifies a customer gateway ID. |

## Request

- Request parameters

**Table 4-65** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| customer_gateway | **UpdateCgwRequestBodyContent** object | Yes | Specifies the customer gateway object. |

**Table 4-66** UpdateCgwRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies a gateway name.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

- Example request

```
PUT https://{Endpoint}/v5/{project_id}/customer-gateways/{customer_gateway_id}

{
    "customer_gateway": {
        "name": "cgw-f846",
    }
}
```

## Response

- Response parameters

  Returned status code 200: successful update

  **Table 4-67** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| customer_gateway | **ResponseCustomerGateway** object | Specifies the customer gateway object. |
| request_id | String | Specifies a request ID. |

  **Table 4-68** ResponseCustomerGateway

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a customer gateway name. If no customer gateway name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| id_type | String | • Specifies the identifier type of a customer gateway.<br>• The value can be **ip** or **fqdn**. |
| id_value | String | Specifies the identifier of a customer gateway. |
| bgp_asn | Long | Specifies the BGP AS number of the customer gateway. This parameter is available only when **id_type** is set to **ip**. |
| created_at | String | Specifies the time when the customer gateway is created. |
| updated_at | String | Specifies the last update time. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-69** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example response

```
{
    "customer_gateway": {
        "id": "03c0aa3d-demo-a8df-va86-9d82473765d4",
        "name": "cgw-f846",
        "id_type": "ip",
        "id_value": "10.***.***.21",
        "bgp_asn": 65533,
        "created_at": "2021-12-21T16:49:28.108+08:00",
        "updated_at": "2021-12-21T16:49:28.108+08:00"
    },
    "request_id": "96718f4a-f57a-4e1f-8d05-7d5e903c8d90"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.2.5 Deleting a Customer Gateway

### Function

This API is used to delete a customer gateway with a specified gateway ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

DELETE /v5/{project_id}/customer-gateways/{customer_gateway_id}

**Table 4-70** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| customer_gateway_id | String | Yes | Specifies a customer gateway ID. |

### Request

- Request parameters

  None

- Example request

```
DELETE https://{Endpoint}/v5/{project_id}/customer-gateways/{customer_gateway_id}
```

### Response

- Response parameters

  Returned status code 204: successful deletion

- Example response

  Response returned when a customer gateway that has been created and has VPN connections fails to be deleted

```
DELETE https://{Endpoint}/v5/{project_id}/customer-gateways/{customer_gateway_id}
{
    "error_code": "VPN.0001",
    "error_msg": "invalid request: customer gateway 575c1722-demo-a8df-va86-dd7f41876332 has connection",
    "request_id": "c923ac44-1890-48d5-a004-5be6432cf361"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

# 4.3 VPN Connection

## 4.3.1 Creating a VPN Connection

### Function

This API is used to create a VPN connection that connects a VPN gateway to a customer gateway.

### Calling Method

For details, see **3 Calling APIs**.

## URI

POST /v5/{project_id}/vpn-connection

**Table 4-71** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

## Request

- Request parameters

**Table 4-72** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpn_connection | **CreateVpnConnectionRequestBodyContent** object | Yes | Specifies the VPN connection object. |

**Table 4-73** CreateVpnConnectionRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies the name of a VPN connection. If this parameter is not specified, a name in the format of **vpn-******** is automatically generated, for example, **vpn-13be**.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| vgw_id | String | Yes | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters.<br>You can obtain the VPN gateway ID by **querying the VPN gateway list**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vgw_ip | String | Yes | • Function description:<br>– When **network_type** of the VPN gateway is set to **public**, set **vgw_ip** to the EIP IDs of the VPN gateway.<br>– When **network_type** of the VPN gateway is set to **private**, set **vgw_ip** to the private IP addresses of the VPN gateway.<br>• The value is a UUID containing 36 characters or an IPv4 address in dotted decimal notation (for example, 192.168.45.7).<br>You can obtain the EIP IDs or private IP addresses of the VPN gateway by **querying information about the VPN gateway**. |
| style | String | No | • Specifies the connection mode.<br>• Value range:<br>**policy**: policy-based mode<br>**static**: static routing mode<br>**bgp**: BGP routing mode<br>**policy-template**: policy template mode<br>• The default value is **static**. |
| cgw_id | String | Yes | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| peer_subnets | Array of String | No | • Specifies a customer subnet.<br>• Constraints:<br>– This parameter is not required when the association mode of the VPN gateway is set to **er** and **style** is set to **policy** or **bgp**. This parameter is mandatory in other scenarios.<br>– Reserved VPC CIDR blocks such as 100.64.0.0/10 and 214.0.0.0/8 cannot be used as customer subnets.<br>– A maximum of 50 customer subnets can be configured for each VPN connection. |
| tunnel_local_address | String | No | • Specifies the tunnel interface address configured on the VPN gateway in route-based mode, for example, 169.254.76.1/30.<br>• Constraints:<br>– The first 16 bits must be 169.254, and the value cannot be **169.254.195.***xxx*.<br>– The mask length must be 30, and the address must be in the same CIDR block as the value of **tunnel_peer_address**.<br>– The address needs to be a host address in a CIDR block. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| tunnel_peer_address | String | No | • Specifies the tunnel interface address configured on the customer gateway device in route-based mode, for example, 169.254.76.2/30.<br>• Constraints:<br>– The first 16 bits must be 169.254, and the value cannot be **169.254.195.*xxx***.<br>– The mask length must be 30, and the address must be in the same CIDR block as the value of **tunnel_local_address**.<br>– The address needs to be a host address in a CIDR block. |
| enable_nqa | Boolean | No | • Specifies whether to enable the network quality analysis (NQA) function.<br>• The value can be **true** or **false**.<br>• The default value is **false**.<br>• Set this parameter only when **style** is set to **static**. |
| psk | String | No | • Specifies a pre-shared key.<br>• The value is a string of 8 to 128 characters, which must contain at least three types of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#$%^()-_+={ },./:;). |
| policy_rules | Array of **PolicyRule** objects | No | • Specifies policy rules.<br>• A maximum of five policy rules can be specified. Set this parameter only when **style** is set to **policy**. |
| ikepolicy | **IkePolicy** object | No | Specifies the Internet Key Exchange (IKE) policy object. |
| ipsecpolicy | **IpsecPolicy** object | No | Specifies the Internet Protocol Security (IPsec) policy object. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| ha_role | String | No | • This parameter is optional when you create a connection for a VPN gateway in active-active mode. When you create a connection for a VPN gateway in active-standby mode, **master** indicates the active connection, and **slave** indicates the standby connection.<br>• The default value is **master**.<br>• Constraints: In active-active mode, this field must be set to **master** for the connection established using the active EIP or active private IP address of the VPN gateway, and must be set to **slave** for the connection established using active EIP 2 or active private IP address 2 of the VPN gateway. |
| tags | Array of **VpnResourceTag** object | No | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |

**Table 4-74** PolicyRule

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| rule_index | Integer | No | • Specifies a rule ID, which is used to identify the sequence in which the rule is configured. You are advised not to set this parameter.<br>• The value ranges from 0 to 50.<br>• The value of **rule_index** in each policy rule must be unique. The value of **rule_index** in **ResponseVpnConnection** may be different from the value of this parameter. This is because if multiple destination CIDR blocks are specified, the VPN service generates a rule for each destination CIDR block. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| source | String | No | • Specifies a source CIDR block.<br>• The value of **source** in each policy rule must be unique. |
| destination | Array of String | No | • Specifies a destination CIDR block.<br>For example, a destination CIDR block can be 192.168.52.0/24.<br>• A maximum of 50 destination CIDR blocks can be configured in each policy rule. |

**Table 4-75** IkePolicy

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| ike_version | String | No | • Specifies the IKE version.<br>• Value range:<br>v1 and v2<br>• Default value:<br>v2 |
| phase1_negotiation_mode | String | No | • Specifies the negotiation mode.<br>• Value range:<br>**main**: ensures high security during negotiation.<br>**aggressive**: ensures fast negotiation and a high negotiation success rate.<br>• The default value is **main**.<br>• This parameter is mandatory only when the IKE version is v1. |
| authentication_algorithm | String | No | • Specifies an authentication algorithm.<br>• Value range:<br>sha2-512, sha2-384, sha2-256, sha1, md5<br>Exercise caution when using **sha1** and **md5** as they have low security.<br>• Default value:<br>sha2-256 |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| encryption_algorithm | String | No | • Specifies an encryption algorithm.<br>• Value range: aes-256-gcm-16, aes-128-gcm-16, aes-256, aes-192, aes-128, 3des<br>Exercise caution when using **3des** as it has low security.<br>• Default value: aes-128 |
| dh_group | String | No | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. Exercise caution when using **group1**, **group2**, **group5**, or **group14** as they have low security.<br>• The default value is **group15**. |
| authentication_method | String | No | • Specifies the authentication method used during IKE negotiation.<br>• Value range: **pre-share**: pre-shared key<br>• Default value: **pre-share** |
| lifetime_seconds | Integer | No | • Specifies the security association (SA) lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds.<br>• The default value is 86400. |
| local_id_type | String | No | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**.<br>• The default value is **ip**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| local_id | String | No | • Specifies the local ID.<br>• The value can contain a maximum of 255 case-sensitive characters, including letters, digits, and special characters (excluding & < > [ ] \). Spaces are not supported. This parameter is mandatory when **local_id_type** is set to **fqdn**. The value must be the same as that of **peer_id** on the peer device. |
| peer_id_type | String | No | • Specifies the peer ID type.<br>• The value can be **ip** or **fqdn**.<br>• The default value is **ip**. |
| peer_id | String | No | • Specifies the peer ID.<br>• The value can contain a maximum of 255 case-sensitive characters, including letters, digits, and special characters (excluding & < > [ ] \). Spaces are not supported. Set this parameter when **peer_id_type** is set to **fqdn**. The value must be the same as that of **local_id** on the peer device. |
| dpd | **Dpd** object | No | Specifies the dead peer detection (DPD) object. |

**Table 4-76** Dpd

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| timeout | Integer | No | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds.<br>• The default value is 15. |
| interval | Integer | No | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds.<br>• The default value is 30. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| msg | String | No | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash.<br>• The default value is **seq-hash-notify**. |

**Table 4-77** IpsecPolicy

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| authentication_algorithm | String | No | • Specifies an authentication algorithm.<br>• Value range:<br>sha2-512, sha2-384, sha2-256, sha1, md5<br>Exercise caution when using **sha1** and **md5** as they have low security.<br>• Default value:<br>sha2-256 |
| encryption_algorithm | String | No | • Specifies an encryption algorithm.<br>• Value range:<br>aes-256-gcm-16, aes-128-gcm-16, aes-256, aes-192, aes-128, 3des<br>Exercise caution when using **3des** as it has low security.<br>• Default value:<br>aes-128 |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| pfs | String | No | • Specifies the DH key group used by Perfect Forward Secrecy (PFS).<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. Exercise caution when using **group1**, **group2**, **group5**, or **group14** as they have low security.<br>• The default value is **group15**. |
| transform_protocol | String | No | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol<br>• The default value is **esp**. |
| lifetime_seconds | Integer | No | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds.<br>• The default value is 3600. |
| encapsulation_mode | String | No | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode.<br>• The default value is **tunnel**. |

**Table 4-78** VpnResourceTag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| value | String | Yes | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example requests

  a. Create a VPN connection in static routing mode.

```
POST https://{Endpoint}/v5/{project_id}/vpn-connection

{
   "vpn_connection": {
      "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
      "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
      "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
      "peer_subnets": [
         "192.168.44.0/24"
      ],
      "psk": "abcd****"
   }
}
```

  b. Create a VPN connection in policy-based mode.

```
POST https://{Endpoint}/v5/{project_id}/vpn-connection

{
   "vpn_connection": {
      "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
      "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
      "style": "policy",
      "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
      "peer_subnets": [
         "192.168.44.0/24"
      ],
      "psk": "abcd****",
      "policy_rules": [{
         "rule_index": 1,
         "source": "10.0.0.0/24",
         "destination": [
            "192.168.0.0/24"
         ]
      }]
   }
}
```

  c. Create a VPN connection in BGP routing mode.

```
POST https://{Endpoint}/v5/{project_id}/vpn-connection

{
   "vpn_connection": {
      "name": "vpn-1655",
      "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
      "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
      "style": "bgp",
      "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
      "peer_subnets": [
         "192.168.44.0/24"
      ],
      "tunnel_local_address": "169.254.56.225/30",
```

```
        "tunnel_peer_address": "169.254.56.226/30",
        "psk": "abcd****",
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-512",
            "encryption_algorithm": "aes-256",
            "dh_group": "group16",
            "lifetime_seconds": 172800,
            "local_id_type": "fqdn",
            "local_id": "123***",
            "peer_id_type": "fqdn",
            "peer_id": "456***",
            "dpd": {
                "timeout": 30,
                "interval": 60,
                "msg": "seq-notify-hash"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-512",
            "encryption_algorithm": "aes-256",
            "pfs": "group16",
            "transform_protocol": "esp",
            "lifetime_seconds": 7200,
            "encapsulation_mode": "tunnel"
        }
    }
}
```

## Response

- Response parameters

  Returned status code 201: successful operation

**Table 4-79** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_connection | **ResponseVpnConnection** object | Specifies the VPN connection object. |
| request_id | String | Specifies a request ID. |

**Table 4-80** ResponseVpnConnection

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN connection ID.<br>• The value is a UUID containing 36 characters. |

| Parameter | Type | Description |
| --- | --- | --- |
| name | String | • Specifies a VPN connection name. If no VPN connection name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| vgw_id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| vgw_ip | String | • Specifies an EIP ID or private IP address of the VPN gateway.<br>• The value is a UUID containing 36 characters or an IPv4 address in dotted decimal notation (for example, 192.168.45.7). |
| style | String | • Specifies the connection mode.<br>• Value range:<br>**POLICY**: policy-based mode<br>**STATIC**: static routing mode<br>**BGP**: BGP routing mode |
| cgw_id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| peer_subnets | Array of String | Specifies a customer subnet. This parameter is not returned when the association mode of the VPN gateway is **ER** and **style** is **BGP** or **POLICY**. |
| tunnel_local_address | String | Specifies the tunnel interface address configured on the VPN gateway in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| tunnel_peer_address | String | Specifies the tunnel interface address configured on the customer gateway device in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| enable_nqa | Boolean | • Specifies whether NQA is enabled. This parameter is returned only when **style** is **STATIC**.<br>• The value can be **true** or **false**. |

| Parameter | Type | Description |
| --- | --- | --- |
| policy_rules | Array of **PolicyRule** objects | Specifies policy rules, which are returned only when **style** is set to **POLICY**. |
| ikepolicy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsecpolicy | **IpsecPolicy** object | Specifies the IPsec policy object. |
| created_at | String | Specifies the time when the VPN connection is created. |
| updated_at | String | Specifies the last update time. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. The value must be the same as the enterprise project ID of the VPN gateway specified by **vgw_id**. |
| connection_monitor_id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| ha_role | String | • For a VPN gateway in active-standby mode, **master** indicates the active connection, and **slave** indicates the standby connection. For a VPN gateway in active-active mode, the value of **ha_role** can only be **master**.<br>• The default value is **master**. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-81** PolicyRule

| Parameter | Type | Description |
| --- | --- | --- |
| rule_index | Integer | • Specifies a rule ID.<br>• The value ranges from 0 to 50. |
| source | String | Specifies a source CIDR block. |

| Parameter | Type | Description |
| --- | --- | --- |
| destination | Array of String | Specifies a destination CIDR block. For example, a destination CIDR block can be 192.168.52.0/24. A maximum of 50 destination CIDR blocks can be returned for each policy rule. |

**Table 4-82** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| ike_version | String | • Specifies the IKE version.<br>• The value can be **v1** or **v2**. |
| phase1_negotiation_mode | String | • Specifies the negotiation mode. This parameter is available only when the IKE version is **v1**.<br>• Value range:<br>**main**: ensures high security during negotiation.<br>**aggressive**: ensures fast negotiation and a high negotiation success rate. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. |
| authentication_method | String | • Specifies the authentication method used during IKE negotiation.<br>• Value range:<br>**pre-share**: pre-shared key |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |

| Parameter | Type | Description |
| --- | --- | --- |
| local_id_type | String | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**. |
| local_id | String | Specifies the local ID. When **local_id_type** is set to **ip**, the VPN gateway IP address corresponding to the VPN connection is returned. When **local_id_type** is set to **fqdn**, the local ID specified during VPN connection creation or update is returned. |
| peer_id_type | String | • Specifies the peer ID type.<br>• The value can be **ip** or **fqdn**. |
| peer_id | String | Specifies the peer ID. When **peer_id_type** is set to **ip**, the IP address of the customer gateway is returned. When **peer_id_type** is set to **fqdn**, the peer ID specified during VPN connection creation or update is returned. |
| dpd | **Dpd** object | Specifies the DPD object. |

**Table 4-83** Dpd

| Parameter | Type | Description |
| --- | --- | --- |
| timeout | Integer | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds. |
| interval | Integer | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds. |
| msg | String | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash. |

**Table 4-84** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| transform_protocol | String | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |
| encapsulation_mode | String | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode. |

**Table 4-85** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

| Parameter | Type | Description |
| --- | --- | --- |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example responses

  a. Response to the request for creating a VPN connection in static routing mode

```
{
    "vpn_connection": {
        "id": "98c5af8a-6ee2-4482-99a2-ae2280a6f4c3",
        "name": "vpn-b2cb",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "style": "STATIC",
        "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
        "peer_subnets": ["192.168.44.0/24"],
        "tunnel_local_address": "169.254.56.225/30",
        "tunnel_peer_address": "169.254.56.226/30",
        "enable_nqa": false,
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 86400,
            "local_id_type": "ip",
            "local_id": "10.***.***.134",
            "peer_id_type": "ip",
            "peer_id": "88.***.***.164",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-11-26T13:41:34.626Z",
        "updated_at": "2022-11-26T13:41:34.626Z",
        "enterprise_project_id": "0",
        "ha_role":"master"
    },
    "request_id": "f91082d4-6d49-479c-ad1d-4e552a9f5cae"
}
```

  b. Response to the request for creating a connection in policy-based mode

```
{
    "vpn_connection": {
        "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
        "name": "vpn-799d",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
```

```
      "style": "POLICY",
      "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
      "peer_subnets": ["192.168.44.0/24"],
      "tunnel_local_address": "169.254.56.225/30",
      "tunnel_peer_address": "169.254.56.226/30",
      "policy_rules": [{
         "rule_index": 1,
         "source": "10.0.0.0/24",
         "destination": [
            "192.168.44.0/24"
         ]
      }],
      "ikepolicy": {
         "ike_version": "v2",
         "authentication_algorithm": "sha2-256",
         "encryption_algorithm": "aes-128",
         "dh_group": "group15",
         "authentication_method": "pre-share",
         "lifetime_seconds": 86400,
         "local_id_type": "ip",
         "local_id": "10.***.***.134",
         "peer_id_type": "ip",
         "peer_id": "88.***.***.164",
         "dpd": {
            "timeout": 15,
            "interval": 30,
            "msg": "seq-hash-notify"
         }
      },
      "ipsecpolicy": {
         "authentication_algorithm": "sha2-256",
         "encryption_algorithm": "aes-128",
         "pfs": "group15",
         "transform_protocol": "esp",
         "lifetime_seconds": 3600,
         "encapsulation_mode": "tunnel"
      },
      "created_at": "2022-11-26T13:41:34.626Z",
      "updated_at": "2022-11-26T13:41:34.626Z",
      "enterprise_project_id": "0",
      "ha_role":"master"
   },
   "request_id": "f91082d4-6d49-479c-ad1d-4e552a9f5cae"
}
```


c. Response to the request for creating a VPN connection in BGP routing mode


```
{
   "vpn_connection": {
      "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
      "name": "vpn-1655",
      "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
      "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
      "style": "BGP",
      "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
      "peer_subnets": ["192.168.44.0/24"],
      "tunnel_local_address": "169.254.56.225/30",
      "tunnel_peer_address": "169.254.56.226/30",
      "ikepolicy": {
         "ike_version": "v2",
         "authentication_algorithm": "sha2-512",
         "encryption_algorithm": "aes-256",
         "dh_group": "group16",
         "authentication_method": "pre-share",
         "lifetime_seconds": 172800,
         "local_id_type": "fqdn",
         "local_id": "123***",
         "peer_id_type": "fqdn",
         "peer_id": "456***",
         "dpd": {
```

```
            "timeout": 30,
            "interval": 60,
            "msg": "seq-notify-hash"
        }
    },
    "ipsecpolicy": {
        "authentication_algorithm": "sha2-512",
        "encryption_algorithm": "aes-256",
        "pfs": "group16",
        "transform_protocol": "esp",
        "lifetime_seconds": 7200,
        "encapsulation_mode": "tunnel"
    },
    "created_at": "2022-11-26T13:41:34.626Z",
    "updated_at": "2022-11-26T13:41:34.626Z",
    "enterprise_project_id": "0",
    "ha_role":"master"
  },
  "request_id": "f91082d4-6d49-479c-ad1d-4e552a9f5cae"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.3.2 Querying a Specified VPN Connection

### Function

This API is used to query a VPN connection with a specified connection ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/vpn-connection/{vpn_connection_id}

**Table 4-86** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vpn_connection_id | String | Yes | Specifies a VPN connection ID. |

### Request

- Request parameters

  None

- Example request
  GET https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

## Response

- Response parameters

  Returned status code 200: successful operation

  **Table 4-87** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_connection | ResponseVpnConnection object | Specifies the VPN connection object. |
| request_id | String | Specifies a request ID. |

  **Table 4-88** ResponseVpnConnection

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN connection ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN connection name. If no VPN connection name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| status | String | • Specifies the status of the VPN connection.<br>• Value range:<br>**ERROR**: abnormal<br>**ACTIVE**: normal<br>**DOWN**: not connected<br>**PENDING_CREATE**: creating<br>**PENDING_UPDATE**: updating<br>**PENDING_DELETE**: deleting<br>**FREEZED**: frozen<br>**UNKNOWN**: unknown |

| Parameter | Type | Description |
| --- | --- | --- |
| vgw_id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| vgw_ip | String | • Specifies an EIP ID or private IP address of the VPN gateway.<br>• The value is a UUID containing 36 characters or an IPv4 address in dotted decimal notation (for example, 192.168.45.7). |
| style | String | • Specifies the connection mode.<br>• Value range:<br>**POLICY**: policy-based mode<br>**STATIC**: static routing mode<br>**BGP**: BGP routing mode<br>**POLICY-TEMPLATE**: policy template mode |
| cgw_id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| peer_subnets | Array of String | Specifies a customer subnet. This parameter is not returned when the association mode of the VPN gateway is **ER** and **style** is **BGP** or **POLICY**. |
| tunnel_local_address | String | Specifies the tunnel interface address configured on the VPN gateway in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| tunnel_peer_address | String | Specifies the tunnel interface address configured on the customer gateway device in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| enable_nqa | Boolean | • Specifies whether NQA is enabled. This parameter is returned only when **style** is **STATIC**.<br>• The value can be **true** or **false**. |
| policy_rules | Array of **PolicyRule** objects | Specifies policy rules, which are returned only when **style** is set to **POLICY**. |
| ikepolicy | **IkePolicy** object | Specifies the IKE policy object. |

| Parameter | Type | Description |
| --- | --- | --- |
| ipsecpolicy | IpsecPolicy object | Specifies the IPsec policy object. |
| created_at | String | Specifies the time when the VPN connection is created. |
| updated_at | String | Specifies the last update time. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. The value must be the same as the enterprise project ID of the VPN gateway specified by **vgw_id**. |
| connection_monitor_id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| ha_role | String | • For a VPN gateway in active-standby mode, **master** indicates the active connection, and **slave** indicates the standby connection. For a VPN gateway in active-active mode, the value of **ha_role** can only be **master**.<br>• The default value is **master**. |
| tags | Array of VpnResourceTag objects | Specifies a tag list. |

**Table 4-89** PolicyRule

| Parameter | Type | Description |
| --- | --- | --- |
| rule_index | Integer | • Specifies a rule ID.<br>• The value ranges from 0 to 50. |
| source | String | Specifies a source CIDR block. |
| destination | Array of String | Specifies a destination CIDR block. For example, a destination CIDR block can be 192.168.52.0/24. A maximum of 50 destination CIDR blocks can be returned for each policy rule. |

**Table 4-90** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| ike_version | String | • Specifies the IKE version.<br>• The value can be **v1** or **v2**. |
| phase1_negotiation_mode | String | • Specifies the negotiation mode. This parameter is available only when the IKE version is **v1**.<br>• Value range:<br>**main**: ensures high security during negotiation.<br>**aggressive**: ensures fast negotiation and a high negotiation success rate. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. |
| authentication_method | String | • Specifies the authentication method used during IKE negotiation.<br>• Value range:<br>**pre-share**: pre-shared key |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |
| local_id_type | String | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**. |
| local_id | String | Specifies the local ID. When **local_id_type** is set to **ip**, the VPN gateway IP address corresponding to the VPN connection is returned. When **local_id_type** is set to **fqdn**, the local ID specified during VPN connection creation or update is returned. |

| Parameter | Type | Description |
| --- | --- | --- |
| peer_id_type | String | • Specifies the peer ID type.<br>• The value can be **ip** or **fqdn**. |
| peer_id | String | Specifies the peer ID. When **peer_id_type** is set to **ip**, the IP address of the customer gateway is returned. When **peer_id_type** is set to **fqdn**, the peer ID specified during VPN connection creation or update is returned. |
| dpd | **Dpd** object | Specifies the DPD object. |

**Table 4-91** Dpd

| Parameter | Type | Description |
| --- | --- | --- |
| timeout | Integer | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds. |
| interval | Integer | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds. |
| msg | String | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash. |

**Table 4-92** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |

| Parameter | Type | Description |
| --- | --- | --- |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| transform_protocol | String | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |
| encapsulation_mode | String | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode. |

**Table 4-93** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example response

```
{
    "vpn_connection": {
        "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
        "name": "vpn-1655",
        "status": "DOWN",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "style": "POLICY",
```

```
    "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
    "peer_subnets": ["192.168.0.0/24"],
    "tunnel_local_address": "169.254.56.225/30",
    "tunnel_peer_address": "169.254.56.226/30",
    "policy_rules": [{
        "rule_index": 1,
        "source": "10.0.0.0/24",
        "destination": [
            "192.168.0.0/24"
        ]
    }],
    "ikepolicy": {
        "ike_version": "v2",
        "authentication_algorithm": "sha2-256",
        "encryption_algorithm": "aes-128",
        "dh_group": "group15",
        "authentication_method": "pre-share",
        "lifetime_seconds": 86400,
        "local_id_type": "ip",
        "local_id": "10.***.***.134",
        "peer_id_type": "ip",
        "peer_id": "88.***.***.164",
        "dpd": {
            "timeout": 15,
            "interval": 30,
            "msg": "seq-hash-notify"
        }
    },
    "ipsecpolicy": {
        "authentication_algorithm": "sha2-256",
        "encryption_algorithm": "aes-128",
        "pfs": "group15",
        "transform_protocol": "esp",
        "lifetime_seconds": 3600,
        "encapsulation_mode": "tunnel"
    },
    "created_at": "2022-11-26T13:41:34.626Z",
    "updated_at": "2022-11-26T13:41:34.626Z",
    "enterprise_project_id": "0",
    "ha_role":"master"
  },
  "request_id": "f91082d4-6d49-479c-ad1d-4e552a9f5cae"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.3.3 Querying the VPN Connection List

### Function

This API is used to query the VPN connection list.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/vpn-connection

**Table 4-94** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

**Table 4-95** Parameter in a query request

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vgw_ip | String | No | Specifies an EIP ID or private IP address of a VPN gateway. |
| vgw_id | String | No | Specifies a VPN gateway ID. |
| enterprise_project_id | Array | No | Specifies an enterprise project ID. |
| limit | Integer | No | • Specifies the number of records returned on each page during pagination query.<br>• The value ranges from 0 to 200.<br>• The default value is 200. |
| marker | String | No | • Specifies the start flag for querying the current page. If this parameter is left blank, the first page is queried. The **marker** for querying the next page is the **next_marker** in the **page_info** object returned on the current page.<br>• This parameter must be used together with **limit**. |

## Request

- Request parameters

  None

- Example requests

  a. Query all VPN connections.

  ```
  GET https://{Endpoint}/v5/{project_id}/vpn-connection
  ```

  b. Query VPN connections of a specified vgw_ip.

  ```
  GET https://{Endpoint}/v5/{project_id}/vpn-connection?
  vgw_ip={vgw_ip}&limit={limit}&marker={marker}
  ```

  c. Query VPN connections of a specified VPN gateway instance.

  ```
  GET https://{Endpoint}/v5/{project_id}/vpn-connection?
  vgw_id={vgw_id}&limit={limit}&marker={marker}
  ```

## Response

- Response parameters

  Returned status code 200: successful operation

  **Table 4-96** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_connections | Array of **ResponseVpnConnection** objects | Specifies the VPN connection object. |
| page_info | **PageInfo** object | Specifies pagination information. |
| request_id | String | Specifies a request ID. |
| total_count | Long | Specifies the total number of a tenant's connections. |

  **Table 4-97** ResponseVpnConnection

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN connection ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN connection name. If no VPN connection name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |

| Parameter | Type | Description |
| --- | --- | --- |
| status | String | • Specifies the status of the VPN connection.<br>• Value range:<br>**ERROR**: abnormal<br>**ACTIVE**: normal<br>**DOWN**: not connected<br>**PENDING_CREATE**: creating<br>**PENDING_UPDATE**: updating<br>**PENDING_DELETE**: deleting<br>**FREEZED**: frozen<br>**UNKNOWN**: unknown |
| vgw_id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| vgw_ip | String | • Specifies an EIP ID or private IP address of the VPN gateway.<br>• The value is a UUID containing 36 characters or an IPv4 address in dotted decimal notation (for example, 192.168.45.7). |
| style | String | • Specifies the connection mode.<br>• Value range:<br>**POLICY**: policy-based mode<br>**STATIC**: static routing mode<br>**BGP**: BGP routing mode<br>**POLICY-TEMPLATE**: policy template mode |
| cgw_id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| peer_subnets | Array of String | Specifies a customer subnet. This parameter is not returned when the association mode of the VPN gateway is **ER** and **style** is **BGP** or **POLICY**. |
| tunnel_local_address | String | Specifies the tunnel interface address configured on the VPN gateway in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |

| Parameter | Type | Description |
| --- | --- | --- |
| tunnel_peer_address | String | Specifies the tunnel interface address configured on the customer gateway device in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| enable_nqa | Boolean | • Specifies whether NQA is enabled. This parameter is returned only when **style** is **STATIC**.<br>• The value can be **true** or **false**. |
| policy_rules | Array of **PolicyRule** objects | Specifies policy rules, which are returned only when **style** is set to **POLICY**. |
| ikepolicy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsecpolicy | **IpsecPolicy** object | Specifies the IPsec policy object. |
| created_at | String | Specifies the time when the VPN connection is created. |
| updated_at | String | Specifies the last update time. |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. The value must be the same as the enterprise project ID of the VPN gateway specified by **vgw_id**. |
| connection_monitor_id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| ha_role | String | • For a VPN gateway in active-standby mode, **master** indicates the active connection, and **slave** indicates the standby connection. For a VPN gateway in active-active mode, the value of **ha_role** can only be **master**.<br>• The default value is **master**. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-98** PolicyRule

| Parameter | Type | Description |
| --- | --- | --- |
| rule_index | Integer | • Specifies a rule ID.<br>• The value ranges from 0 to 50. |
| source | String | Specifies a source CIDR block. |
| destination | Array of String | Specifies a destination CIDR block. For example, a destination CIDR block can be 192.168.52.0/24. A maximum of 50 destination CIDR blocks can be returned for each policy rule. |

**Table 4-99** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| ike_version | String | • Specifies the IKE version.<br>• The value can be **v1** or **v2**. |
| phase1_negotiation_mode | String | • Specifies the negotiation mode. This parameter is available only when the IKE version is **v1**.<br>• Value range:<br>– **main**: ensures high security during negotiation.<br>– **aggressive**: ensures fast negotiation and a high negotiation success rate. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. |
| authentication_method | String | • Specifies the authentication method used during IKE negotiation.<br>• Value range:<br>**pre-share**: pre-shared key |

| Parameter | Type | Description |
| --- | --- | --- |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |
| local_id_type | String | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**. |
| local_id | String | Specifies the local ID. When **local_id_type** is set to **ip**, the VPN gateway IP address corresponding to the VPN connection is returned. When **local_id_type** is set to **fqdn**, the local ID specified during VPN connection creation or update is returned. |
| peer_id_type | String | • Specifies the peer ID type.<br>• The value can be **ip** or **fqdn**. |
| peer_id | String | Specifies the peer ID. When **peer_id_type** is set to **ip**, the IP address of the customer gateway is returned. When **peer_id_type** is set to **fqdn**, the peer ID specified during VPN connection creation or update is returned. |
| dpd | **Dpd** object | Specifies the DPD object. |

**Table 4-100** Dpd

| Parameter | Type | Description |
| --- | --- | --- |
| timeout | Integer | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds. |
| interval | Integer | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds. |

| Parameter | Type | Description |
| --- | --- | --- |
| msg | String | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash. |

**Table 4-101** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| pfs | String | • Specifies the DH key group used by PFS.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| transform_protocol | String | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |
| encapsulation_mode | String | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode. |

**Table 4-102** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

**Table 4-103** PageInfo

| Parameter | Type | Description |
| --- | --- | --- |
| next_marker | String | Specifies the marker of the next page. The value is the time when the last resource in the last query response was created. |
| current_count | Integer | Specifies the number of resources in the list. If the value of **current_count** is less than the value of **limit** in the query request, the current page is the last page. |

- Example responses

  a. Response to the request for querying all VPN connections

```
{
   "vpn_connections": [{
         "id": "228a68f0-demo-a8df-va86-a9919a3ea3de",
         "name": "vpn-56ea",
         "status": "DOWN",
         "vgw_id": "ba90819b-demo-a8df-va86-3a01622856a5",
         "vgw_ip": "3ea3b006-demo-a8df-va86-ae180ae07885",
         "style": "STATIC",
         "cgw_id": "537d9c26-demo-a8df-va86-99364a410f00",
         "peer_subnets": [
            "192.168.1.0/24"
         ],
         "tunnel_local_address": "169.254.149.2/30",
         "tunnel_peer_address": "169.254.149.1/30",
         "enable_nqa": true,
         "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
```

```
            "lifetime_seconds": 86400,
            "local_id_type": "ip",
            "local_id": "10.1.1.216",
            "peer_id_type": "ip",
            "peer_id": "10.0.1.67",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-12-11T13:59:59.633Z",
        "updated_at": "2022-12-11T13:59:59.633Z",
        "enterprise_project_id": "0"
    },
    {
        "id": "a4df33ca-demo-a8df-va86-410a7dd6973f",
        "name": "vpn-15ea",
        "status": "DOWN",
        "vgw_id": "02217fb1-demo-a8df-va86-806ea291a8f2",
        "vgw_ip": "f5acac2c-demo-a8df-va86-72b819a5f525",
        "style": "POLICY",
        "cgw_id": "10a4496f-demo-a8df-va86-7510f4b2af33",
        "tunnel_local_address": "169.254.77.169/30",
        "tunnel_peer_address": "169.254.77.170/30",
        "policy_rules": [{
            "rule_index": 1,
            "source": "10.0.0.0/24",
            "destination": [
                "192.168.44.0/24"
            ]
        }],
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 3600,
            "local_id_type": "ip",
            "local_id": "88.88.201.167",
            "peer_id_type": "ip",
            "peer_id": "10.111.222.21",
            "dpd": {
                "interval": 30,
                "timeout": 15,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-12-09T07:24:27.674Z",
        "updated_at": "2022-12-09T07:24:27.674Z",
        "enterprise_project_id": "0",
        "ha_role":"master"
```

```
        }
    ],
    "page_info": {
        "next_marker": "2022-12-09T07:24:27.674Z",
        "current_count": 2
    },
    "request_id": "1d94a4e8-fdc2-7bfd-943e-19bfa9b234ac",
    "total_count": 2
}
```


b. Response to the request for querying VPN connections with a specified vgw_ip


```
{
    "vpn_connections": [
        {
            "id": "8fa335dd-demo-a8df-va86-78bb55a8bb04",
            "name": "vpn-2acd",
            "status": "DOWN",
            "vgw_id": "02217fb1-demo-a8df-va86-806ea291a8f2",
            "vgw_ip": "f5acac2c-demo-a8df-va86-72b819a5f525",
            "style": "STATIC",
            "cgw_id": "eba04567-demo-a8df-va86-5b0352f89af0",
            "peer_subnets": [
                "192.168.44.0/24"
            ],
            "tunnel_local_address": "169.254.58.225/30",
            "tunnel_peer_address": "169.254.58.226/30",
            "enable_nqa": false,
            "ikepolicy": {
                "ike_version": "v2",
                "authentication_algorithm": "sha2-256",
                "encryption_algorithm": "aes-128",
                "dh_group": "group15",
                "authentication_method": "pre-share",
                "lifetime_seconds": 3600,
                "local_id_type": "ip",
                "local_id": "88.***.***.167",
                "peer_id_type": "ip",
                "peer_id": "10.***.***.9",
                "dpd": {
                    "timeout": 15,
                    "interval": 30,
                    "msg": "seq-hash-notify"
                }
            },
            "ipsecpolicy": {
                "authentication_algorithm": "sha2-256",
                "encryption_algorithm": "aes-128",
                "pfs": "group15",
                "transform_protocol": "esp",
                "lifetime_seconds": 3600,
                "encapsulation_mode": "tunnel"
            },
            "created_at": "2022-12-11T14:24:25.115Z",
            "updated_at": "2022-12-11T14:24:25.115Z",
            "enterprise_project_id": "0"
        },
        {
            "id": "a4df33ca-demo-a8df-va86-410a7dd6973f",
            "name": "vpn-15ea",
            "status": "DOWN",
            "vgw_id": "02217fb1-demo-a8df-va86-806ea291a8f2",
            "vgw_ip": "f5acac2c-demo-a8df-va86-72b819a5f525",
            "style": "POLICY",
            "cgw_id": "10a4496f-demo-a8df-va86-7510f4b2af33",
            "tunnel_local_address": "169.254.77.169/30",
            "tunnel_peer_address": "169.254.77.170/30",
            "policy_rules": [
                {
                    "rule_index": 1,
```

```
                "source": "10.0.0.0/24",
                "destination": [
                    "192.168.44.0/24"
                ]
            }
        ],
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 3600,
            "local_id_type": "ip",
            "local_id": "88.88.201.167",
            "peer_id_type": "ip",
            "peer_id": "10.111.222.21",
            "dpd": {
                "interval": 30,
                "timeout": 15,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-12-11T13:59:59.633Z",
        "updated_at": "2022-12-11T13:59:59.633Z",
        "enterprise_project_id": "0",
        "ha_role":"master"
    }
  ],
  "page_info": {
     "next_marker": "2022-12-11T13:59:59.633Z",
     "current_count": 2
  },
  "request_id": "1d94a4e8-fdc2-7bfd-943e-19bfa9b234ac",
  "total_count": 12
}
```


c. Response to the request for querying VPN connections of a specified VPN gateway instance


```
{
  "vpn_connections": [
    {
        "id": "8fa335dd-demo-a8df-va86-78bb55a8bb04",
        "name": "vpn-2acd",
        "status": "DOWN",
        "vgw_id": "02217fb1-demo-a8df-va86-806ea291a8f2",
        "vgw_ip": "f5acac2c-demo-a8df-va86-72b819a5f525",
        "style": "STATIC",
        "cgw_id": "eba04567-demo-a8df-va86-5b0352f89af0",
        "peer_subnets": [
            "192.168.44.0/24"
        ],
        "tunnel_local_address": "169.254.58.225/30",
        "tunnel_peer_address": "169.254.58.226/30",
        "enable_nqa": false,
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 3600,
```

```
            "local_id_type": "ip",
            "local_id": "88.***.***.167",
            "peer_id_type": "ip",
            "peer_id": "10.***.***.9",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-12-11T14:24:25.115Z",
        "updated_at": "2022-12-11T14:24:25.115Z",
        "enterprise_project_id": "0",
        "ha_role":"master"
    },
    {
        "id": "a4df33ca-demo-a8df-va86-410a7dd6973f",
        "name": "vpn-15ea",
        "status": "DOWN",
        "vgw_id": "02217fb1-demo-a8df-va86-806ea291a8f2",
        "vgw_ip": "f5acac2c-demo-a8df-va86-72b819a5f525",
        "style": "POLICY",
        "cgw_id": "10a4496f-demo-a8df-va86-7510f4b2af33",
        "tunnel_local_address": "169.254.77.169/30",
        "tunnel_peer_address": "169.254.77.170/30",
        "policy_rules": [
            {
                "rule_index": 1,
                "source": "10.0.0.0/24",
                "destination": [
                    "192.168.44.0/24"
                ]
            }
        ],
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 3600,
            "local_id_type": "ip",
            "local_id": "88.88.201.167",
            "peer_id_type": "ip",
            "peer_id": "10.111.222.21",
            "dpd": {
                "interval": 30,
                "timeout": 15,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-12-11T13:59:59.633Z",
        "updated_at": "2022-12-11T13:59:59.633Z",
```

```
            "enterprise_project_id": "0",
            "ha_role":"master"
        }
    ],
    "page_info": {
        "next_marker": "2022-12-11T13:59:59.633Z",
        "current_count": 2
    },
    "request_id": "1d94a4e8-fdc2-7bfd-943e-19bfa9b234ac",
    "total_count": 12
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.3.4 Updating a VPN Connection

### Function

This API is used to update a VPN connection with a specified connection ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

PUT /v5/{project_id}/vpn-connection/{vpn_connection_id}

**Table 4-104** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vpn_connection_id | String | Yes | Specifies a VPN connection ID. |

### Request

- Request parameters

**Table 4-105** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpn_connection | **UpdateVpnConnectionRequestBodyContent** object | Yes | Specifies the VPN connection object. |

**Table 4-106** UpdateVpnConnectionRequestBodyContent

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| name | String | No | • Specifies the status of a VPN connection.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), hyphens (-), and periods (.). |
| cgw_id | String | No | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| peer_subnets | Array of String | No | • Specifies a customer subnet.<br>• Constraints:<br>This parameter is not required when the association mode of the VPN gateway is set to **er** and **style** is set to **policy** or **bgp**. This parameter is mandatory in other scenarios.<br>Reserved VPC CIDR blocks such as 100.64.0.0/10 and 214.0.0.0/8 cannot be used as customer subnets.<br>A maximum of 50 customer subnets can be configured for each VPN connection. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| tunnel_local_address | String | No | • Specifies the tunnel interface address configured on the VPN gateway in route-based mode, for example, 169.254.76.1/30.<br>• Constraints:<br>The first 16 bits must be 169.254, and the value cannot be **169.254.195.***xxx*.<br>The mask length must be 30, and the address must be in the same CIDR block as the value of **tunnel_peer_address**.<br>The address needs to be a host address in a CIDR block. |
| tunnel_peer_address | String | No | • Specifies the tunnel interface address configured on the customer gateway device in route-based mode, for example, 169.254.76.1/30.<br>• Constraints:<br>The first 16 bits must be 169.254, and the value cannot be **169.254.195.***xxx*.<br>The mask length must be 30, and the address must be in the same CIDR block as the value of **tunnel_local_address**.<br>The address needs to be a host address in a CIDR block. |
| psk | String | No | • Specifies a pre-shared key. When the IKE version is v2 and only this parameter is modified, the modification does not take effect.<br>• The value is a string of 8 to 128 characters, which must contain at least three types of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#$%^()-_+={ },./:;). |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| policy_rules | Array of **PolicyRule** objects | No | • Specifies policy rules.<br>• A maximum of five policy rules can be specified. Set this parameter only when **style** is set to **policy**.<br>You can obtain the **style** value of a VPN connection by **querying the VPN connection**. |
| ikepolicy | **UpdateIkePolicy** object | No | Specifies the IKE policy object. |
| ipsecpolicy | **UpdateIpsecPolicy** object | No | Specifies the IPsec policy object. |

**Table 4-107** PolicyRule

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| rule_index | Integer | No | • Specifies a rule ID, which is used to identify the sequence in which the rule is configured. You are advised not to set this parameter.<br>• The value ranges from 0 to 50.<br>• The value of **rule_index** in each policy rule must be unique. The value of **rule_index** in **ResponseVpnConnection** may be different from the value of this parameter. This is because if multiple destination CIDR blocks are specified, the VPN service generates a rule for each destination CIDR block. |
| source | String | No | • Specifies a source CIDR block.<br>• The value of **source** in each policy rule must be unique. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| destination | Array of String | No | • Specifies a destination CIDR block.<br>For example, a destination CIDR block can be 192.168.52.0/24.<br>• A maximum of 50 destination CIDR blocks can be configured in each policy rule. |

**Table 4-108** UpdateIkePolicy

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| ike_version | String | No | • Specifies the IKE version.<br>• Value range:<br>v1 and v2<br>• Default value:<br>v2 |
| phase1_negotiation_mode | String | No | • Specifies the negotiation mode.<br>• Value range:<br>**main**: ensures high security during negotiation.<br>**aggressive**: ensures fast negotiation and a high negotiation success rate.<br>• This parameter takes effect only for IKEv1. |
| authentication_algorithm | String | No | • Specifies an authentication algorithm. The modification of this field takes effect only after SAs in phase 1 are aged.<br>• Value range:<br>sha2-512, sha2-384, sha2-256, sha1, md5<br>Exercise caution when using **sha1** and **md5** as they have low security. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| encryption_algorithm | String | No | • Specifies an encryption algorithm. The modification of this field takes effect only after SAs in phase 1 are aged.<br>• Value range: aes-256-gcm-16, aes-128-gcm-16, aes-256, aes-192, aes-128, 3des<br>Exercise caution when using **3des** as it has low security. |
| dh_group | String | No | • Specifies the DH group used for key exchange in phase 1. The modification of this field takes effect only after SAs in phase 1 are aged.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. Exercise caution when using **group1**, **group2**, **group5**, or **group14** as they have low security. |
| lifetime_seconds | Integer | No | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated. The modification of this field takes effect only after SAs in phase 1 are aged.<br>• The value ranges from 60 to 604800, in seconds. |
| local_id_type | String | No | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**. |
| local_id | String | No | • Specifies the local ID.<br>• The value can contain a maximum of 255 case-sensitive characters, including letters, digits, and special characters (excluding & < > [ ] \). Spaces are not supported. This parameter is mandatory when **local_id_type** is set to **fqdn**. The value must be the same as that of **peer_id** on the peer device. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| peer_id_type | String | No | • Specifies the peer ID type.<br>• The value can be **ip** or **fqdn**. |
| peer_id | String | No | • Specifies the peer ID.<br>• The value can contain a maximum of 255 case-sensitive characters, including letters, digits, and special characters (excluding & < > [ ] \). Spaces are not supported. This parameter is mandatory when **peer_id_type** is set to **fqdn**. The value must be the same as that of **local_id** on the peer device. |
| dpd | **UpdateDpd** object | No | Specifies the DPD object. |

**Table 4-109** UpdateDpd

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| timeout | Integer | No | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds. The default value is 15. |
| interval | Integer | No | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds. The default value is 30. |
| msg | String | No | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash.<br>The default value is **seq-hash-notify**. |

**Table 4-110** UpdateIpsecPolicy

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| authentication_algorithm | String | No | • Specifies an authentication algorithm. Exercise caution when using SHA1 and MD5 as they have low security. The modification of this field takes effect only after SAs in phase 2 are aged.<br>• Value range: sha2-512, sha2-384, sha2-256, sha1, md5 |
| encryption_algorithm | String | No | • Specifies an encryption algorithm. Exercise caution when using 3DES as it has low security. The modification of this field takes effect only after SAs in phase 2 are aged.<br>• Value range: aes-256-gcm-16, aes-128-gcm-16, aes-256, aes-192, aes-128, 3des |
| pfs | String | No | • Specifies the DH key group used by PFS.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. The default value is **group15**. Exercise caution when using **group1**, **group2**, **group5**, or **group14** as they have low security. |
| transform_protocol | String | No | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol<br>The default value is **esp**. |

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| lifetime_seconds | Integer | No | • Specifies the lifetime of a tunnel established over an IPsec connection. The modification of this field takes effect only after SAs in phase 2 are aged.<br>• The value ranges from 30 to 604800, in seconds. The default value is 3600. |
| encapsulation_mode | String | No | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode.<br>The default value is **tunnel**. |

- Example requests

  a. Update the customer subnet.

```
PUT https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

{
   "vpn_connection": {
      "peer_subnets": [
         "192.168.1.0/24"
      ]
   }
}
```

  b. Update a policy rule.

```
PUT https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

{
   "vpn_connection": {
      "policy_rules": [{
         "rule_index": 1,
         "source": "10.0.0.0/24",
         "destination": [
            "192.168.1.0/24"
         ]
      }]
   }
}
```

  c. Update the SA lifetime.

```
PUT https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

{
   "vpn_connection": {
      "ikepolicy": {
         "lifetime_seconds": 3600
      },
      "ipsecpolicy": {
         "lifetime_seconds": 3600
      }
   }
}
```

  d. Update the connection name.

```
PUT https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

{
   "vpn_connection": {
      "name": "vpn_connection_name"
   }
}
```

## Response

- Response parameters

  Returned status code 200: successful operation

  **Table 4-111** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| vpn_connection | **ResponseVpnConnection** object | Specifies the VPN connection object. |
| request_id | String | Specifies a request ID. |

  **Table 4-112** ResponseVpnConnection

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies a VPN connection ID.<br>• The value is a UUID containing 36 characters. |
| name | String | • Specifies a VPN connection name. If no VPN connection name is specified, the system automatically generates one.<br>• The value is a string of 1 to 64 characters, which can contain digits, letters, underscores (_), and hyphens (-). |
| vgw_id | String | • Specifies a VPN gateway ID.<br>• The value is a UUID containing 36 characters. |
| vgw_ip | String | • Specifies an EIP ID or private IP address of the VPN gateway.<br>• The value is a UUID containing 36 characters or an IPv4 address in dotted decimal notation (for example, 192.168.45.7). |

| Parameter | Type | Description |
| --- | --- | --- |
| style | String | • Specifies the connection mode.<br>• Value range:<br>**POLICY**: policy-based mode<br>**STATIC**: static routing mode<br>**BGP**: BGP routing mode<br>**POLICY-TEMPLATE**: policy template mode |
| cgw_id | String | • Specifies a customer gateway ID.<br>• The value is a UUID containing 36 characters. |
| peer_subnets | Array of String | Specifies a customer subnet. This parameter is not returned when the association mode of the VPN gateway is **ER** and **style** is **BGP** or **POLICY**. |
| tunnel_local_address | String | Specifies the tunnel interface address configured on the VPN gateway in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| tunnel_peer_address | String | Specifies the tunnel interface address configured on the customer gateway device in route-based mode. This parameter is valid only when **style** is **STATIC** or **BGP**. |
| enable_nqa | Boolean | • Specifies whether NQA is enabled. This parameter is returned only when **style** is **STATIC**.<br>• The value can be **true** or **false**. |
| policy_rules | Array of **PolicyRule** objects | Specifies policy rules, which are returned only when **style** is set to **POLICY**. |
| ikepolicy | **IkePolicy** object | Specifies the IKE policy object. |
| ipsecpolicy | **IpsecPolicy** object | Specifies the IPsec policy object. |
| created_at | String | Specifies the time when the VPN connection is created. |
| updated_at | String | Specifies the last update time. |

| Parameter | Type | Description |
| --- | --- | --- |
| enterprise_project_id | String | • Specifies an enterprise project ID.<br>• The value is a UUID containing 36 characters. The value must be the same as the enterprise project ID of the VPN gateway specified by **vgw_id**. |
| connection_monitor_id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| ha_role | String | • For a VPN gateway in active-standby mode, **master** indicates the active connection, and **slave** indicates the standby connection. For a VPN gateway in active-active mode, the value of **ha_role** can only be **master**.<br>• The default value is **master**. |
| tags | Array of **VpnResourceTag** objects | Specifies a tag list. |

**Table 4-113** PolicyRule

| Parameter | Type | Description |
| --- | --- | --- |
| rule_index | Integer | • Specifies a rule ID.<br>• The value ranges from 0 to 50. |
| source | String | Specifies a source CIDR block. |
| destination | Array of String | Specifies a destination CIDR block. For example, a destination CIDR block can be 192.168.52.0/24. A maximum of 50 destination CIDR blocks can be returned for each policy rule. |

**Table 4-114** IkePolicy

| Parameter | Type | Description |
| --- | --- | --- |
| ike_version | String | • Specifies the IKE version.<br>• The value can be **v1** or **v2**. |

| Parameter | Type | Description |
| --- | --- | --- |
| phase1_negotiation_mode | String | • Specifies the negotiation mode. This parameter is available only when the IKE version is **v1**.<br>• Value range:<br>**main**: ensures high security during negotiation.<br>**aggressive**: ensures fast negotiation and a high negotiation success rate. |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |
| dh_group | String | • Specifies the DH group used for key exchange in phase 1.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, or **group21**. |
| authentication_method | String | • Specifies the authentication method used during IKE negotiation.<br>• Value range:<br>**pre-share**: pre-shared key |
| lifetime_seconds | Integer | • Specifies the SA lifetime. When the lifetime expires, an IKE SA is automatically updated.<br>• The value ranges from 60 to 604800, in seconds. |
| local_id_type | String | • Specifies the local ID type.<br>• The value can be **ip** or **fqdn**. |
| local_id | String | Specifies the local ID. When **local_id_type** is set to **ip**, the VPN gateway IP address corresponding to the VPN connection is returned. When **local_id_type** is set to **fqdn**, the local ID specified during VPN connection creation or update is returned. |
| peer_id_type | String | • Specifies the peer ID type.<br>• The value can be **ip**, **fqdn**, or **any**. |

| Parameter | Type | Description |
| --- | --- | --- |
| peer_id | String | Specifies the peer ID. When **peer_id_type** is set to **ip**, the IP address of the customer gateway is returned. When **peer_id_type** is set to **fqdn**, the peer ID specified during VPN connection creation or update is returned. When **peer_id_type** is set to **any**, no data is returned. |
| dpd | **Dpd** object | Specifies the DPD object. |

**Table 4-115** Dpd

| Parameter | Type | Description |
| --- | --- | --- |
| timeout | Integer | • Specifies the interval for retransmitting DPD packets.<br>• The value ranges from 2 to 60, in seconds. |
| interval | Integer | • Specifies the DPD idle timeout period.<br>• The value ranges from 10 to 3600, in seconds. |
| msg | String | • Specifies the format of DPD packets.<br>• Value range:<br>**seq-hash-notify**: indicates that the payload of DPD packets is in the sequence of hash-notify.<br>**seq-notify-hash**: indicates that the payload of DPD packets is in the sequence of notify-hash. |

**Table 4-116** IpsecPolicy

| Parameter | Type | Description |
| --- | --- | --- |
| authentication_algorithm | String | • Specifies an authentication algorithm.<br>• The value can be **sha2-512**, **sha2-384**, **sha2-256**, **sha1**, or **md5**. |
| encryption_algorithm | String | • Specifies an encryption algorithm.<br>• The value can be **aes-256-gcm-16**, **aes-128-gcm-16**, **aes-256**, **aes-192**, **aes-128**, or **3des**. |

| Parameter | Type | Description |
| --- | --- | --- |
| pfs | String | Specifies the DH key group used by PFS.<br>• The value can be **group1**, **group2**, **group5**, **group14**, **group15**, **group16**, **group19**, **group20**, **group21**, or **disable**. |
| transform_protocol | String | • Specifies the transfer protocol.<br>• Value range:<br>**esp**: encapsulating security payload protocol |
| lifetime_seconds | Integer | • Specifies the lifetime of a tunnel established over an IPsec connection.<br>• The value ranges from 30 to 604800, in seconds. |
| encapsulation_mode | String | • Specifies the packet encapsulation mode.<br>• Value range:<br>**tunnel**: encapsulates packets in tunnel mode. |

**Table 4-117** VpnResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example responses

  a. Response to the request for updating a VPN connection

```
{
    "vpn_connection": {
        "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
        "name": "vpn-1655",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "style": "POLICY",
        "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
```

```
        "peer_subnets": ["192.168.1.0/24"],
        "tunnel_local_address": "169.254.56.225/30",
        "tunnel_peer_address": "169.254.56.226/30",
        "policy_rules": [{
            "rule_index": 1,
            "source": "10.0.0.0/24",
            "destination": [
                "192.168.1.0/24"
            ]
        }],
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 86400,
            "local_id_type": "ip",
            "local_id": "10.***.***.134",
            "peer_id_type": "ip",
            "peer_id": "88.***.***.164",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-11-26T13:41:34.626Z",
        "updated_at": "2022-11-26T13:41:34.626Z",
        "enterprise_project_id": "0",
        "ha_role": "master"
    },
    "request_id": "f91082d4-6d49-479c-ad1d-4e552a9f5cae"
}
```


b. Response returned when a frozen VPN connection fails to be updated


```
{
    "error_code": "VPN.0001",
    "error_msg": "invalid request: ILLEGAL not allowed update vpnConnection",
    "request_id": "8c833634-4560-7897-7740-a7462f5bcbd4"
}
```


### Status Codes

For details, see **7.2 Status Codes**.

## 4.3.5 Deleting a VPN Connection

### Function

This API is used to delete a VPN connection with a specified connection ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

DELETE /v5/{project_id}/vpn-connection/{vpn_connection_id}

**Table 4-118** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| vpn_connection_id | String | Yes | Specifies a VPN connection ID. |

### Request

- Request parameters

  None

- Example request

```
DELETE https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}
```

### Response

- Response parameters

  Returned status code 204: successful deletion

- Example response

  Response returned when a frozen VPN connection fails to be deleted

```
DELETE https://{Endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}

{
    "error_code":"VPN.0001",
    "error_msg":"invalid request: ILLEGAL not allowed delete vpnConnection",
    "request_id":"76b771cb-3b2a-151a-5bed-fdf5df12ff82"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

# 4.4 VPN Connection Monitoring

## 4.4.1 Creating a VPN Connection Monitor

### Function

This API is used to create a VPN connection monitor to perform health check between gateways. After a VPN connection monitor is created, the VPN gateway sends probe packets to the customer gateway to collect statistics about the round-

trip delay and packet loss rate, thereby monitoring quality of VPN connections between the gateways.

## Calling Method

For details, see **3 Calling APIs**.

## URI

POST /v5/{project_id}/connection-monitors

**Table 4-119** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

## Request

- Request parameters

  **Table 4-120** Request parameters

  | Parameter | Type | Mandatory | Description |
  | --- | --- | --- | --- |
  | connection_monitor | **CreateConnectionMonitorRequestBodyContent** object | Yes | Specifies the connection_monitor object. |

  **Table 4-121** CreateConnectionMonitorRequestBodyContent

  | Parameter | Type | Mandatory | Description |
  | --- | --- | --- | --- |
  | vpn_connection_id | String | Yes | Specifies the ID of the VPN connection to be monitored.<br>You can obtain VPN connection IDs by **querying the VPN connection list**. |

- Example request

```
POST https://{Endpoint}/v5/{project_id}/connection-monitors

{
```

```
  "connection_monitor": {
    "vpn_connection_id": "cae286f2-demo-a8df-va86-e22416ca1220"
  }
}
```

## Response

- Response parameters

  Returned status code 201: successful operation

  **Table 4-122** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| connection_monitor | ConnectionMonitorInfo object | Specifies the connection_monitor object. |
| request_id | String | Specifies a request ID. |

  **Table 4-123** ConnectionMonitorInfo

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| vpn_connection_id | String | • Specifies the ID of the VPN connection to be monitored.<br>• The value is a UUID containing 36 characters. |
| type | String | • Specifies the type of objects to be monitored.<br>• The value can only be **gateway**. |
| source_ip | String | Specifies the source address to be monitored. |
| destination_ip | String | Specifies the destination address to be monitored. |
| proto_type | String | • Specifies the protocol used by NQA.<br>• The value can only be **icmp**. |

- Example response

```
{
  "connection_monitor":{
    "id":"76f64229-demo-a8df-va86-3907e2815b6d",
    "vpn_connection_id":"cae286f2-demo-a8df-va86-e22416ca1220",
    "type":"gateway",
    "source_ip":"88.***.***.60",
```

```
        "destination_ip":"88.***.***.32",
        "proto_type":"icmp"
    },
    "request_id": "bd37d16d-387c-41ab-a180-01b649f73590"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.4.2 Querying a VPN Connection Monitor

### Function

This API is used to query a VPN connection monitor with a specified ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/connection-monitors/{connection_monitor_id}

**Table 4-124** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| connection_monitor_id | String | Yes | Specifies the ID of a VPN connection monitor. |

### Request

- Request parameters

  None

- Example request

  ```
  GET https://{Endpoint}/v5/{project_id}/connection-monitors/{connection_monitor_id}
  ```

### Response

- Response parameters

  Returned status code 200: successful query

**Table 4-125** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| connection_monitor | **ConnectionMonitorInfo** object | Specifies the connection_monitor object. |
| request_id | String | Specifies a request ID. |

**Table 4-126** ConnectionMonitorInfo

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| status | String | • Specifies the status of the VPN connection monitor.<br>• Value range:<br>**ACTIVE**: normal<br>**PENDING_CREATE**: creating<br>**PENDING_DELETE**: deleting |
| vpn_connection_id | String | • Specifies the ID of the VPN connection to be monitored.<br>• The value is a UUID containing 36 characters. |
| type | String | • Specifies the type of objects to be monitored.<br>• The value can only be **gateway**. |
| source_ip | String | Specifies the source address to be monitored. |
| destination_ip | String | Specifies the destination address to be monitored. |
| proto_type | String | • Specifies the protocol used by NQA.<br>• The value can only be **icmp**. |

- Example response

```
{
    "connection_monitor": {
        "id": "76f64229-demo-a8df-va86-3907e2815b6d",
        "status": "ACTIVE",
        "vpn_connection_id": "cae286f2-demo-a8df-va86-e22416ca1220",
        "type": "gateway",
        "source_ip": "88.***.***.60",
        "destination_ip": "88.***.***.32",
        "proto_type": "icmp"
```

```
    },
    "request_id": "6d212bc0-ecb1-457b-977b-5e815fce658d"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.4.3 Querying the List of VPN Connection Monitors

### Function

This API is used to query the list of VPN connection monitors.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/connection-monitors

**Table 4-127** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

**Table 4-128** Parameter in a query request

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| vpn_connection_id | String | No | Specifies a VPN connection ID. |
| enterprise_project_id | Array | No | Specifies an enterprise project ID. |

### Request

- Request parameters

  None

- Example requests

  a. Query all VPN connection monitors.

  ```
  GET https://{Endpoint}/v5/{project_id}/connection-monitors
  ```

b. Query VPN monitors based on a specified VPN connection ID.

```
GET https://{Endpoint}/v5/{project_id}/connection-monitors?
vpn_connection_id={vpn_connection_id}
```

## Response

- Response parameters

  Returned status code 200: successful query

**Table 4-129** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| connection_monitors | Array of **ConnectionMonitorInfo** objects | Specifies the connection_monitor object. |
| request_id | String | Specifies a request ID. |

**Table 4-130** ConnectionMonitorInfo

| Parameter | Type | Description |
| --- | --- | --- |
| id | String | • Specifies the ID of a VPN connection monitor.<br>• The value is a UUID containing 36 characters. |
| status | String | • Specifies the status of the VPN connection monitor.<br>• Value range:<br>**ACTIVE**: normal<br>**PENDING_CREATE**: creating<br>**PENDING_DELETE**: deleting |
| vpn_connection_id | String | • Specifies the ID of the VPN connection to be monitored.<br>• The value is a UUID containing 36 characters. |
| type | String | • Specifies the type of objects to be monitored.<br>• The value can only be **gateway**. |
| source_ip | String | Specifies the source address to be monitored. |
| destination_ip | String | Specifies the destination address to be monitored. |

| Parameter | Type | Description |
| --- | --- | --- |
| proto_type | String | • Specifies the protocol used by NQA.<br>• The value can only be **icmp**. |

- Example responses
  a. Response to the request for querying all VPN connection monitors

```
{
    "connection_monitors":[
        {
            "id":"76f64229-demo-a8df-va86-3907e2815b6d",
            "status":"ACTIVE",
            "vpn_connection_id":"2342adf2-demo-a8df-va86-12aq511s0917",
            "type":"gateway",
            "source_ip":"88.***.***.60",
            "destination_ip":"88.***.***.32",
            "proto_type":"icmp"
        },
        {
            "id":"85t53318-demo-a8df-va86-zq9312525f6t",
            "status":"ACTIVE",
            "vpn_connection_id":"cae286f2-demo-a8df-va86-e22416ca1220",
            "type":"gateway",
            "source_ip":"89.***.***.21",
            "destination_ip":"88.***.***.12",
            "proto_type":"icmp"
        }
    ],
    "request_id": "531f8b2c-ec55-45d8-90a3-ede922f7d63c"
}
```

  b. Response to the request for querying monitors based on a specified VPN connection ID

```
{
    "connection_monitors":[
        {
            "id":"76f64229-demo-a8df-va86-3907e2815b6d",
            "status":"ACTIVE",
            "vpn_connection_id":"2342adf2-demo-a8df-va86-12aq511s0917",
            "type":"gateway",
            "source_ip":"88.***.***.60",
            "destination_ip":"88.***.***.32",
            "proto_type":"icmp"
        }
    ],
    "request_id": "05ab9b58-9b4c-4cee-8113-4b0f325f1dfc"
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.4.4 Deleting a VPN Connection Monitor

### Function

This API is used to delete a VPN connection monitor with a specified ID.

### Calling Method

For details, see **3 Calling APIs**.

### URI

DELETE /v5/{project_id}/connection-monitors/{connection_monitor_id}

**Table 4-131** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| connection_monitor_id | String | Yes | Specifies the ID of a VPN connection monitor. |

### Request

- Request parameters

  None

- Example request

```
DELETE https://{Endpoint}/v5/{project_id}/connection-monitors/{connection_monitor_id}
```

### Response

- Response parameters

  Returned status code 204: successful deletion

- Example response

  None

### Status Codes

For details, see **7.2 Status Codes**.

# 4.5 Quota

## 4.5.1 Querying Quotas

### Function

This API is used to query VPN resource quotas of a tenant, including VPN gateways, customer gateways, and VPN connections.

### Calling Method

For details, see **3 Calling APIs**.

## URI

GET /v5/{project_id}/vpn/quotas

**Table 4-132** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |

## Request

- Request parameters

  None

- Example request

```
GET https://{Endpoint}/v5/{project_id}/vpn/quotas
```

## Response

- Response parameters

  Returned status code 200: successful query

  **Table 4-133** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| quotas | **Quotas** object | Specifies the quotas object. |
| request_id | String | Specifies a request ID. |

  **Table 4-134** Quotas

| Parameter | Type | Description |
| --- | --- | --- |
| resources | Array of **QuotaInfo** objects | Specifies the resources object. |

**Table 4-135** QuotaInfo

| Parameter | Type | Description |
| --- | --- | --- |
| type | String | • Specifies a resource type.<br>• Value range:<br>– **customer_gateway**: customer gateway<br>– **vpn_connection**: Enterprise Edition VPN connection<br>– **vpn_gateway**: Enterprise Edition VPN gateway |
| quota | Integer | Specifies the quota upper limit. |
| used | Integer | Specifies the number of resources in use. |

- Example response

```
{
   "quotas": {
      "resources": [
         {
            "type": "customer_gateway",
            "quota": 100,
            "used": 13
         },
         {
            "type": "vpn_connection",
            "quota": 5000,
            "used": 306
         },
         {
            "type": "vpn_gateway",
            "quota": 50,
            "used": 23
         },
         {
            "type": "vpngw",
            "quota": 5,
            "used": 4
         },
         {
            "type": "vpn",
            "quota": 30,
            "used": 4
         }
      ]
   },
   "request_id": "9aeb7f73-e1b6-42eb-96ad-b68aef8186e3"
}
```

## Status Codes

For details, see **7.2 Status Codes**.

# 4.6 Tags

# 4.6.1 Querying the Resource Instance List

## Function

This API is used to query resource instances based on tags.

## Calling Method

For details, see **3 Calling APIs**.

## URI

POST /v5/{project_id}/{resource_type}/resource-instances/filter

**Table 4-136** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |

**Table 4-137** Parameter in a query request

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| limit | Integer | No | • Specifies the number of records to be queried.<br>• The value ranges from 1 to 1000.<br>• The default value is 1000. |
| offset | Integer | No | • Specifies the index position. The query starts from the (*offset value* + 1)th data record.<br>• The minimum value is 0.<br>• The default value is 0. |

## Request

- Request parameters

**Table 4-138** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| without_any_tag | Boolean | No | • When this parameter is set to **true**, all resources without tags are queried. In this case, the **tags** field is ignored. If this parameter is set to **false** or is not specified, all resources are queried or resources are filtered by "tags" or "matches". |
| tags | Array of **Tag** objects | No | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |
| matches | Array of **Match** objects | No | • Specifies a search field, including a key and a value. The match key is the field to be matched, for example, **resource_name**. The match value is the value to be matched. The key is a fixed dictionary value. |

**Table 4-139** Tag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters. |
| values | Array of String | Yes | • Specifies the value list of a tag. If **values** is an empty list, it indicates **any_value**. The relationship between values is OR.<br>• The value is a sting of 0 to 255 characters.<br>• A maximum of 20 values can be specified. |

**Table 4-140** Match

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a match key.<br>• The value is **resource_name**. |
| value | String | Yes | • Specifies a match value.<br>• The value is a sting of 0 to 255 characters. |

- Example request

```
POST https://{Endpoint}/v5/{project_id}/{resource_type}/resource-instances/filter
{
   "tags": [{
          "key": "key1",
          "values": [
             "value1",
             "value2"
          ]
       },
       {
          "key": "key2",
          "values": [
             "value1",
             "value2"
          ]
       }
   ],
   "matches": [{
      "key": "resource_name",
      "value": "resource1"
   }],
   "without_any_tag": "false"
}
```

## Response

- Response parameters

  Returned status code 200: successful query

**Table 4-141** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| resources | Array of **Resource** objects | Indicates the resource object list. |
| total_count | Integer | Indicates the total number of records. |

**Table 4-142** Resource

| Parameter | Type | Description |
| --- | --- | --- |
| resource_id | String | Indicates a resource ID. |

| Parameter | Type | Description |
| --- | --- | --- |
| resource_detail | object | Specifies resource details. This parameter is reserved for extension and is left empty by default. |
| tags | Array of ResourceTag objects | Specifies a tag list. |
| resource_name | String | Indicates a resource name. |

**Table 4-143** ResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | Indicates a tag key. |
| value | String | Indicates a tag value. |

- Example response

```
{
   "resources": [{
      "resource_id": "134f9fb1-demo-a8df-va86-2040a5c13325",
      "resource_name": "resouece1",
      "tags": [{
         "key": "key1",
         "value": "value1"
      }]
   }],
   "total_count": 1000
}
```

## Status Codes

For details, see **7.2 Status Codes**.

# 4.6.2 Querying the Number of Resource Instances

## Function

This API is used to query the number of resource instances based on tags.

## Calling Method

For details, see **3 Calling APIs**.

## URI

POST /v5/{project_id}/{resource_type}/resource-instances/count

**Table 4-144** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |

## Request

- Request parameters

**Table 4-145** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| without_any_tag | Boolean | No | • When this parameter is set to **true**, all resources without tags are queried. In this case, the **tags** field is ignored. If this parameter is set to **false** or is not specified, all resources are queried or resources are filtered by "tags" or "matches". |
| tags | Array of **Tag** objects | No | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |
| matches | Array of **Match** objects | No | • Specifies a search field, including a key and a value. The match key is the field to be matched, for example, **resource_name**. The match value is the value to be matched. The key is a fixed dictionary value. |

**Table 4-146** Tag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters. |
| values | Array of String | Yes | • Specifies the value list of a tag. If **values** is an empty list, it indicates **any_value**. The relationship between values is OR.<br>• The value is a sting of 0 to 255 characters.<br>• A maximum of 20 values can be specified. |

**Table 4-147** Match

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a match key.<br>• The value is **resource_name**. |
| value | String | Yes | • Specifies a match value.<br>• The value is a sting of 0 to 255 characters. |

- Example request

```
POST https://{Endpoint}/v5/{project_id}/{resource_type}/resource-instances/count
{
   "tags": [{
         "key": "key1",
         "values": [
            "value1",
            "value2"
         ]
      },
      {
         "key": "key2",
         "values": [
            "value1",
            "value2"
         ]
      }
   ],
   "matches": [{
      "key": "resource_name",
      "value": "resource1"
   }],
   "without_any_tag": "false"
}
```

### Response

- Response parameters

  Returned status code 200: successful query

  **Table 4-148** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| total_count | Integer | Indicates the total number of records. |

- Example response

```
{
    "total_count": 1000
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.6.3 Adding Resource Tags in Batches

### Function

This API is used to add tags to a specified instance in batches.

### Calling Method

For details, see **3 Calling APIs**.

### URI

POST /v5/{project_id}/{resource_type}/{resource_id}/tags/create

**Table 4-149** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |
| resource_id | String | Yes | Indicates a resource ID. |

## Request

- Request parameters

**Table 4-150** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| tags | Array of ResourceTag objects | Yes | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |

**Table 4-151** ResourceTag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | No | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example request

```
POST https://{Endpoint}/v5/{project_id}/{resource_type}/{resource_id}/tags/create
{
   "tags": [{
      "key": "key1",
      "value": "value1"
   }]
}
```

## Response

- Response parameters

  Returned status code 204: Tags are successfully added.

## Status Codes

For details, see **7.2 Status Codes**.

# 4.6.4 Deleting Resource Tags in Batches

## Function

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

## Calling Method

For details, see **3 Calling APIs**.

## URI

POST /v5/{project_id}/{resource_type}/{resource_id}/tags/delete

**Table 4-152** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |
| resource_id | String | Yes | Indicates a resource ID. |

## Request

- Request parameters

  **Table 4-153** Request parameters

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| tags | Array of **ResourceTag** objects | Yes | • Specifies a tag list.<br>• A maximum of 20 tags can be specified. |

**Table 4-154** ResourceTag

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| key | String | Yes | • Specifies a tag key.<br>• The value is a string of 1 to 128 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |
| value | String | No | • Specifies a tag value.<br>• The value is a string of 0 to 255 characters that can contain digits, letters, Spanish characters, Portuguese characters, spaces, and special characters (_ . : = + - @). |

- Example request

```
DELETE https://{Endpoint}/v5/{project_id}/{resource_type}/{resource_id}/tags/delete
{
   "tags": [{
      "key": "key1",
      "value": "value1"
   }]
}
```

## Response

- Response parameters

  Returned status code 204: Tags are successfully deleted.

## Status Codes

For details, see **7.2 Status Codes**.

# 4.6.5 Querying Resource Tags

## Function

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

## Calling Method

For details, see **3 Calling APIs**.

## URI

GET /v5/{project_id}/{resource_type}/{resource_id}/tags

**Table 4-155** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |
| resource_id | String | Yes | Indicates a resource ID. |

## Request

- Request parameters

  None

- Example request

```
GET https://{Endpoint}/v5/{project_id}/{resource_type}/{resource_id}/tags
```

## Response

- Response parameters

  Returned status code 200: successful query

  **Table 4-156** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| tags | Array of **ResourceTag** objects | Specifies the list of resource tags. |

  **Table 4-157** ResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | Specifies a tag key. |
| value | String | Specifies a tag value. |

- Example response

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

```
  ]
}
```

### Status Codes

For details, see **7.2 Status Codes**.

## 4.6.6 Querying Project Tags

### Function

This API is used to query all tags of a specified resource type in a specified project of a tenant.

### Calling Method

For details, see **3 Calling APIs**.

### URI

GET /v5/{project_id}/{resource_type}/tags

**Table 4-158** Parameter description

| Parameter | Type | Mandatory | Description |
| --- | --- | --- | --- |
| project_id | String | Yes | Specifies a project ID. You can obtain the project ID by referring to **7.1 Obtaining the Project ID**. |
| resource_type | String | Yes | • Specifies the resource type.<br>• The value can be **vpn-gateway**, **customer-gateway**, or **vpn-connection**. |

### Request

- Request parameters

  None

- Example request

  ```
  GET https://{Endpoint}/v5/{project_id}/{resource_type}/tags
  ```

### Response

- Response parameters

  Returned status code 200: successful query

**Table 4-159** Parameters in the response body

| Parameter | Type | Description |
| --- | --- | --- |
| tags | Array of **ResourceTag** objects | Specifies the list of resource tags. |

**Table 4-160** ResourceTag

| Parameter | Type | Description |
| --- | --- | --- |
| key | String | Indicates a tag key. |
| values | Array of String | Indicates a tag value. |

- Example response

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

## Status Codes

For details, see **7.2 Status Codes**.

# 5 Application Examples

## 5.1 Example 1: Creating a VPN Gateway

### Scenario

This section describes how to create a VPN gateway by calling APIs.

### Prerequisites

You have created a VPC. For details, see **Creating a VPC**.

You have determined the region where the VPN gateway is to be deployed and obtained the endpoint for calling APIs based on the region.

You have obtained a user token if you need to use token authentication. In addition, you need to add **X-Auth-Token** to the request header when calling an API. For details about token authentication, see **Authentication**.

NOTE

The token obtained through IAM is valid for only 24 hours. When using a token for authentication, cache it to avoid frequent calling.

### Data Preparation

**Table 5-1** Key parameters in the request for creating a VPN gateway

| Parameter | Description | Example Value |
| --- | --- | --- |
| vpc_id | Specifies the ID of the VPC to which the VPN gateway connects. | cb4a631d-demo-a8df-va86-ca3fa348c36c |
| local_subnets | Specifies a local subnet. | 192.168.0.0/24,192.168.1.0/24 |

| Parameter | Description | Example Value |
| --- | --- | --- |
| connect_subnet | Specifies the ID of the VPC subnet used by the VPN gateway. | f5741286-demo-a8df-va86-2c82bd9ee114 |
| eip1.id | Specifies the ID of the active EIP used by the VPN gateway. | cff40e5e-demo-a8df-va86-7366077bf097 |
| eip2.id | Specifies the ID of the standby EIP used by the VPN gateway. | d290f1ee-demo-a8df-va86-d701748f0851 |

## Procedure

1. Create a VPN gateway associated with a VPC.
   a. Send **POST https://{endpoint}/v5/{project_id}/vpn-gateways**.
   b. Add **X-Auth-Token** to the request header.
   c. Specify the following parameters in the request body:

```
{
    "vpn_gateway": {
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "local_subnets": [
            "192.168.0.0/24", "192.168.1.0/24"
        ],
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "eip1": {
            "id": "cff40e5e-demo-a8df-va86-7366077bf097"
        },
        "eip2": {
            "id": "d290f1ee-demo-a8df-va86-d701748f0851"
        }
    }
}
```

   d. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates a VPN gateway ID.

```
{
    "vpn_gateway": {
        "id": "620d99b8-demo-a8df-va86-200b868f2d7d",
        "name": "vpngw-3caf",
        "network_type": "public",
        "attachment_type": "vpc",
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "local_subnets": ["192.168.0.0/24", "192.168.1.0/24"],
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "bgp_asn": 64512,
        "access_vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "flavor": "Professional1",
        "used_connection_number": 0,
        "used_connection_group": 0,
        "enterprise_project_id": "0"
    },
    "request_id": "4a739f5c-edb7-4122-b31f-b77fb1b94857"
}
```

2. Query details about the VPN gateway.
   a. Send **GET https://{endpoint}/v5/{project_id}/vpn-gateways/{vgw_id}**.
   b. Add **X-Auth-Token** to the request header.
   c. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates a VPN gateway ID.


```
{
    "vpn_gateway": {
        "id": "620d99b8-demo-a8df-va86-200b868f2d7d",
        "name": "vpngw-3caf",
        "network_type": "public",
        "status": "ACTIVE",
        "attachment_type": "vpc",
        "vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "local_subnets": [
            "192.168.0.0/24", "192.168.1.0/24"
        ],
        "connect_subnet": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "access_vpc_id": "cb4a631d-demo-a8df-va86-ca3fa348c36c",
        "access_subnet_id": "f5741286-demo-a8df-va86-2c82bd9ee114",
        "bgp_asn": 64512,
        "flavor": "Professional1",
        "availability_zone_ids": [
            "cn-south-1f", "cn-south-1e"
        ],
        "used_connection_number": 0,
        "used_connection_group": 0,
        "enterprise_project_id": "0",
        "eip1": {
            "id": "cff40e5e-demo-a8df-va86-7366077bf097",
            "ip_version": 4,
            "type": "5_bgp",
            "ip_address": "88.***.***.8",
            "charge_mode": "bandwidth",
            "bandwidth_id": "593a1a79-demo-a8df-va86-64ec45fb23f6",
            "bandwidth_size": 300,
            "bandwidth_name": "vpngw-bandwidth-1391"
        },
        "eip2": {
            "id": "d290f1ee-demo-a8df-va86-d701748f0851",
            "ip_version": 4,
            "type": "5_bgp",
            "ip_address": "88.***.***.6",
            "charge_mode": "bandwidth",
            "bandwidth_id": "0abb9d55-demo-a8df-va86-b7500ac2a338",
            "bandwidth_size": 300,
            "bandwidth_name": "vpngw-bandwidth-1392"
        },
        "created_at": "2022-09-15T08:56:09.386Z",
        "updated_at": "2022-09-15T11:13:13.677Z"
    },
    "request_id": "d099a7dc-ea71-45a6-a75b-dccbfe17d438"
}
```


# 5.2 Example 2: Creating a Customer Gateway

## Scenario

This section describes how to create a customer gateway by calling APIs.

## Prerequisites

You have obtained a user token if you need to use token authentication. In addition, you need to add **X-Auth-Token** to the request header when calling an API. For details about token authentication, see **Authentication**.

NOTE

The token obtained through IAM is valid for only 24 hours. When using a token for authentication, cache it to avoid frequent calling.

## Data Preparation

**Table 5-2** Key parameters in the request for creating a customer gateway

| Parameter | Description | Example Value |
| --- | --- | --- |
| name | Specifies a customer gateway name. | stub-customer-gateway-id-1 |
| route_mode | Specifies the gateway routing mode. | static |
| ip | Specifies the IP address of the customer gateway. | 10.12.13.21 |

## Procedure

1. Create a customer gateway.
   a. Send **POST https://{endpoint}/v5/{project_id}/customer-gateways**.
   b. Add **X-Auth-Token** to the request header.
   c. Specify the following parameters in the request body:

```
{
   "customer_gateway": {
      "name": "cgw-3ebf",
      "id_type": "ip",
      "id_value": "10.***.***.21"
   }
}
```

   d. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates a customer gateway ID.

```
{
   "customer_gateway": {
      "id": "03c0aa3d-demo-a8df-va86-9d82473765d4",
      "name": "cgw-3ebf",
      "id_type": "ip",
      "id_value": "10.***.***.21",
      "created_at": "2021-12-21T16:49:28.108+08:00",
      "updated_at": "2021-12-21T16:49:28.108+08:00"
   },
   "request_id": "e55783ba-5cc8-40c1-ad81-12cce6f773d2"
}
```

2. Query details about the customer gateway.

a. Send **GET https://{endpoint}/v5/{project_id}/customer-gateways/{customer_gateway_id}**.

b. Add **X-Auth-Token** to the request header.

c. Check the response.

- The request is successful if the following response is displayed. In the response, **id** indicates a customer gateway ID.

```
{
    "customer_gateway": {
        "id": "03c0aa3d-demo-a8df-va86-9d82473765d4",
        "name": "cgw-3ebf",
        "id_type": "ip",
        "id_value": "10.***.***.21",
        "created_at": "2021-12-21T16:49:28.108+08:00",
        "updated_at": "2021-12-21T16:49:28.108+08:00"
    },
    "request_id": "8cf476c4-c3d4-4516-bfbc-01e2473e549b"
}
```

# 5.3 Example 3: Creating a VPN Connection

## Scenario

This section describes how to create a VPN connection by calling APIs.

## Prerequisites

- You have created a VPN gateway. For details, see **4.1.1 Creating a VPN Gateway**.
- You have created a customer gateway. For details, see **4.2.1 Creating a Customer Gateway**.
- You have obtained a user token if you need to use token authentication. In addition, you need to add **X-Auth-Token** to the request header when calling an API. For details about token authentication, see **Authentication**.

  NOTE

  The token obtained through IAM is valid for only 24 hours. When using a token for authentication, cache it to avoid frequent calling.

## Data Preparation

**Table 5-3** Key parameters in the request for creating a VPN connection

| Parameter | Description | Example Value |
| --- | --- | --- |
| vgw_id | Specifies a VPN gateway ID. | b32d91a4-demo-a8df-va86-e907174eb11d |
| vgw_ip | Specifies an EIP ID of the VPN gateway. | 0c464dad-demo-a8df-va86-c22bb0eb0bde |
| cgw_id | Specifies a customer gateway ID. | 5247ae10-demo-a8df-va86-dd36659a7f5d |

| Parameter | Description | Example Value |
| --- | --- | --- |
| peer_subnets | Specifies a customer subnet. | 192.168.44.0/24 |
| psk | Specifies a pre-shared key. | abcd**** |

## Procedure

1. Create a VPN connection in static routing mode for a VPN gateway associated with a VPC.
   a. Send **POST https://{endpoint}/v5/{project_id}/vpn-connection**.
   b. Add **X-Auth-Token** to the request header.
   c. Specify the following parameters in the request body:

```
{
    "vpn_connection": {
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
        "peer_subnets": [
            "192.168.44.0/24"
        ],
        "psk": "abcd****"
    }
}
```

   d. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates a VPN connection ID.

```
{
    "vpn_connection": {
        "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
        "name": "vpn-1655",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "style": "STATIC",
        "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
        "peer_subnets": ["192.168.44.0/24"],
        "tunnel_local_address": "169.254.56.225/30",
        "tunnel_peer_address": "169.254.56.226/30",
        "enable_nqa": false,
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 86400,
            "local_id_type": "ip",
            "local_id": "10.***.***.134",
            "peer_id_type": "ip",
            "peer_id": "88.***.***.164",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
```

```
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-11-26T13:41:34.626Z",
        "updated_at": "2022-11-26T13:41:34.626Z",
        "enterprise_project_id": "0",
    },
    "request_id": "f74da97d-aa27-4f62-a87c-a33b5706964b"
}
```


2. Query details about the VPN connection.
   a. Send **GET https://{endpoint}/v5/{project_id}/vpn-connection/{vpn_connection_id}**.
   b. Add **X-Auth-Token** to the request header.
   c. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates a VPN connection ID.


```
{
    "vpn_connection": {
        "id": "98c5af8a-demo-a8df-va86-ae2280a6f4c3",
        "name": "vpn-1655",
        "status": "DOWN",
        "vgw_id": "b32d91a4-demo-a8df-va86-e907174eb11d",
        "vgw_ip": "0c464dad-demo-a8df-va86-c22bb0eb0bde",
        "style": "STATIC",
        "cgw_id": "5247ae10-demo-a8df-va86-dd36659a7f5d",
        "peer_subnets": ["192.168.44.0/24"],
        "tunnel_local_address": "169.254.56.225/30",
        "tunnel_peer_address": "169.254.56.226/30",
        "enable_nqa": false,
        "ikepolicy": {
            "ike_version": "v2",
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "dh_group": "group15",
            "authentication_method": "pre-share",
            "lifetime_seconds": 86400,
            "local_id_type": "ip",
            "local_id": "10.***.***.134",
            "peer_id_type": "ip",
            "peer_id": "88.***.***.164",
            "dpd": {
                "timeout": 15,
                "interval": 30,
                "msg": "seq-hash-notify"
            }
        },
        "ipsecpolicy": {
            "authentication_algorithm": "sha2-256",
            "encryption_algorithm": "aes-128",
            "pfs": "group15",
            "transform_protocol": "esp",
            "lifetime_seconds": 3600,
            "encapsulation_mode": "tunnel"
        },
        "created_at": "2022-11-26T13:41:34.626Z",
        "updated_at": "2022-11-26T13:41:34.626Z",
        "enterprise_project_id": "0",
    },
    "request_id": "104c5608-b68b-462c-af17-ead2fb5ccee4"
}
```

# 5.4 Example 4: Creating a VPN Connection Monitor

## Scenario

This section describes how to create a VPN connection monitor by calling APIs.

## Prerequisites

- You have created a VPN connection. For details, see **4.3.1 Creating a VPN Connection**.
- You have obtained a user token if you need to use token authentication. In addition, you need to add **X-Auth-Token** to the request header when calling an API. For details about token authentication, see **Authentication**.

  NOTE

  The token obtained through IAM is valid for only 24 hours. When using a token for authentication, cache it to avoid frequent calling.

## Data Preparation

**Table 5-4** Key parameters in the request for creating a VPN connection monitor

| Parameter | Description | Example Value |
| --- | --- | --- |
| vpn_connection_id | Specifies the ID of the VPN connection to be monitored. | cae286f2-demo-a8df-va86-e22416ca1220 |

## Procedure

1. Create a VPN connection monitor.
   a. Send **POST https://{endpoint}/v5/{project_id}/connection-monitors**.
   b. Add **X-Auth-Token** to the request header.
   c. Specify the following parameters in the request body:

```
{
   "connection_monitor": {
      "vpn_connection_id": "cae286f2-demo-a8df-va86-e22416ca1220"
   }
}
```

   d. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates the ID of a VPN connection monitor.

```
{
   "connection_monitor": {
      "id": "76f64229-demo-a8df-va86-3907e2815b6d",
      "vpn_connection_id": "cae286f2-demo-a8df-va86-e22416ca1220",
      "type": "gateway",
      "source_ip": "88.***.***.60",
      "destination_ip": "192.***.***.0",
      "proto_type": "icmp"
```

```
    },
    "request_id": "54af23d8-989e-445d-bb48-0a9da33d7f0f"
}
```

2. Query details about the VPN connection monitor.
   a. Send **GET https://{endpoint}/v5/{project_id}/connection-monitors/{connection_monitor_id}**.
   b. Add **X-Auth-Token** to the request header.
   c. Check the response.
      - The request is successful if the following response is displayed. In the response, **id** indicates the ID of a VPN connection monitor.

```
{
    "connection_monitor": {
        "id": "76f64229-demo-a8df-va86-3907e2815b6d",
        "status": "ACTIVE",
        "vpn_connection_id": "cae286f2-demo-a8df-va86-e22416ca1220",
        "type": "gateway",
        "source_ip": "88.***.***.60",
        "destination_ip": "192.***.***.0",
        "proto_type": "icmp"
    },
    "request_id": "72d05395-0637-4f93-9844-b4979e9d7bdc"
}
```

# 6 Permissions and Supported Actions

## 6.1 VPN Gateway

| Permission | API | Action | IAM Project | Enterprise Project |
| --- | --- | --- | --- | --- |
| Creating a VPN gateway | POST /v5/{project_id}/vpn-gateways | vpn:vpnGateways:create | √ | √ |
| Querying the VPN gateway list | GET /v5/{project_id}/vpn-gateways | vpn:vpnGateways:list | √ | x |
| Querying details about a VPN gateway | GET /v5/{project_id}/vpn-gateways/{vgw_id} | vpn:vpnGateways:get | √ | x |
| Updating a VPN gateway | PUT /v5/{project_id}/vpn-gateways/{vgw_id} | vpn:vpnGateways:update | √ | √ |
| Deleting a VPN gateway | DELETE /v5/{project_id}/vpn-gateways/{vgw_id} | vpn:vpnGateways:delete | √ | √ |

# 6.2 Customer Gateway

| Permission | API | Action | IAM Project | Enterprise Project |
| --- | --- | --- | --- | --- |
| Creating a customer gateway | POST /v5/{project_id}/customer-gateways | vpn:customerGateways:create | √ | x |
| Querying the customer gateway list | GET /v5/{project_id}/customer-gateways | vpn:customerGateways:list | √ | x |
| Querying details about a customer gateway | GET /v5/{project_id}/customer-gateways/{customer_gateway_id} | vpn:customerGateways:get | √ | x |
| Updating a customer gateway | PUT /v5/{project_id}/customer-gateways/{customer_gateway_id} | vpn:customerGateways:update | √ | x |
| Deleting a customer gateway | DELETE /v5/{project_id}/customer-gateways/{customer_gateway_id} | vpn:customerGateways:delete | √ | x |

## 6.3 VPN Connection

| Permission | API | Action | IAM Project | Enterprise Project |
| --- | --- | --- | --- | --- |
| Creating a VPN connection | POST /v5/{project_id}/vpn-connection | vpn:vpnConnections:create | √ | √ |
| Querying the VPN connection list | GET /v5/{project_id}/vpn-connection | vpn:vpnConnections:list | √ | x |
| Querying details about a VPN connection | GET /v5/{project_id}/vpn-connection/{vpn_connection_id} | vpn:vpnConnections:get | √ | x |
| Updating a VPN connection | PUT /v5/{project_id}/vpn-connection/{vpn_connection_id} | vpn:vpnConnections:update | √ | √ |
| Deleting a VPN connection | DELETE /v5/{project_id}/vpn-connection/{vpn_connection_id} | vpn:vpnConnections:delete | √ | √ |

## 6.4 VPN Connection Monitoring

| Permission | API | Action | IAM Project | Enterprise Project |
| --- | --- | --- | --- | --- |
| Creating a VPN connection monitor | POST /v5/{project_id}/connection-monitors | vpn:connectionMonitors:create | √ | √ |
| Querying the VPN connection monitor list | GET /v5/{project_id}/connection-monitors | vpn:connectionMonitors:list | √ | x |

| Permission | API | Action | IAM Project | Enterprise Project |
| --- | --- | --- | --- | --- |
| Deleting a VPN connection monitor | DELETE /v5/{project_id}/connection-monitors/{connection_monitor_id} | vpn:connectionMonitors:delete | √ | √ |
| Querying details about a VPN connection monitor | GET /v5/{project_id}/connection-monitors/{connection_monitor_id} | vpn:connectionMonitors:get | √ | x |

NOTE

√: supported; x: not supported

# 7 Appendixes

## 7.1 Obtaining the Project ID

### Scenario

A project ID is required by some URLs used for calling APIs. You can obtain the project ID using either of the following methods:

- Obtaining the project ID by calling an API
- Obtaining the project ID from the console

### Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the API used to **query project information**.

The API for obtaining the project ID is **GET https://{*IAM endpoint*}/v3/projects**. For details about API authentication, see **Authentication**.

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

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

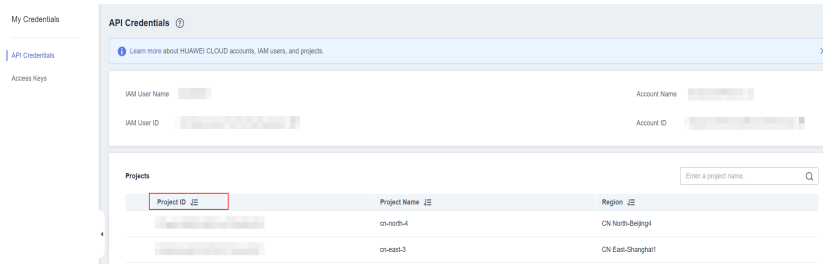
```
    }
}
```

### Obtaining the Project ID from the Console

Perform the following operations:

1. Log in to the management console.
2. Click your username in the upper right corner, and choose **My Credentials**.
   On the **API Credentials** page, view the project ID in the project list.

**Figure 7-1** Viewing the project ID




## 7.2 Status Codes

**Table 7-1** Status codes returned upon successful operations

| Status Code | Type | Description |
| --- | --- | --- |
| 200 | OK | Successful GET or PUT operations |
| 201 | Created | Successful POST operations |
| 204 | No Content | Successful DELETE operations |

**Table 7-2** Status codes returned upon exceptions

| Status Code | Type | Description |
| --- | --- | --- |
| 400 | Bad Request | The server fails to process the request. |
| 401 | Unauthorized | A username and password are required for access to the requested page. |
| 403 | Forbidden | Access to the requested page is forbidden. |
| 404 | Not Found | The requested page is not found. |
| 405 | Method Not Allowed | The method specified in the request is not allowed. |

| Status Code | Type | Description |
| --- | --- | --- |
| 406 | Not Acceptable | The response generated by the server could not be accepted by the client. |
| 407 | Proxy Authentication Required | Processing the request requires authentication by a proxy server. |
| 408 | Request Timeout | The request times out. |
| 409 | Conflict | The request cannot be processed due to a conflict. |
| 500 | Internal Server Error | The request is not completed due to a service exception. |
| 501 | Not Implemented | The request is not completed because the server does not support the requested function. |
| 502 | Bad Gateway | The request is not completed because the server receives an invalid response from the upstream server. |
| 503 | Service Unavailable | The request is not completed because the service is unavailable. |
| 504 | Gateway Timeout | A gateway timeout error occurs. |

# 7.3 Error Codes

## Description

If an error occurs when an API is called, error information is returned. This section describes the error information for VPN APIs (excluding native OpenStack APIs).

## Response Format

```
{
    "code": "VPN.0001",
    "message": "invalid request:xxx"
}
```

## Error Code Description

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

| Module | Status Code | Error Code | Error Information | Description | Handling Measure |
| --- | --- | --- | --- | --- | --- |
| Common | 400 | VPN.0001 | invalid request:xxx | The input parameter is invalid. | Contact technical support. |
| | 500 | VPN.0002 | server error: xxx | Internal server error. | Contact technical support. |
| | 403 | VPN.0003 | Authentication failed: xxx | Access denied. | Obtain the required permissions. |
| | 404 | VPN.0004 | resource not found | Failed to find the resource. | Check whether the resource ID is correct or whether the resource exists under the tenant. |

# 8 Change History

**Table 8-1** Change History

| Released On | Description |
| --- | --- |
| 2024-04-03 | This issue is the first official release. |