

**Elastic IP**

# **API Reference**

|              |            |
|--------------|------------|
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# 1 Before You Start

---

Welcome to *Elastic IP API Reference*. The EIP service provides independent public IP addresses and bandwidth for Internet access.

EIPs can be bound to or unbound from ECSs, BMSs, virtual IP addresses, load balancers, or NAT gateways. Various billing modes are provided to meet diverse service requirements.

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

If you plan to access EIPs through an API, ensure that you are familiar with EIP concepts. For details, see [Service Overview](#) in *Elastic IP User Guide*.

EIP supports Representational State Transfer (REST) APIs, allowing you to call APIs using HTTPS.

For details about API calling, see [Calling APIs](#).

## Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. Currently, EIP and VPC use same endpoints. For the endpoints of all services, see [Regions and Endpoints](#).

## Concepts

- Account

An account is created upon successful signing up. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- User

An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

API authentication requires information such as the account name, username, and password.

- **Region**  
Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (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.  
For details, see [Region and AZ](#).
- **AZ**  
An AZ comprises of one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.
- **Project**  
A project corresponds to a region. Default projects are defined. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the 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 required to access only the resources in the specific subprojects.
- **Enterprise Project**  
Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated.  
For details about enterprise projects and about how to obtain enterprise project IDs, see [Enterprise Management User Guide](#).

# 2 API Overview

APIs provided by the EIP service include native OpenStack APIs and EIP APIs.

A combination of these two types of APIs allows you to use all functions provided by the EIP service.

## EIP APIs

Table 2-1 EIP APIs

| Type                               | Description                                                            |
|------------------------------------|------------------------------------------------------------------------|
| <a href="#">Elastic IP</a>         | APIs for assigning, querying, updating, and releasing EIPs             |
| <a href="#">Bandwidth</a>          | APIs for querying and updating bandwidth                               |
| <a href="#">Quota</a>              | API for querying quota values                                          |
| <a href="#">EIP Tag Management</a> | APIs for adding tags to EIPs as well as querying and deleting EIP tags |

## Native OpenStack APIs

Table 2-2 Native OpenStack APIs

| Type                                    | Description                                                                       |
|-----------------------------------------|-----------------------------------------------------------------------------------|
| <a href="#">API Version Information</a> | APIs for querying all available API versions and displaying the results in pages. |
| <a href="#">Floating IP Address</a>     | APIs for assigning, querying, updating, and releasing floating IP addresses       |

# 3 Calling APIs

## 3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for [creating an IAM user](#) as an example to demonstrate how to call an API.

### 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 transmitted separately.

**Table 3-1** URI parameter description

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

IAM is a global service. You can create an IAM user using the endpoint of IAM in any region. For example, to create an IAM user in the **EU-Dublin** region, obtain the endpoint of IAM (**iam.myhuaweicloud.eu**) for this region and the **resource-path** (**/v3.0/OS-USER/users**) in the URI of the API for [creating an IAM user](#). Then construct the URI as follows:

```
https://iam.myhuaweicloud.eu/v3.0/OS-USER/users
```

#### NOTE

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

## Request Methods

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

**Table 3-2** HTTP methods

| Method | Description                                                                                                                               |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| GET    | Requests the server to return specified resources.                                                                                        |
| PUT    | Requests the server to update specified resources.                                                                                        |
| POST   | Requests the server to add resources or perform special operations.                                                                       |
| DELETE | Requests the server to delete specified resources, for example, an object.                                                                |
| HEAD   | Same as GET except that the server must return only the response header.                                                                  |
| PATCH  | Requests the server to update partial content of a specified resource.<br>If the resource does not exist, a new resource will be created. |

For example, in the case of the API for [creating an IAM user](#), the request method is **POST**. An example request is as follows:

```
POST https://iam.myhuaweicloud.eu/v3.0/OS-USER/users
```

## Request Header

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

Common request header fields are as follows.

**Table 3-3** Common request header fields

| Parameter      | Description                                                                                                                                                                                                                                                                                                                       | Mandatory                                                                                                                                     | Example Value                            |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Host           | Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>Hostname:Port number</i> . If the port number is not specified, the default port is used. The default port number for <b>https</b> is <b>443</b> . | No<br><br>This field is mandatory for AK/SK authentication.                                                                                   | code.test.com<br>or<br>code.test.com:443 |
| Content-Type   | Specifies the type (or format) of the message body. The default value <b>application/json</b> is recommended. Other values of this field will be provided for specific APIs if any.                                                                                                                                               | Yes                                                                                                                                           | application/json                         |
| Content-Length | Specifies the length of the request body. The unit is byte.                                                                                                                                                                                                                                                                       | No                                                                                                                                            | 3495                                     |
| X-Project-Id   | Specifies the project ID. Obtain the project ID by following the instructions in <a href="#">Obtaining a Project ID</a> .                                                                                                                                                                                                         | No<br><br>This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario. | e9993fc787d94b6c886cbaa340f9c0f4         |

| Parameter    | Description                                                                                                                                                                                                                                                                                       | Mandatory                                                          | Example Value                                                                                       |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| X-Auth-Token | <p>Specifies the user token.</p> <p>It is a response to the API for <a href="#">obtaining a user token</a> (This is the only API that does not require authentication).</p> <p>After the request is processed, the value of <b>X-Subject-Token</b> in the response header is the token value.</p> | <p>No</p> <p>This field is mandatory for token authentication.</p> | <p>The following is part of an example token:</p> <p>MIIPAgYJKoZlhvcNAQcCo...ggg1BBIINPXsidG9rZ</p> |

 **NOTE**

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, 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 in the request.

For more details, see "Authentication Using AK/SK" in [Authentication](#).

The following shows an example request of the API for [creating an IAM user](#) when AK/SK authentication is used:

```
POST https://iam.myhuaweicloud.eu/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=***** , SignedHeaders=content-type;host;x-sdk-date,
Signature=*****
```

## (Optional) 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.

The request body varies depending on APIs. Certain APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

The following shows an example request (a request body included) of the API for [creating an IAM user](#). You can learn about request parameters and related description from this example. The bold parameters need to be replaced for a real request.

- **accountid**: account ID of an IAM user
- **username**: name of an IAM user
- **email**: email of an IAM user
- **password**: login password of an IAM user

```
POST https://iam.myhuaweicloud.eu/v3.0/OS-USER/users
Content-Type: application/json
```

```
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****

{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

If all data required for the API request is available, you can send the request to call the API through [curl](#), [Postman](#), or coding.

## 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 because it is more secure than token authentication.

### Token Authentication

#### NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

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

You can obtain a token by calling the API for [obtaining a user token](#).

EIP is a project-level service. When you call the API, set **auth.scope** in the request body to **project**.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username", // IAM user name
          "password": "*****", // IAM user password
          "domain": {
            "name": "domainname" //Name of the account to which the IAM user belongs
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxx" // Project Name
      }
    }
  }
}
```

```
}  
}  
}  
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

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

## AK/SK Authentication

### NOTE

- AK/SK authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token authentication is recommended.
- The AK/SK can either be permanent or temporary. If it is temporary, the **X-Security-Token** field must be included in the request header. The value is the security token of the temporary AK/SK.

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

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

In AK/SK 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

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

## 3.3 Response

### Status Code

After sending a request, you will receive a response, including 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 request. For more information, see [Status Codes](#).

For example, if status code **201** is returned for calling the API used to [create an IAM user](#), the request is successful.

### Response Header

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

**Figure 3-1** shows the response header fields for the API used to **create an IAM user**. The **X-Subject-Token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

#### NOTE

For security purposes, you are advised to set the token in ciphertext in configuration files or environment variables and decrypt it when using it.

**Figure 3-1** Header fields of the response to the request for creating an IAM user

```
"X-Frame-Options": "SAMEORIGIN",
"X-IAM-ETag-id": "2562365939-d8f6f12921974cb097338ac11fceac8a",
"Transfer-Encoding": "chunked",
"Strict-Transport-Security": "max-age=31536000; includeSubdomains;",
"Server": "api-gateway",
"X-Request-Id": "af2953f2bcc67a42325a69a19e6c32a2",
"X-Content-Type-Options": "nosniff",
"Connection": "keep-alive",
"X-Download-Options": "noopen",
"X-XSS-Protection": "1; mode=block;",
"X-IAM-Trace-Id": "token_ _null_af2953f2bcc67a42325a69a19e6c32a2",
"Date": "Tue, 21 May 2024 09:03:40 GMT",
"Content-Type": "application/json; charset=utf8"
```

## (Optional) Response Body

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

The following shows part of the response body for the API used to **create an IAM user**.

```
{
  "user": {
    "id": "c131886aec...",
    "name": "IAMUser",
    "description": "IAM User Description",
    "areacode": "",
    "phone": "",
    "email": "***@***.com",
    "status": null,
    "enabled": true,
    "pwd_status": false,
    "access_mode": "default",
    "is_domain_owner": false,
    "xuser_id": "",
    "xuser_type": "",
    "password_expires_at": null,
    "create_time": "2024-05-21T09:03:41.000000",
    "domain_id": "d78cbac1.....",
    "xdomain_id": "30086000.....",
    "xdomain_type": "",
    "default_project_id": null
  }
}
```

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

```
{  
  "error_msg": "The request message format is invalid.",  
  "error_code": "IMG.0001"  
}
```

In the response body, **error\_code** is an error code, and **error\_msg** provides information about the error.

# 4 APIs

## 4.1 Job Status

### 4.1.1 Querying Job Status

#### Function

This API is used to query job status.

#### URI

GET /v1/{project\_id}/jobs/{job\_id}

Table 4-1 Path parameter

| Parameter  | Mandatory | Type   | Description                            |
|------------|-----------|--------|----------------------------------------|
| project_id | Yes       | String | Project ID                             |
| job_id     | Yes       | String | Job ID returned by the batch operation |

#### Request Parameters

None

#### Response Parameters

Status code: 200

Table 4-2 Response body parameters

| Parameter   | Type                               | Description                                   |
|-------------|------------------------------------|-----------------------------------------------|
| job_id      | String                             | Job ID                                        |
| job_type    | String                             | Job type                                      |
| begin_time  | String                             | Creation start time                           |
| end_time    | String                             | Creation end time                             |
| status      | String                             | Job status                                    |
| error_code  | String                             | Error code                                    |
| fail_reason | String                             | Error message                                 |
| entities    | <a href="#">SubJobsInfo</a> object | Job information body, which is the loop body. |

Table 4-3 SubJobsInfo

| Parameter | Type             | Description                                                        |
|-----------|------------------|--------------------------------------------------------------------|
| sub_jobs  | Array of objects | Sub-job information. The type is the same as that of the main job. |

Example Request

None

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "job_id" : "ff808082843684110184e155fdb36461",
  "job_type" : "createBatchPublicip",
  "begin_time" : "2022-12-05T08:10:19.951Z",
  "end_time" : "2022-12-05T08:10:21.864Z",
  "status" : "SUCCESS",
  "error_code" : null,
  "fail_reason" : null,
  "entities" : {
    "sub_jobs" : [ ]
  }
}
```

Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.2 EIP

### 4.2.1 Assigning an EIP

#### Function

This API is used to assign an EIP.

The EIP service provides independent public IP addresses and bandwidth for Internet access. EIPs can be flexibly bound to or unbound from ECSs, BMSs, virtual IP addresses, NAT gateways, or load balancers.

#### URI

POST /v1/{project\_id}/publicips

[Table 4-4](#) describes the parameters.

**Table 4-4** Parameter description

| Parameter  | Mandatory | Description                                                                                                          |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

#### Request Parameters

**Table 4-5** Request body parameter

| Parameter | Mandatory | Type                             | Description                                                                  |
|-----------|-----------|----------------------------------|------------------------------------------------------------------------------|
| publicip  | Yes       | <a href="#">publicip</a> object  | Specifies the EIP object. For details, see <a href="#">Table 4-6</a> .       |
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth object. For details, see <a href="#">Table 4-7</a> . |

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enterprise_project_id | No        | String | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li><li>When you assign an EIP, associate an enterprise project ID with the EIP.</li><li>If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li></ul> <b>NOTE</b> |

**Table 4-6** Description of the **publicip** field

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type         | Yes       | String | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |
| ip_addresses | No        | String | <ul style="list-style-type: none"><li>Specifies the EIP to be assigned. The system automatically assigns an EIP if you do not specify it.</li><li>The value must be a valid IPv4 address in the available IP address range.</li></ul>                                                                                                                             |
| alias        | No        | String | <ul style="list-style-type: none"><li>Specifies the EIP name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                                                                               |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                      |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_id   | No        | String | <ul style="list-style-type: none"><li>Specifies the port ID. The EIP to be assigned is bound to this port.</li><li>The value must be an ID of an existing port. If the port does not exist or has been bound to an EIP, an error message is displayed.</li></ul> |

**Table 4-7** Description of the **bandwidth** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li><li>This parameter is mandatory when <b>share_type</b> is set to <b>PER</b>. This parameter will be ignored when <b>share_type</b> is set to <b>WHOLE</b> with an ID specified.</li></ul> |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | No        | Integer | <ul style="list-style-type: none"><li>• Specifies the bandwidth size.</li><li>• The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the bandwidth range of each region on the management console.)</li><li>• This parameter is mandatory when <b>share_type</b> is set to <b>PER</b>. This parameter will be ignored when <b>share_type</b> is set to <b>WHOLE</b> with an ID specified.</li><li>• The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none"><li>– The minimum increment is 1 Mbit/s if the allowed bandwidth ranges from 0 Mbit/s to 300 Mbit/s (with 300 Mbit/s included).</li><li>– The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1000 Mbit/s (with</li></ul></li></ul> |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                        |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |           |        | 1000 Mbit/s included). <ul style="list-style-type: none"><li>– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.</li></ul>                                                                                                                                                 |
| id          | No        | String | <ul style="list-style-type: none"><li>• Specifies the bandwidth ID. You can specify an existing shared bandwidth when assigning an EIP.</li><li>• The value can be the ID of the shared bandwidth whose type is set to <b>WHOLE</b>.</li></ul>                                                                     |
| share_type  | Yes       | String | <ul style="list-style-type: none"><li>• Specifies the bandwidth type.</li><li>• Range:<ul style="list-style-type: none"><li>– <b>PER</b>: Dedicated bandwidth</li><li>– <b>WHOLE</b>: Shared bandwidth</li></ul></li><li>• If this parameter is set to <b>WHOLE</b>, the bandwidth ID must be specified.</li></ul> |
| charge_mode | No        | String | <ul style="list-style-type: none"><li>• Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>• The value <b>bandwidth</b> indicates that you will be billed by bandwidth, and the value <b>traffic</b> indicates that you will be billed by traffic.</li></ul>                       |

### Example Request

Example request (IPv4 EIP with dedicated bandwidth)  
POST https://{Endpoint}/v1/{project\_id}/publicips

```
{
  "publicip": {
    "type": "5_bgp",
    "ip_version": 4
  },
  "bandwidth": {
    "name": "bandwidth123",
    "size": 10,
    "share_type": "PER"
  },
  "enterprise_project_id": "b261ac1f-2489-4bc7-b31b-c33c3346a439"
}
```

### Response Message

- Response parameter

**Table 4-8** Response parameter

| Parameter | Type                   | Description                                                            |
|-----------|------------------------|------------------------------------------------------------------------|
| publicip  | <b>publicip</b> object | Specifies the EIP object. For details, see <a href="#">Table 4-9</a> . |

**Table 4-9** Description of the **publicip** field

| Parameter | Type   | Description                                |
|-----------|--------|--------------------------------------------|
| id        | String | Specifies the unique identifier of an EIP. |

| Parameter           | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status              | String | <ul style="list-style-type: none"><li>• Specifies the EIP status.</li><li>• Range:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>NOTIFYING</b> (Assigning)</li><li>– <b>NOTIFY_DELETE</b> (Release)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b> (Exceptions)</li></ul></li></ul> |
| type                | String | <ul style="list-style-type: none"><li>• Specifies the EIP type.</li><li>• The value can be <b>5_bgp</b>.</li><li>• Constraints:<ul style="list-style-type: none"><li>– The configured value must be supported by the system.</li><li>– <b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul>                                                                                                                                                                                                                                                                                        |
| public_ip_address   | String | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| public_ipv6_address | String | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter             | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ip_version            | Integer | Specifies the IP address version. The value can be <b>4</b> or <b>6</b> . <ul style="list-style-type: none"><li>• <b>4</b>: IPv4</li><li>• <b>6</b>: IPv6</li></ul>                                                                                                                                                                                                                                                                         |
| tenant_id             | String  | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| create_time           | String  | Specifies the time (UTC) when the EIP is assigned.<br>Format: <i>yyyy-MM-dd HH:mm:ss</i>                                                                                                                                                                                                                                                                                                                                                    |
| bandwidth_size        | Integer | Specifies the bandwidth (Mbit/s).                                                                                                                                                                                                                                                                                                                                                                                                           |
| alias                 | String  | Specifies the EIP name.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| enterprise_project_id | String  | <ul style="list-style-type: none"><li>• Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li><li>• When you assign an EIP, associate an enterprise project ID with the EIP.</li><li>• If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li></ul> <b>NOTE</b> |
| public_border_group   | String  | Specifies whether it is in a central site or an edge site.<br>Range: <ul style="list-style-type: none"><li>• center</li><li>• <i>Edge site name</i></li></ul> This resource can only be associated with an EIP of the same region.                                                                                                                                                                                                          |

## Example Response

Example response (IPv4 EIP with dedicated bandwidth)

```
{
  "publicip": {
    "id": "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "alias": "tom",
    "public_border_group": "center",
    "status": "PENDING_CREATE",
    "type": "5_bgp",
    "public_ip_address": "161.xx.xx.7",
    "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
    "ip_version": 4,
    "create_time": "2015-07-16 04:10:52",
    "bandwidth_size": 0,
    "enterprise_project_id": "b261ac1f-2489-4bc7-b31b-c33c3346a439"
  }
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.2.2 Querying an EIP

Function

This API is used to query a specific EIP.

URI

GET /v1/{project\_id}/publicips/{publicip\_id}

[Table 4-10](#) describes the parameters.

**Table 4-10** Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

Request Message

- Request parameter  
None
- Example request  
GET https://{Endpoint}/v1/{project\_id}/publicips/{publicip\_id}

### Response Message

- Response parameter

Table 4-11 Response parameter

| Parameter | Type                   | Description                                                             |
|-----------|------------------------|-------------------------------------------------------------------------|
| publicip  | <b>publicip</b> object | Specifies the EIP object. For details, see <a href="#">Table 4-12</a> . |

Table 4-12 Description of the **publicip** field

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | Specifies the unique identifier of an EIP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| status    | String | <ul style="list-style-type: none"><li>• Specifies the EIP status.</li><li>• Possible values are as follows:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>NOTIFYING</b> (Assigning)</li><li>– <b>NOTIFY_DELETE</b> (Releasing)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b> (Exceptions)</li></ul></li></ul> |

| Parameter           | Type                           | Description                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| profile             | <a href="#">profile</a> object | Specifies the additional parameters, including the order ID and product ID. For details, see <a href="#">Table 4-13</a> .                                                                                                                                                                                                                                                   |
| type                | String                         | <ul style="list-style-type: none"><li>• Specifies the EIP type.</li><li>• The value can be <b>5_bgp</b>.</li><li>• Constraints:<ul style="list-style-type: none"><li>– The configured value must be supported by the system.</li><li>– <b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |
| public_ipv6_address | String                         | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                                       |
| public_ip_address   | String                         | Specifies the obtained EIP if only IPv4 EIPs are available. Specifies the IPv4 address corresponding to the IPv6 address if IPv6 EIPs are available.                                                                                                                                                                                                                        |
| ip_version          | Integer                        | Specifies the IP address version. The value can be <b>4</b> or <b>6</b> . <ul style="list-style-type: none"><li>• <b>4</b>: IPv4</li><li>• <b>6</b>: IPv6</li></ul>                                                                                                                                                                                                         |
| private_ip_address  | String                         | <ul style="list-style-type: none"><li>• Specifies the private IP address bound to the EIP.</li><li>• This parameter is returned only if the private IP address is bound to the EIP.</li></ul>                                                                                                                                                                               |

| Parameter            | Type    | Description                                                                                                                                                                                                                                                  |
|----------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_id              | String  | <ul style="list-style-type: none"><li>Specifies the port ID.</li><li>This parameter is returned only when a port is associated with the EIP.</li></ul>                                                                                                       |
| tenant_id            | String  | Specifies the project ID.                                                                                                                                                                                                                                    |
| create_time          | String  | Specifies the time (UTC) when the EIP is assigned.<br>Format: <i>yyyy-MM-dd HH:mm:ss</i>                                                                                                                                                                     |
| bandwidth_id         | String  | Specifies the ID of the EIP bandwidth.                                                                                                                                                                                                                       |
| bandwidth_size       | Integer | Specifies the bandwidth (Mbit/s).                                                                                                                                                                                                                            |
| bandwidth_share_type | String  | <ul style="list-style-type: none"><li>Specifies the EIP bandwidth type.</li><li>The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li></ul> |
| bandwidth_name       | String  | Specifies the bandwidth name.                                                                                                                                                                                                                                |
| alias                | String  | Specifies the EIP name.                                                                                                                                                                                                                                      |

| Parameter                   | Type                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enterprise_project_id       | String                                  | <ul style="list-style-type: none"> <li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li> <li>When assigning an EIP, you need to associate an enterprise project ID with the EIP.</li> <li>If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li> </ul> <p><b>NOTE</b><br/>For more information about enterprise projects and how to obtain enterprise project IDs, see the <i>Enterprise Management User Guide</i>.</p> |
| public_border_group         | String                                  | <p>Specifies whether it is in a central site or an edge site.</p> <p>The value can be:</p> <ul style="list-style-type: none"> <li>center</li> <li><i>Edge site name</i></li> </ul> <p>An EIP can only be bound to a resource of the same region.</p>                                                                                                                                                                                                                                                                                                                                                      |
| allow_share_bandwidth_types | Array of strings                        | <p>Specifies types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</p> <p>The EIP can be added only to the shared bandwidth of these types.</p>                                                                                                                                                                                                                                                                                                                                                                    |
| tags                        | Array of <b>ResourceTagResp</b> objects | Specifies the list of tags.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Table 4-13** Description of the **profile** field

| Parameter  | Type   | Description               |
|------------|--------|---------------------------|
| order_id   | String | Specifies the order ID.   |
| product_id | String | Specifies the product ID. |
| region_id  | String | Specifies the region ID.  |
| user_id    | String | Specifies the user ID.    |

**Table 4-14** ResourceTagResp

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <ul style="list-style-type: none"><li>Tag key</li><li>Constraints:<ul style="list-style-type: none"><li>Cannot be left blank.</li><li>Can contain a maximum of 36 characters.</li><li>Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@).</li><li>The tag key of an EIP must be unique.</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| value     | String | <ul style="list-style-type: none"><li>Tag value</li><li>Constraints:<ul style="list-style-type: none"><li>Can contain a maximum of 43 characters.</li><li>Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@).</li><li>The tag key of an EIP must be unique.</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>43</b>                             |

• Example response

```
{
  "publicip": {
    "id": "2ec9b78d-9368-46f3-8f29-d1a95622a568",
    "status": "DOWN",
    "alias": "tom",
    "profile": {
      "user_id": "35f2b308f5d64441a6fa7999fbcd4321",
      "product_id": "00301-48027-0--0",
```

```
    "region_id": "xxx",
    "order_id": "xxxxxxxx"
  },
  "type": "5_bgp",
  "public_ip_address": "161.xx.xx.12",
  "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
  "private_ip_address": "192.168.10.5",
  "create_time": "2015-07-16 04:32:50",
  "bandwidth_id": "49c8825b-bed9-46ff-9416-704b96d876a2",
  "bandwidth_share_type": "PER",
  "bandwidth_size": 10, //The EIP bandwidth size is 10 Mbit/s.
  "bandwidth_name": "bandwidth-test",
  "ip_version": 4
}
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.2.3 Querying EIPs

Function

This API is used to query EIPs.

URI

GET /v1/{project\_id}/publicips

[Table 4-15](#) describes the parameters.

**Table 4-15** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                          |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | <p>Specifies a resource ID for pagination query, indicating that the query starts from the next record of the specified resource ID.</p> <p>This parameter can work together with the parameter <b>limit</b>.</p> <ul style="list-style-type: none"><li>• If parameters <b>marker</b> and <b>limit</b> are not passed, resource records on the first page will be returned.</li><li>• If the parameter <b>marker</b> is not passed and the value of parameter <b>limit</b> is set to <b>10</b>, the first 10 resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource ID of the 10th record and the value of parameter <b>limit</b> is set to <b>10</b>, the 11th to 20th resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource ID of the 10th record and the parameter <b>limit</b> is not passed, 11th to 2,000th resource records will be returned. The default value of <b>limit</b> is <b>2000</b>.</li></ul> |

| Parameter          | Mandatory | Type             | Description                                                                                                                                                                                                                                                          |
|--------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit              | No        | Integer          | Specifies the number of records that will be returned on each page. The value is from 0 to intmax ( $2^{31}-1$ ). The default value is 2000.<br><b>limit</b> can be used together with <b>marker</b> . For details, see the parameter description of <b>marker</b> . |
| port_id            | No        | Array of strings | Specifies the port ID of the EIP.                                                                                                                                                                                                                                    |
| public_ip_address  | No        | Array of strings | Specifies the obtained EIP if only IPv4 EIPs are available, or the IPv4 EIP corresponding to the IPv6 EIP if IPv6 EIPs are available.                                                                                                                                |
| private_ip_address | No        | Array of strings | <ul style="list-style-type: none"><li>Specifies the private IP address bound to the EIP.</li><li>This parameter is returned only if the private IP address is bound to the EIP.</li></ul>                                                                            |
| id                 | No        | Array of strings | Specifies the ID of the EIP, which uniquely identifies the EIP.                                                                                                                                                                                                      |

## Request Message

- Request parameter  
None
- Example request  
GET https://{Endpoint}/v1/{project\_id}/publicips?limit={limit}&marker={marker}

## Response Message

- Response parameter

**Table 4-16** Response parameter

| Parameter | Type                                       | Description                                                             |
|-----------|--------------------------------------------|-------------------------------------------------------------------------|
| publicips | Array of <a href="#">publicips</a> objects | Specifies the EIP object. For details, see <a href="#">Table 4-17</a> . |

**Table 4-17** Description of the **publicips** field

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String | Specifies the unique identifier of an EIP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| status    | String | <ul style="list-style-type: none"><li>Specifies the EIP status.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>BIND_ERROR</b> (Binding failed)</li><li><b>BINDING</b> (Binding)</li><li><b>PENDING_DELETE</b> (Releasing)</li><li><b>PENDING_CREATE</b> (Assigning)</li><li><b>PENDING_UPDATE</b> (Updating)</li><li><b>DOWN</b> (Unbound)</li><li><b>ACTIVE</b> (Bound)</li><li><b>ELB</b> (Bound to a load balancer)</li><li><b>ERROR</b> (Exceptions)</li></ul></li></ul> |
| profile   | Object | Specifies the additional parameters, including the order ID and product ID. For details, see <a href="#">Table 4-18</a> .                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type                | String  | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |
| public_ip_address   | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                       |
| public_ipv6_address | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                             |
| ip_version          | Integer | <p>Specifies the IP address version. The value can be <b>4</b> or <b>6</b>.</p> <ul style="list-style-type: none"><li><b>4</b>: IPv4</li><li><b>6</b>: IPv6</li></ul>                                                                                                                                                                                             |
| private_ip_address  | String  | <ul style="list-style-type: none"><li>Specifies the private IP address bound to the EIP.</li><li>This parameter is returned only if the private IP address is bound to the EIP.</li></ul>                                                                                                                                                                         |
| port_id             | String  | <ul style="list-style-type: none"><li>Specifies the port ID.</li><li>This parameter is returned only when a port is associated with the EIP.</li></ul>                                                                                                                                                                                                            |
| tenant_id           | String  | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                         |

| Parameter             | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time           | String  | Specifies the time (UTC) when the EIP is assigned.<br>Format: <i>yyyy-MM-dd HH:mm:ss</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| bandwidth_id          | String  | Specifies the ID of the EIP bandwidth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| bandwidth_size        | Integer | Specifies the bandwidth (Mbit/s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| bandwidth_share_type  | String  | <ul style="list-style-type: none"><li>Specifies the EIP bandwidth type.</li><li>The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li></ul>                                                                                                                                                                                                                                                                                                                                          |
| bandwidth_name        | String  | Specifies the bandwidth name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| alias                 | String  | Specifies the EIP name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| enterprise_project_id | String  | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li><li>When assigning an EIP, you need to associate an enterprise project ID with the EIP.</li><li>If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li></ul> <p><b>NOTE</b><br/>For more information about enterprise projects and how to obtain enterprise project IDs, see the <i>Enterprise Management User Guide</i>.</p> |

| Parameter                   | Type                                             | Description                                                                                                                                                                                                                                                                               |
|-----------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group         | String                                           | <p>Specifies whether it is in a central site or an edge site.</p> <p>The value can be:</p> <ul style="list-style-type: none"><li>• center</li><li>• <i>Edge site name</i></li></ul> <p>An EIP can only be bound to a resource of the same region.</p>                                     |
| allow_share_bandwidth_types | Array of strings                                 | <ul style="list-style-type: none"><li>• Specifies the types of the shared bandwidth to which the EIP can be added.</li><li>• If the list is empty, the EIP cannot be added to any shared bandwidth.</li><li>• The EIP can be added only to the shared bandwidth of these types.</li></ul> |
| tags                        | Array of <a href="#">ResourceTagResp</a> objects | Specifies the list of tags.                                                                                                                                                                                                                                                               |

**Table 4-18** Description of the **profile** field

| Parameter  | Type   | Description               |
|------------|--------|---------------------------|
| order_id   | String | Specifies the order ID.   |
| product_id | String | Specifies the product ID. |
| region_id  | String | Specifies the region ID.  |
| user_id    | String | Specifies the user ID.    |

Table 4-19 ResourceTagResp

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <ul style="list-style-type: none"><li>Tag name</li><li>Constraints:<ul style="list-style-type: none"><li>Cannot be left blank.</li><li>Can contain a maximum of 36 characters.</li><li>Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@).</li><li>The tag key of an EIP must be unique.</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| value     | String | <ul style="list-style-type: none"><li>Tag value</li><li>Constraints:<ul style="list-style-type: none"><li>Can contain a maximum of 43 characters.</li><li>Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@).</li><li>The tag key of an EIP must be unique.</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>43</b>                              |

• Example response

```
{
  "publicips": [
    {
      "id": "6285e7be-fd9f-497c-bc2d-dd0bdea6efe0",
      "status": "DOWN",
      "alias": "tom",
      "profile": {},
      "type": "5_bgp",
      "public_ip_address": "161.xx.xx.9",
      "private_ip_address": "192.168.10.5",
      "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
      "create_time": "2015-07-16 04:22:32",
      "bandwidth_id": "3fa5b383-5a73-4dcb-a314-c6128546d855",
      "bandwidth_share_type": "PER",
      "bandwidth_size": 5,
      "bandwidth_name": "bandwidth-test",
      "enterprise_project_id": "b261ac1f-2489-4bc7-b31b-c33c3346a439",
      "ip_version": 4
    },
    {
      "id": "80d5b82e-43b9-4f82-809a-37bec5793bd4",
      "status": "DOWN",
      "profile": {},
      "type": "5_bgp",
      "public_ip_address": "161.xx.xx.10",
      "private_ip_address": "192.168.10.6",
      "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
      "create_time": "2015-07-16 04:23:03",
    }
  ]
}
```

```
"bandwidth_id": "a79fd11a-047b-4f5b-8f12-99c178cc780a",
"bandwidth_share_type": "PER",
"bandwidth_size": 5,
"bandwidth_name": "bandwidth-test1",
"enterprise_project_id": "0",
"ip_version": 4
}
]
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.2.4 Updating an EIP

### Function

This API is used to bind an EIP to a NIC, or unbind an EIP from a NIC.

### URI

PUT /v1/{project\_id}/publicips/{publicip\_id}

[Table 4-20](#) describes the parameters.

**Table 4-20** Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

### Request Message

- Request parameter

**Table 4-21** Request parameter

| Parameter | Mandatory | Type                            | Description                                                             |
|-----------|-----------|---------------------------------|-------------------------------------------------------------------------|
| publicip  | Yes       | <a href="#">publicip</a> object | Specifies the EIP object. For details, see <a href="#">Table 4-22</a> . |

**Table 4-22** Description of the **publicip** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_id   | No        | String | <ul style="list-style-type: none"><li>Specifies the port ID.</li><li>The value must be an existing port ID. If this parameter is not included or the parameter value is left blank, the EIP is unbound. If the specified port ID does not exist or has already been bound with an EIP, an error message will be displayed.</li></ul> |
| alias     | No        | String | <ul style="list-style-type: none"><li>Specifies the EIP name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                                                  |

- Example request 1 (Binding an EIP to a NIC)  
PUT https://{Endpoint}/v1/{project\_id}/publicips/{publicip\_id}  

```
{
  "publicip": {
    "port_id": "f588ccfa-8750-4d7c-bf5d-2ede24414706"
  }
}
```

## Response Message

- Response parameter

**Table 4-23** Response parameter

| Parameter | Type                   | Description                                                             |
|-----------|------------------------|-------------------------------------------------------------------------|
| publicip  | <b>publicip</b> object | Specifies the EIP object. For details, see <a href="#">Table 4-24</a> . |

**Table 4-24** Description of the **publicips** field

| Parameter | Type                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String                | Specifies the unique identifier of an EIP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| status    | String                | <ul style="list-style-type: none"><li>• Specifies the EIP status.</li><li>• Possible values are as follows:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>NOTIFYING</b> (Assigning)</li><li>– <b>NOTIFY_DELETE</b> (Releasing)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b> (Exceptions)</li></ul></li></ul> |
| profile   | <b>profile</b> object | Specifies the additional parameters, including the order ID and product ID. For details, see <a href="#">Table 4-25</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type                | String  | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |
| public_ip_address   | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                       |
| public_ipv6_address | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                             |
| ip_version          | Integer | <p>Specifies the IP address version. The value can be <b>4</b> or <b>6</b>.</p> <ul style="list-style-type: none"><li><b>4</b>: IPv4</li><li><b>6</b>: IPv6</li></ul>                                                                                                                                                                                             |
| private_ip_address  | String  | <ul style="list-style-type: none"><li>Specifies the private IP address bound to the EIP.</li><li>This parameter is returned only when a port is associated with the EIP.</li></ul>                                                                                                                                                                                |
| port_id             | String  | <ul style="list-style-type: none"><li>Specifies the port ID.</li><li>This parameter is returned only when a port is associated with the EIP.</li></ul>                                                                                                                                                                                                            |
| tenant_id           | String  | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                         |

| Parameter             | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time           | String  | Specifies the time (UTC) when the EIP is assigned.<br>Format: <i>yyyy-MM-dd HH:mm:ss</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| bandwidth_id          | String  | Specifies the ID of the EIP bandwidth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| bandwidth_size        | Integer | Specifies the bandwidth (Mbit/s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| bandwidth_share_type  | String  | <ul style="list-style-type: none"><li>Specifies the EIP bandwidth type.</li><li>The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li></ul>                                                                                                                                                                                                                                                                                                                               |
| bandwidth_name        | String  | Specifies the bandwidth name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| alias                 | String  | Specifies the EIP name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| enterprise_project_id | String  | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li><li>When you assign an EIP, associate an enterprise project ID with the EIP.</li><li>If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li></ul> <p><b>NOTE</b><br/>For more information about enterprise projects and how to obtain enterprise project IDs, see the <i>Enterprise Management User Guide</i>.</p> |

**Table 4-25** Description of the **profile** field

| Parameter  | Type   | Description               |
|------------|--------|---------------------------|
| order_id   | String | Specifies the order ID.   |
| product_id | String | Specifies the product ID. |
| region_id  | String | Specifies the region ID.  |
| user_id    | String | Specifies the user ID.    |

- Example response (Binding an EIP to a NIC)

```
{
  "publicip": {
    "id": "f6318bef-6508-4ea5-a48f-6152b6b1a8fb",
    "status": "ACTIVE",
    "alias": "tom",
    "profile": {},
    "type": "5_bgp",
    "port_id": "a135e9b8-1630-40d2-a6c5-eb534a61efbe",
    "public_ip_address": "10.xx.xx.162",
    "private_ip_address": "192.168.1.131",
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "create_time": "2019-03-27 01:33:18",
    "bandwidth_size": 7,
    "ip_version": 4,
    "bandwidth_name": "bandwidth-2aef",
    "enterprise_project_id": "0",
    "bandwidth_share_type": "PER",
    "bandwidth_id": "7a258fff-10d8-44b8-8124-c59079eb8f4c"
  }
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.2.5 Releasing an EIP

Function

This API is used to release an EIP.

URI

DELETE /v1/{project\_id}/publicips/{publicip\_id}

[Table 4-26](#) describes the parameters.

Table 4-26 Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

Request Message

- Request parameter  
None
- Example request  
DELETE https://{Endpoint}/v1/{project\_id}/publicips/{publicip\_id}

Response Message

- Response parameter  
None
- Example response  
None  
Or  

```
{  "code": "xxx",  "message": "xxxxx"}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.3 Batch Operations on EIPs

4.3.1 Assigning EIPs in Batches

Function

This API is used to assign EIPs in batches.

URI

POST /v2/{project\_id}/batchpublicips

**Table 4-27** Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

## Request Parameters

**Table 4-28** Request body parameters

| Parameter             | Mandatory | Type                                  | Description                             |
|-----------------------|-----------|---------------------------------------|-----------------------------------------|
| bandwidth             | Yes       | <a href="#">BatchBandwidth</a> object | Bandwidth information                   |
| publicip              | Yes       | <a href="#">BatchPublicIp</a> object  | EIP information                         |
| publicip_number       | Yes       | Integer                               | Number of EIPs to be created in batches |
| enterprise_project_id | Yes       | String                                | Enterprise project ID                   |

**Table 4-29** BatchBandwidth

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode | No        | String | <ul style="list-style-type: none"><li>Whether the billing is based on traffic or bandwidth. For IPv6 addresses, the default value is <b>bandwidth</b> outside China and is <b>traffic</b> in China. If the value is <b>traffic</b>, the billing is based on traffic.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>bandwidth</b></li><li><b>traffic</b></li></ul> |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name       | No        | String | <ul style="list-style-type: none"> <li>Bandwidth name</li> <li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li> <li>This parameter is mandatory if <b>share_type</b> is set to <b>PER</b>. This parameter will be ignored if <b>share_type</b> is set to <b>WHOLE</b> with an ID specified.</li> </ul> <p>Minimum length: <b>1</b><br/>Maximum length: <b>64</b></p> |
| share_type | No        | String | <ul style="list-style-type: none"> <li>Bandwidth type.</li> <li>The value can be <b>PER</b> or <b>WHOLE</b>. IPv6 addresses do not support bandwidth whose type is <b>WHOLE</b>.</li> </ul> <p>Enumerated values:</p> <ul style="list-style-type: none"> <li><b>PER</b></li> <li><b>WHOLE</b></li> </ul>                                                                                                                                     |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | Yes       | Integer | <ul style="list-style-type: none"><li>• Bandwidth size (Mbit/s).</li><li>• The value ranges from 1 Mbit/s to 2000 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li><li>• This parameter is mandatory if <b>share_type</b> is set to <b>PER</b>. This parameter will be ignored if <b>share_type</b> is set to <b>WHOLE</b> with an ID specified.</li><li>• The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none"><li>– The minimum increment is 1 Mbit/s if the allowed bandwidth ranges from 0 Mbit/s to 300 Mbit/s (with 300 Mbit/s included).</li><li>– The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included).</li><li>– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.</li></ul></li></ul> |
| id        | No        | String  | <ul style="list-style-type: none"><li>• Bandwidth ID. You can specify an existing shared bandwidth ID when assigning an EIP that uses the bandwidth whose type is <b>WHOLE</b>.</li><li>• Value: ID of the bandwidth of type <b>WHOLE</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 4-30** BatchPublicIp

| Parameter             | Mandatory | Type                                               | Description                                                                                                                                                                                                                                                       |
|-----------------------|-----------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                    | No        | String                                             | Assigning an EIP by specifying an ID                                                                                                                                                                                                                              |
| ip_version            | No        | String                                             | EIP version, for example, IPv4 and IPv6. The default value is <b>ipv4</b> .                                                                                                                                                                                       |
| enterprise_project_id | No        | String                                             | Enterprise project ID                                                                                                                                                                                                                                             |
| tags                  | No        | Array of <a href="#">ResourceTagOption</a> objects | <ul style="list-style-type: none"><li>• Tag list</li><li>• Format: The key and value of a tag are separated by an asterisk (*). If there are multiple tags, use commas (,) to separate different key-value pairs. For details, see the request example.</li></ul> |
| profile               | No        | <a href="#">BatchProfile</a> object                | Order information                                                                                                                                                                                                                                                 |

**Table 4-31** ResourceTagOption

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | <ul style="list-style-type: none"><li>• Tag key</li><li>• Constraints:<ul style="list-style-type: none"><li>– Cannot be left blank.</li><li>– Can contain a maximum of 128 characters.</li><li>– Can contain letters, digits, underscores (_), and hyphens (-).</li><li>– The tag key of a resource must be unique.</li></ul></li></ul> <p>Maximum length: <b>128</b></p> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| value     | Yes       | String | <ul style="list-style-type: none"><li>• Tag value</li><li>• Constraints:<ul style="list-style-type: none"><li>– Can contain no more than 255 characters.</li><li>– Can contain letters, digits, underscores (_), and hyphens (-).</li><li>– The tag key of a resource must be unique.</li></ul></li></ul> Maximum length: <b>255</b> |

**Table 4-32** BatchProfile

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| user_id    | No        | String | User ID     |
| product_id | No        | String | Product ID  |
| region_id  | No        | String | Region ID   |
| order_id   | No        | String | Order ID    |

## Response Parameters

**Status code: 200**

**Table 4-33** Response body parameters

| Parameter | Type   | Description                                                                                                    |
|-----------|--------|----------------------------------------------------------------------------------------------------------------|
| job_id    | String | Job ID. The netAPI needs to be called to view the job execution status. netAPI: /v1/{project_id}/jobs/{job_id} |

## Example Request

Assign two EIPs and add tags to them. The EIPs use 5 Mbit/s dedicated bandwidth and are billed by bandwidth.

```
POST /v2/{project_id}/batchpublicips
```

```
{
  "bandwidth" : {
    "name" : "",
    "size" : 5,
```

```
"charge_mode" : "bandwidth",
"share_type" : "PER"
},
"publicip" : {
  "type" : "5_bgp",
  "tags" : ["name*tom", "type*kkkk"]
},
"publicip_number" : 2,
"enterprise_project_id" : 0
}
```

### Example Response

Status code: 200

OK

```
{
  "job_id" : "ff8080828436722c0184cdb88e9200a5"
}
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.3.2 Releasing EIPs in Batches

### Function

This API is used to release EIPs in batches.

### URI

DELETE /v2/{project\_id}/batchpublicips

**Table 4-34** Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

### Request Parameters

**Table 4-35** Request body parameters

| Parameter    | Mandatory | Type             | Description |
|--------------|-----------|------------------|-------------|
| publicip_ids | Yes       | Array of strings | EIP IDs     |

## Response Parameters

Status code: 200

Table 4-36 Response body parameters

| Parameter | Type             | Description                                                                                                    |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------|
| job_ids   | Array of strings | Job ID. The netAPI needs to be called to view the job execution status. netAPI: /v1/{project_id}/jobs/{job_id} |

## Example Request

```
DELETE /v2/{project_id}/batchpublicips
{
  "publicip_ids" : [ "59e55560-4d2c-40d5-b757-0f5c97b701e4", "e83cae01-e68f-4627-84b3-d2d5c4c836bd" ]
}
```

## Example Response

Status code: 200

```
OK
{
  "job_ids" : [ "ff8080828436722c0184cdb88e9200a5" ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.3.3 Unbinding EIPs in Batches

## Function

This API is used to unbind EIPs in batches.

## URI

PATCH /v2/{project\_id}/batchpublicips

Table 4-37 Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

## Request Parameters

**Table 4-38** Request body parameters

| Parameter    | Mandatory | Type             | Description |
|--------------|-----------|------------------|-------------|
| publicip_ids | Yes       | Array of strings | EIP IDs     |

## Response Parameters

**Status code: 200**

**Table 4-39** Response body parameters

| Parameter | Type             | Description                                                                                                    |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------|
| job_ids   | Array of strings | Job ID. The netAPI needs to be called to view the job execution status. netAPI: /v1/{project_id}/jobs/{job_id} |

## Example Request

```
/v2/{project_id}/batchpublicips
{
  "publicip_ids" : [ "59e55560-4d2c-40d5-b757-0f5c97b701e4", "e83cae01-e68f-4627-84b3-d2d5c4c836bd" ]
}
```

## Example Response

**Status code: 200**

OK

```
{
  "job_ids" : [ "ff8080828436722c0184cdb88e9200a5" ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.4 Bandwidth

## 4.4.1 Querying a Bandwidth

### Function

This API is used to query details about a bandwidth.

### URI

GET /v1/{project\_id}/bandwidths/{bandwidth\_id}

[Table 4-40](#) describes the parameters.

**Table 4-40** Parameter description

| Parameter    | Mandatory | Description                                                                                                          |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| bandwidth_id | Yes       | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                 |

### Request Message

- Request parameter  
None
- Example request  
GET https://{Endpoint}/v1/{project\_id}/bandwidths/{bandwidth\_id}

### Response Message

- Response parameter

**Table 4-41** Response parameter

| Parameter | Type                             | Description                     |
|-----------|----------------------------------|---------------------------------|
| bandwidth | <a href="#">bandwidth</a> object | Specifies the bandwidth object. |

**Table 4-42** Description of the **bandwidth** field

| Parameter      | Type                                           | Description                                                                                                                                                                                                                                                                                                      |
|----------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name           | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                        |
| size           | Integer                                        | <ul style="list-style-type: none"><li>Specifies the bandwidth size.</li><li>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the bandwidth range of each region on the management console.)</li></ul>            |
| id             | String                                         | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                             |
| share_type     | String                                         | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is shared or dedicated.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li></ul>                                            |
| publicip_info  | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-43</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by up to 20 EIPs. The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul> |
| tenant_id      | String                                         | Specifies the project ID.                                                                                                                                                                                                                                                                                        |
| bandwidth_type | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth type.</li><li>The value can be:<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                            |

| Parameter              | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode            | String  | <ul style="list-style-type: none"><li>Specifies whether the billing is based on traffic or bandwidth.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li></ul>                                                                                                               |
| billing_info           | String  | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                                                        |
| enterprise_project_id  | String  | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-).</li><li>When creating a bandwidth, associate the enterprise project ID with the bandwidth.</li><li>If this parameter is not specified, the default value is <b>0</b>, which indicates that the default enterprise project is used.</li></ul> <b>NOTE</b> |
| status                 | String  | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Range:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                                                                                            |
| created_at             | String  | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is created.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                                                                                                                                                                                                              |
| updated_at             | String  | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                                                                                                                                                                                                              |
| enable_bandwidth_rules | boolean | <ul style="list-style-type: none"><li>Specifies whether to enable QoS.</li><li>The value can be <b>true</b> or <b>false</b>.</li></ul>                                                                                                                                                                                                                                                                                                          |
| rule_quota             | integer | Specifies the maximum number of grouping rules supported by the bandwidth.                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter           | Type                                             | Description                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_rules     | Array of <a href="#">bandwidth_rules</a> objects | Specifies the bandwidth rules.                                                                                                                                                                                           |
| public_border_group | String                                           | Specifies whether it is in a central site or an edge site.<br>Range: <ul style="list-style-type: none"><li>• center</li><li>• <i>Edge site name</i></li></ul> An EIP can only be bound to a resource of the same region. |

**Table 4-43 publicip\_info** object

| Parameter            | Type    | Description                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id          | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                                                                                                                                                                        |
| publicip_address     | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                                 |
| publicipv6_addresses | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                                       |
| ip_version           | Integer | <ul style="list-style-type: none"><li>• Specifies the IP address version.</li><li>• Range:<ul style="list-style-type: none"><li>– 4: IPv4</li><li>– 6: IPv6</li></ul></li></ul>                                                                                                                                                                                             |
| publicip_type        | String  | <ul style="list-style-type: none"><li>• Specifies the EIP type.</li><li>• The value can be <b>5_bgp</b>.</li><li>• Constraints:<ul style="list-style-type: none"><li>– The configured value must be supported by the system.</li><li>– <b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

**Table 4-44 bandwidth\_rules** object

| Parameter | Type   | Description                      |
|-----------|--------|----------------------------------|
| id        | string | Specifies the bandwidth rule ID. |

| Parameter              | Type                                           | Description                                                                                                                                                                                                                                                                                                               |
|------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name                   | string                                         | Specifies the name of the bandwidth rule.                                                                                                                                                                                                                                                                                 |
| admin_state_up         | boolean                                        | Specifies the configuration status. The value <b>False</b> indicates that the configuration does not take effect.                                                                                                                                                                                                         |
| egress_size            | integer                                        | <ul style="list-style-type: none"><li>Specifies the maximum outbound bandwidth in Mbit/s.</li><li>The value range ranges from <b>0</b> to <i>n</i>, where <i>n</i> indicates the shared bandwidth size. If the value is set to <b>0</b>, the maximum bandwidth, that is the shared bandwidth size will be used.</li></ul> |
| egress_guaranteed_size | integer                                        | <ul style="list-style-type: none"><li>Specifies the guaranteed outbound bandwidth in Mbit/s.</li><li>The value ranges from <b>0</b> to <i>x</i>, where <i>x</i> indicates the remaining bandwidth.</li></ul>                                                                                                              |
| publicip_info          | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies the EIP associated with the bandwidth.</li><li>The bandwidth, whose type is set to <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is set to <b>PER</b>, can be used by only one EIP.</li></ul>                                                     |

- Example response

```
{
  "bandwidth": {
    "id": "3cbd5ae9-368f-4bc8-8841-f2ecc322c64a",
    "name": "EIPResourceSetup_1553594229",
    "size": 5,
    "share_type": "PER",
    "public_border_group": "center",
    "publicip_info": [
      {
        "publicip_id": "22b02f40-b95f-465a-ae9b-7c8b0f042a41",
        "publicip_address": "10.xx.xx.62",
        "ip_version": 4,
        "publicip_type": "5_bgp",
      }
    ],
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "bandwidth_type": "bgp",
    "charge_mode": "bandwidth",
    "enterprise_project_id": "0",
    "status": "NORMAL",
    "created_at": "2020-04-21T07:58:02Z",
    "updated_at": "2020-04-21T07:58:02Z",
    "enable_bandwidth_rules": false,
    "rule_quota": 0,
    "bandwidth_rules": [],
  }
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.4.2 Querying Bandwidths

### Function

This API is used to query bandwidths using search criteria.

### URI

GET /v1/{project\_id}/bandwidths

[Table 4-45](#) describes the parameters.

**Table 4-45** Parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                          |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker     | No        | String  | <p>Specifies a resource ID for pagination query, indicating that the query starts from the next record of the specified resource ID. This parameter can work together with the parameter <b>limit</b>.</p> <ul style="list-style-type: none"><li>• If parameters <b>marker</b> and <b>limit</b> are not passed, resource records on the first page will be returned.</li><li>• If the parameter <b>marker</b> is not passed and the value of parameter <b>limit</b> is set to <b>10</b>, the first 10 resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource ID of the 10th record and the value of parameter <b>limit</b> is set to <b>10</b>, the 11th to 20th resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource ID of the 10th record and the parameter <b>limit</b> is not passed, 11th to 2,000th resource records will be returned. The default value of <b>limit</b> is <b>2000</b>.</li></ul> |
| limit      | No        | Integer | <p>Specifies the number of records that will be returned on each page. The value is from 0 to intmax (<math>2^{31}-1</math>). The default value is 2000. <b>limit</b> can be used together with <b>marker</b>. For details, see the parameter description of <b>marker</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| share_type | No        | String  | <ul style="list-style-type: none"><li>• Specifies the bandwidth type.</li><li>• Possible values are as follows:<ul style="list-style-type: none"><li>– <b>PER</b>: Dedicated bandwidth</li><li>– <b>WHOLE</b>: Shared bandwidth</li></ul></li><li>• If this parameter is not set, the list of all bandwidths will be returned by default.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enterprise_project_id | No        | String | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. This field can be used to filter out the VPCs associated with a specified enterprise project.</li><li>The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value <b>0</b> indicates the default enterprise project. To obtain the VPCs bound to all enterprise projects of the user, set <b>all_granted_eps</b>.</li></ul> <b>NOTE</b> |

- Example request  
GET https://{Endpoint}/v1/{project\_id}/bandwidths?limit={limit}&marker={marker}

## Response Message

- Response parameter

**Table 4-46** Response parameter

| Parameter  | Type                               | Description                                                                    |
|------------|------------------------------------|--------------------------------------------------------------------------------|
| bandwidths | Array of <b>bandwidths</b> objects | Specifies the bandwidth objects. For details, see <a href="#">Table 4-47</a> . |

**Table 4-47** Description of the **bandwidths** field

| Parameter | Type   | Description                                                                                                                                                                                               |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | String | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> |

| Parameter      | Type                                           | Description                                                                                                                                                                                                                                                                                                                                                 |
|----------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size           | Integer                                        | <ul style="list-style-type: none"><li>Specifies the bandwidth size in Mbit/s.</li><li>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the bandwidth range of each region on the management console.)</li></ul>                                             |
| id             | String                                         | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                                                                        |
| share_type     | String                                         | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is shared or dedicated.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li></ul> If this parameter is not set, the list of all bandwidths will be returned by default. |
| publicip_info  | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies the information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-48</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs (up to 20 EIPs by default). The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul>             |
| tenant_id      | String                                         | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                   |
| bandwidth_type | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth type.</li><li>The value can be:<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgrp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                                                                      |
| charge_mode    | String                                         | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li></ul>                |

| Parameter              | Type                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| billing_info           | String                                           | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                                                                           |
| enterprise_project_id  | String                                           | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value <b>0</b> indicates the default enterprise project. To obtain the bandwidth bound to all enterprise projects of the user, set <b>all_granted_eps</b>.</li><li>When creating a bandwidth, associate the enterprise project ID with the bandwidth.</li></ul> <b>NOTE</b> |
| status                 | String                                           | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                                                                                      |
| created_at             | String                                           | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is created.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                                                                                                                                                                                                                                 |
| updated_at             | String                                           | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                                                                                                                                                                                                                                 |
| enable_bandwidth_rules | boolean                                          | <ul style="list-style-type: none"><li>Specifies whether to enable QoS.</li><li>The value can be <b>true</b> or <b>false</b>.</li></ul>                                                                                                                                                                                                                                                                                                                             |
| rule_quota             | integer                                          | Specifies the maximum number of grouping rules supported by the bandwidth.                                                                                                                                                                                                                                                                                                                                                                                         |
| bandwidth_rules        | Array of <a href="#">bandwidth_rules</a> objects | Specifies the bandwidth rules.                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Parameter           | Type   | Description                                                                                                                                                                                                                                           |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group | String | <p>Specifies whether it is in a central site or an edge site.</p> <p>The value can be:</p> <ul style="list-style-type: none"><li>• center</li><li>• <i>Edge site name</i></li></ul> <p>An EIP can only be bound to a resource of the same region.</p> |

**Table 4-48 publicip\_info** object

| Parameter            | Type    | Description                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id          | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                                                                                                                                                                        |
| publicip_address     | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                                 |
| publicipv6_addresses | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                                       |
| ip_version           | Integer | <ul style="list-style-type: none"><li>• Specifies the IP address version.</li><li>• Possible values are as follows:<ul style="list-style-type: none"><li>– 4: IPv4</li><li>– 6: IPv6</li></ul></li></ul>                                                                                                                                                                    |
| publicip_type        | String  | <ul style="list-style-type: none"><li>• Specifies the EIP type.</li><li>• The value can be <b>5_bgp</b>.</li><li>• Constraints:<ul style="list-style-type: none"><li>– The configured value must be supported by the system.</li><li>– <b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

**Table 4-49 bandwidth\_rules** object

| Parameter | Type   | Description                               |
|-----------|--------|-------------------------------------------|
| id        | string | Specifies the bandwidth rule ID.          |
| name      | string | Specifies the name of the bandwidth rule. |

| Parameter              | Type                                           | Description                                                                                                                                                                                                                                                                                                                           |
|------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_state_up         | boolean                                        | Specifies the configuration status. The value <b>False</b> indicates that the configuration does not take effect.                                                                                                                                                                                                                     |
| egress_size            | integer                                        | <ul style="list-style-type: none"><li>Specifies the maximum outbound bandwidth in Mbit/s.</li><li>The value range ranges from <b>0</b> to <math>n</math>, where <math>n</math> indicates the shared bandwidth size. If the value is set to <b>0</b>, the maximum bandwidth, that is the shared bandwidth size will be used.</li></ul> |
| egress_guaranteed_size | integer                                        | <ul style="list-style-type: none"><li>Specifies the guaranteed outbound bandwidth in Mbit/s.</li><li>The value ranges from <b>0</b> to <math>x</math>, where <math>x</math> indicates the remaining bandwidth.</li></ul>                                                                                                              |
| publicip_info          | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies the EIP associated with the bandwidth.</li><li>The bandwidth, whose type is set to <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is set to <b>PER</b>, can be used by only one EIP.</li></ul>                                                                 |

- Example response

```
{
  "bandwidths": [
    {
      "id": "09b99c91-da7c-449f-94e2-f4934c5b2a71",
      "name": "test-f632a7b0-ef50-4ac5-97e9-ddc56b3d5977",
      "size": 200,
      "share_type": "PER",
      "public_border_group": "center",
      "created_at": "2024-04-27T00:14:36Z",
      "updated_at": "2024-04-27T00:14:36Z",
      "publicip_info": [
        {
          "publicip_id": "2a65923c-7133-415d-ae3b-cf9635a942c5",
          "publicip_address": "10.xx.xx.3",
          "ip_version": 4,
          "publicip_type": "5_bgp"
        }
      ],
      "tenant_id": "26ae5181a416420998eb2093aaed84d9",
      "bandwidth_type": "bgp",
      "charge_mode": "bandwidth",
      "billing_info": "",
      "enterprise_project_id": "0",
      "status": "NORMAL",
      "enable_bandwidth_rules": false,
      "rule_quota": 0,
      "bandwidth_rules": []
    }
  ],
  {
    "id": "0a583ff1-b43e-4000-ade3-e7af0097f832",
```

```
"name": "test-7e880d5b-f458-40ad-a7e5-735c44cd8b7d",
"size": 300,
"share_type": "PER",
"public_border_group": "center",
"created_at": "2024-04-27T00:14:36Z",
"updated_at": "2024-04-27T00:14:36Z",
"publicip_info": [
  {
    "publicip_id": "c754bc9a-16d5-4763-9674-d7561917aa80",
    "publicip_address": "10.xx.xx.9",
    "ip_version": 4,
    "publicip_type": "5_bgp"
  }
],
"tenant_id": "26ae5181a416420998eb2093aaed84d9",
"bandwidth_type": "bgp",
"charge_mode": "bandwidth",
"billing_info": "",
"enterprise_project_id": "0",
"status": "NORMAL",
"enable_bandwidth_rules": false,
"rule_quota": 0,
"bandwidth_rules": []
},
{
  "id": "0a673f00-3640-4a13-949e-7049b2916baf",
  "name": "bandwidth123",
  "size": 10,
  "share_type": "PER",
  "public_border_group": "center",
  "created_at": "2024-04-27T00:14:36Z",
  "updated_at": "2024-04-27T00:14:36Z",
  "publicip_info": [
    {
      "publicip_id": "cec7fb70-2f82-4561-bd83-2121fb642fdc",
      "publicip_address": "10.xx.xx.184",
      "ip_version": 4,
      "publicip_type": "5_bgp"
    }
  ]
},
{
  "id": "26ae5181a416420998eb2093aaed84d9",
  "bandwidth_type": "bgp",
  "charge_mode": "bandwidth",
  "billing_info": "",
  "enterprise_project_id": "0",
  "status": "NORMAL",
  "enable_bandwidth_rules": false,
  "rule_quota": 0,
  "bandwidth_rules": []
},
{
  "id": "0dde1eae-1783-46dc-998c-930fbe261ff9",
  "name": "bandwidth123",
  "size": 100,
  "share_type": "PER",
  "public_border_group": "center",
  "created_at": "2024-04-27T00:14:36Z",
  "updated_at": "2024-04-27T00:14:36Z",
  "publicip_info": [
    {
      "publicip_id": "24232038-e178-40ad-80e4-5abb75db84be",
      "publicip_address": "10.xx.xx.101",
      "ip_version": 4,
      "publicip_type": "5_bgp"
    }
  ]
},
{
  "tenant_id": "26ae5181a416420998eb2093aaed84d9",
  "bandwidth_type": "bgp",
  "charge_mode": "bandwidth",
```

```
"billing_info": "",
"enterprise_project_id": "0",
"status": "NORMAL",
"enable_bandwidth_rules": false,
"rule_quota": 0,
"bandwidth_rules": []
}
]
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.4.3 Updating a Bandwidth

### Function

This API is used to update information about a bandwidth.

### URI

PUT /v1/{project\_id}/bandwidths/{bandwidth\_id}

[Table 4-50](#) describes the parameters.

**Table 4-50** Parameter description

| Parameter    | Mandatory | Description                                                                                                          |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| bandwidth_id | Yes       | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                 |

### Request Message

- Request parameter

Table 4-51 Request parameter

| Parameter | Mandatory | Type                             | Description                                                                    |
|-----------|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-52</a> . |

Table 4-52 Description of the **bandwidth** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). If the value is left blank, the name of the bandwidth is not changed.</li><li>Either parameter <b>name</b> or <b>size</b> must be specified.</li></ul> |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size        | No        | Integer | <ul style="list-style-type: none"><li>Specifies the bandwidth size in Mbit/s.</li><li>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.) If the parameter is not included, the bandwidth size is not changed.</li><li>Either parameter <b>name</b> or <b>size</b> must be specified.</li><li>If a decimal fraction (for example <b>10.2</b>) or a character string (for example <b>"10"</b>) is specified, the specified value will be automatically converted to an integer.</li><li>The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none"><li>The minimum increment is 1 Mbit/s if the allowed bandwidth ranges from 0 Mbit/s to 300 Mbit/s (with 300 Mbit/s included).</li><li>The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included).</li><li>The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.</li></ul></li></ul> |
| charge_mode | No        | String  | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>The value <b>bandwidth</b> indicates that you will be billed by bandwidth, and the value <b>traffic</b> indicates that you will be billed by traffic.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

- Example request

```
PUT https://{Endpoint}/v1/{project_id}/bandwidths/{bandwidth_id}
```

```
{
  "bandwidth":
    {"name": "bandwidth123",
     "size": 10
    }
```

```
}  
}
```

## Response Message

- Response parameter

**Table 4-53** Response parameter

| Parameter | Type                    | Description                                                                    |
|-----------|-------------------------|--------------------------------------------------------------------------------|
| bandwidth | <b>bandwidth</b> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-54</a> . |

**Table 4-54** Description of the **bandwidth** field

| Parameter     | Type                                  | Description                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String                                | <ul style="list-style-type: none"><li>• Specifies the bandwidth name.</li><li>• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                                                       |
| size          | Integer                               | <ul style="list-style-type: none"><li>• Specifies the bandwidth size in Mbit/s.</li><li>• The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the bandwidth range of each region on the management console.)</li></ul>                                 |
| id            | String                                | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                                                                |
| share_type    | String                                | <ul style="list-style-type: none"><li>• Specifies whether the bandwidth is shared or dedicated.</li><li>• Range:<ul style="list-style-type: none"><li>– <b>PER</b>: Dedicated bandwidth</li><li>– <b>WHOLE</b>: Shared bandwidth</li></ul></li></ul>                                                                                                |
| publicip_info | Array of <b>publicip_info</b> objects | <ul style="list-style-type: none"><li>• Specifies the information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-55</a>.</li><li>• The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs (up to 20 EIPs by default). The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul> |

| Parameter             | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tenant_id             | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| bandwidth_type        | String | <ul style="list-style-type: none"><li>Specifies the bandwidth type.</li><li>The value can be <b>bgp</b>, <b>sbgp</b>, or <b>share</b>.<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                                                                                                                                     |
| charge_mode           | String | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li></ul>                                                                                                                       |
| billing_info          | String | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                                                                           |
| enterprise_project_id | String | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value <b>0</b> indicates the default enterprise project. To obtain the bandwidth bound to all enterprise projects of the user, set <b>all_granted_eps</b>.</li><li>When creating a bandwidth, associate the enterprise project ID with the bandwidth.</li></ul> <b>NOTE</b> |
| status                | String | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Range:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                                                                                                               |
| created_at            | String | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is created.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                                                                                                                                                                                                                                 |

| Parameter              | Type                                             | Description                                                                                                                                                                                                                            |
|------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| updated_at             | String                                           | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                     |
| enable_bandwidth_rules | boolean                                          | <ul style="list-style-type: none"><li>Specifies whether to enable QoS.</li><li>The value can be <b>true</b> or <b>false</b>.</li></ul>                                                                                                 |
| rule_quota             | integer                                          | Specifies the maximum number of grouping rules supported by the bandwidth.                                                                                                                                                             |
| bandwidth_rules        | Array of <a href="#">bandwidth_rules</a> objects | Specifies the bandwidth rules.                                                                                                                                                                                                         |
| public_border_group    | String                                           | <p>Specifies whether it is in a central site or an edge site.</p> <p>Range:</p> <ul style="list-style-type: none"><li>center</li><li><i>Edge site name</i></li></ul> <p>An EIP can only be bound to a resource of the same region.</p> |

**Table 4-55 publicip\_info** objects

| Parameter            | Type    | Description                                                                                                                                                             |
|----------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id          | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                    |
| publicip_address     | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                             |
| publicipv6_addresses | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                   |
| ip_version           | Integer | <ul style="list-style-type: none"><li>Specifies the IP address version.</li><li>Range:<ul style="list-style-type: none"><li>4: IPv4</li><li>6: IPv6</li></ul></li></ul> |

| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_type | String | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

**Table 4-56** bandwidth\_rules object

| Parameter              | Type                                  | Description                                                                                                                                                                                                                                                                                                                           |
|------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                     | string                                | Specifies the bandwidth rule ID.                                                                                                                                                                                                                                                                                                      |
| name                   | string                                | Specifies the name of the bandwidth rule.                                                                                                                                                                                                                                                                                             |
| admin_state_up         | boolean                               | Specifies the configuration status. The value <b>False</b> indicates that the configuration does not take effect.                                                                                                                                                                                                                     |
| egress_size            | integer                               | <ul style="list-style-type: none"><li>Specifies the maximum outbound bandwidth in Mbit/s.</li><li>The value range ranges from <b>0</b> to <math>n</math>, where <math>n</math> indicates the shared bandwidth size. If the value is set to <b>0</b>, the maximum bandwidth, that is the shared bandwidth size will be used.</li></ul> |
| egress_guaranteed_size | integer                               | <ul style="list-style-type: none"><li>Specifies the guaranteed outbound bandwidth in Mbit/s.</li><li>The value ranges from <b>0</b> to <math>x</math>, where <math>x</math> indicates the remaining bandwidth.</li></ul>                                                                                                              |
| publicip_info          | Array of <b>publicip_info</b> objects | <ul style="list-style-type: none"><li>Specifies the EIP associated with the bandwidth.</li><li>The bandwidth, whose type is set to <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is set to <b>PER</b>, can be used by only one EIP.</li></ul>                                                                 |

- Example response

```
{
  "bandwidth": {
    "id": "3fa5b383-5a73-4dcb-a314-c6128546d855",
    "name": "bandwidth123",
```

```
    "size": 10,
    "share_type": "PER",
    "public_border_group": "center",
    "created_at": "2024-04-27T00:14:36Z",
    "updated_at": "2024-04-27T00:14:36Z",
    "publicip_info": [
      {
        "publicip_id": "6285e7be-fd9f-497c-bc2d-dd0bdea6efe0",
        "publicip_address": "161.xx.xx.9",
        "publicip_type": "5_bgp",
        "ip_version": 4
      }
    ],
    "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
    "bandwidth_type": "bgp",
    "charge_mode": "bandwidth",
    "status": "NORMAL",
    "enable_bandwidth_rules": false,
    "rule_quota": 0,
    "bandwidth_rules": [],
  }
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.5 Bandwidth (V2.0)

4.5.1 Assigning a Shared Bandwidth

Function

This API is used to assign a shared bandwidth.

URI

POST /v2.0/{project\_id}/bandwidths

[Table 4-57](#) describes the parameters.

Table 4-57 Parameter description

| Parameter  | Mandatory | Description                                                                                                          |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Message

- Request parameter

**Table 4-58** Request parameter

| Parameter | Mandatory | Type                             | Description                                                                    |
|-----------|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-59</a> . |

**Table 4-59** Description of the **bandwidth** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                               |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | Yes       | Integer | <ul style="list-style-type: none"><li>• Specifies the bandwidth size. The shared bandwidth has a minimum limit, which may vary depending on sites. The default minimum value is 5 Mbit/s.</li><li>• The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li><li>• If a decimal fraction (for example <b>10.2</b>) or a character string (for example <b>"10"</b>) is specified, the specified value will be automatically converted to an integer.</li><li>• The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none"><li>– The minimum increment is 1 Mbit/s if the allowed bandwidth ranges from 0 Mbit/s to 300 Mbit/s (with 300 Mbit/s included).</li><li>– The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included).</li><li>– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.</li></ul></li></ul> |

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enterprise_project_id | No        | String | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value <b>0</b> indicates the default enterprise project.</li><li>When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth.</li></ul> <b>NOTE</b><br>For more information about enterprise projects and how to obtain enterprise project IDs, see the <a href="#">Enterprise Management User Guide</a> . |
| public_border_group   | No        | String | <p>Specifies whether it is in a central site or an edge site.</p> <p>Values:</p> <ul style="list-style-type: none"><li><b>center</b></li><li><i>Edge site name</i></li></ul> <p>This resource can only be associated with an EIP of the same region.</p>                                                                                                                                                                                                                                                                              |
| bandwidth_type        | No        | String | <ul style="list-style-type: none"><li>Specifies the type of the bandwidth to be created.</li><li>For details about supported types of bandwidth, see <a href="#">Querying a Bandwidth</a>.</li></ul> <p>By default:</p> <ul style="list-style-type: none"><li>Central region: <b>share</b></li><li>Edge site: <b>edgeshare</b></li></ul>                                                                                                                                                                                              |

- Example request

POST https://{Endpoint}/v2.0/{project\_id}/bandwidths

```
{
  "bandwidth": {
    "name": "bandwidth123",
    "size": 10
  }
}
```

## Response Message

- Response parameter

**Table 4-60** Response parameter

| Parameter | Type                             | Description                                                                    |
|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-61</a> . |

**Table 4-61** Description of the **bandwidth** field

| Parameter     | Type                                           | Description                                                                                                                                                                                                                                                                                                      |
|---------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                        |
| size          | Integer                                        | <ul style="list-style-type: none"><li>Specifies the bandwidth size.</li><li>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li></ul>                 |
| id            | String                                         | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                             |
| share_type    | String                                         | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is shared or dedicated.</li><li>The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li><b>WHOLE</b>: Shared bandwidth</li><li><b>PER</b>: Dedicated bandwidth</li></ul></li></ul>                               |
| publicip_info | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-62</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul> |
| tenant_id     | String                                         | Specifies the project ID.                                                                                                                                                                                                                                                                                        |

| Parameter             | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_type        | String | <ul style="list-style-type: none"><li>Specifies the bandwidth type. The default value for the shared bandwidth is <b>share</b>.</li><li>The value can be <b>share</b>, <b>bgp</b>, or <b>sbgp</b>.<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                                                                                                                                           |
| charge_mode           | String | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li><li>The shared bandwidth can be billed only by bandwidth.</li></ul>                                                                                                                           |
| billing_info          | String | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                                                                                                                                             |
| enterprise_project_id | String | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a UUID that can contain a maximum of 36 characters, including hyphens (-). Value <b>0</b> indicates the default enterprise project.</li><li>When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth.</li></ul> <p><b>NOTE</b><br/>For more information about enterprise projects and how to obtain enterprise project IDs, see the <a href="#">Enterprise Management User Guide</a>.</p> |
| status                | String | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                                                                                                                                                        |

| Parameter              | Type                                             | Description                                                                                                                                                                                                                                              |
|------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created_at             | String                                           | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is created.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                       |
| updated_at             | String                                           | <ul style="list-style-type: none"><li>Specifies the time (UTC) when the bandwidth is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ss</i></li></ul>                                                                                                       |
| enable_bandwidth_rules | boolean                                          | <ul style="list-style-type: none"><li>Specifies whether to enable QoS.</li><li>The value can be <b>true</b> or <b>false</b>.</li></ul>                                                                                                                   |
| rule_quota             | integer                                          | Specifies the maximum number of grouping rules supported by the bandwidth.                                                                                                                                                                               |
| bandwidth_rules        | Array of <a href="#">bandwidth_rules</a> objects | Specifies the bandwidth rules.                                                                                                                                                                                                                           |
| public_border_group    | String                                           | <p>Specifies whether it is in a central site or an edge site.</p> <p>Values:</p> <ul style="list-style-type: none"><li><b>center</b></li><li><i>Edge site name</i></li></ul> <p>This resource can only be associated with an EIP of the same region.</p> |

**Table 4-62 publicip\_info** object

| Parameter            | Type    | Description                                                                                                                                                                                                                    |
|----------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id          | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                           |
| publicip_address     | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                    |
| publicipv6_addresses | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                          |
| ip_version           | Integer | <ul style="list-style-type: none"><li>Specifies the IP address version.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>4</b>: IPv4 address</li><li><b>6</b>: IPv6 address</li></ul></li></ul> |

| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_type | String | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

**Table 4-63 bandwidth\_rules** object

| Parameter             | Type                                  | Description                                                                                                                                                                                                                                                                                                                           |
|-----------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                    | string                                | Specifies the bandwidth rule ID.                                                                                                                                                                                                                                                                                                      |
| name                  | string                                | Specifies the name of the bandwidth rule.                                                                                                                                                                                                                                                                                             |
| admin_state_up        | boolean                               | Specifies the configuration status. The value <b>False</b> indicates that the configuration does not take effect.                                                                                                                                                                                                                     |
| egress_size           | integer                               | <ul style="list-style-type: none"><li>Specifies the maximum outbound bandwidth in Mbit/s.</li><li>The value range ranges from <b>0</b> to <math>n</math>, where <math>n</math> indicates the shared bandwidth size. If the value is set to <b>0</b>, the maximum bandwidth, that is the shared bandwidth size will be used.</li></ul> |
| egress_guarented_size | integer                               | <ul style="list-style-type: none"><li>Specifies the guaranteed outbound bandwidth in Mbit/s.</li><li>The value ranges from <b>0</b> to <math>x</math>, where <math>x</math> indicates the remaining bandwidth.</li></ul>                                                                                                              |
| publicip_info         | Array of <b>publicip_info</b> objects | <ul style="list-style-type: none"><li>Specifies the EIP associated with the bandwidth.</li><li>The bandwidth, whose type is set to <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is set to <b>PER</b>, can be used by only one EIP.</li></ul>                                                                 |

- Example response

```
{
  "bandwidth": {
    "id": "1bffc5f2-ff19-45a6-96d2-dfdca49cc387",
    "name": "bandwidth123",
```

```
{
  "size": 10,
  "share_type": "WHOLE",
  "publicip_info": [],
  "tenant_id": "26ae5181a416420998eb2093aaed84d9",
  "public_border_group": "center",
  "bandwidth_type": "share",
  "charge_mode": "bandwidth",
  "billing_info": "",
  "enterprise_project_id": "0",
  "status": "NORMAL",
  "created_at": "2020-04-21T07:58:02Z",
  "updated_at": "2020-04-21T07:58:02Z",
  "enable_bandwidth_rules": false,
  "rule_quota": 0,
  "bandwidth_rules": [],
}
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.5.2 Assigning Multiple Shared Bandwidths

### Function

This API is used to assign multiple shared bandwidths at a time.

### URI

POST /v2.0/{project\_id}/batch-bandwidths

[Table 4-64](#) describes the parameters.

**Table 4-64** Parameter description

| Parameter  | Mandatory | Description                                                                                                             |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID.<br>For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Message

- Request parameter

Table 4-65 Request parameter

| Parameter | Mandatory | Type                             | Description                                                                    |
|-----------|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-66</a> . |

Table 4-66 Description of the **bandwidth** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                               |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | <ul style="list-style-type: none"><li>Specifies the bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | Yes       | Integer | <ul style="list-style-type: none"><li>Specifies the bandwidth size. The shared bandwidth has a minimum limit, which may vary depending on sites. The default minimum value is 5 Mbit/s.</li><li>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li><li>The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none"><li>The minimum increment is 1 Mbit/s if the allowed bandwidth ranges from 0 Mbit/s to 300 Mbit/s (with 300 Mbit/s included).</li><li>The minimum increment is 50 Mbit/s if the allowed bandwidth</li></ul></li></ul> |

| Parameter           | Mandator<br>y | Type    | Description                                                                                                                                                                                                                                                                                                                                       |
|---------------------|---------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |               |         | ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included). <ul style="list-style-type: none"><li>- The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.</li></ul>                                                                                                                                    |
| count               | Yes           | Integer | <ul style="list-style-type: none"><li>• Specifies the number of shared bandwidths that can be assigned at a time.</li><li>• The value is a positive integer.</li><li>• If a decimal fraction (for example 2.2) or a character string (for example "2") is specified, the specified value will be automatically converted to an integer.</li></ul> |
| public_border_group | No            | String  | Specifies whether it is in a central site or an edge site.<br>Values: <ul style="list-style-type: none"><li>• <b>center</b></li><li>• <i>Edge site name</i></li></ul> This resource can only be associated with an EIP of the same region.                                                                                                        |

- Example request  
POST https://{Endpoint}/v2.0/{project\_id}/batch-bandwidths  

```
{  
  "bandwidth": {
```

```
{
  "name": "bandwidth123",
  "size": 10,
  "count": 2
}
```

Response Message

- Response parameter

Table 4-67 Response parameter

| Parameter  | Type                                        | Description                                                                    |
|------------|---------------------------------------------|--------------------------------------------------------------------------------|
| bandwidths | Array of <a href="#">bandwidths</a> objects | Specifies the bandwidth objects. For details, see <a href="#">Table 4-68</a> . |

Table 4-68 Description of the **bandwidths** field

| Parameter  | Type    | Description                                                                                                                                                                                                                                                                                          |
|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name       | String  | <ul style="list-style-type: none"><li>• Specifies the bandwidth name.</li><li>• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                        |
| size       | Integer | <ul style="list-style-type: none"><li>• Specifies the bandwidth size.</li><li>• The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li></ul> |
| id         | String  | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                 |
| share_type | String  | <ul style="list-style-type: none"><li>• Specifies whether the bandwidth is shared or dedicated.</li><li>• The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li>– <b>WHOLE</b>: Shared bandwidth</li><li>– <b>PER</b>: Dedicated bandwidth</li></ul></li></ul>           |

| Parameter      | Type                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_info  | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-69</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul>                                                                                           |
| tenant_id      | String                                         | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                                                                  |
| bandwidth_type | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth type. The default value for the shared bandwidth is <b>share</b>.</li><li>The value can be <b>share</b>, <b>bgp</b>, or <b>sbgp</b>.<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                 |
| charge_mode    | String                                         | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li><li>The shared bandwidth can be billed only by bandwidth.</li></ul> |
| billing_info   | String                                         | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                   |
| status         | String                                         | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                              |

| Parameter           | Type   | Description                                                                                                                                                                                                                                |
|---------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group | String | Specifies whether it is in a central site or an edge site.<br>Values: <ul style="list-style-type: none"><li>• <b>center</b></li><li>• <i>Edge site name</i></li></ul> This resource can only be associated with an EIP of the same region. |

**Table 4-69 publicip\_info** object

| Parameter            | Type    | Description                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id          | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                                                                                                                                                                        |
| publicip_address     | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                                 |
| publicipv6_addresses | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                                       |
| ip_version           | Integer | <ul style="list-style-type: none"><li>• Specifies the IP address version.</li><li>• Possible values are as follows:<ul style="list-style-type: none"><li>– <b>4</b>: IPv4 address</li><li>– <b>6</b>: IPv6 address</li></ul></li></ul>                                                                                                                                      |
| publicip_type        | String  | <ul style="list-style-type: none"><li>• Specifies the EIP type.</li><li>• The value can be <b>5_bgp</b>.</li><li>• Constraints:<ul style="list-style-type: none"><li>– The configured value must be supported by the system.</li><li>– <b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

- Example response

```
{
  "bandwidths": [
    {
      "id": "7e5a1a30-6e88-4ce5-b5fa-1d6c6864e084",
      "name": "bandwidth123",
      "size": 10,
      "share_type": "WHOLE",
      "publicip_info": [],
      "tenant_id": "26ae5181a416420998eb2093aaed84d9",
      "bandwidth_type": "share",
      "charge_mode": "bandwidth",
      "billing_info": "",
      "status": "NORMAL"
    }
  ]
}
```

```
},
{
  "id": "ed2da50a-3ce9-4d86-9f17-e8f3801299a5",
  "name": "bandwidth123",
  "size": 10,
  "share_type": "WHOLE",
  "publicip_info": [],
  "tenant_id": "26ae5181a416420998eb2093aaed84d9",
  "bandwidth_type": "share",
  "charge_mode": "bandwidth",
  "billing_info": "",
  "status": "NORMAL"
}
]
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.5.3 Deleting a Shared Bandwidth

Function

This API is used to delete a shared bandwidth.

URI

DELETE /v2.0/{project\_id}/bandwidths/{bandwidth\_id}

[Table 4-70](#) describes the parameters.

**Table 4-70** Parameter description

| Parameter    | Mandatory | Description                                                                                                               |
|--------------|-----------|---------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .      |
| bandwidth_id | Yes       | Specifies the bandwidth ID, which uniquely identifies the bandwidth. Currently, only the shared bandwidth can be deleted. |

Request Message

- Request parameter

None

- Example request  
DELETE https://{Endpoint}/v2.0/{project\_id}/bandwidths/{bandwidth\_id}

### Response Message

- Response parameter  
None
- Example response

Or

```
{
  "code": "xxx",
  "message": "xxxxx"
}
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.5.4 Adding an EIP to a Shared Bandwidth

### Function

This API is used to add an EIP to a shared bandwidth.

### URI

POST /v2.0/{project\_id}/bandwidths/{bandwidth\_id}/insert

[Table 4-71](#) describes the parameters.

**Table 4-71** Parameter description

| Parameter    | Mandatory | Description                                                                                                          |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| bandwidth_id | Yes       | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                 |

### Request Message

- Request parameter

**Table 4-72** Request parameter

| Parameter | Mandatory | Type                             | Description                                                                    |
|-----------|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-73</a> . |

**Table 4-73** Description of the **bandwidth** field

| Parameter     | Mandatory | Type                                           | Description                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|-----------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_info | Yes       | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies information about the EIP to be added to the shared bandwidth. For details, see <a href="#">Table 4-74</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs. The number of EIPs varies depending on the tenant quota. By default, a shared bandwidth can be used by up to 20 EIPs.</li></ul> |

**Table 4-74** **publicip\_info** object

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                       |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id   | Yes       | String | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                                                                                                                                                              |
| publicip_type | No        | String | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

- Example request

POST [https://{Endpoint}/v2.0/{project\\_id}/bandwidths/{bandwidth\\_id}/insert](https://{Endpoint}/v2.0/{project_id}/bandwidths/{bandwidth_id}/insert)

```
{
  "bandwidth": {
    "publicip_info": [
      {
        "publicip_id": "29b114d1-2d41-4741-a1f0-b6f80aabceff",
        "publicip_type": "5_bgp",
      }
    ]
  }
}
```

## Response Message

- Response parameter

**Table 4-75** Response parameter

| Parameter | Type                             | Description                                                                    |
|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-76</a> . |

**Table 4-76** Description of the **bandwidth** field

| Parameter     | Type                                           | Description                                                                                                                                                                                                                                                                                                          |
|---------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String                                         | <ul style="list-style-type: none"><li>• Specifies the bandwidth name.</li><li>• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul>                                                                                                        |
| size          | Integer                                        | <ul style="list-style-type: none"><li>• Specifies the bandwidth size.</li><li>• The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the available bandwidth range on the management console.)</li></ul>                 |
| id            | String                                         | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                                                                                                                                                                                                                 |
| share_type    | String                                         | <ul style="list-style-type: none"><li>• Specifies whether the bandwidth is shared or dedicated.</li><li>• The value can be <b>PER</b> or <b>WHOLE</b>.<ul style="list-style-type: none"><li>– <b>WHOLE</b>: Shared bandwidth</li><li>– <b>PER</b>: Dedicated bandwidth</li></ul></li></ul>                           |
| publicip_info | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>• Specifies information about the EIP that uses the bandwidth. For details, see <a href="#">Table 4-77</a>.</li><li>• The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is <b>PER</b>, can be used by only one EIP.</li></ul> |
| tenant_id     | String                                         | Specifies the project ID.                                                                                                                                                                                                                                                                                            |

| Parameter              | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_type         | String  | <ul style="list-style-type: none"><li>Specifies the bandwidth type. The default value for the shared bandwidth is <b>share</b>.</li><li>The value can be <b>share</b>, <b>bgp</b>, or <b>sbgp</b>.<ul style="list-style-type: none"><li><b>share</b>: Shared bandwidth</li><li><b>bgp</b>: Dynamic BGP</li><li><b>sbgp</b>: Static BGP</li></ul></li></ul>                                                                                                                                                                                   |
| charge_mode            | String  | <ul style="list-style-type: none"><li>Specifies whether the bandwidth is billed by traffic or by bandwidth size.</li><li>Possible values can be <b>bandwidth</b> (billed by bandwidth) and <b>traffic</b> (billed by traffic). If the value is an empty character string or no value is specified, value <b>bandwidth</b> is used.</li><li>The shared bandwidth can be billed only by bandwidth.</li></ul>                                                                                                                                   |
| billing_info           | String  | Specifies the bill information.<br>If <b>billing_info</b> is specified, the bandwidth is in yearly/monthly billing mode.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| enterprise_project_id  | String  | <ul style="list-style-type: none"><li>Specifies the enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value <b>0</b> indicates the default enterprise project.</li><li>When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth.</li></ul> <p><b>NOTE</b><br/>For more information about enterprise projects and how to obtain enterprise project IDs, see the <a href="#">Enterprise Management User Guide</a>.</p> |
| status                 | String  | <ul style="list-style-type: none"><li>Specifies the bandwidth status.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>FREEZED</b> (Frozen)</li><li><b>NORMAL</b> (Normal)</li></ul></li></ul>                                                                                                                                                                                                                                                                                                                |
| enable_bandwidth_rules | boolean | <ul style="list-style-type: none"><li>Specifies whether to enable QoS.</li><li>The value can be <b>true</b> or <b>false</b>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter       | Type                                             | Description                                                                |
|-----------------|--------------------------------------------------|----------------------------------------------------------------------------|
| rule_quota      | integer                                          | Specifies the maximum number of grouping rules supported by the bandwidth. |
| bandwidth_rules | Array of <a href="#">bandwidth_rules</a> objects | Specifies the bandwidth rules.                                             |

**Table 4-77 publicip\_info** objects

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                       |
|--------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_id        | String  | Specifies the ID of the EIP that uses the bandwidth.                                                                                                                                                                                                                                                                                                              |
| publicip_address   | String  | Specifies the obtained EIP if only IPv4 EIPs are available.                                                                                                                                                                                                                                                                                                       |
| publicipv6_address | String  | Specifies the obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.                                                                                                                                                                                                                                             |
| ip_version         | Integer | <ul style="list-style-type: none"><li>Specifies the IP address version.</li><li>Possible values are as follows:<ul style="list-style-type: none"><li><b>4</b>: IPv4</li><li><b>6</b>: IPv6</li></ul></li></ul>                                                                                                                                                    |
| publicip_type      | String  | <ul style="list-style-type: none"><li>Specifies the EIP type.</li><li>The value can be <b>5_bgp</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>The configured value must be supported by the system.</li><li><b>publicip_id</b> is an IPv4 port. If <b>publicip_type</b> is not specified, the default value is <b>5_bgp</b>.</li></ul></li></ul> |

**Table 4-78 bandwidth\_rules** object

| Parameter | Type   | Description                               |
|-----------|--------|-------------------------------------------|
| id        | string | Specifies the bandwidth rule ID.          |
| name      | string | Specifies the name of the bandwidth rule. |

| Parameter              | Type                                           | Description                                                                                                                                                                                                                                                                                                                           |
|------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| admin_state_up         | boolean                                        | Specifies the configuration status. The value <b>False</b> indicates that the configuration does not take effect.                                                                                                                                                                                                                     |
| egress_size            | integer                                        | <ul style="list-style-type: none"><li>Specifies the maximum outbound bandwidth in Mbit/s.</li><li>The value range ranges from <b>0</b> to <math>n</math>, where <math>n</math> indicates the shared bandwidth size. If the value is set to <b>0</b>, the maximum bandwidth, that is the shared bandwidth size will be used.</li></ul> |
| egress_guaranteed_size | integer                                        | <ul style="list-style-type: none"><li>Specifies the guaranteed outbound bandwidth in Mbit/s.</li><li>The value ranges from <b>0</b> to <math>x</math>, where <math>x</math> indicates the remaining bandwidth.</li></ul>                                                                                                              |
| publicip_info          | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies the EIP associated with the bandwidth.</li><li>The bandwidth, whose type is set to <b>WHOLE</b>, can be used by multiple EIPs. The bandwidth, whose type is set to <b>PER</b>, can be used by only one EIP.</li></ul>                                                                 |

- Example response

```
{
  "bandwidth": {
    "id": "3fa5b383-5a73-4dcb-a314-c6128546d855",
    "name": "bandwidth123",
    "size": 10,
    "share_type": "WHOLE",
    "publicip_info": [
      {
        "publicip_id": "1d184b2c-4ec9-49b5-a3f9-27600a76ba3f",
        "publicip_address": "99.xx.xx.82",
        "publicip_type": "5_bgp",
        "ip_version": 4
      }
    ],
    "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
    "charge_mode": "traffic",
    "billing_info":
"CS1712121146TSQOJ:0616e2a5dc9f4985ba52ea8c0c7e273c:southchina:35f2b308f5d64441a6fa7999fbcd4321",
    "bandwidth_type": "share",
    "status": "NORMAL"
  }
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.5.5 Removing an EIP from a Shared Bandwidth

### Function

This API is used to remove an EIP from a shared bandwidth.

### URI

POST /v2.0/{project\_id}/bandwidths/{bandwidth\_id}/remove

[Table 4-79](#) describes the parameters.

**Table 4-79** Parameter description

| Parameter    | Mandatory | Description                                                                                                          |
|--------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| bandwidth_id | Yes       | Specifies the bandwidth ID, which uniquely identifies the bandwidth.                                                 |

### Request Message

- Request parameter

**Table 4-80** Request parameter

| Parameter | Mandatory | Type                             | Description                                                                    |
|-----------|-----------|----------------------------------|--------------------------------------------------------------------------------|
| bandwidth | Yes       | <a href="#">bandwidth</a> object | Specifies the bandwidth objects. For details, see <a href="#">Table 4-81</a> . |

**Table 4-81** Description of the **bandwidth** field

| Parameter     | Mandatory | Type                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_info | Yes       | Array of <a href="#">publicip_info</a> objects | <ul style="list-style-type: none"><li>Specifies information about the EIP to be removed from the bandwidth. For details, see <a href="#">Table 4-82</a>.</li><li>The bandwidth, whose type is <b>WHOLE</b>, can be used by multiple EIPs. The number of EIPs varies depending on the tenant quota. By default, a shared bandwidth can be used by up to 20 EIPs.</li></ul>                                                                                                                                           |
| charge_mode   | Yes       | String                                         | <p>After an EIP is removed from a shared bandwidth, a dedicated bandwidth will be allocated to the EIP, and you will be billed for the dedicated bandwidth.</p> <p>Specifies whether the dedicated bandwidth used by the EIP that has been removed from a shared bandwidth is billed by traffic or by bandwidth.</p> <p>The value can be <b>bandwidth</b> or <b>traffic</b>.</p>                                                                                                                                    |
| size          | Yes       | Integer                                        | <p>After an EIP is removed from a shared bandwidth, a dedicated bandwidth will be allocated to the EIP, and you will be billed for the dedicated bandwidth.</p> <p>Specifies the size (Mbit/s) of the dedicated bandwidth used by the EIP that has been removed from a shared bandwidth.</p> <p>The value ranges from 1 Mbit/s to 300 Mbit/s by default. (The specific range may vary depending on the configuration in each region. You can see the bandwidth range of each region on the management console.)</p> |

**Table 4-82** **publicip\_info** object

| Parameter   | Mandatory | Type   | Description                                          |
|-------------|-----------|--------|------------------------------------------------------|
| publicip_id | Yes       | String | Specifies the ID of the EIP that uses the bandwidth. |

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                   |
|---------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_type | No        | String | If the <b>publicip_id</b> value is the EIP ID, this parameter will be ignored. If <b>publicip_id</b> is the ID of the IPv6 port, this parameter must be set to <b>5_dualStack</b> . This only applies to the <b>CN North-Beijing4</b> region. |

- Example request

POST https://{Endpoint}/v2.0/{project\_id}/bandwidths/{bandwidth\_id}/remove

```
{
  "bandwidth": {
    "publicip_info": [
      {
        "publicip_id": "d91b0028-6f6b-4478-808a-297b75b6812a"
      },
      {
        "publicip_id": "1d184b2c-4ec9-49b5-a3f9-27600a76ba3f"
      }
    ],
    "charge_mode": "traffic",
    "size": 22
  }
}
```

## Response Message

- Response parameter

None

- Example response

None

Or

```
{
  "code": "xxx",
  "message": "xxxxx"
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.6 Bandwidth Add-On Packages

## 4.6.1 Querying Bandwidth Add-On Packages

### Function

This API is used to query bandwidth add-on packages.

### URI

GET /v2/{project\_id}/bandwidthpkgs

Table 4-83 Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

### Request Parameters

None

### Response Parameters

Status code: 200

Table 4-84 Response body parameters

| Parameter           | Type                                              | Description                       |
|---------------------|---------------------------------------------------|-----------------------------------|
| bandwidthpkgs       | Array of <a href="#">BandwidthPkgResp</a> objects | List of bandwidth add-on packages |
| bandwidthpkgs_links | Array of <a href="#">BandwidthPkgPage</a> objects | Page turning display              |

Table 4-85 BandwidthPkgResp

| Parameter    | Type   | Description                                                                                                                                                                                |
|--------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resourceId   | String | <ul style="list-style-type: none"><li>Bandwidth add-on package ID</li><li>The value can contain 1 to 64 characters, including digits, letters, underscores (_), and hyphens (-).</li></ul> |
| resourceName | String | <ul style="list-style-type: none"><li>Bandwidth add-on package name</li></ul>                                                                                                              |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                        |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| processedTime | String  | <ul style="list-style-type: none"><li>Time (UTC) when the bandwidth add-on package is created. The value is in the format of 2016-03-28T00:00:00Z.</li></ul>                                                                                                       |
| bandwidthId   | String  | <ul style="list-style-type: none"><li>ID of the bandwidth that uses the bandwidth add-on package</li></ul>                                                                                                                                                         |
| pkgSize       | Integer | <ul style="list-style-type: none"><li>Bandwidth add-on package size</li><li>Value range: &gt; 1 Mbit/s; Bandwidth add-on package size + Bandwidth size &lt; Bandwidth upper limit defined by cloud service bandwidth API</li></ul>                                 |
| tenantId      | String  | <ul style="list-style-type: none"><li>Tenant ID</li></ul>                                                                                                                                                                                                          |
| billingInfo   | String  | <ul style="list-style-type: none"><li>Information about the bandwidth add-on package order. If this parameter is not empty, the value is in the format of <i>orderId;productId</i>.</li></ul>                                                                      |
| startTime     | String  | <ul style="list-style-type: none"><li>Start time (UTC) when the bandwidth add-on package takes effect. The value is in the format of 2016-03-28T00:00:00Z.</li><li>Value range: <b>startTime</b> must be later than or the same as <b>processedTime</b>.</li></ul> |
| endTime       | String  | <ul style="list-style-type: none"><li>End time (UTC) when the bandwidth add-on package takes effect. The value is in the format of 2016-03-28T00:00:00Z.</li><li>Value range: <b>endTime</b> must be later than <b>startTime</b>.</li></ul>                        |
| status        | String  | <ul style="list-style-type: none"><li>Status of the bandwidth add-on package. Only administrators can change the status.</li><li>Value range: <b>pending</b>, <b>active</b>, <b>completed</b>, and <b>error</b></li></ul>                                          |

**Table 4-86** BandwidthPkgPage

| Parameter | Type   | Description                                                       |
|-----------|--------|-------------------------------------------------------------------|
| href      | String | <ul style="list-style-type: none"><li>Link</li></ul>              |
| rel       | String | <ul style="list-style-type: none"><li>Page turning mark</li></ul> |

## Example Request

```
GET /v2/{project_id}/bandwidthpkgs
```

## Example Response

**Status code: 200**

Normal response to the GET operation

```
{
  "bandwidthpkgs" : [ {
    "resourceId" : "0003cb59-aaa4-4c05-85bd-4b4cc806992c",
    "resourceName" : "bandwidthpkg-test",
    "pkgSize" : "5",
    "processedTime" : "2018-10-13 20:21:17.465126",
    "bandwidthId" : "6c50f312-2eab-4f08-9da2-b41b0801d8be",
    "tenantId" : "e136ddf186a84dff9c5d5364de79f4e4",
    "billingInfo" : "CS1810091953KI13V:edcb94a885a84ed3a3fdf8ea4d2741da",
    "startTime" : "2018-10-24 21:2:17.465126",
    "endTime" : "2018-10-28 21:2:17.465126",
    "status" : "pending"
  } ],
  "bandwidthpkgs_links" : [ {
    "href" : "https://vpc.br-iaas-odin1.ulangab.huawei.com:443/v2/0605767f6f00d5762ff9c001c70e7359/bandwidthpkgs?limit=2000&marker=4fc74637-753f-46cb-af8c-b58528887a79&page_reverse=true",
    "rel" : "previous"
  } ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.7 Quota

## 4.7.1 Querying the Quota

### Function

This API is used to query the network resource quotas of a tenant. The network resources include VPCs, subnets, security groups, security group rules, EIPs, VPNs, and more.

#### NOTE

This API can be used to query quotas of EIPs and VPCs.

### URI

GET /v1/{project\_id}/quotas

Example:

GET https://{Endpoint}/v1/{project\_id}/quotas?type={type}

[Table 4-87](#) describes the parameters.

**Table 4-87** Parameter description

| Name       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| type       | No        | String | <ul style="list-style-type: none"><li>• Specifies the resource type.</li><li>• Values:<ul style="list-style-type: none"><li>– <b>vpc</b>: VPC</li><li>– <b>subnet</b>: Subnet</li><li>– <b>securityGroup</b>: Security group</li><li>– <b>securityGroupRule</b>: Security group rule</li><li>– <b>publicIp</b>: EIP</li><li>– <b>vpn</b>: VPN</li><li>– <b>vpngw</b>: VPN gateway</li><li>– <b>vpcPeer</b>: VPC peering connection</li><li>– <b>loadbalancer</b>: Load balancer</li><li>– <b>listener</b>: Load balancer listener</li><li>– <b>physicalConnect</b>: Direct Connect connection</li><li>– <b>virtualInterface</b>: Virtual interface</li><li>– <b>firewall</b>: Firewall</li><li>– <b>shareBandwidthIP</b>: IP address added to a shared bandwidth</li><li>– <b>shareBandwidth</b>: Shared bandwidth</li><li>– <b>address_group</b>: IP address group</li><li>– <b>flow_log</b>: VPC flow log</li><li>– <b>vpcContainRoutetable</b>: Number of route tables associated with a VPC</li><li>– <b>routetableContainRoutes</b>: Number of routes in a route table</li></ul></li></ul> |

## Request Parameters

None

## Response Parameters

**Table 4-88** Response parameter

| Parameter | Type                          | Description                                                               |
|-----------|-------------------------------|---------------------------------------------------------------------------|
| quotas    | <a href="#">quotas</a> object | Specifies the quota object. For details, see <a href="#">Table 4-89</a> . |

**Table 4-89** Description of the [quotas](#) field

| Parameter | Type                                      | Description                                                                   |
|-----------|-------------------------------------------|-------------------------------------------------------------------------------|
| resources | Array of <a href="#">resource</a> objects | Specifies the resource objects. For details, see <a href="#">Table 4-90</a> . |

**Table 4-90** Description of the **resource** field

| Parameter | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | String  | <ul style="list-style-type: none"><li>Specifies the resource type.</li><li>Values:<ul style="list-style-type: none"><li><b>vpc</b>: VPC</li><li><b>subnet</b>: Subnet</li><li><b>securityGroup</b>: Security group</li><li><b>securityGroupRule</b>: Security group rule</li><li><b>publicIp</b>: EIP</li><li><b>vpn</b>: VPN</li><li><b>vpngw</b>: VPN gateway</li><li><b>vpcPeer</b>: VPC peering connection</li><li><b>loadbalancer</b>: Load balancer</li><li><b>listener</b>: Load balancer listener</li><li><b>physicalConnect</b>: Direct Connect connection</li><li><b>virtualInterface</b>: Virtual interface</li><li><b>firewall</b>: Firewall</li><li><b>shareBandwidthIP</b>: IP address added to a shared bandwidth</li><li><b>shareBandwidth</b>: Shared bandwidth</li><li><b>address_group</b>: IP address group</li><li><b>flow_log</b>: VPC flow log</li><li><b>vpcContainRoutetable</b>: Number of route tables associated with a VPC</li><li><b>routetableContainRoutes</b>: Number of routes in a route table</li></ul></li></ul> |
| used      | Integer | <ul style="list-style-type: none"><li>Specifies the number of created network resources.</li><li>The value ranges from <b>0</b> to the value of <b>quota</b>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| quota     | Integer | <ul style="list-style-type: none"><li>Specifies the maximum quota values for the resources.</li><li>The value ranges from the default quota value to the maximum quota value.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| min       | Integer | Specifies the minimum quota value allowed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

 **NOTE**

If value **-1** is returned when you use an API to query your VPC quota, this indicates that the VPC quota is not limited.

## Example Response

```
{
  "quotas": {
    "resources": [
      {
        "type": "vpc",
        "used": 4,
        "quota": 150,
        "min": 0
      },
      {
        "type": "subnet",
        "used": 5,
        "quota": 400,
        "min": 0
      },
      {
        "type": "securityGroup",
        "used": 1,
        "quota": 100,
        "min": 0
      },
      {
        "type": "securityGroupRule",
        "used": 6,
        "quota": 5000,
        "min": 0
      },
      {
        "type": "publicIp",
        "used": 2,
        "quota": 10,
        "min": 0
      },
      {
        "type": "vpn",
        "used": 0,
        "quota": 5,
        "min": 0
      },
      {
        "type": "vpngw",
        "used": 0,
        "quota": 2,
        "min": 0
      },
      {
        "type": "vpcPeer",
        "used": 0,
        "quota": 50,
        "min": 0
      },
      {
        "type": "physicalConnect",
        "used": 0,
        "quota": 10,
        "min": 0
      },
      {
        "type": "virtualInterface",
        "used": 0,
        "quota": 50,
        "min": 0
      },
      {
        "type": "firewall",
        "used": 0,
        "quota": 200,
        "min": 0
      }
    ]
  }
}
```

```
    },
    {
      "type": "shareBandwidth",
      "used": 0,
      "quota": 5,
      "min": 0
    },
    {
      "type": "shareBandwidthIP",
      "used": 0,
      "quota": 20,
      "min": 0
    },
    {
      "type": "loadbalancer",
      "used": 0,
      "quota": 10,
      "min": 0
    },
    {
      "type": "listener",
      "used": 0,
      "quota": 10,
      "min": 0
    },
    {
      "type": "flow_log",
      "used": 0,
      "quota": 10,
      "min": 0
    },
    {
      "type": "vpcContainRoutetable",
      "used": 0,
      "quota": 1,
      "min": 0
    },
    {
      "type": "routetableContainRoutes",
      "used": 0,
      "quota": 200,
      "min": 0
    },
    {
      "type": "address_group",
      "used": 0,
      "quota": 50,
      "min": 0
    }
  ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.8 EIP Tag Management

## 4.8.1 Adding a Tag to an EIP

### Function

This API is used to add a tag to an EIP.

### URI

POST /v2.0/{project\_id}/publicips/{publicip\_id}/tags

[Table 4-91](#) describes the parameters.

**Table 4-91** Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

### Request Message

- Request parameter

**Table 4-92** Request parameter

| Parameter | Type                       | Mandatory | Description                                                                     |
|-----------|----------------------------|-----------|---------------------------------------------------------------------------------|
| tag       | <a href="#">tag</a> object | Yes       | Specifies the <b>tag</b> objects. For details, see <a href="#">Table 4-93</a> . |

**Table 4-93 tag objects**

| Parameter | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | Yes       | <ul style="list-style-type: none"><li>Specifies the tag key.</li><li>Cannot be left blank.</li><li>Can contain a maximum of 36 characters.</li><li>Can contain only the following character types:<ul style="list-style-type: none"><li>Uppercase letters</li><li>Lowercase letters</li><li>Digits</li><li>Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li><li>The tag key of a VPC must be unique.</li></ul> |
| value     | String | Yes       | <ul style="list-style-type: none"><li>Specifies the tag value.</li><li>Can contain a maximum of 43 characters.</li><li>Can contain only the following character types:<ul style="list-style-type: none"><li>Uppercase letters</li><li>Lowercase letters</li><li>Digits</li><li>Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li></ul>                                                                          |

- Example request

POST https://{Endpoint}/v2.0/{project\_id}/publicips/{publicip\_id}/tags

```
{
  "tag": {
    "key": "key1",
    "value": "value1"
  }
}
```

## Response Message

- Response parameter

None

- Example response

None

Or

```
{
  "code": "xxx",
}
```

```
}
  "message": "xxxxx"
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.8.2 Querying EIP Tags

### Function

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

### URI

GET /v2.0/{project\_id}/publicips/{publicip\_id}/tags

[Table 4-94](#) describes the parameters.

**Table 4-94** Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

### Request Message

- Request parameter  
None
- Example request  
GET https://{Endpoint}/v2.0/{project\_id}/publicips/{publicip\_id}/tags

### Response Message

- Response parameter

**Table 4-95** Response parameter

| Parameter | Type                                 | Description                                                                         |
|-----------|--------------------------------------|-------------------------------------------------------------------------------------|
| tags      | Array of <a href="#">tag</a> objects | Specifies the <b>tag</b> object list. For details, see <a href="#">Table 4-96</a> . |

**Table 4-96** tag objects

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <ul style="list-style-type: none"><li>Specifies the tag key.</li><li>Cannot be left blank.</li><li>Can contain a maximum of 36 characters.</li><li>Can contain only the following character types:<ul style="list-style-type: none"><li>Uppercase letters</li><li>Lowercase letters</li><li>Digits</li><li>Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li><li>The tag key of a VPC must be unique.</li></ul> |
| value     | String | <ul style="list-style-type: none"><li>Specifies the tag value.</li><li>Can contain a maximum of 43 characters.</li><li>Can contain only the following character types:<ul style="list-style-type: none"><li>Uppercase letters</li><li>Lowercase letters</li><li>Digits</li><li>Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li></ul>                                                                          |

- Example response

```
{
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value3"
    }
  ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.8.3 Deleting a Tag from an EIP

## Function

This API is used to delete a tag from an EIP.

## URI

DELETE /v2.0/{project\_id}/publicips/{publicip\_id}/tags/{key}

[Table 4-97](#) describes the parameters.

**Table 4-97** Parameter description

| Parameter   | Mandatory | Description                                                                                                             |
|-------------|-----------|-------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID.<br>For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                              |
| key         | Yes       | Specifies the tag key.                                                                                                  |

## Request Message

- Request parameter  
None
- Example request  
DELETE https://{Endpoint}/v2.0/{project\_id}/publicips/{publicip\_id}/tags/{key}

## Response Message

- Response parameter  
None
- Example response  
None  
Or  

```
{
  "code": "xxx",
  "message": "xxxxx"
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.8.4 Batch Adding or Deleting EIP Tags

## Function

This API is used to add multiple tags to or delete multiple tags from an EIP at a time.

This API is idempotent.

If there are duplicate keys in the request body when you add tags, an error is reported.

During tag creation, duplicate keys are not allowed. If a key already exists in the database, its value will be overwritten by the new duplicate key.

During tag deletion, if some tags do not exist, the operation is considered to be successful by default. The character set of the tags will not be checked. When you delete tags, the tag structure cannot be missing, and the key cannot be left blank or be an empty string.

## URI

POST /v2.0/{project\_id}/publicips/{publicip\_id}/tags/action

[Table 4-98](#) describes the parameters.

**Table 4-98** Parameter description

| Parameter   | Mandatory | Description                                                                                                          |
|-------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| publicip_id | Yes       | Specifies the unique identifier of an EIP.                                                                           |

## Request Message

- Request parameter

**Table 4-99** Request parameter

| Parameter | Type                        | Mandatory | Description                                                                                                                                      |
|-----------|-----------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| tags      | Array of <b>tag</b> objects | Yes       | Specifies the <b>tag</b> object list. For details, see <a href="#">Table 4-100</a> .                                                             |
| action    | String                      | Yes       | Specifies the operation. Possible values are as follows: <ul style="list-style-type: none"><li>• <b>create</b></li><li>• <b>delete</b></li></ul> |

**Table 4-100** tag objects

| Parameter | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|--------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | Yes       | <ul style="list-style-type: none"><li>• Specifies the tag key.</li><li>• Cannot be left blank.</li><li>• Can contain a maximum of 36 characters.</li><li>• Can contain only the following character types:<ul style="list-style-type: none"><li>– Uppercase letters</li><li>– Lowercase letters</li><li>– Digits</li><li>– Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li><li>• The tag key of a VPC must be unique.</li></ul> |

| Parameter | Type   | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|--------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| value     | String | Yes       | <ul style="list-style-type: none"><li>Specifies the tag value.</li><li>Can contain a maximum of 43 characters.</li><li>Can contain only the following character types:<ul style="list-style-type: none"><li>Uppercase letters</li><li>Lowercase letters</li><li>Digits</li><li>Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li></ul> |

- Request example 1: Creating tags in batches

POST https://{Endpoint}/v2.0/{project\_id}/publicips/{publicip\_id}/tags/action

```
{
  "action": "create",
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value3"
    }
  ]
}
```

- Request example 2: Deleting tags in batches

POST https://{Endpoint}/v2.0/{project\_id}/publicips/{publicip\_id}/tags/action

```
{
  "action": "delete",
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value3"
    }
  ]
}
```

## Response Message

- Response parameter  
None
- Example response  
None  
Or

```
{
  "code": "xxx",
  "message": "xxxxx"
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.8.5 Querying EIPs by Tag

## Function

This API is used to query EIPs by tag.

## URI

POST /v2.0/{project\_id}/publicips/resource\_instances/action

[Table 4-101](#) describes the parameters.

**Table 4-101** Parameter description

| Parameter  | Mandatory | Description                                                                                                          |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Message

- Request parameter

**Table 4-102** Request parameter

| Parameter | Type                                  | Mandatory | Description                                                                                                                                                                                                                                                                                                      |
|-----------|---------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tags      | Array of <a href="#">tags</a> objects | No        | Specifies the included tags. A maximum of 10 tag keys are allowed for each query operation. Each tag key can have up to 10 tag values. The structure body must be included. The tag key cannot be left blank or set to an empty string. Each tag key must be unique, and each tag value in a tag must be unique. |

| Parameter | Type                          | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | Integer                       | No        | Sets the page size. This parameter is not available when <b>action</b> is set to <b>count</b> . The default value is <b>1000</b> when <b>action</b> is set to <b>filter</b> . The maximum value is <b>1000</b> , and the minimum value is <b>1</b> . The value cannot be a negative number.                                                                                                                                                                                                                                                                   |
| offset    | Integer                       | No        | Specifies the index position. The query starts from the next piece of data indexed by this parameter. This parameter is not required when you query data on the first page. The value in the response returned for querying data on the previous page will be included in this parameter for querying data on subsequent pages. This parameter is not available when <b>action</b> is set to <b>count</b> . If <b>action</b> is set to <b>filter</b> , the value must be a number, and the default value is <b>0</b> . The value cannot be a negative number. |
| action    | String                        | Yes       | Specifies the operation to perform. The value can only be <b>filter</b> (filtering) or <b>count</b> (querying the total number).<br><br>The value <b>filter</b> indicates pagination query. The value <b>count</b> indicates that the total number of query results meeting the search criteria will be returned.                                                                                                                                                                                                                                             |
| matches   | Array of <b>match</b> objects | No        | Specifies the search criteria. The tag key is the field to match. Currently, only <b>resource_name</b> is supported. The tag value indicates the matched value. This field is a fixed dictionary value.                                                                                                                                                                                                                                                                                                                                                       |

**Table 4-103** Description of the **tags** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                     |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. The value can contain a maximum of 127 Unicode characters. The tag key cannot be left blank. (This parameter is not verified during the search process.) |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                           |
|-----------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| values    | Yes       | Array of strings | Specifies the tag value list. Each value can contain a maximum of 255 Unicode characters. An empty list for <b>values</b> indicates any value. The values are in the OR relationship. |

**Table 4-104** Description of the **match** field

| Parameter | Mandatory | Type   | Description                                                                          |
|-----------|-----------|--------|--------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. Currently, the tag key can only be the resource name.         |
| value     | Yes       | String | Specifies the tag value. Each value can contain a maximum of 255 Unicode characters. |

- Example request 1: Setting **action** to **filter**

POST [https://{Endpoint}/v2.0/{project\\_id}/publicips/resource\\_instances/action](https://{Endpoint}/v2.0/{project_id}/publicips/resource_instances/action)

```
{
  "offset": "0",
  "limit": "100",
  "action": "filter",
  "matches": [
    {
      "key": "resource_name",
      "value": "resource1"
    }
  ],
  "tags": [
    {
      "key": "key1",
      "values": [
        "value1",
        "value2"
      ]
    }
  ]
}
```

- Example request 2: Setting **action** to **count**

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

```
    },
    {
      "key": "key2",
      "values": [
        "value1",
        "value2"
      ]
    }
  ],
  "matches": [
    {
      "key": "resource_name",
      "value": "resource1"
    }
  ]
}
```

## Response Message

- Response parameter

**Table 4-105** Response parameter

| Parameter   | Type                                      | Description                                                                               |
|-------------|-------------------------------------------|-------------------------------------------------------------------------------------------|
| resources   | Array of <a href="#">resource</a> objects | Specifies the <b>resource</b> object list. For details, see <a href="#">Table 4-106</a> . |
| total_count | Integer                                   | Specifies the total number of query records.                                              |

**Table 4-106** [resource](#) objects

| Parameter       | Type                                  | Description                                                                                                                            |
|-----------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| resource_id     | String                                | Specifies the resource ID.                                                                                                             |
| resource_detail | Object                                | Specifies the resource details. Resource details are used for extension. This parameter is left blank by default.                      |
| tags            | Array of <a href="#">tags</a> objects | Specifies the tag list. This parameter is an empty array by default if there is no tag. For details, see <a href="#">Table 4-107</a> . |
| resource_name   | String                                | Specifies the resource name. This parameter is an empty string by default if there is no resource name.                                |

**Table 4-107** Description of the **tags** field

| Parameter | Mandatory | Type   | Description                                                                                                                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. The value can contain a maximum of 127 Unicode characters. The tag key cannot be left blank. (This parameter is not verified during the search process.)       |
| value     | Yes       | String | Specifies the tag value list. Each value can contain a maximum of 255 Unicode characters. An empty list for <b>values</b> indicates any value. The values are in the OR relationship. |

- Example response 1: Setting **action** to **filter**

```
{
  "resources": [
    {
      "resource_detail": null,
      "resource_id": "cdfs_cefs_wesas_12_dsad",
      "resource_name": "resouece1",
      "tags": [
        {
          "key": "key1",
          "value": "value1"
        },
        {
          "key": "key2",
          "value": "value1"
        }
      ]
    }
  ],
  "total_count": 1000
}
```

- Example response 2: Setting **action** to **count**

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

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.8.6 Querying EIP Tags in a Specified Project

### Function

This API is used to query all EIP tags of a tenant in a specified region.

### URI

GET /v2.0/{project\_id}/publicips/tags

[Table 4-108](#) describes the parameters.

**Table 4-108** Parameter description

| Parameter  | Mandatory | Description                                                                                                          |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Specifies the project ID. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Message

- Request parameter

None

- Example request

GET /v2.0/{project\_id}/publicips/tags

### Response Message

- Response parameter

**Table 4-109** Response parameter

| Parameter | Type                                 | Description                                                                          |
|-----------|--------------------------------------|--------------------------------------------------------------------------------------|
| tags      | Array of <a href="#">tag</a> objects | Specifies the <b>tag</b> object list. For details, see <a href="#">Table 4-110</a> . |

**Table 4-110** Description of the **tag** field

| Parameter | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String           | Specifies the tag key. <ul style="list-style-type: none"><li>• Cannot be left blank.</li><li>• Contain up to 128 characters (36 characters on the console).</li><li>• Can contain only the following character types:<ul style="list-style-type: none"><li>– Uppercase letters</li><li>– Lowercase letters</li><li>– Digits</li><li>– Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li></ul> |
| values    | Array of strings | Specifies the tag value list. <ul style="list-style-type: none"><li>• Contain up to 255 characters (43 characters on the console).</li><li>• Can contain only the following character types:<ul style="list-style-type: none"><li>– Uppercase letters</li><li>– Lowercase letters</li><li>– Digits</li><li>– Special characters, including hyphens (-), underscores (_), and at signs (@)</li></ul></li></ul>                          |

- Example response

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

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 4.9 Auxiliary APIs for EIPs

## 4.9.1 Querying the Number of EIPs

### Function

This API is used to query the number of EIPs.

### URI

GET /v2/{project\_id}/publicip/instances

**Table 4-111** Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

### Request Parameters

None

### Response Parameters

None

### Example Request

None

### Example Response

**Status code: 200**

Normal response to GET and PUT operations

```
{
  "instance_num" : 3
}
```

### Status Code

See [Status Codes](#).

### Error Code

See [Error Codes](#).

## 4.9.2 Querying EIP Type

### Function

This API is used to query the type of an EIP.

### URI

GET /v2/{project\_id}/publicip\_types

Table 4-112 Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

### Request Parameters

None

### Response Parameters

None

### Example Request

None

### Example Response

Status code: 200

Normal response to GET and PUT operations

```
{
  "publicip_types" : [ {
    "id" : "143fe300-78bc-4e2b-ae4b-d7a2ae7f2197",
    "type" : "5_bgp"
  }, {
    "id" : "71d56cb8-e86e-403b-8ace-8551ff075986",
    "type" : "5_test"
  }, {
    "id" : "985579ea-be40-409e-82b0-68d8acc10865",
    "type" : "5_union"
  }, {
    "id" : "caaef6af-6662-45b0-bd55-519673265a42",
    "type" : "5_telcom"
  } ]
}
```

### Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 4.9.3 Querying the Number of EIPs

### Function

This API is used to query the number of EIPs.

### URI

GET /v2/{project\_id}/elasticips

**Table 4-113** Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID  |

### Request Parameters

None

### Response Parameters

**Status code: 200**

**Table 4-114** Response body parameters

| Parameter      | Type    | Description    |
|----------------|---------|----------------|
| elasticip_size | Integer | Number of EIPs |

### Example Request

None

### Example Response

**Status code: 200**

Normal

```
{  
  "elasticip_size" : 11  
}
```

### Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

5

API V3

## 5.1 EIPs

### 5.1.1 Querying All EIPs

#### Function

This API is used to query all EIPs.

#### URI

GET /v3/{project\_id}/eip/publicips

Table 5-1 Path parameter

| Parameter  | Mandatory | Type   | Description                                                                                                       |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>32</b> |

Table 5-2 Query parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | <ul style="list-style-type: none"><li>Start resource ID of pagination query. If the parameter is left blank, only resources on the first page are queried.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | Integer | <ul style="list-style-type: none"><li>Start resource number of pagination query.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| limit     | No        | Integer | <ul style="list-style-type: none"><li>Number of records returned on each page.</li><li>The value ranges from <b>0</b> to <b>2,000</b>. The maximum value varies by region.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>2000</b>                                                                                                                                                                                                                                                                                                                                                                                                                             |
| fields    | No        | Array   | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=owner&amp;..."</li><li>Supported fields: <b>id</b>, <b>project_id</b>, <b>ip_version</b>, <b>type</b>, <b>public_ip_address</b>, <b>public_ipv6_address</b>, <b>network_type</b>, <b>status</b>, <b>description</b>, <b>created_at</b>, <b>updated_at</b>, <b>vnid</b>, <b>bandwidth</b>, <b>associate_instance_type</b>, <b>associate_instance_id</b>, <b>lock_status</b>, <b>billing_info</b>, <b>tags</b>, <b>enterprise_project_id</b>, <b>allow_share_bandwidth_types</b>, <b>public_border_group</b>, <b>alias</b>, <b>publicip_pool_name</b>, and <b>publicip_pool_id</b>.</li></ul> |

| Parameter              | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sort_key               | No        | String | <ul style="list-style-type: none"><li>Sort. Format: "sort_key=id"</li><li>Supported fields: <b>id</b>, <b>public_ip_address</b>, <b>public_ipv6_address</b>, <b>ip_version</b>, <b>created_at</b>, <b>updated_at</b>, and <b>public_border_group</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>id</b></li><li><b>public_ip_address</b></li><li><b>public_ipv6_address</b></li><li><b>ip_version</b></li><li><b>created_at</b></li><li><b>updated_at</b></li><li><b>public_border_group</b></li></ul> |
| sort_dir               | No        | String | <ul style="list-style-type: none"><li>Sorting direction.</li><li>The value can be <b>asc</b> or <b>desc</b></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>asc</b></li><li><b>desc</b></li></ul>                                                                                                                                                                                                                                                                                                           |
| id                     | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>id</b>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ip_version             | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>ip_version</b>.</li><li>The value can be <b>4</b> (IPv4) or <b>6</b> (IPv6).</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>4</b></li><li><b>6</b></li></ul>                                                                                                                                                                                                                                                                                            |
| public_ip_address      | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>public_ip_address</b>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| public_ip_address_like | No        | String | <ul style="list-style-type: none"><li>Filter by <b>public_ip_address</b> in a fuzzy search.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                                                                                                       |
| public_ipv6_address    | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>public_ipv6_address</b>.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Parameter                | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_ipv6_address_like | No        | String | <ul style="list-style-type: none"><li>Filter by <b>public_ipv6_address</b> in a fuzzy search.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                 |
| type                     | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>type</b>.</li><li>The value can be:<ul style="list-style-type: none"><li><b>EIP</b>: EIP</li><li><b>DUALSTACK</b>: Dual-stack IPv6</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>EIP</b></li><li><b>DUALSTACK</b></li></ul>                                                                                              |
| network_type             | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>network_type</b>.</li><li>The value can be <b>5_telcom</b>, <b>5_union</b>, <b>5_bgp</b>, <b>5_sbgp</b>, <b>5_ipv6</b>, or <b>5_graybgp</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>5_telcom</b></li><li><b>5_union</b></li><li><b>5_bgp</b></li><li><b>5_sbgp</b></li><li><b>5_ipv6</b></li><li><b>5_graybgp</b></li></ul> |
| publicip_pool_name       | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>publicip_pool_name</b>.</li><li>The value can be <b>5_telcom</b>, <b>5_union</b>, <b>5_bgp</b>, <b>5_sbgp</b>, <b>5_ipv6</b>, <b>5_graybgp</b>, or a dedicated pool name.</li></ul>                                                                                                                                                                        |
| status                   | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>status</b>.</li><li>The value can be <b>FREEZED</b>, <b>DOWN</b>, <b>ACTIVE</b>, or <b>ERROR</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>FREEZED</b></li><li><b>DOWN</b></li><li><b>ACTIVE</b></li><li><b>ERROR</b></li></ul>                                                                                               |

| Parameter                    | Mandatory | Type   | Description                                                                                                                                                       |
|------------------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| alias_like                   | No        | String | <ul style="list-style-type: none"><li>Filter by <b>alias</b> in a fuzzy search.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                   |
| alias                        | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>alias</b>.</li></ul>                                                                                           |
| description                  | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>description</b>.</li></ul>                                                                                     |
| vnic.private_ip_address      | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>private_ip_address</b>.</li></ul>                                                                              |
| vnic.private_ip_address_like | No        | String | <ul style="list-style-type: none"><li>Filter by <b>private_ip_address</b> in a fuzzy search.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>      |
| vnic.device_id               | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>device_id</b>.</li></ul>                                                                                       |
| vnic.device_owner            | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>device_owner</b>.</li></ul>                                                                                    |
| vnic.vpc_id                  | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>vpc_id</b>.</li></ul>                                                                                          |
| vnic.port_id                 | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>port_id</b>.</li></ul>                                                                                         |
| vnic.device_owner_prefixlike | No        | String | <ul style="list-style-type: none"><li>Filter by <b>device_owner_prefixlike</b> in a fuzzy search.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| vnic.instance_type           | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>instance_type</b>.</li></ul>                                                                                   |
| vnic.instance_id             | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>instance_id</b>.</li></ul>                                                                                     |
| bandwidth.id                 | No        | Array  | <ul style="list-style-type: none"><li>Filter by the bandwidth ID.</li></ul>                                                                                       |
| bandwidth.name               | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>name</b>.</li></ul>                                                                                            |
| bandwidth.name_like          | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>name</b> in a fuzzy search.</li></ul>                                                                          |
| bandwidth.size               | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>size</b>.</li></ul>                                                                                            |

| Parameter               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth.share_type    | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>share_type</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>PER</b></li><li><b>WHOLE</b></li></ul>                                                                                                                                                                       |
| bandwidth.charge_mode   | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>charge_mode</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>bandwidth</b></li><li><b>traffic</b></li><li><b>95peak_plus</b></li></ul>                                                                                                                                   |
| billing_info            | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>billing_info</b>.</li></ul>                                                                                                                                                                                                                                                                        |
| billing_mode            | No        | String | <ul style="list-style-type: none"><li>Filter by <b>billing_mode</b>.</li><li>The value can be <b>YEARLY_MONTHLY</b> or <b>PAY_PER_USE</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>YEARLY_MONTHLY</b></li><li><b>PAY_PER_USE</b></li></ul>                                                                              |
| associate_instance_type | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>associate_instance_type</b>.</li><li>The value can be <b>PORT</b>, <b>NATGW</b>, <b>ELB</b>, <b>VPN</b>, or <b>ELBV1</b>.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>VPN</b></li><li><b>ELBV1</b></li></ul> |
| associate_instance_id   | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>associate_instance_id</b>.</li></ul>                                                                                                                                                                                                                                                               |
| enterprise_project_id   | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>enterprise_project_id</b>.</li></ul>                                                                                                                                                                                                                                                               |
| public_border_group     | No        | Array  | <ul style="list-style-type: none"><li>Filter by <b>public_border_group</b>.</li></ul>                                                                                                                                                                                                                                                                 |

| Parameter                      | Mandatory | Type  | Description                                                                                                                                                                                               |
|--------------------------------|-----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| allow_share_bandwidth_type_any | No        | Array | <ul style="list-style-type: none"><li>Shared bandwidth type. EIPs can be filtered by shared bandwidth type. You can specify multiple shared bandwidth types, which are separated by commas (,).</li></ul> |

Request Parameter

None

Response Parameters

Status code: 200

Table 5-3 Response body parameters

| Parameter   | Type                                                    | Description                                                        |
|-------------|---------------------------------------------------------|--------------------------------------------------------------------|
| request_id  | String                                                  | Request ID.<br>Minimum length: 0<br>Maximum length: 36             |
| publicips   | Array of <a href="#">PublicipSingleShowResp</a> objects | EIP object.                                                        |
| page_info   | <a href="#">PageInfoOption</a> object                   | Pagination page number information.                                |
| total_count | Integer                                                 | Total number of EIPs.<br>Minimum value: 0<br>Maximum value: 999999 |

Table 5-4 PublicipSingleShowResp

| Parameter  | Type   | Description                                                                                                        |
|------------|--------|--------------------------------------------------------------------------------------------------------------------|
| id         | String | <ul style="list-style-type: none"><li>Unique ID of the EIP.<br/>Minimum length: 0<br/>Maximum length: 36</li></ul> |
| project_id | String | <ul style="list-style-type: none"><li>Project ID.<br/>Minimum length: 0<br/>Maximum length: 32</li></ul>           |

| Parameter           | Type    | Description                                                                                                                                                                                                                                                                                         |
|---------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ip_version          | Integer | <ul style="list-style-type: none"><li>• IP address version.</li><li>• The value can be:<ul style="list-style-type: none"><li>– <b>4</b>: IPv4 EIP</li><li>– <b>6</b>: IPv6 EIP</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li>• <b>4</b></li><li>• <b>6</b></li></ul> |
| public_ip_address   | String  | <ul style="list-style-type: none"><li>• EIP or IPv6 port address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                   |
| public_ipv6_address | String  | <ul style="list-style-type: none"><li>• Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                     |
| network_type        | String  | <ul style="list-style-type: none"><li>• Network type of an EIP. This parameter is discarded and is not displayed by default. It is inherited by <b>publicip_pool_name</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                          |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | String | <ul style="list-style-type: none"><li>• EIP status.</li><li>• The value can be:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>NOTIFYING</b> (Notify that EIP is assigned)</li><li>– <b>NOTIFY_DELETE</b> (Notify to release an EIP)</li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b> (Assignment failed)</li></ul></li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>64</b><br/>Enumerated values:</p> <ul style="list-style-type: none"><li>• <b>FREEZED</b></li><li>• <b>BIND_ERROR</b></li><li>• <b>BINDING</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_CREATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFY_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>DOWN</b></li><li>• <b>ACTIVE</b></li><li>• <b>ELB</b></li><li>• <b>VPN</b></li><li>• <b>ERROR</b></li></ul> |
| description | String | <ul style="list-style-type: none"><li>• Supplementary information about the EIP.</li><li>• This is customized by users and is not perceived by the system.</li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>256</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter             | Type                                | Description                                                                                                                                                                                                                                                                                                  |
|-----------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group   | String                              | <ul style="list-style-type: none"><li>Whether the resource is in a central region or an edge site.</li><li>The value can be <b>center</b> or an edge site name.</li><li>This resource can only be associated with an EIP of the same region.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b> |
| created_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is assigned.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                        |
| updated_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                         |
| type                  | String                              | <ul style="list-style-type: none"><li>EIP type.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>EIP</b></li><li><b>DUALSTACK</b></li></ul>                                                                                    |
| vnic                  | <b>VnicInfo</b> object              | <ul style="list-style-type: none"><li>Port information of the instance with an EIP bound.</li><li>If the instance with an EIP bound does not depend on a port, the value is <b>null</b>.</li></ul>                                                                                                           |
| bandwidth             | <b>PublicipBandwidthInfo</b> object | Bandwidth bound to an EIP.                                                                                                                                                                                                                                                                                   |
| enterprise_project_id | String                              | Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                |

| Parameter               | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| billing_info            | String | <ul style="list-style-type: none"><li>Order information of an EIP.</li><li>Order information is available only for yearly/monthly resources. This parameter is left empty for pay-per-use resources.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                                                        |
| lock_status             | String | <ul style="list-style-type: none"><li>Frozen status of an EIP.</li><li>The metadata type indicates that the EIP is frozen due to arrears or abuse.</li><li>The value can be:<ul style="list-style-type: none"><li><b>police</b></li><li><b>locked</b></li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                              |
| associate_instance_type | String | <ul style="list-style-type: none"><li>Type of the instance bound with an EIP.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul> |
| associate_instance_id   | String | <ul style="list-style-type: none"><li>ID of the instance bound with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                                                                                                  |

| Parameter                   | Type                      | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_pool_id            | String                    | <ul style="list-style-type: none"><li>ID of the network that an EIP belongs to. It is the network ID corresponding to <b>publicip_pool_name</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                          |
| publicip_pool_name          | String                    | <ul style="list-style-type: none"><li>Network type of an EIP, including public EIP pool (for example, <b>5_bgp</b> or <b>5_sbgp</b>) and dedicated EIP pool.</li><li>For details about the dedicated EIP pool, see the APIs about <b>publicip_pool</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                   |
| alias                       | String                    | <ul style="list-style-type: none"><li>EIP name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                                           |
| profile                     | <b>ProfileInfo</b> object | <ul style="list-style-type: none"><li>EIP and metadata. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                                                                                            |
| fake_network_type           | Boolean                   | <ul style="list-style-type: none"><li>Whether an EIP can change its BGP type. If the value is <b>true</b>, the EIP can change its BGP type. If the value is <b>false</b>, the EIP cannot change its BGP type. (The parameter is not displayed by default.)</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>true</b></li><li><b>false</b></li></ul>                                                  |
| tags                        | Array of strings          | <ul style="list-style-type: none"><li>User tag. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                                                                                                    |
| associate_instance_metadata | String                    | <ul style="list-style-type: none"><li>Record the upper-level ownership of an instance. For example, if <b>associate_instance_type</b> is set to <b>PORT</b>, this parameter records the <b>device_id</b> and <b>device_owner</b> information of the port. (This parameter only records information in limited scenarios and is not displayed by default.)</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b> |

| Parameter                   | Type             | Description                                                                                                                                                                                                                                                                                      |
|-----------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| associate_mode              | String           | <ul style="list-style-type: none"><li>Passthrough mode. The parameter is displayed only after the passthrough mode is enabled.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                   |
| allow_share_bandwidth_types | Array of strings | <ul style="list-style-type: none"><li>Types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</li><li>The EIP can be added only to the shared bandwidth of these types.</li></ul> Maximum length: <b>64</b> |
| cascade_delete_by_instance  | Boolean          | <ul style="list-style-type: none"><li>Whether an EIP can be released together with its instance. (The parameter is not displayed by default.)</li></ul>                                                                                                                                          |

**Table 5-5** VnicInfo

| Parameter          | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| private_ip_address | String | <ul style="list-style-type: none"><li>Private IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                             |
| device_id          | String | <ul style="list-style-type: none"><li>ID of the device that a port belongs to.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                  |
| device_owner       | String | <ul style="list-style-type: none"><li>Device that the port belongs to.</li><li>The value can be:<ul style="list-style-type: none"><li><b>network:dhcp</b></li><li><b>network:VIP_PORT</b></li><li><b>network:router_interface_distributed</b></li><li>network:router_centralized_snat</li></ul></li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |

| Parameter        | Type   | Description                                                                                                                                                                                                                            |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vpc_id           | String | <ul style="list-style-type: none"><li>VPC ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                          |
| port_id          | String | <ul style="list-style-type: none"><li>Port ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                         |
| port_profile     | String | <ul style="list-style-type: none"><li>Port profile.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                   |
| mac              | String | <ul style="list-style-type: none"><li>Port MAC address.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                          |
| vtep             | String | <ul style="list-style-type: none"><li>VTEP IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                 |
| vni              | String | <ul style="list-style-type: none"><li>VXLAN ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                        |
| instance_id      | String | <ul style="list-style-type: none"><li>ID of the instance that the port belongs to, for example, RDS instance ID.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| instance_type    | String | <ul style="list-style-type: none"><li>Type of the instance that the port belongs to, for example, RDS.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>           |
| port_vif_details | String | <ul style="list-style-type: none"><li>Details about the NIC virtual interface.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>255</b>                                                                                        |

**Table 5-6** PublicipBandwidthInfo

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                             |
| size         | Integer | <ul style="list-style-type: none"><li>Bandwidth size.</li><li>The value ranges from 5 Mbit/s to 2000 Mbit/s by default.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                                                                                                                                                                                        |
| share_type   | String  | <ul style="list-style-type: none"><li>Whether the bandwidth is shared or dedicated.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li><li>IPv6 addresses do not support bandwidth whose type is <b>WHOLE</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                 |
| charge_mode  | String  | <ul style="list-style-type: none"><li>Whether the billing is based on traffic or bandwidth.</li><li>The value can be:<ul style="list-style-type: none"><li><b>bandwidth</b>: billed by bandwidth</li><li><b>traffic</b>: billed by traffic</li><li><b>95peak_plus</b>: billed by 95th percentile bandwidth (enhanced)</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| name         | String  | <ul style="list-style-type: none"><li>Bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                               |
| billing_info | String  | <ul style="list-style-type: none"><li>Billing information. If <b>billing_info</b> is specified, the bandwidth is billed on a yearly/monthly basis.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                             |

**Table 5-7** ProfileInfo

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_network_port | String  | <ul style="list-style-type: none"><li>• <b>port_id</b> in the <b>5_xxx</b> network (for example, <b>5_bgp</b>) of an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                   |
| standalone         | Boolean | <ul style="list-style-type: none"><li>• Whether an EIP is assigned together with a VM. If the value is <b>true</b>, the EIP is assigned independently. If the value is <b>false</b>, the EIP is assigned together with a VM.</li></ul>                                                                                                                                                                      |
| notify_status      | String  | <ul style="list-style-type: none"><li>• EIP assigning status. This parameter is only for internal use of the EIP service.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li>• <b>PENDING_CREATE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFIED</b></li><li>• <b>NOTIFY_DELETE</b></li></ul> |
| create_time        | String  | <ul style="list-style-type: none"><li>• Time when an EIP is assigned.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                       |
| fake_network_type  | Boolean | <ul style="list-style-type: none"><li>• Whether an EIP can change its BGP type. If the value is <b>true</b>, the EIP can change its BGP type. If the value is <b>false</b>, the EIP cannot change its BGP type.</li></ul> Enumerated values: <ul style="list-style-type: none"><li>• <b>true</b></li><li>• <b>false</b></li></ul>                                                                           |
| create_source      | String  | <ul style="list-style-type: none"><li>• Type of the resource purchased together with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated value: <ul style="list-style-type: none"><li>• <b>ecs</b></li></ul>                                                                                                                                                              |
| ecs_id             | String  | <ul style="list-style-type: none"><li>• ID of the ECS purchased together with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                       |

| Parameter      | Type                            | Description                                                                                                                                                                                                                                                      |
|----------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lock_status    | String                          | <ul style="list-style-type: none"><li>Lock status of an EIP, for example, <b>POLICE</b> (abuse), <b>LOCKED</b> (common issues), <b>ARREAR</b> (in arrears), and <b>DELABLE</b> (can be deleted).</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| frozen_status  | String                          | <ul style="list-style-type: none"><li>EIP frozen status.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>FREEZED</b></li><li><b>UNFREEZED</b></li></ul>                           |
| bandwidth_info | <b>BandwidthInfoResp</b> object | <ul style="list-style-type: none"><li>Bandwidth bound to an EIP.</li></ul>                                                                                                                                                                                       |

**Table 5-8** BandwidthInfoResp

| Parameter        | Type    | Description                                                                                                                                                        |
|------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_name   | String  | <ul style="list-style-type: none"><li>Bandwidth name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                             |
| bandwidth_number | Integer | <ul style="list-style-type: none"><li>Bandwidth size (Mbit/s).</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                    |
| bandwidth_type   | String  | <ul style="list-style-type: none"><li>Bandwidth type.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>PER</b></li><li><b>WHOLE</b></li></ul> |
| bandwidth_id     | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                |

Table 5-9 PageInfoOption

| Parameter       | Type    | Description                                                                                   |
|-----------------|---------|-----------------------------------------------------------------------------------------------|
| previous_marker | String  | Marker value of the previous page.<br>Minimum length: 0<br>Maximum length: 36                 |
| next_marker     | String  | Marker value of the next page.<br>Minimum length: 0<br>Maximum length: 36                     |
| current_count   | Integer | Total number of data records on the current page.<br>Minimum value: 0<br>Maximum value: 99999 |

Example Request

None

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "page_info": {
    "current_count": 1,
    "next_marker": "0490aeae-ab8f-4764-b012-45645e9c0aa9",
    "previous_marker": "0490aeae-ab8f-4764-b012-45645e9c0aa9"
  },
  "publicips": [ {
    "created_at": "2022-03-17T09:46:22Z",
    "updated_at": "2022-03-30T02:46:04Z",
    "lock_status": null,
    "allow_share_bandwidth_types": [ "bgp", "sbgp", "share", "share_yidongdanxian", "share_youxuan" ],
    "id": "006343a1-32bf-4361-958a-efd158153dd0",
    "alias": null,
    "project_id": "060576787a80d5762fa2c00f07ddfcf4",
    "ip_version": 4,
    "public_ip_address": "88.88.1.141",
    "public_ipv6_address": null,
    "status": "DOWN",
    "description": "",
    "enterprise_project_id": "0",
    "billing_info": null,
    "type": "EIP",
    "vnic": {
      "private_ip_address": "172.16.1.235",
      "device_id": "",
      "device_owner": "",
      "vpc_id": "1c30f428-9741-48b2-a788-0b2f359705eb",
      "port_id": "22d3576d-c042-4f3d-8c7c-1330a2724627",
      "mac": "fa:16:3e:3a:22:66",
      "vtep": null,
      "vni": null,
      "instance_id": "",
      "instance_type": ""
    }
  } ]
}
```

```
    "port_profile" : null,
    "port_vif_details": ""
  },
  "bandwidth" : {
    "id" : "149ff19b-5de4-4436-958f-2eca39952e93",
    "size" : 100,
    "share_type" : "PER",
    "charge_mode" : "traffic",
    "name" : "bandwidth-xym-br-eqos",
    "billing_info" : ""
  },
  "associate_instance_type" : "PORT",
  "associate_instance_id" : "22d3576d-c042-4f3d-8c7c-1330a2724627",
  "publicip_pool_id" : "9af5f2e5-1765-4b86-b342-ece52e785c8b",
  "publicip_pool_name" : "5_union",
  "public_border_group" : "center",
  "tags" : [ "key=value" ]
},
"request_id" : "c4962d006b34af3c2343de7f88ef65e3",
"total_count" : 100
}
```

Status Codes

See [Status Codes](#).

Error Codes

See [Error Codes](#).

5.1.2 Querying EIP Details

Function

This API is used to query EIP details.

URI

GET /v3/{project\_id}/eip/publicips/{publicip\_id}

Table 5-10 Path parameters

| Parameter   | Mandatory | Type   | Description                                                          |
|-------------|-----------|--------|----------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>32</b> |
| publicip_id | Yes       | String | EIP ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>     |

Table 5-11 Query parameter

| Parameter | Mandatory | Type  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fields    | No        | Array | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=owner&amp;..."</li><li>Supported fields: <b>id</b>, <b>project_id</b>, <b>ip_version</b>, <b>type</b>, <b>public_ip_address</b>, <b>public_ipv6_address</b>, <b>network_type</b>, <b>status</b>, <b>description</b>, <b>created_at</b>, <b>updated_at</b>, <b>vnid</b>, <b>bandwidth</b>, <b>associate_instance_type</b>, <b>associate_instance_id</b>, <b>lock_status</b>, <b>billing_info</b>, <b>tags</b>, <b>enterprise_project_id</b>, <b>publicip_pool_name</b>, <b>allow_share_bandwidth_types</b>, <b>alias</b>, <b>publicip_pool_id</b>, and <b>public_border_group</b>.</li></ul> |

Request Parameter

None

Response Parameters

Status code: 200

Table 5-12 Response body parameters

| Parameter  | Type                                 | Description                                            |
|------------|--------------------------------------|--------------------------------------------------------|
| request_id | String                               | Request ID.<br>Minimum length: 0<br>Maximum length: 36 |
| publicip   | <b>PublicipSingleShowResp</b> object | EIP.                                                   |

**Table 5-13** PublicipSingleShowResp

| Parameter           | Type    | Description                                                                                                                                                                                                                                                                             |
|---------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                  | String  | <ul style="list-style-type: none"><li>Unique ID of the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                             |
| project_id          | String  | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>32</b>                                                                                                                                                                       |
| ip_version          | Integer | <ul style="list-style-type: none"><li>IP address version.</li><li>The value can be:<ul style="list-style-type: none"><li><b>4</b>: IPv4 EIP</li><li><b>6</b>: IPv6 EIP</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>4</b></li><li><b>6</b></li></ul> |
| public_ip_address   | String  | <ul style="list-style-type: none"><li>EIP or IPv6 port address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                         |
| public_ipv6_address | String  | <ul style="list-style-type: none"><li>Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                           |
| network_type        | String  | <ul style="list-style-type: none"><li>Network type of an EIP. This parameter is discarded and is not displayed by default. It is inherited by <b>publicip_pool_name</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | String | <ul style="list-style-type: none"><li>• EIP status.</li><li>• The value can be:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>NOTIFYING</b></li><li>– <b>NOTIFY_DELETE</b></li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b></li></ul></li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>64</b><br/>Enumerated values:</p> <ul style="list-style-type: none"><li>• <b>FREEZED</b></li><li>• <b>BIND_ERROR</b></li><li>• <b>BINDING</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_CREATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFY_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>DOWN</b></li><li>• <b>ACTIVE</b></li><li>• <b>ELB</b></li><li>• <b>VPN</b></li><li>• <b>ERROR</b></li></ul> |
| description | String | <ul style="list-style-type: none"><li>• Supplementary information about the EIP.</li><li>• This is customized by users and is not perceived by the system.</li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>256</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter             | Type                                | Description                                                                                                                                                                                                                                                                                                  |
|-----------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group   | String                              | <ul style="list-style-type: none"><li>Whether the resource is in a central region or an edge site.</li><li>The value can be <b>center</b> or an edge site name.</li><li>This resource can only be associated with an EIP of the same region.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b> |
| created_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is assigned.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                        |
| updated_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                         |
| type                  | String                              | <ul style="list-style-type: none"><li>EIP type.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>EIP</b></li><li><b>DUALSTACK</b></li></ul>                                                                                    |
| vnic                  | <b>VnicInfo</b> object              | <ul style="list-style-type: none"><li>Port information of the instance with an EIP bound.</li><li>If the instance with an EIP bound does not depend on a port, the value is <b>null</b>.</li></ul>                                                                                                           |
| bandwidth             | <b>PublicipBandwidthInfo</b> object | Bandwidth bound to an EIP.                                                                                                                                                                                                                                                                                   |
| enterprise_project_id | String                              | Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                |

| Parameter               | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| billing_info            | String | <ul style="list-style-type: none"><li>Order information of an EIP.</li><li>Order information is available only for yearly/monthly resources. This parameter is left empty for pay-per-use resources.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                                                        |
| lock_status             | String | <ul style="list-style-type: none"><li>Frozen status of an EIP.</li><li>The metadata type indicates that the EIP is frozen due to arrears or abuse.</li><li>The value can be:<ul style="list-style-type: none"><li><b>police</b></li><li><b>locked</b></li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                              |
| associate_instance_type | String | <ul style="list-style-type: none"><li>Type of the instance bound with an EIP.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul> |
| associate_instance_id   | String | <ul style="list-style-type: none"><li>ID of the instance bound with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                                                                                                  |

| Parameter                   | Type                      | Description                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| publicip_pool_id            | String                    | <ul style="list-style-type: none"><li>ID of the network that an EIP belongs to. It is the network ID corresponding to <b>publicip_pool_name</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                          |
| publicip_pool_name          | String                    | <ul style="list-style-type: none"><li>Network type of an EIP, including public EIP pool (for example, <b>5_bgp</b> or <b>5_sbgp</b>) and dedicated EIP pool.</li><li>For details about the dedicated EIP pool, see the APIs about <b>publicip_pool</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                   |
| alias                       | String                    | <ul style="list-style-type: none"><li>EIP name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                                           |
| profile                     | <b>ProfileInfo</b> object | <ul style="list-style-type: none"><li>EIP and metadata. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                                                                                            |
| fake_network_type           | Boolean                   | <ul style="list-style-type: none"><li>Whether an EIP can change its BGP type. If the value is <b>true</b>, the EIP can change its BGP type. If the value is <b>false</b>, the EIP cannot change its BGP type. (The parameter is not displayed by default.)</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>true</b></li><li><b>false</b></li></ul>                                                  |
| tags                        | Array of strings          | <ul style="list-style-type: none"><li>User tag. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                                                                                                    |
| associate_instance_metadata | String                    | <ul style="list-style-type: none"><li>Record the upper-level ownership of an instance. For example, if <b>associate_instance_type</b> is set to <b>PORT</b>, this parameter records the <b>device_id</b> and <b>device_owner</b> information of the port. (This parameter only records information in limited scenarios and is not displayed by default.)</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b> |

| Parameter                   | Type             | Description                                                                                                                                                                                                                                                                                      |
|-----------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| associate_mode              | String           | <ul style="list-style-type: none"><li>Passthrough mode. The parameter is displayed only after the passthrough mode is enabled.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                   |
| allow_share_bandwidth_types | Array of strings | <ul style="list-style-type: none"><li>Types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</li><li>The EIP can be added only to the shared bandwidth of these types.</li></ul> Maximum length: <b>64</b> |
| cascade_delete_by_instance  | Boolean          | <ul style="list-style-type: none"><li>Whether an EIP can be released together with its instance. (The parameter is not displayed by default.)</li></ul>                                                                                                                                          |

**Table 5-14** VnicInfo

| Parameter          | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| private_ip_address | String | <ul style="list-style-type: none"><li>Private IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                    |
| device_id          | String | <ul style="list-style-type: none"><li>ID of the device that a port belongs to.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                         |
| device_owner       | String | <ul style="list-style-type: none"><li>Device that the port belongs to.</li><li>The value can be:<ul style="list-style-type: none"><li><b>network:dhcp</b></li><li><b>network:VIP_PORT</b></li><li><b>network:router_interface_distributed</b></li><li><b>network:router_centralized_snat</b></li></ul></li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |

| Parameter        | Type   | Description                                                                                                                                                                                                                            |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vpc_id           | String | <ul style="list-style-type: none"><li>VPC ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                          |
| port_id          | String | <ul style="list-style-type: none"><li>Port ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                         |
| port_profile     | String | <ul style="list-style-type: none"><li>Port profile.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                   |
| mac              | String | <ul style="list-style-type: none"><li>Port MAC address.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                          |
| vtep             | String | <ul style="list-style-type: none"><li>VTEP IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                 |
| vni              | String | <ul style="list-style-type: none"><li>VXLAN ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                        |
| instance_id      | String | <ul style="list-style-type: none"><li>ID of the instance that the port belongs to, for example, RDS instance ID.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| instance_type    | String | <ul style="list-style-type: none"><li>Type of the instance that the port belongs to, for example, RDS.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>           |
| port_vif_details | String | <ul style="list-style-type: none"><li>Details about the NIC virtual interface.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>255</b>                                                                                        |

**Table 5-15** PublicipBandwidthInfo

| Parameter    | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id           | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                             |
| size         | Integer | <ul style="list-style-type: none"><li>Bandwidth size.</li><li>The value ranges from 5 Mbit/s to 2000 Mbit/s by default.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                                                                                                                                                                                        |
| share_type   | String  | <ul style="list-style-type: none"><li>Whether the bandwidth is shared or dedicated.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li><li>IPv6 addresses do not support bandwidth whose type is <b>WHOLE</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                 |
| charge_mode  | String  | <ul style="list-style-type: none"><li>Whether the billing is based on traffic or bandwidth.</li><li>The value can be:<ul style="list-style-type: none"><li><b>bandwidth</b>: billed by bandwidth</li><li><b>traffic</b>: billed by traffic</li><li><b>95peak_plus</b>: billed by 95th percentile bandwidth (enhanced)</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| name         | String  | <ul style="list-style-type: none"><li>Bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                               |
| billing_info | String  | <ul style="list-style-type: none"><li>Billing information. If <b>billing_info</b> is specified, the bandwidth is billed on a yearly/monthly basis.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                             |

**Table 5-16** ProfileInfo

| Parameter          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_network_port | String  | <ul style="list-style-type: none"><li>• <b>port_id</b> in the <b>5_xxx</b> network (for example, <b>5_bgp</b>) of an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                   |
| standalone         | Boolean | <ul style="list-style-type: none"><li>• Whether an EIP is assigned together with a VM. If the value is <b>true</b>, the EIP is assigned independently. If the value is <b>false</b>, the EIP is assigned together with a VM.</li></ul>                                                                                                                                                                      |
| notify_status      | String  | <ul style="list-style-type: none"><li>• EIP assigning status. This parameter is only for internal use of the EIP service.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li>• <b>PENDING_CREATE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFIED</b></li><li>• <b>NOTIFY_DELETE</b></li></ul> |
| create_time        | String  | <ul style="list-style-type: none"><li>• Time when an EIP is assigned.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                       |
| fake_network_type  | Boolean | <ul style="list-style-type: none"><li>• Whether an EIP can change its BGP type. If the value is <b>true</b>, the EIP can change its BGP type. If the value is <b>false</b>, the EIP cannot change its BGP type.</li></ul> Enumerated values: <ul style="list-style-type: none"><li>• <b>true</b></li><li>• <b>false</b></li></ul>                                                                           |
| create_source      | String  | <ul style="list-style-type: none"><li>• Type of the resource purchased together with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated value: <ul style="list-style-type: none"><li>• <b>ecs</b></li></ul>                                                                                                                                                              |
| ecs_id             | String  | <ul style="list-style-type: none"><li>• ID of the ECS purchased together with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                       |

| Parameter      | Type                            | Description                                                                                                                                                                                                                                                      |
|----------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lock_status    | String                          | <ul style="list-style-type: none"><li>Lock status of an EIP, for example, <b>POLICE</b> (abuse), <b>LOCKED</b> (common issues), <b>ARREAR</b> (in arrears), and <b>DELABLE</b> (can be deleted).</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| freezed_status | String                          | <ul style="list-style-type: none"><li>EIP frozen status.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>FREEZED</b></li><li><b>UNFREEZED</b></li></ul>                           |
| bandwidth_info | <b>BandwidthInfoResp</b> object | <ul style="list-style-type: none"><li>Bandwidth bound to an EIP.</li></ul>                                                                                                                                                                                       |

**Table 5-17** BandwidthInfoResp

| Parameter        | Type    | Description                                                                                                                                                        |
|------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_name   | String  | <ul style="list-style-type: none"><li>Bandwidth name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                             |
| bandwidth_number | Integer | <ul style="list-style-type: none"><li>Bandwidth size (Mbit/s).</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                    |
| bandwidth_type   | String  | <ul style="list-style-type: none"><li>Bandwidth type.</li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>PER</b></li><li><b>WHOLE</b></li></ul> |
| bandwidth_id     | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                |

## Example Request

None

## Example Response

Status code: 200

Normal response to the GET operation

```
{
  "publicip": {
    "created_at": "2022-03-17T09:46:22Z",
    "updated_at": "2022-03-30T02:46:04Z",
    "lock_status": null,
    "allow_share_bandwidth_types": [ "bgp", "sbgp", "share", "share_yidongdanxian", "share_youxuan" ],
    "id": "006343a1-32bf-4361-958a-efd158153dd0",
    "alias": null,
    "project_id": "060576787a80d5762fa2c00f07ddfcf4",
    "ip_version": 4,
    "public_ip_address": "88.88.1.141",
    "public_ipv6_address": null,
    "status": "DOWN",
    "description": "",
    "enterprise_project_id": "0",
    "billing_info": null,
    "type": "EIP",
    "vnic": {
      "private_ip_address": "172.16.1.235",
      "device_id": "",
      "device_owner": "",
      "vpc_id": "1c30f428-9741-48b2-a788-0b2f359705eb",
      "port_id": "22d3576d-c042-4f3d-8c7c-1330a2724627",
      "mac": "fa:16:3e:3a:22:66",
      "vtep": null,
      "vni": null,
      "instance_id": "",
      "instance_type": "",
      "port_profile": null,
      "port_vif_details": ""
    },
    "bandwidth": {
      "id": "149ff19b-5de4-4436-958f-2eca39952e93",
      "size": 100,
      "share_type": "PER",
      "charge_mode": "traffic",
      "name": "bandwidth-xym-br-eqos",
      "billing_info": ""
    },
    "associate_instance_type": "PORT",
    "associate_instance_id": "22d3576d-c042-4f3d-8c7c-1330a2724627",
    "publicip_pool_id": "9af5f2e5-1765-4b86-b342-ece52e785c8b",
    "publicip_pool_name": "5_union",
    "public_border_group": "center",
    "tags": [ "key=value" ]
  },
  "request_id": "ce1a33a85d2e105040497a21bbe58c26"
}
```

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

### 5.1.3 Unbinding an EIP

#### Function

This API is used to unbind an EIP.

#### URI

POST /v3/{project\_id}/eip/publicips/{publicip\_id}/disassociate-instance

Table 5-18 Path parameters

| Parameter   | Mandatory | Type   | Description                                                          |
|-------------|-----------|--------|----------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>32</b> |
| publicip_id | Yes       | String | EIP ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>     |

#### Request Parameter

None

#### Response Parameters

Status code: 200

Table 5-19 Response body parameters

| Parameter  | Type                               | Description                                                          |
|------------|------------------------------------|----------------------------------------------------------------------|
| request_id | String                             | Request ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| publicip   | <b>PublicipInstanceResp</b> object | Response body of unbinding an EIP.                                   |

**Table 5-20** PublicIpInstanceResp

| Parameter         | Type    | Description                                                                                                                                                                                                                                                                             |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String  | <ul style="list-style-type: none"><li>Unique ID of the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                             |
| project_id        | String  | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>32</b>                                                                                                                                                                       |
| ip_version        | Integer | <ul style="list-style-type: none"><li>IP address version.</li><li>The value can be:<ul style="list-style-type: none"><li><b>4</b>: IPv4 EIP</li><li><b>6</b>: IPv6 EIP</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>4</b></li><li><b>6</b></li></ul> |
| public_ip_address | String  | <ul style="list-style-type: none"><li>EIP or IPv6 port address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                         |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | String | <ul style="list-style-type: none"><li>• EIP status.</li><li>• The value can be:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>NOTIFYING</b></li><li>– <b>NOTIFY_DELETE</b></li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b></li></ul></li></ul> <p>Enumerated values:</p> <ul style="list-style-type: none"><li>• <b>FREEZED</b></li><li>• <b>BIND_ERROR</b></li><li>• <b>BINDING</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_CREATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFY_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>DOWN</b></li><li>• <b>ACTIVE</b></li><li>• <b>ELB</b></li><li>• <b>ERROR</b></li><li>• <b>VPN</b></li></ul> |
| description | String | <ul style="list-style-type: none"><li>• Supplementary information about the EIP.</li><li>• This is customized by users and is not perceived by the system.</li></ul> <p>Minimum length: <b>1</b><br/>Maximum length: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter             | Type                                | Description                                                                                                                                                                                                                                                                                                                                |
|-----------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group   | String                              | <ul style="list-style-type: none"><li>Whether the resource is in a central region or an edge site.</li><li>The value can be <b>center</b> or an edge site name.</li><li>This resource can only be associated with an EIP of the same region.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b>                               |
| created_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is assigned.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul>                                                                                                                                                                                                            |
| updated_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul>                                                                                                                                                                                                             |
| type                  | String                              | <ul style="list-style-type: none"><li>EIP type.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>EIP</b></li><li><b>DUALSTACK</b></li></ul>                                                                                                                  |
| vnic                  | <b>VnicInfo</b> object              | <ul style="list-style-type: none"><li>Port information of the instance with an EIP bound.</li><li>If the instance with an EIP bound does not depend on a port, the value is <b>null</b>.</li></ul>                                                                                                                                         |
| bandwidth             | <b>PublicipBandwidthInfo</b> object | <ul style="list-style-type: none"><li>Bandwidth bound to an EIP.</li></ul>                                                                                                                                                                                                                                                                 |
| enterprise_project_id | String                              | <ul style="list-style-type: none"><li>Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| billing_info          | String                              | <ul style="list-style-type: none"><li>Order information of an EIP.</li><li>Order information is available only for yearly/monthly resources. This parameter is left empty for pay-per-use resources.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                      |

| Parameter               | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lock_status             | String | <ul style="list-style-type: none"><li>Frozen status of an EIP.</li><li>The metadata type indicates that the EIP is frozen due to arrears or abuse.</li><li>Value range: <b>police</b> or <b>locked</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                  |
| associate_instance_type | String | <ul style="list-style-type: none"><li>Type of the instance bound with an EIP.</li><li>Value range: <b>PORT</b>, <b>NATGW</b>, <b>ELB</b>, <b>ELBV1</b>, <b>VPN</b> or <b>null</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul> |
| associate_instance_id   | String | <ul style="list-style-type: none"><li>ID of the instance bound with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                             |
| publicip_pool_id        | String | <ul style="list-style-type: none"><li>ID of the network that an EIP belongs to. Network ID corresponding to <b>publicip_pool_name</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                   |
| publicip_pool_name      | String | <ul style="list-style-type: none"><li>Network type of an EIP, including public EIP pool (for example, <b>5_bgp</b> or <b>5_sbgp</b>) and dedicated EIP pool.</li><li>For details about the dedicated EIP pool, see the APIs about <b>publicip_pool</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                 |
| alias                   | String | <ul style="list-style-type: none"><li>EIP name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                                                         |

**Table 5-21** VnicInfo

| Parameter          | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| private_ip_address | String | <ul style="list-style-type: none"><li>Private IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                    |
| device_id          | String | <ul style="list-style-type: none"><li>ID of the device that a port belongs to.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                         |
| device_owner       | String | <ul style="list-style-type: none"><li>Device that the port belongs to.</li><li>The value can be:<ul style="list-style-type: none"><li><b>network:dhcp</b></li><li><b>network:VIP_PORT</b></li><li><b>network:router_interface_distributed</b></li><li><b>network:router_centralized_snat</b></li></ul></li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| vpc_id             | String | <ul style="list-style-type: none"><li>VPC ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                                |
| port_id            | String | <ul style="list-style-type: none"><li>Port ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                               |
| port_profile       | String | <ul style="list-style-type: none"><li>Port profile.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                                                                                                         |
| mac                | String | <ul style="list-style-type: none"><li>Port MAC address.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                |
| vtep               | String | <ul style="list-style-type: none"><li>VTEP IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                       |

| Parameter        | Type   | Description                                                                                                                                                                                                                            |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vni              | String | <ul style="list-style-type: none"><li>VXLAN ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                        |
| instance_id      | String | <ul style="list-style-type: none"><li>ID of the instance that the port belongs to, for example, RDS instance ID.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| instance_type    | String | <ul style="list-style-type: none"><li>Type of the instance that the port belongs to, for example, RDS.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>           |
| port_vif_details | String | <ul style="list-style-type: none"><li>Details about the NIC virtual interface.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>255</b>                                                                                        |

**Table 5-22** PublicipBandwidthInfo

| Parameter | Type    | Description                                                                                                                                                                              |
|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                      |
| size      | Integer | <ul style="list-style-type: none"><li>Bandwidth size.</li><li>The value ranges from 5 Mbit/s to 2000 Mbit/s by default.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b> |

| Parameter    | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| share_type   | String | <ul style="list-style-type: none"><li>Whether the bandwidth is shared or dedicated.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li><li>IPv6 addresses do not support bandwidth whose type is <b>WHOLE</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                 |
| charge_mode  | String | <ul style="list-style-type: none"><li>Whether the billing is based on traffic or bandwidth.</li><li>The value can be:<ul style="list-style-type: none"><li><b>bandwidth</b>: billed by bandwidth</li><li><b>traffic</b>: billed by traffic</li><li><b>95peak_plus</b>: billed by 95th percentile bandwidth (enhanced)</li></ul></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| name         | String | <ul style="list-style-type: none"><li>Bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                               |
| billing_info | String | <ul style="list-style-type: none"><li>Billing information. If <b>billing_info</b> is specified, the bandwidth is billed on a yearly/monthly basis.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                             |

## Example Request

None

## Example Response

**Status code: 200**

Normal response to POST requests

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

# 5.1.4 Binding an EIP

## Function

This API is used to bind an EIP.

## URI

POST /v3/{project\_id}/eip/publicips/{publicip\_id}/associate-instance

**Table 5-23** Path parameters

| Parameter   | Mandatory | Type   | Description                                                          |
|-------------|-----------|--------|----------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>32</b> |
| publicip_id | Yes       | String | EIP ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>     |

## Request Parameters

**Table 5-24** Request body parameter

| Parameter | Mandatory | Type                                            | Description |
|-----------|-----------|-------------------------------------------------|-------------|
| publicip  | Yes       | <a href="#">AssociatePublicipsOption</a> object | EIP object. |

**Table 5-25** AssociatePublicIpsOption

| Parameter               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| associate_instance_type | Yes       | String | <ul style="list-style-type: none"><li>Type of the instance that the port belongs to.</li><li>The value can be <b>PORT</b>, <b>NATGW</b>, <b>VPN</b>, or <b>ELB</b>.</li><li>Constraints:<ul style="list-style-type: none"><li>If neither <b>associate_instance_type</b> nor <b>associate_instance_id</b> is left empty, the instance is bound.</li><li><b>associate_instance_type</b> cannot be empty.</li><li>A dual-stack EIP cannot have its bound instance changed.</li></ul></li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>36</b><br/>Enumerated values:</p> <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>VPN</b></li><li><b>ELB</b></li></ul> |
| associate_instance_id   | Yes       | String | <ul style="list-style-type: none"><li>ID of the instance that the port belongs to, for example, RDS instance ID.</li><li>Constraints:<ul style="list-style-type: none"><li>If neither <b>associate_instance_type</b> nor <b>associate_instance_id</b> is left empty, the instance is bound.</li><li><b>associate_instance_id</b> cannot be empty.</li><li>A dual-stack EIP cannot have its bound instance changed.</li></ul></li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>36</b></p>                                                                                                                                                                                                    |

## Response Parameters

Status code: 200

Table 5-26 Response body parameters

| Parameter  | Type                      | Description                                            |
|------------|---------------------------|--------------------------------------------------------|
| request_id | String                    | Request ID.<br>Minimum length: 0<br>Maximum length: 36 |
| publicip   | PublicInstanceResp object | Response body of binding an EIP.                       |

Table 5-27 PublicInstanceResp

| Parameter         | Type    | Description                                                                                                                                                                                                                                                 |
|-------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String  | <ul style="list-style-type: none"><li>Unique ID of the EIP.</li></ul> Minimum length: 0<br>Maximum length: 36                                                                                                                                               |
| project_id        | String  | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: 0<br>Maximum length: 32                                                                                                                                                         |
| ip_version        | Integer | <ul style="list-style-type: none"><li>IP address version.</li><li>The value can be:<ul style="list-style-type: none"><li>4: IPv4 EIP</li><li>6: IPv6 EIP</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li>4</li><li>6</li></ul> |
| public_ip_address | String  | <ul style="list-style-type: none"><li>EIP or IPv6 port address.</li></ul> Minimum length: 0<br>Maximum length: 36                                                                                                                                           |

| Parameter   | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | String | <ul style="list-style-type: none"><li>• EIP status.</li><li>• The value can be:<ul style="list-style-type: none"><li>– <b>FREEZED</b> (Frozen)</li><li>– <b>BIND_ERROR</b> (Binding failed)</li><li>– <b>BINDING</b> (Binding)</li><li>– <b>PENDING_DELETE</b> (Releasing)</li><li>– <b>PENDING_CREATE</b> (Assigning)</li><li>– <b>NOTIFYING</b></li><li>– <b>NOTIFY_DELETE</b></li><li>– <b>PENDING_UPDATE</b> (Updating)</li><li>– <b>DOWN</b> (Unbound)</li><li>– <b>ACTIVE</b> (Bound)</li><li>– <b>ELB</b> (Bound to a load balancer)</li><li>– <b>VPN</b> (Bound to a VPN)</li><li>– <b>ERROR</b></li></ul></li></ul> <p>Enumerated values:</p> <ul style="list-style-type: none"><li>• <b>FREEZED</b></li><li>• <b>BIND_ERROR</b></li><li>• <b>BINDING</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_CREATE</b></li><li>• <b>NOTIFYING</b></li><li>• <b>NOTIFY_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>DOWN</b></li><li>• <b>ACTIVE</b></li><li>• <b>ELB</b></li><li>• <b>ERROR</b></li><li>• <b>VPN</b></li></ul> |
| description | String | <ul style="list-style-type: none"><li>• Supplementary information about the EIP.</li><li>• This is customized by users and is not perceived by the system.</li></ul> <p>Minimum length: <b>1</b><br/>Maximum length: <b>255</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter             | Type                                | Description                                                                                                                                                                                                                                                                                                                                |
|-----------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| public_border_group   | String                              | <ul style="list-style-type: none"><li>Whether the resource is in a central region or an edge site.</li><li>The value can be <b>center</b> or an edge site name.</li><li>This resource can only be associated with an EIP of the same region.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b>                               |
| created_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is assigned.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul>                                                                                                                                                                                                            |
| updated_at            | String                              | <ul style="list-style-type: none"><li>Time (UTC) when an EIP is updated.</li><li>Format: <i>yyyy-MM-ddTHH:mm:ssZ</i></li></ul>                                                                                                                                                                                                             |
| type                  | String                              | <ul style="list-style-type: none"><li>EIP type</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>EIP</b></li><li><b>DUALSTACK</b></li></ul>                                                                                                                   |
| vnic                  | <b>VnicInfo</b> object              | <ul style="list-style-type: none"><li>Port information of the instance with an EIP bound.</li><li>If the instance with an EIP bound does not depend on a port, the value is <b>null</b>.</li></ul>                                                                                                                                         |
| bandwidth             | <b>PublicipBandwidthInfo</b> object | <ul style="list-style-type: none"><li>Bandwidth bound to an EIP.</li></ul>                                                                                                                                                                                                                                                                 |
| enterprise_project_id | String                              | <ul style="list-style-type: none"><li>Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| billing_info          | String                              | <ul style="list-style-type: none"><li>Order information of an EIP.</li><li>Order information is available only for yearly/monthly resources. This parameter is left empty for pay-per-use resources.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                      |

| Parameter               | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lock_status             | String | <ul style="list-style-type: none"><li>Frozen status of an EIP.</li><li>The metadata type indicates that the EIP is frozen due to arrears or abuse.</li><li>Value range: <b>police</b> or <b>locked</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                  |
| associate_instance_type | String | <ul style="list-style-type: none"><li>Type of the instance bound with an EIP.</li><li>Value range: <b>PORT</b>, <b>NATGW</b>, <b>ELB</b>, <b>ELBV1</b>, <b>VPN</b> or <b>null</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b><br>Enumerated values: <ul style="list-style-type: none"><li><b>PORT</b></li><li><b>NATGW</b></li><li><b>ELB</b></li><li><b>ELBV1</b></li><li><b>VPN</b></li><li><b>null</b></li></ul> |
| associate_instance_id   | String | <ul style="list-style-type: none"><li>ID of the instance bound with an EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                             |
| publicip_pool_id        | String | <ul style="list-style-type: none"><li>ID of the network that an EIP belongs to. Network ID corresponding to <b>publicip_pool_name</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                   |
| publicip_pool_name      | String | <ul style="list-style-type: none"><li>Network type of an EIP, including public EIP pool (for example, <b>5_bgp</b> or <b>5_sbgp</b>) and dedicated EIP pool.</li><li>For details about the dedicated EIP pool, see the APIs about <b>publicip_pool</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                 |
| alias                   | String | <ul style="list-style-type: none"><li>EIP name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                                                                                         |

**Table 5-28** VnicInfo

| Parameter          | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| private_ip_address | String | <ul style="list-style-type: none"><li>Private IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                    |
| device_id          | String | <ul style="list-style-type: none"><li>ID of the device that a port belongs to.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                         |
| device_owner       | String | <ul style="list-style-type: none"><li>Device that the port belongs to.</li><li>The value can be:<ul style="list-style-type: none"><li><b>network:dhcp</b></li><li><b>network:VIP_PORT</b></li><li><b>network:router_interface_distributed</b></li><li><b>network:router_centralized_snat</b></li></ul></li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| vpc_id             | String | <ul style="list-style-type: none"><li>VPC ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                                |
| port_id            | String | <ul style="list-style-type: none"><li>Port ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                               |
| port_profile       | String | <ul style="list-style-type: none"><li>Port profile.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                                                                                                         |
| mac                | String | <ul style="list-style-type: none"><li>Port MAC address.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                                                                |
| vtep               | String | <ul style="list-style-type: none"><li>VTEP IP address.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                                       |

| Parameter        | Type   | Description                                                                                                                                                                                                                            |
|------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vni              | String | <ul style="list-style-type: none"><li>VXLAN ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                        |
| instance_id      | String | <ul style="list-style-type: none"><li>ID of the instance that the port belongs to, for example, RDS instance ID.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| instance_type    | String | <ul style="list-style-type: none"><li>Type of the instance that the port belongs to, for example, RDS.</li><li>The system automatically sets this parameter.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>           |
| port_vif_details | String | <ul style="list-style-type: none"><li>Details about the NIC virtual interface.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>255</b>                                                                                        |

**Table 5-29** PublicipBandwidthInfo

| Parameter | Type    | Description                                                                                                                                                                              |
|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | String  | <ul style="list-style-type: none"><li>Bandwidth ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                      |
| size      | Integer | <ul style="list-style-type: none"><li>Bandwidth size.</li><li>The value ranges from 5 Mbit/s to 2000 Mbit/s by default.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b> |

| Parameter    | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| share_type   | String | <ul style="list-style-type: none"><li>Whether the bandwidth is shared or dedicated.</li><li>The value can be:<ul style="list-style-type: none"><li><b>PER</b>: Dedicated bandwidth</li><li><b>WHOLE</b>: Shared bandwidth</li></ul></li><li>IPv6 addresses do not support bandwidth whose type is <b>WHOLE</b>.</li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>36</b></p>                 |
| charge_mode  | String | <ul style="list-style-type: none"><li>Whether the billing is based on traffic or bandwidth.</li><li>The value can be:<ul style="list-style-type: none"><li><b>bandwidth</b>: billed by bandwidth</li><li><b>traffic</b>: billed by traffic</li><li><b>95peak_plus</b>: billed by 95th percentile bandwidth (enhanced)</li></ul></li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>36</b></p> |
| name         | String | <ul style="list-style-type: none"><li>Bandwidth name.</li><li>The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).</li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>64</b></p>                                                                                                                                               |
| billing_info | String | <ul style="list-style-type: none"><li>Billing information. If <b>billing_info</b> is specified, the bandwidth is billed on a yearly/monthly basis.</li></ul> <p>Minimum length: <b>0</b><br/>Maximum length: <b>256</b></p>                                                                                                                                                                             |

## Example Request

```
{
  "publicip" : {
    "associate_instance_id" : "921b9dc7-8151-41e1-b83c-d50fe959592a",
    "associate_instance_type" : "PORT"
  }
}
```

## Example Response

**Status code: 200**

Normal response to POST requests

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

# 5.1.5 Querying the Number of Available EIPs

## Function

This API is used to query the number of available EIP in an EIP pool.

## URI

POST /v3/{project\_id}/eip/resources/available

**Table 5-30** Path parameter

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| project_id | Yes       | String | Project ID. |

## Request Parameters

**Table 5-31** Request body parameters

| Parameter | Mandatory | Type    | Description                              |
|-----------|-----------|---------|------------------------------------------|
| type      | No        | String  | EIP pool type.                           |
| limit     | Yes       | Integer | Number of available EIPs in an EIP pool. |

## Response Parameter

**Status code: 200**

**Table 5-32** Response body parameter

| Parameter | Type    | Description                                                      |
|-----------|---------|------------------------------------------------------------------|
| result    | Integer | <ul style="list-style-type: none"><li>Returned result.</li></ul> |

### Example Request

```
{
  "limit" : 5,
  "type" : "5_bgp"
}
```

### Example Response

```
Status code: 200

OK

{
  "result" : 5
}
```

### Status Codes

See [Status Codes](#).

### Error Codes

See [Error Codes](#).

## 5.2 Shared Bandwidth Types

### 5.2.1 Querying Shared Bandwidth Types of a Specified Tenant

#### Function

This API is used to query shared bandwidth types of a specified tenant.

#### URI

GET /v3/{project\_id}/eip/share-bandwidth-types

**Table 5-33** Path parameter

| Parameter  | Mandatory | Type   | Description                                                                                                       |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>32</b> |

**Table 5-34** Query parameters

| Parameter           | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                               |
|---------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fields              | No        | String | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=bandwidth_type&amp;..."</li><li>Supported fields: <b>id</b>, <b>bandwidth_type</b>, <b>name_en</b>, <b>name_zh</b>, <b>created_at</b>, <b>update_at</b>, <b>public_border_group</b>, and <b>description</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b> |
| id                  | No        | String | <ul style="list-style-type: none"><li>Bandwidth type ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                  |
| bandwidth_type      | No        | String | <ul style="list-style-type: none"><li>Bandwidth type.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                     |
| name_en             | No        | String | <ul style="list-style-type: none"><li>Bandwidth type in English.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                         |
| name_zh             | No        | String | <ul style="list-style-type: none"><li>Bandwidth type in Chinese.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                                                                                                                                                                                                         |
| public_border_group | No        | String | <ul style="list-style-type: none"><li>Whether the bandwidth type is in a central region or an edge site.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                  |
| sort_key            | No        | String | <ul style="list-style-type: none"><li>Sort. Format: "sort_key=id&amp;sort_dir=asc"</li><li>Supported fields: <b>id</b>, <b>bandwidth_type</b>, and <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b>                                                                                                          |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                |
|-----------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sort_dir  | No        | String  | <ul style="list-style-type: none"><li>Sorting direction.</li><li>The value can be <b>asc</b> or <b>desc</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b>                                                              |
| limit     | No        | Integer | <ul style="list-style-type: none"><li>Number of records returned on each page.</li><li>The value ranges from <b>0</b> to <b>2,000</b>. The maximum value varies by region.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>2000</b> |

Request Parameter

None

Response Parameters

Status code: 200

Table 5-35 Response body parameters

| Parameter             | Type                                                        | Description                         |
|-----------------------|-------------------------------------------------------------|-------------------------------------|
| share_bandwidth_types | Array of <a href="#">ShareBandwidthTypeShowResp</a> objects | Shared bandwidth type.              |
| request_id            | String                                                      | Request ID.                         |
| page_info             | <a href="#">PageInfoOption</a> object                       | Pagination page number information. |

Table 5-36 ShareBandwidthTypeShowResp

| Parameter | Type   | Description                                                                 |
|-----------|--------|-----------------------------------------------------------------------------|
| id        | String | Bandwidth type ID.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b> |

| Parameter           | Type   | Description                                                                                                                  |
|---------------------|--------|------------------------------------------------------------------------------------------------------------------------------|
| bandwidth_type      | String | Bandwidth type.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                     |
| public_border_group | String | Central region or edge site. The parameter is displayed by default.<br>Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| created_at          | String | Assigning time<br>Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                      |
| updated_at          | String | Update time<br>Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                         |
| name_en             | String | Bandwidth type in English.<br>Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                         |
| name_zh             | String | Bandwidth type in Chinese.<br>Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                         |
| description         | String | Bandwidth type description.<br>Minimum length: <b>0</b><br>Maximum length: <b>1024</b>                                       |

**Table 5-37** PageInfoOption

| Parameter       | Type    | Description                                                                                                 |
|-----------------|---------|-------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Marker value of the previous page.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                 |
| next_marker     | String  | Marker value of the next page.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                     |
| current_count   | Integer | Total number of data records on the current page.<br>Minimum value: <b>0</b><br>Maximum value: <b>99999</b> |

## Example Request

None

## Example Response

**Status code: 200**

Normal response to the GET operation

```
{
  "share_bandwidth_types" : [ {
    "id" : "1b478471-eaf1-4a71-9c77-edba89f62016",
    "bandwidth_type" : "share",
    "name_en" : "share_bandwidth_type",
    "description" : null,
    "created_at" : "2021-09-29T04:19:22Z",
    "updated_at" : "2021-09-29T04:19:22Z",
    "public_border_group" : "center"
  }, {
    "id" : "2bbb2990-e908-46a7-b664-03d3084af032",
    "bandwidth_type" : "edgeshare",
    "name_en" : "edge_share_bandwidth_type",
    "description" : null,
    "created_at" : "2021-09-29T04:19:22Z",
    "updated_at" : "2021-09-29T04:19:22Z",
    "public_border_group" : "az1"
  } ],
  "request_id" : "07f05e3d-b688-43f8-bda2-e9d10d2352e9",
  "page_info" : {
    "previous_marker" : "1b478471-eaf1-4a71-9c77-edba89f62016",
    "current_count" : 2
  }
}
```

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

# 5.3 Common Pools

## 5.3.1 Querying Common Pools

### Function

This API is used to query common pools.

### URI

GET /v3/{project\_id}/eip/publicip-pools/common-pools

**Table 5-38** Path parameter

| Parameter  | Mandatory | Type   | Description                                                                                                       |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>32</b> |

**Table 5-39** Query parameters

| Parameter           | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                               |
|---------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fields              | No        | String | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=name&amp;..."</li><li>Supported fields: <b>id</b>, <b>name</b>, <b>status</b>, <b>type</b>, <b>used</b>, <b>allow_share_bandwidth_types</b>, and <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b> |
| name                | No        | String | <ul style="list-style-type: none"><li>Common pool name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                   |
| public_border_group | No        | String | <ul style="list-style-type: none"><li>Whether the common pool is in a central region or an edge site.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                     |

## Request Parameter

None

## Response Parameters

**Status code: 200**

**Table 5-40** Response body parameters

| Parameter    | Type                                   | Description  |
|--------------|----------------------------------------|--------------|
| common_pools | Array of <b>CommonPoolDict</b> objects | Common pool. |

| Parameter  | Type   | Description |
|------------|--------|-------------|
| request_id | String | Request ID. |

**Table 5-41** CommonPoolDict

| Parameter                   | Type             | Description                                                                                                                                                                                                                                                                                                  |
|-----------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name                        | String           | <ul style="list-style-type: none"><li>Common pool name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                      |
| status                      | String           | <ul style="list-style-type: none"><li>Common pool status</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                     |
| type                        | String           | <ul style="list-style-type: none"><li>Common pool type, such as <b>bgp</b> and <b>sbgp</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                  |
| used                        | Integer          | <ul style="list-style-type: none"><li>Number of used EIPs.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>99999</b>                                                                                                                                                                                  |
| public_border_group         | String           | <ul style="list-style-type: none"><li>Whether the resource is in a central region or an edge site.</li><li>The value can be <b>center</b> or an edge site name.</li><li>This resource can only be associated with an EIP of the same region.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>64</b> |
| id                          | String           | <ul style="list-style-type: none"><li>Common pool ID. The parameter is not displayed by default.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                             |
| allow_share_bandwidth_types | Array of strings | <ul style="list-style-type: none"><li>Types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</li><li>The EIP can be added only to the shared bandwidth of these types.</li></ul> Maximum length: <b>64</b>             |

### Example Request

None

### Example Response

Status code: 200  
Normal response to the GET operation

```
{
  "common_pools": [ {
    "name": "5_bgp",
    "status": "active",
    "type": "bgp",
    "used": 99,
    "public_border_group": "center",
    "allow_share_bandwidth_types": [ "share" ]
  } ],
  "request_id": "4a06c169-cc67-4d94-a786-2d70ef09b100"
}
```

### Status Codes

See [Status Codes](#).

### Error Codes

See [Error Codes](#).

## 5.3.2 Querying EIP Pools

### Function

This API is used to query EIP pools.

### URI

GET /v3/{project\_id}/eip/publicip-pools

Table 5-42 Path parameter

| Parameter  | Mandatory | Type   | Description                                                                                         |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <ul style="list-style-type: none"><li>Project ID.</li></ul> Minimum length: 0<br>Maximum length: 32 |

**Table 5-43** Query parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String  | <ul style="list-style-type: none"><li>Start resource ID of pagination query. If the parameter is left blank, only resources on the first page are queried.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                                                                           |
| limit     | No        | Integer | <ul style="list-style-type: none"><li>Number of records returned on each page.</li><li>The value ranges from <b>0</b> to <b>2,000</b>. The maximum value varies by region.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>2000</b>                                                                                                                                                                                                                                                                           |
| fields    | No        | String  | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=name&amp;..."</li><li>Supported fields: <b>id</b>, <b>name</b>, <b>size</b>, <b>used</b>, <b>project_id</b>, <b>status</b>, <b>billing_info</b>, <b>created_at</b>, <b>updated_at</b>, <b>type</b>, <b>shared</b>, <b>is_common</b>, <b>description</b>, <b>tags</b>, <b>enterprise_project_id</b>, <b>allow_share_bandwidth_types</b>, and <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b> |
| sort_key  | No        | String  | <ul style="list-style-type: none"><li>Sort. Format: "sort_key=id&amp;sort_dir=asc"</li><li>Supported fields: <b>id</b>, <b>name</b>, <b>created_at</b>, <b>updated_at</b>, and <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                                                                           |
| sort_dir  | No        | String  | <ul style="list-style-type: none"><li>Sorting direction.</li><li>The value can be <b>asc</b> or <b>desc</b></li></ul> Minimum length: <b>0</b><br>Maximum length: <b>16</b>                                                                                                                                                                                                                                                                                                                                          |

| Parameter           | Mandatory | Type    | Description                                                                                                                                 |
|---------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
| id                  | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>id</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                  |
| name                | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>name</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>128</b>               |
| size                | No        | Integer | <ul style="list-style-type: none"><li>Filter by <b>size</b>.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>999999</b>              |
| status              | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>status</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>              |
| type                | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>type</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                |
| description         | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>description</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b>       |
| public_border_group | No        | String  | <ul style="list-style-type: none"><li>Filter by <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |

Request Parameter

None

Response Parameters

Status code: 200

Table 5-44 Response body parameters

| Parameter      | Type                                          | Description |
|----------------|-----------------------------------------------|-------------|
| publicip_pools | Array of <b>PublicipPoolS howResp</b> objects | EIP pool.   |

| Parameter  | Type                                  | Description                         |
|------------|---------------------------------------|-------------------------------------|
| request_id | String                                | Request ID.                         |
| page_info  | <a href="#">PageInfoOption</a> object | Pagination page number information. |

**Table 5-45** PublicipPoolShowResp

| Parameter   | Type    | Description                                                                                                                                                                                                                                                                                                   |
|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String  | <ul style="list-style-type: none"><li>EIP pool ID.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                                                                                                            |
| name        | String  | <ul style="list-style-type: none"><li>EIP pool name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                          |
| status      | String  | <ul style="list-style-type: none"><li>EIP pool status.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                        |
| type        | String  | <ul style="list-style-type: none"><li>EIP pool type.</li><li>The value can be:<ul style="list-style-type: none"><li><b>spec_bgp</b>: Dynamic</li><li><b>spec_sbgp</b>: Static</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>spec_bgp</b></li><li><b>spec_sbgp</b></li></ul> |
| description | String  | <ul style="list-style-type: none"><li>Supplementary information about the EIP pool.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b>                                                                                                                                                         |
| project_id  | String  | <ul style="list-style-type: none"><li>Tenant ID.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                                                                                                              |
| size        | Integer | <ul style="list-style-type: none"><li>EIP pool size.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>999999</b>                                                                                                                                                                                        |
| used        | Integer | <ul style="list-style-type: none"><li>Number of used EIPs.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>999999</b>                                                                                                                                                                                  |

| Parameter                   | Type                                      | Description                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created_at                  | String                                    | <ul style="list-style-type: none"><li>Time when an EIP pool is assigned.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                   |
| updated_at                  | String                                    | <ul style="list-style-type: none"><li>Time when an EIP pool is updated.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                    |
| billing_info                | <a href="#">BillingInfoDict</a> object    | Order information, which is available only for yearly/monthly resources.                                                                                                                                                                                                                                                                   |
| public_border_group         | String                                    | <ul style="list-style-type: none"><li>Whether the EIP pool is in a central region or an edge site. The value can be <b>center</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                         |
| shared                      | Boolean                                   | <ul style="list-style-type: none"><li>Whether the EIP pool is shared.</li></ul>                                                                                                                                                                                                                                                            |
| is_common                   | Boolean                                   | <ul style="list-style-type: none"><li>Whether the EIP pool is a common pool.</li></ul>                                                                                                                                                                                                                                                     |
| tags                        | Array of <a href="#">TagsInfo</a> objects | <ul style="list-style-type: none"><li>User tag. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                     |
| enterprise_project_id       | String                                    | <ul style="list-style-type: none"><li>Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| allow_share_bandwidth_types | Array of strings                          | <ul style="list-style-type: none"><li>Types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</li><li>The EIP can be added only to the shared bandwidth of these types.</li></ul> Maximum length: <b>64</b>                                           |

Table 5-46 BillingInfoDict

| Parameter  | Type   | Description                                                                                                              |
|------------|--------|--------------------------------------------------------------------------------------------------------------------------|
| order_id   | String | <ul style="list-style-type: none"><li>Order information.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| product_id | String | <ul style="list-style-type: none"><li>Product ID.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>        |

Table 5-47 TagsInfo

| Parameter | Type   | Description                                                                                                                                          |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <ul style="list-style-type: none"><li>Key. The tag key of a resource must be unique.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b> |
| value     | String | <ul style="list-style-type: none"><li>Values.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>256</b>                                       |

Table 5-48 PageInfoOption

| Parameter       | Type    | Description                                                                                                 |
|-----------------|---------|-------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Marker value of the previous page.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                 |
| next_marker     | String  | Marker value of the next page.<br>Minimum length: <b>0</b><br>Maximum length: <b>36</b>                     |
| current_count   | Integer | Total number of data records on the current page.<br>Minimum value: <b>0</b><br>Maximum value: <b>99999</b> |

Example Request

None

## Example Response

**Status code: 200**

Normal response to the GET operation

```
{
  "publicip_pools" : [ {
    "id" : "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "name" : "test_pool_xxx",
    "status" : "active",
    "shared" : true,
    "is_common" : false,
    "enterprise_project_id" : 0,
    "type" : "spec_bgp",
    "project_id" : "8b7e35ad379141fc9df3e178bd64f55c",
    "size" : 100,
    "used" : 20,
    "billing_info" : {
      "order_id" : "CS20081917179HW3H",
      "product_id" : "00301-335034-0--0"
    },
    "created_at" : "2020-07-17T09:25:53Z",
    "updated_at" : "2020-07-17T09:25:53Z",
    "description" : "test",
    "public_border_group" : "center",
    "allow_share_bandwidth_types" : [ "share" ]
  } ],
  "request_id" : "4a06c169-cc67-4d94-a786-2d70ef09b100",
  "page_info" : {
    "previous_marker" : "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "current_count" : 1
  }
}
```

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

## 5.3.3 Querying EIP Pool Details

### Function

This API is used to query EIP pool details.

### URI

GET /v3/{project\_id}/eip/publicip-pools/{publicip\_pool\_id}

Table 5-49 Path parameters

| Parameter        | Mandatory | Type   | Description                                                                                                    |
|------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------|
| project_id       | Yes       | String | Project ID.<br>Minimum length: <b>1</b><br>Maximum length: <b>32</b>                                           |
| publicip_pool_id | Yes       | String | EIP pool ID, which uniquely identifies the EIP pool.<br>Minimum length: <b>36</b><br>Maximum length: <b>36</b> |

Table 5-50 Query parameter

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fields    | No        | String | <ul style="list-style-type: none"><li>Field. Format: "fields=id&amp;fields=name&amp;..."</li><li>Supported fields: <b>id</b>, <b>name</b>, <b>size</b>, <b>used</b>, <b>project_id</b>, <b>status</b>, <b>billing_info</b>, <b>created_at</b>, <b>updated_at</b>, <b>type</b>, <b>shared</b>, <b>is_common</b>, <b>description</b>, <b>tags</b>, <b>enterprise_project_id</b>, <b>allow_share_bandwidth_types</b>, and <b>public_border_group</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b> |

Request Parameter

None

Response Parameters

Status code: 200

Table 5-51 Response body parameters

| Parameter     | Type                                             | Description       |
|---------------|--------------------------------------------------|-------------------|
| publicip_pool | <b>PublicipPools</b><br><b>howResp</b><br>object | EIP pool details. |

| Parameter  | Type   | Description |
|------------|--------|-------------|
| request_id | String | Request ID. |

**Table 5-52** PublicipPoolShowResp

| Parameter   | Type    | Description                                                                                                                                                                                                                                                                                                   |
|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id          | String  | <ul style="list-style-type: none"><li>EIP pool ID.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                                                                                                            |
| name        | String  | <ul style="list-style-type: none"><li>EIP pool name.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                          |
| status      | String  | <ul style="list-style-type: none"><li>EIP pool status.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b>                                                                                                                                                                                        |
| type        | String  | <ul style="list-style-type: none"><li>EIP pool type.</li><li>The value can be:<ul style="list-style-type: none"><li><b>spec_bgp</b>: Dynamic</li><li><b>spec_sbgp</b>: Static</li></ul></li></ul> Enumerated values: <ul style="list-style-type: none"><li><b>spec_bgp</b></li><li><b>spec_sbgp</b></li></ul> |
| description | String  | <ul style="list-style-type: none"><li>Supplementary information about the EIP pool.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>1024</b>                                                                                                                                                         |
| project_id  | String  | <ul style="list-style-type: none"><li>Tenant ID.</li></ul> Minimum length: <b>1</b><br>Maximum length: <b>36</b>                                                                                                                                                                                              |
| size        | Integer | <ul style="list-style-type: none"><li>EIP pool size.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>999999</b>                                                                                                                                                                                        |
| used        | Integer | <ul style="list-style-type: none"><li>Number of used EIPs.</li></ul> Minimum value: <b>0</b><br>Maximum value: <b>999999</b>                                                                                                                                                                                  |

| Parameter                   | Type                                      | Description                                                                                                                                                                                                                                                                                                                                |
|-----------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| created_at                  | String                                    | <ul style="list-style-type: none"><li>Time when an EIP pool is assigned.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                   |
| updated_at                  | String                                    | <ul style="list-style-type: none"><li>Time when an EIP pool is updated.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                                                                                    |
| billing_info                | <a href="#">BillingInfoDict</a> object    | Order information, which is available only for yearly/monthly resources.                                                                                                                                                                                                                                                                   |
| public_border_group         | String                                    | <ul style="list-style-type: none"><li>Whether the EIP pool is in a central region or an edge site. The value can be <b>center</b>.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>64</b>                                                                                                                                         |
| shared                      | Boolean                                   | <ul style="list-style-type: none"><li>Whether the EIP pool is shared.</li></ul>                                                                                                                                                                                                                                                            |
| is_common                   | Boolean                                   | <ul style="list-style-type: none"><li>Whether the EIP pool is a common pool.</li></ul>                                                                                                                                                                                                                                                     |
| tags                        | Array of <a href="#">TagsInfo</a> objects | <ul style="list-style-type: none"><li>User tag. (The parameter is not displayed by default.)</li></ul>                                                                                                                                                                                                                                     |
| enterprise_project_id       | String                                    | <ul style="list-style-type: none"><li>Enterprise project ID. The value is <b>0</b> or a string that contains a maximum of 36 characters in UUID format with hyphens (-). This is the ID of the enterprise project that you associate with the EIP when you assign the EIP.</li></ul> Minimum length: <b>0</b><br>Maximum length: <b>36</b> |
| allow_share_bandwidth_types | Array of strings                          | <ul style="list-style-type: none"><li>Types of the shared bandwidth that an EIP can be added to. If this parameter is left blank, the EIP cannot be added to any shared bandwidth.</li><li>The EIP can be added only to the shared bandwidth of these types.</li></ul> Maximum length: <b>64</b>                                           |

Table 5-53 BillingInfoDict

| Parameter  | Type   | Description                                                                                                |
|------------|--------|------------------------------------------------------------------------------------------------------------|
| order_id   | String | <ul style="list-style-type: none"><li>Order information.</li></ul> Minimum length: 0<br>Maximum length: 64 |
| product_id | String | <ul style="list-style-type: none"><li>Product ID.</li></ul> Minimum length: 0<br>Maximum length: 64        |

Table 5-54 TagsInfo

| Parameter | Type   | Description                                                                                                                            |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <ul style="list-style-type: none"><li>Key. The tag key of a resource must be unique.</li></ul> Minimum length: 0<br>Maximum length: 64 |
| value     | String | <ul style="list-style-type: none"><li>Values.</li></ul> Minimum length: 0<br>Maximum length: 256                                       |

Example Request

None

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "publicip_pool" : {
    "id" : "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "name" : "test_pool_xxx",
    "status" : "active",
    "shared" : true,
    "is_common" : false,
    "enterprise_project_id" : 0,
    "type" : "spec_bgp",
    "project_id" : "8b7e35ad379141fc9df3e178bd64f55c",
    "size" : 100,
    "used" : 20,
    "billing_info" : {
      "order_id" : "CS20081917179HW3H",
      "product_id" : "00301-335034-0--0"
    },
    "created_at" : "2020-07-17T09:25:53Z",
    "updated_at" : "2020-07-17T09:25:53Z",
    "description" : "test",
  }
}
```

```
"public_border_group" : "center",
"allow_share_bandwidth_types" : [ "share" ]
},
"request_id" : "4a06c169-cc67-4d94-a786-2d70ef09b100"
}
```

## Status Codes

See [Status Codes](#).

## Error Codes

See [Error Codes](#).

# 6 Native OpenStack Neutron APIs V2.0

## 6.1 API Version Information

### 6.1.1 Querying API Versions

#### Function

This API is used to query all available versions of a native OpenStack API.

#### URI

GET /

#### Request Parameters

None

#### Example Request

GET https://{Endpoint}/

#### Response Parameters

Table 6-1 Response parameter

| Parameter | Type                                     | Description                                                                  |
|-----------|------------------------------------------|------------------------------------------------------------------------------|
| versions  | Array of <a href="#">version</a> objects | Specifies the API version list. For details, see <a href="#">Table 6-2</a> . |

**Table 6-2 version objects**

| Parameter | Type                                  | Description                                                                                                                                                                            |
|-----------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | String                                | Specifies the API version status. Possible values are as follows: <ul style="list-style-type: none"><li>• <b>CURRENT</b></li><li>• <b>STABLE</b></li><li>• <b>DEPRECATED</b></li></ul> |
| id        | String                                | Specifies the API version.                                                                                                                                                             |
| links     | Array of <a href="#">link</a> objects | Specifies the link list. For details, see <a href="#">Table 6-3</a> .                                                                                                                  |

**Table 6-3 link objects**

| Parameter | Type   | Description                                                          |
|-----------|--------|----------------------------------------------------------------------|
| href      | String | Specifies the API link.                                              |
| rel       | String | Specifies the relationship between the API link and the API version. |

## Example Response

```
{
  "versions": [
    {
      "status": "CURRENT",
      "id": "v2.0",
      "links": [
        {
          "href": "https://{Endpoint}/v2.0",
          "rel": "self"
        }
      ]
    }
  ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 6.1.2 Pagination

### Function

Neutron APIs v2.0 provides the pagination function. You can set parameters **limit** and **marker** in the URL of the list request to enable the desired number of items to be returned. All returned items are displayed in the ascending order of ID.

- To access the next page of the request, perform the following configurations:
  - Replace the value of **marker** in the original access request URL. Replace the value of **marker** to the value of **marker** in the value of **href** if the value of **rel** in the response is **next**.
  - Set the value of **page\_reverse** to **False**.
- To access the previous page of the request, perform the following configurations:
  - Replace the value of **marker** in the original access request URL. Replace the value of **marker** to the value of **marker** in the value of **href** if the value of **rel** in the response is **previous**.
  - Set the value of **page\_reverse** to **True**.

### Request Parameters

Table 6-4 Request parameter

| Parameter    | Type    | Mandatory | Description                                                                                                              |
|--------------|---------|-----------|--------------------------------------------------------------------------------------------------------------------------|
| limit        | Integer | No        | Specifies the number of items displayed per page.                                                                        |
| marker       | String  | No        | Specifies the ID of the last item in the previous list. If the marker value is invalid, error code 400 will be returned. |
| page_reverse | Boolean | No        | Specifies the page direction. The value can be <b>True</b> or <b>False</b> .                                             |

### Example Request

- When **page\_reverse** is set to **False**:

```
GET https://{Endpoint}/v2.0/networks?limit=2&marker=3d42a0d4-a980-4613-ae76-a2cddecff054&page_reverse=False
```

- When **page\_reverse** is set to **True**:

```
GET https://{Endpoint}/v2.0/vpc/peerings?limit=2&marker=e5a0c88e-228e-4e62-a8b0-90825b1b7958&page_reverse=True
```

## Response Parameters

**Table 6-5** Response parameter

| Parameter         | Type                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| {resources}_links | Array of <a href="#">{resources}_link</a> objects | <p>Specifies the pagination information. For details, see <a href="#">Table 6-6</a>. <b>{resources}</b> indicates the resource name, for example, <b>ports</b>, <b>networks</b>, <b>subnets</b>, <b>routers</b>, <b>firewall_rules</b>, <b>firewall_policies</b>, <b>firewall_groups</b>, <b>security_groups</b>, and <b>security_group_rules</b>.</p> <p>Only when <b>limit</b> is used for filtering and the number of resources exceeds the value of <b>limit</b> or 2000 (default value of <b>limit</b>), value <b>next</b> will be returned for <b>rel</b> and a link for <b>href</b>.</p> |

**Table 6-6** {resources}\_link object

| Parameter | Type   | Description                                                                                                                                         |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| href      | String | Specifies the API link.                                                                                                                             |
| rel       | String | The API link is used to query the next or previous page.<br><b>next</b> : The next page is queried. <b>previous</b> : The previous page is queried. |

## Example Response

- When **page\_reverse** is set to **False**:

```
{
  "networks": [
    {
      "status": "ACTIVE",
      "subnets": [],
      "name": "liudongtest ",
      "admin_state_up": false,
      "tenant_id": "6fbe9263116a4b68818cf1edce16bc4f",
      "id": "60c809cb-6731-45d0-ace8-3bf5626421a9"
    },
    {
      "status": "ACTIVE",
      "subnets": [
        "132dc12d-c02a-4c90-9cd5-c31669aace04"
      ],
      "name": "publicnet",
      "admin_state_up": true,
      "tenant_id": "6fbe9263116a4b68818cf1edce16bc4f",
      "id": "9daeac7c-a98f-430f-8e38-67f9c044e299"
    }
  ],
  "networks_links": [
```

```
{
  "href": "http://192.168.82.231:9696/v2.0/networks?limit=2&marker=9daeac7c-
a98f-430f-8e38-67f9c044e299",
  "rel": "next"
},
{
  "href": "http://192.168.82.231:9696/v2.0/networks?limit=2&marker=60c809cb-6731-45d0-
ace8-3bf5626421a9&page_reverse=True",
  "rel": "previous"
}
]
```

- When **page\_reverse** is set to **True**:

```
{
  "peerings_links": [
    {
      "marker": "dd442819-5638-401c-bd48-a82703cf0464",
      "rel": "next"
    },
    {
      "marker": "1e13cbaf-3ce4-413d-941f-66d855dbfa7f",
      "rel": "previous"
    }
  ],
  "peerings": [
    {
      "status": "ACTIVE",
      "accept_vpc_info": {
        "vpc_id": "83a48834-b9bc-4f70-aa46-074568594650",
        "tenant_id": "e41a43bf06e249678413c6d61536eff9"
      },
      "request_vpc_info": {
        "vpc_id": "db8e7687-e43b-4fc1-94cf-16f69f484d6d",
        "tenant_id": "e41a43bf06e249678413c6d61536eff9"
      },
      "name": "peering1",
      "id": "1e13cbaf-3ce4-413d-941f-66d855dbfa7f"
    },
    {
      "status": "ACTIVE",
      "accept_vpc_info": {
        "vpc_id": "83a48834-b9bc-4f70-aa46-074568594650",
        "tenant_id": "e41a43bf06e249678413c6d61536eff9"
      },
      "request_vpc_info": {
        "vpc_id": "bd63cc9e-e7b8-4d4e-a0e9-055031470ffc",
        "tenant_id": "e41a43bf06e249678413c6d61536eff9"
      },
      "name": "peering2",
      "id": "dd442819-5638-401c-bd48-a82703cf0464"
    }
  ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 6.2 Floating IP Address

## 6.2.1 Querying Floating IP Addresses

### Function

This API is used to query all floating IP addresses accessible to the tenant submitting the request. A maximum of 2,000 records can be returned for each query operation. If the number of records exceeds 2,000, the pagination marker will be returned.

You can query the detailed information about a specified floating IP address using the API for [Querying a Floating IP Address](#).

### URI

GET /v2.0/floatingips

[Table 6-7](#) describes the parameters.

**Table 6-7** Parameter description

| Parameter             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                             |
|-----------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                    | No        | String | Specifies the floating IP address ID.                                                                                                                                                                                                                                                                   |
| floating_ip_addresses | No        | String | Specifies the floating IPv4 address.                                                                                                                                                                                                                                                                    |
| floating_network_id   | No        | String | Specifies the external network ID.<br>You can only use fixed external network.<br>You can use <b>GET /v2.0/networks?router:external=True</b> or <b>GET /v2.0/networks?name={floating_network}</b> or run the <b>neutron net-external-list</b> command to obtain information about the external network. |

| Parameter        | Mandatory | Type    | Description                                                                                                                                                                                                                                                                            |
|------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| router_id        | No        | String  | Specifies the ID of the belonged router.                                                                                                                                                                                                                                               |
| port_id          | No        | String  | Specifies the port ID.                                                                                                                                                                                                                                                                 |
| fixed_ip_address | No        | String  | Specifies the private IP address of the associated port.                                                                                                                                                                                                                               |
| tenant_id        | No        | String  | Specifies the project ID.                                                                                                                                                                                                                                                              |
| limit            | No        | Integer | <p>Specifies the number of records that will be returned on each page. The value is from 0 to intmax (<math>2^{31}-1</math>). The default value is 2000.</p> <p><b>limit</b> can be used together with <b>marker</b>. For details, see the parameter description of <b>marker</b>.</p> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker    | No        | String | <p>Specifies a resource ID for pagination query, indicating that the query starts from the next record of the specified resource ID.</p> <p>This parameter can work together with the parameter <b>limit</b>.</p> <ul style="list-style-type: none"><li>• If parameters <b>marker</b> and <b>limit</b> are not passed, resource records on the first page will be returned.</li><li>• If the parameter <b>marker</b> is not passed and the value of parameter <b>limit</b> is set to <b>10</b>, the first 10 resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource ID of the 10th record and the value of parameter <b>limit</b> is set to <b>10</b>, the 11th to 20th resource records will be returned.</li><li>• If the value of the parameter <b>marker</b> is set to the resource</li></ul> |

| Parameter    | Mandatory | Type    | Description                                                                                                                                                               |
|--------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |           |         | ID of the 10th record and the parameter <b>limit</b> is not passed, 11th to 2,000th resource records will be returned. The default value of <b>limit</b> is <b>2000</b> . |
| page_reverse | No        | Boolean | Specifies the page direction. The value can be <b>True</b> or <b>False</b> .                                                                                              |

Example:

```
GET https://{Endpoint}/v2.0/floatingips?
id={fip_id}&router_id={router_id}&floating_network_id={net_id}&floating_ip_address={floating_ip}&port_id={
port_id}&fixed_ip_address={fixed_ip}&tenant_id={tenant_id}
```

Request Message

None

Response Message

Table 6-8 Response parameter

| Parameter         | Type                                     | Description                                                                                                                                                                                                                                                                                                                         |
|-------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| floatingips       | Array of <b>floatingip</b> objects       | Specifies the floating IP address list. For details, see <a href="#">Table 6-9</a> .                                                                                                                                                                                                                                                |
| floatingips_links | Array of <b>floatingips_link</b> objects | Specifies the floating IP address object list. For details, see <a href="#">Table 6-10</a> .<br>Only when <b>limit</b> is used for filtering and the number of resources exceeds the value of <b>limit</b> or 2000 (default value of <b>limit</b> ), value <b>next</b> will be returned for <b>rel</b> and a link for <b>href</b> . |

**Table 6-9 floatingip objects**

| Parameter           | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status              | String | Specifies the floating IP address status. The value can be <b>ACTIVE</b> , <b>DOWN</b> , or <b>ERROR</b> . <ul style="list-style-type: none"><li>• <b>DOWN</b> indicates that the floating IP address has not been bound.</li><li>• <b>ACTIVE</b> indicates that the floating IP address has been bound.</li><li>• <b>ERROR</b> indicates that the floating IP address is abnormal.</li></ul> |
| id                  | String | Specifies the floating IP address ID.                                                                                                                                                                                                                                                                                                                                                         |
| project_id          | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                                                     |
| floating_ip_address | String | Specifies the floating IP address.                                                                                                                                                                                                                                                                                                                                                            |
| floating_network_id | String | Specifies the external network ID.                                                                                                                                                                                                                                                                                                                                                            |
| router_id           | String | Specifies the ID of the belonged router.                                                                                                                                                                                                                                                                                                                                                      |
| port_id             | String | Specifies the port ID.                                                                                                                                                                                                                                                                                                                                                                        |
| fixed_ip_address    | String | Specifies the private IP address of the associated port.                                                                                                                                                                                                                                                                                                                                      |
| tenant_id           | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                                                     |
| dns_name            | String | Specifies the DNS name.                                                                                                                                                                                                                                                                                                                                                                       |
| dns_domain          | String | Specifies the DNS domain.                                                                                                                                                                                                                                                                                                                                                                     |
| created_at          | String | Specifies the time when the floating IP address was created.<br>UTC time is used.<br>Format: <i>yyyy-MM-ddTHH:mm:ss</i>                                                                                                                                                                                                                                                                       |

| Parameter  | Type   | Description                                                                                                                     |
|------------|--------|---------------------------------------------------------------------------------------------------------------------------------|
| updated_at | String | Specifies the time when the floating IP address was updated.<br><br>UTC time is used.<br><br>Format: <i>yyyy-MM-ddTHH:mm:ss</i> |

**Table 6-10** floatingips\_link object

| Parameter | Type   | Description                                                          |
|-----------|--------|----------------------------------------------------------------------|
| href      | String | Specifies the API link.                                              |
| rel       | String | Specifies the relationship between the API link and the API version. |

## Example Request

```
GET https://{Endpoint}/v2.0/floatingips?limit=1
```

## Example Response

**Status code: 200**

Normal response to the GET operation

```
{
  "floatingips" : [ {
    "id" : "1a3a2818-d9b4-4a9c-8a19-5252c499d1cd",
    "status" : "DOWN",
    "router_id" : null,
    "tenant_id" : "bbfe8c41dd034a07bebd592bf03b4b0c",
    "project_id" : "bbfe8c41dd034a07bebd592bf03b4b0c",
    "floating_network_id" : "0a2228f2-7f8a-45f1-8e09-9039e1d09975",
    "fixed_ip_address" : null,
    "floating_ip_address" : "99.99.99.84",
    "port_id" : null,

    "created_at" : "2017-10-19T12:21:28",
    "updated_at" : "2018-07-30T12:52:13"
  } ],
  "floatingips_links" : [ {
    "href" : "https://network.region.cn-test-2.clouds.com/v2.0/floatingips.json?limit=2000&marker=000a6144-5010-46f2-bf06-6a1c94477ea3&page_reverse=true",
    "rel" : "previous"
  }, {
    "href" : "https://network.region.cn-test-2.clouds.com/v2.0/floatingips.json?limit=2000&marker=d445e537-bc81-4039-9c7b-f9c1f5c73c78",
    "rel" : "next"
  } ]
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 6.2.2 Querying a Floating IP Address

### Function

This API is used to query details about a specified floating IP address, including the floating IP address status, ID of the router to which the floating IP address belongs, and external network ID of the floating IP address.

### URI

GET /v2.0/floatingips/{floatingip\_id}

### Request Message

None

### Response Message

**Table 6-11** Response parameter

| Parameter  | Type                              | Description                                                                           |
|------------|-----------------------------------|---------------------------------------------------------------------------------------|
| floatingip | <a href="#">floatingip</a> object | Specifies the floating IP address list. For details, see <a href="#">Table 6-12</a> . |

**Table 6-12** [floatingip](#) objects

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | String | Specifies the floating IP address status. The value can be <b>ACTIVE</b> , <b>DOWN</b> , or <b>ERROR</b> . <ul style="list-style-type: none"><li>• <b>DOWN</b> indicates that the floating IP address has not been bound.</li><li>• <b>ACTIVE</b> indicates that the floating IP address has been bound.</li><li>• <b>ERROR</b> indicates that the floating IP address is abnormal.</li></ul> |
| id        | String | Specifies the floating IP address ID.                                                                                                                                                                                                                                                                                                                                                         |

| Parameter           | Type   | Description                                                                                                             |
|---------------------|--------|-------------------------------------------------------------------------------------------------------------------------|
| project_id          | String | Specifies the project ID.                                                                                               |
| floating_ip_address | String | Specifies the floating IP address.                                                                                      |
| floating_network_id | String | Specifies the external network ID.                                                                                      |
| router_id           | String | Specifies the ID of the belonged router.                                                                                |
| port_id             | String | Specifies the port ID.                                                                                                  |
| fixed_ip_address    | String | Specifies the private IP address of the associated port.                                                                |
| tenant_id           | String | Specifies the project ID.                                                                                               |
| dns_name            | String | Specifies the DNS name.                                                                                                 |
| dns_domain          | String | Specifies the DNS domain.                                                                                               |
| created_at          | String | Specifies the time when the floating IP address was created.<br>UTC time is used.<br>Format: <i>yyyy-MM-ddTHH:mm:ss</i> |
| updated_at          | String | Specifies the time when the floating IP address was updated.<br>UTC time is used.<br>Format: <i>yyyy-MM-ddTHH:mm:ss</i> |

## Example Request

```
GET https://{Endpoint}/v2.0/floatingips/1a3a2818-d9b4-4a9c-8a19-5252c499d1cd
```

## Example Response

**Status code: 200**

```
{
  "floatingip": {
    "id": "1a3a2818-d9b4-4a9c-8a19-5252c499d1cd",
    "status": "DOWN",
    "router_id": null,
    "tenant_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
    "project_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
    "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975",
    "fixed_ip_address": null,
    "floating_ip_address": "99.99.99.84",
    "port_id": null,
    "created_at": "2017-10-19T12:21:28",
    "updated_at": "2018-07-30T12:52:13"
  }
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 6.2.3 Assigning a Floating IP Address

### Function

When assigning a floating IP address, you need to obtain the external network ID **floating\_network\_id** of the floating IP address.

You can use **GET /v2.0/networks?router:external=True** or run the **neutron net-external-list** command to obtain the UUID of the external network required for assigning a floating IP address.

### URI

POST /v2.0/floatingips

### Request Message

**Table 6-13** Request parameter

| Parameter  | Type                              | Mandatory | Description                                                                           |
|------------|-----------------------------------|-----------|---------------------------------------------------------------------------------------|
| floatingip | <a href="#">floatingip</a> object | Yes       | Specifies the floating IP address list. For details, see <a href="#">Table 6-14</a> . |

**Table 6-14** [floatingip](#) objects

| Parameter           | Mandatory | Type   | Description                        |
|---------------------|-----------|--------|------------------------------------|
| floating_ip_address | No        | String | Specifies the floating IP address. |

| Parameter           | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                  |
|---------------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| floating_network_id | Yes       | String | Specifies the external network ID.<br>You can only use fixed external network.<br>You can use <b>GET /v2.0/networks?router:external=True</b> or <b>GET /v2.0/networks?name={floating_network}</b> or run the <b>neutron net-external-list mode</b> command to obtain information about the external network. |
| port_id             | No        | String | Specifies the port ID.                                                                                                                                                                                                                                                                                       |
| fixed_ip_addresses  | No        | String | Specifies the private IP address of the associated port.                                                                                                                                                                                                                                                     |

## Response Message

**Table 6-15** Response parameter

| Parameter  | Type                     | Description                                                                           |
|------------|--------------------------|---------------------------------------------------------------------------------------|
| floatingip | <b>floatingip</b> object | Specifies the floating IP address list. For details, see <a href="#">Table 6-16</a> . |

**Table 6-16** floatingip objects

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | String | Specifies the floating IP address status. The value can be <b>ACTIVE</b> , <b>DOWN</b> , or <b>ERROR</b> . <ul style="list-style-type: none"><li>• <b>DOWN</b> indicates that the floating IP address has not been bound.</li><li>• <b>ACTIVE</b> indicates that the floating IP address has been bound.</li><li>• <b>ERROR</b> indicates that the floating IP address is abnormal.</li></ul> |

| Parameter           | Type   | Description                                              |
|---------------------|--------|----------------------------------------------------------|
| id                  | String | Specifies the floating IP address ID.                    |
| floating_ip_address | String | Specifies the floating IP address.                       |
| floating_network_id | String | Specifies the external network ID.                       |
| router_id           | String | Specifies the ID of the belonged router.                 |
| port_id             | String | Specifies the port ID.                                   |
| fixed_ip_address    | String | Specifies the private IP address of the associated port. |
| tenant_id           | String | Specifies the project ID.                                |
| dns_name            | String | Specifies the DNS name.                                  |
| dns_domain          | String | Specifies the DNS domain.                                |

### Example Request

Create a floating IP address whose network is **0a2228f2-7f8a-45f1-8e09-9039e1d09975**.

```
POST https://{Endpoint}/v2.0/floatingips
{
  "floatingip": {
    "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975"
  }
}
```

### Example Response

**Status code: 201**

Normal response to POST requests

```
{
  "floatingip": {
    "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
    "status": "DOWN",
    "router_id": null,
    "tenant_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
    "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975",
    "fixed_ip_address": null,
    "floating_ip_address": "88.88.215.205",
    "port_id": null,
  }
}
```

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

## 6.2.4 Updating a Floating IP Address

### Function

This API is used to update a floating IP address.

During the update, the ID of the floating IP address must be provided in the URL.

If **port\_id** is left blank, the floating IP address has been unbound from the port.

#### NOTE

This API has the following constraints:

- If a floating IP address that you are binding is in the **error** state, unbind the IP address first.
- Do not associate a port that has a floating IP address associated to another floating IP address. You must first disassociate the port from the IP address and then associate it with another IP address.

### URI

PUT /v2.0/floatingips/{floatingip\_id}

[Table 6-17](#) describes the parameters.

**Table 6-17** Parameter description

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                             |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| floatingip_id | Yes       | String | Specifies the floating IP address ID.<br><br>This parameter is not required when you assign a floating IP address. This parameter is mandatory when you query, update, or delete a floating IP address. |

## Request Message

**Table 6-18** Request parameter

| Parameter  | Type                              | Mandatory | Description                                                                           |
|------------|-----------------------------------|-----------|---------------------------------------------------------------------------------------|
| floatingip | <a href="#">floatingip</a> object | Yes       | Specifies the floating IP address list. For details, see <a href="#">Table 6-19</a> . |

**Table 6-19** floatingip objects

| Parameter | Mandatory | Type   | Description            |
|-----------|-----------|--------|------------------------|
| port_id   | No        | String | Specifies the port ID. |

## Response Message

**Table 6-20** Response parameter

| Parameter  | Type                              | Description                                                                           |
|------------|-----------------------------------|---------------------------------------------------------------------------------------|
| floatingip | <a href="#">floatingip</a> object | Specifies the floating IP address list. For details, see <a href="#">Table 6-21</a> . |

**Table 6-21** floatingip objects

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | String | Specifies the floating IP address status. The value can be <b>ACTIVE</b> , <b>DOWN</b> , or <b>ERROR</b> . <ul style="list-style-type: none"><li>• <b>DOWN</b> indicates that the floating IP address has not been bound.</li><li>• <b>ACTIVE</b> indicates that the floating IP address has been bound.</li><li>• <b>ERROR</b> indicates that the floating IP address is abnormal.</li></ul> |
| id        | String | Specifies the floating IP address ID.                                                                                                                                                                                                                                                                                                                                                         |

| Parameter           | Type   | Description                                              |
|---------------------|--------|----------------------------------------------------------|
| floating_ip_address | String | Specifies the floating IP address.                       |
| floating_network_id | String | Specifies the external network ID.                       |
| router_id           | String | Specifies the ID of the belonged router.                 |
| port_id             | String | Specifies the port ID.                                   |
| fixed_ip_address    | String | Specifies the private IP address of the associated port. |
| tenant_id           | String | Specifies the project ID.                                |
| dns_name            | String | Specifies the DNS name.                                  |
| dns_domain          | String | Specifies the DNS domain.                                |

## Example Request

- Unbind a floating IP address from a port.

PUT <https://{Endpoint}/v2.0/floatingips/b997e0d4-3359-4c74-8f88-bc0af81cd5a2>

```
{
  "floatingip": {
    "port_id": null
  }
}
```

- Bind a floating IP address to a port. The port ID is f91f5763-c5a2-4458-979d-61e48b3c3fac.

PUT <https://{Endpoint}/v2.0/floatingips/b997e0d4-3359-4c74-8f88-bc0af81cd5a2>

```
{
  "floatingip": {
    "port_id": "f91f5763-c5a2-4458-979d-61e48b3c3fac"
  }
}
```

## Example Response

**Status code: 200**

(The floating IP address is unbound from the port.)

```
{
  "floatingip": {
    "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
    "status": "DOWN",
    "router_id": null,
    "tenant_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
    "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975",
    "fixed_ip_address": null,
    "floating_ip_address": "88.88.215.205",
  }
}
```

```
    "port_id": null,
  }
}

(The floating IP address is bound to the port.)

{
  "floatingip": {
    "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
    "status": "DOWN",
    "router_id": null,
    "tenant_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
    "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975",
    "fixed_ip_address": "192.168.10.3",
    "floating_ip_address": "88.88.215.205",
    "port_id": "f91f5763-c5a2-4458-979d-61e48b3c3fac",
  }
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

6.2.5 Deleting a Floating IP Address

Function

This API is used to delete a floating IP address.

URI

DELETE /v2.0/floatingips/{floatingip\_id}

[Table 6-22](#) describes the parameters.

Table 6-22 Parameter description

| Parameter     | Mandatory | Type   | Description                           |
|---------------|-----------|--------|---------------------------------------|
| floatingip_id | Yes       | String | Specifies the floating IP address ID. |

Request Message

None

Response Message

None

## Example Request

Delete the floating IP address whose ID is a95ec431-8473-463b-aede-34fb048ee3a7.

```
DELETE https://{Endpoint}/v2.0/floatingips/a95ec431-8473-463b-aede-34fb048ee3a7
```

## Example Response

None

## Status Code

See [Status Codes](#).

## Error Code

See [Error Codes](#).

# 7 Application Examples

## 7.1 Binding an EIP to an ECS

### Scenarios

This section describes how to bind an EIP to an ECS by calling APIs.

### Prerequisites

- You have created an ECS. For details, see [Purchasing an ECS in Custom Config Mode](#).
- If you use a token for authentication, you must obtain the token and add **X-Auth-Token** to the request header when making an API call. Obtain the token by following instructions in section [Authentication](#).

#### NOTE

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

### Procedure

1. Obtain the NIC information based on the ECS ID. For details, see [Querying a Port](#).
  - a. Send **GET** `https://VPC endpoint/v1/project_id/ports?device_id=ecs_id`. Parameter **project\_id** indicates the project ID.
  - b. Add **X-Auth-Token** to the request header.
  - c. Check the response message.
    - The request is successful if the following response is displayed.

```
{
  "ports": [{
    "id": "02c72193-efec-42fb-853b-c33f2b802467",
    "name": "",
    "status": "ACTIVE",
    "admin_state_up": true,
    "fixed_ips": [{
      "subnet_id": "213cb9d-3122-2ac1-1a29-91ffc1231a12",
      "ip_address": "192.168.0.75"
    }]
  }]
}
```

```
    },
    "mac_address": "fa:16:3e:47:5f:c1",
    "network_id": "4779ab1c-7c1a-44b1-a02e-93dfc361b32d",
    "tenant_id": "db82c9e1415a464ea68048baa8acc6b8",
    "project_id": "db82c9e1415a464ea68048baa8acc6b8",
    "device_id": "ea61f836-b52f-41bf-9d06-685644001d6f",
    "device_owner": "compute:br-iaas-odin1a",
    "security_groups": [
        "e0598d96-9451-4f8a-8de0-b8b4d451d9e7"
    ],
    "extra_dhcp_opts": [],
    "allowed_address_pairs": [],
    "binding:vnic_type": "normal",
    "binding:vif_details": {
        "primary_interface": true
    },
    "binding:profile": {},
    "port_security_enabled": true,
    "created_at": "2020-06-20T08:07:29",
    "updated_at": "2020-06-20T08:07:29"
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

## 2. Assign an EIP.

- Send **POST** [https://Endpoint/v1/project\\_id/publicips](https://Endpoint/v1/project_id/publicips). Parameter **project\_id** indicates the project ID.
- Add **X-Auth-Token** to the request header.
- Specify the following parameters in the request body:

```
{
  "publicip": {
    "type": "5_bgp",
    "ip_version": 6
  },
  "bandwidth": {
    "name": "bandwidth123",
    "size": 5,
    "share_type": "WHOLE",
    "id": "ebfa375c-3f93-465e-81a3-bd66e578ee9d"
  },
  "enterprise_project_id": "0"
}
```

- Check the response message.

- The request is successful if the following response is displayed.

```
{
  "publicip": {
    "id": "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "status": "PENDING_CREATE",
    "type": "5_bgp",
    "public_ip_address": "161.xx.xx.7",
    "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
    "ip_version": 4,
    "create_time": "2015-07-16 04:10:52",
    "bandwidth_size": 0,
    "enterprise_project_id": "b261ac1f-2489-4bc7-b31b-c33c3346a439"
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

## 3. Bind the EIP to the ECS NIC.

- a. Send **PUT** `/v1/project_id/publicips/publicip_id`. Parameter **project\_id** indicates the project ID.
- b. Add **X-Auth-Token** to the request header.
- c. Specify the following parameters in the request body:

```
{
  "publicip": {
    "port_id": "02c72193-efec-42fb-853b-c33f2b802467"
  }
}
```

- d. Check the response message.

- The request is successful if the following response is displayed.

```
{
  "publicip": {
    "id": "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "status": "ACTIVE",
    "type": "5_bgp",
    "port_id": "02c72193-efec-42fb-853b-c33f2b802467",
    "public_ip_address": "10.xx.xx.162",
    "private_ip_address": "192.168.1.131",
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "create_time": "2019-03-27 01:33:18",
    "bandwidth_id": "02da78da-4fb0-4880-b512-f516cdeb8ef3",
    "bandwidth_name": "test",
    "bandwidth_share_type": "PER",
    "bandwidth_size": 1,
    "profile": {},
    "enterprise_project_id": "0",
    "ip_version": 4
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

## 7.2 Unbinding an EIP from an ECS

### Scenarios

This section describes how to unbind an EIP from an ECS by calling APIs.

### Prerequisites

- You have created an ECS. For details, see [Purchasing an ECS in Custom Config Mode](#).
- If you use a token for authentication, you must obtain the token and add **X-Auth-Token** to the request header when making an API call. Obtain the token by following instructions in section [Authentication](#).

#### NOTE

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

### Procedure

1. Query EIP details.

- a. Send **GET** `/v1/project_id/publicips/publicip_id`. Parameter **project\_id** indicates the project ID.
- b. Add **X-Auth-Token** to the request header.
- c. Check the response message.

- The request is successful if the following response is displayed.

```
{
  "publicip": {
    "id": "f6318bef-6508-4ea5-a48f-6152b6b1a8fb",
    "status": "ACTIVE",
    "type": "5_bgp",
    "port_id": "a135e9b8-1630-40d2-a6c5-eb534a61efbe",
    "public_ip_address": "10.xx.xx.162",
    "private_ip_address": "192.168.1.131",
    "port_id": "a135e9b8-1630-40d2-a6c5-eb534a61efbe",
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "create_time": "2019-03-27 01:33:18",
    "bandwidth_id": "02da78da-4fb0-4880-b512-f516cdeb8ef3",
    "bandwidth_name": "test",
    "bandwidth_share_type": "PER",
    "bandwidth_size": 1,
    "enterprise_project_id": "0",
    "profile": {},
    "ip_version": 4
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

## 2. Unbind the EIP from the ECS NIC.

- a. Send **PUT** `/v1/project_id/publicips/publicip_id`. Parameter **project\_id** indicates the project ID.
- b. Add **X-Auth-Token** to the request header.
- c. Specify the following parameters in the request body:

```
{
  "publicip": {
    "port_id": ""
  }
}
```

- a. Check the response message.

- The request is successful if the following response is displayed.

```
{
  "publicip": {
    "id": "f6318bef-6508-4ea5-a48f-6152b6b1a8fb",
    "status": "DOWN",
    "type": "5_bgp",
    "public_ip_address": "10.xx.xx.162",
    "bandwidth_id": "02da78da-4fb0-4880-b512-f516cdeb8ef3",
    "bandwidth_name": "test",
    "bandwidth_share_type": "PER",
    "bandwidth_size": 1,
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "create_time": "2019-03-27 01:33:18",
    "enterprise_project_id": "0",
    "profile": {}
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

## 7.3 Assigning an EIP with a Specific Shared Bandwidth

### Scenarios

This section describes how to assign an EIP with a specific shared bandwidth by calling APIs.

### Prerequisites

If you use a token for authentication, you must obtain the token and add **X-Auth-Token** to the request header when making an API call. Obtain the token by following instructions in section [Authentication](#).

#### NOTE

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

### Procedure

1. Assign a shared bandwidth.
  - a. Send **POST https://Endpoint/v2.0/project\_id/bandwidths**. Parameter **project\_id** indicates the project ID.
  - b. Add **X-Auth-Token** to the request header.
  - c. Specify the following parameters in the request body:

```
{
  "bandwidth": {
    "name": "bandwidth123",
    "size": 10
  }
}
```
  - d. Check the response message.
    - The request is successful if the following response is displayed. In the response, **id** indicates the bandwidth ID.

```
{
  "bandwidth": {
    "id": "1bffc5f2-ff19-45a6-96d2-dfdca49cc387",
    "name": "bandwidth123",
    "size": 10,
    "share_type": "WHOLE",
    "publicip_info": [],
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "bandwidth_type": "share",
    "charge_mode": "bandwidth",
    "enterprise_project_id": "0",
    "status": "NORMAL",
    "created_at": "2020-04-21T07:58:02Z",
    "updated_at": "2020-04-21T07:58:02Z"
  }
}
```
    - For details about the error codes when the request is abnormal, see [Error Codes](#).
2. Query the shared bandwidth details.

- a. Send **Get** `https://Endpoint/v1/project_id/bandwidths/bandwidth_id`. Parameter **project\_id** indicates the project ID.
- b. Add **X-Auth-Token** to the request header.
- c. Check the response message.

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

```
{
  "bandwidth": {
    "id": "1bffc5f2-ff19-45a6-96d2-dfdca49cc387",
    "name": "bandwidth123",
    "size": 10,
    "share_type": "WHOLE",
    "publicip_info": [
      {
        "publicip_id": "ff156c26-bcc9-4541-a75c-42baf8b9748f",
        "publicip_address": "114.xx.xx.244",
        "ip_version": 4,
        "publicip_type": "5_sbgp"
      }
    ],
    "tenant_id": "b3292dde618e40408e30cd87455a0652",
    "bandwidth_type": "sbgp",
    "charge_mode": "bandwidth",
    "enterprise_project_id": "0",
    "status": "NORMAL",
    "created_at": "2020-04-21T07:58:02Z",
    "updated_at": "2020-04-21T07:58:02Z"
  }
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

3. Assign an EIP using the shared bandwidth.
  - a. Send **POST** `https://Endpoint/v1/project_id/publicips`. Parameter **project\_id** indicates the project ID.
  - b. Add **X-Auth-Token** to the request header.
  - c. Specify the following parameters in the request body:

```
{
  "publicip": {
    "type": "5_bgp",
    "ip_version": 6
  },
  "bandwidth": {
    "name": "bandwidth123",
    "size": 10,
    "share_type": "WHOLE",
    "id": "1bffc5f2-ff19-45a6-96d2-dfdca49cc387"
  },
  "enterprise_project_id": "0"
}
```

- d. Check the response message.
  - The request is successful if the following response is displayed.

```
{
  "publicip": {
    "id": "f588ccfa-8750-4d7c-bf5d-2ede24414706",
    "status": "PENDING_CREATE",
    "type": "5_bgp",
    "public_ip_address": "161.xx.xx.7",
    "tenant_id": "8b7e35ad379141fc9df3e178bd64f55c",
    "ip_version": 4,
    "create_time": "2015-07-16 04:10:52",
  }
}
```

```
    "bandwidth_size": 0,  
    "enterprise_project_id": "b261ac1f-2489-4bc7-b31b-c33c3346a439"  
  }  
}
```

- For details about the error codes when the request is abnormal, see [Error Codes](#).

#### 4. Query EIP details.

- a. Send **GET** `/v1/project_id/publicips/publicip_id`. Parameter **project\_id** indicates the project ID.
- b. Add **X-Auth-Token** to the request header.
- c. Check the response message.

```
{  
  "publicip": {  
    "id": "3ec9fea0-2d4c-49e2-8aca-ce883eae547d",  
    "type": "5_bgp",  
    "public_ip_address": "10.246.164.87",  
    "status": "DOWN",  
    "tenant_id": "060576782980d5762f9ec014dd2f1148",  
    "create_time": "2020-08-13 12:55:27",  
    "bandwidth_id": "1bffc5f2-ff19-45a6-96d2-dfdca49cc387",  
    "bandwidth_name": "bandwidth123",  
    "bandwidth_share_type": "WHOLE",  
    "bandwidth_size": 10,  
    "profile": {},  
    "enterprise_project_id": "a380829c-db6f-4db3-b5b6-cc377f7a3ff8",  
    "ip_version": 4  
  }  
}
```

# 8 Permissions Policies and Supported Actions

---

## 8.1 Introduction

You can use Identity and Access Management (IAM) for fine-grained permissions management of your EIP. If your does not need individual IAM users, you can skip this section.

By default, new IAM users do not have permissions assigned. You need to add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups. This way, they can perform specified operations on cloud services based on the permissions.

Each account has all the permissions required to call all APIs, but IAM users in an account must be granted the permissions required for calling an API. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user wants to query EIPs using an API, the user must have been granted permissions that allow the **eip:publicips:list** action.

## Supported Actions

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

- Permissions: statements in a policy that allow or deny certain operations
- APIs: REST APIs that can be called by a user who has been granted specific permissions
- Actions: specific operations that are allowed or denied in a custom policy
- IAM project/Enterprise project: A custom policy can be applied to IAM projects or enterprise projects or both. Policies that contain actions supporting both IAM and enterprise projects can be assigned to user groups and take effect in both IAM and Enterprise Management. Policies that only contain actions

supporting IAM projects can be assigned to user groups and only take effect for IAM. Such policies will not take effect if they are assigned to user groups in Enterprise Management. For details about the differences between IAM projects and enterprise projects, see "What Are the Differences Between IAM and Enterprise Management?" in the *Identity and Access Management User Guide*.

**NOTE**

√: supported; x: not supported

EIP supports the following actions that can be defined in custom policies:

**EIP:** actions that supported by EIP APIs include assigning an EIP, querying an EIP, querying EIPs, updating an EIP, and deleting an EIP.

## 8.2 EIP

| Permission       | API                                             | Action               |
|------------------|-------------------------------------------------|----------------------|
| Assigning an EIP | POST /v1/{project_id}/publicips                 | vpc:publicips:create |
| Querying an EIP  | GET /v1/{project_id}/publicips/{publicip_id}    | vpc:publicips:get    |
| Querying EIPs    | GET /v1/{project_id}/publicips                  | vpc:publicips:list   |
| Updating an EIP  | PUT /v1/{project_id}/publicips/{publicip_id}    | vpc:publicips:update |
| Releasing an EIP | DELETE /v1/{project_id}/publicips/{publicip_id} | vpc:publicips:delete |

## 8.3 Bandwidth

| Permission           | API                                            | Action                |
|----------------------|------------------------------------------------|-----------------------|
| Querying a bandwidth | GET /v1/{project_id}/bandwidths/{bandwidth_id} | vpc:bandwidths:get    |
| Querying bandwidths  | GET /v1/{project_id}/bandwidths                | vpc:bandwidths:list   |
| Updating a bandwidth | PUT /v1/{project_id}/bandwidths/{bandwidth_id} | vpc:bandwidths:update |

## 8.4 Bandwidth (V2)

| Permission                              | API                                                      | Action                |
|-----------------------------------------|----------------------------------------------------------|-----------------------|
| Assigning a shared bandwidth            | POST /v2.0/{project_id}/bandwidths                       | vpc:bandwidths:create |
| Deleting a shared bandwidth             | DELETE /v2.0/{project_id}/bandwidths/{bandwidth_id}      | vpc:bandwidths:delete |
| Adding an EIP to a shared bandwidth     | POST /v2.0/{project_id}/bandwidths/{bandwidth_id}/insert | vpc:publicips:insert  |
| Removing an EIP from a shared bandwidth | POST /v2.0/{project_id}/bandwidths/{bandwidth_id}/remove | vpc:publicips:remove  |

## 8.5 EIP Tags

| Permission                               | API                                                          | Action                                             |
|------------------------------------------|--------------------------------------------------------------|----------------------------------------------------|
| Creating a Tag for an EIP                | POST /v2.0/{project_id}/publicips/{publicip_id}/tags         | vpc:publicipTags:create                            |
| Querying EIP Tags                        | GET /v2.0/{project_id}/publicips/{publicip_id}/tags          | vpc:publicipTags:get                               |
| Deleting an EIP Tag                      | DELETE /v2.0/{project_id}/publicips/{publicip_id}/tags/{key} | vpc:publicipTags:delete                            |
| Batch Creating or Deleting EIP Tags      | POST /v2.0/{project_id}/publicips/{publicip_id}/tags/action  | vpc:publicipTags:create<br>vpc:publicipTags:delete |
| Querying EIPs by Tag                     | POST /v2.0/{project_id}/publicips/resource_instances/action  | vpc:publicipTags:get                               |
| Querying EIP Tags in a Specified Project | GET /v2.0/{project_id}/publicips/tags                        | vpc:publicipTags:get                               |

## 8.6 Floating IP Address (OpenStack Neutron API)

| Permission                     | API                                      | Action                 |
|--------------------------------|------------------------------------------|------------------------|
| Querying floating IP addresses | GET /v2.0/floatingips                    | vpc:floatingips:get    |
| Querying a floating IP address | GET /v2.0/floatingips/{floatingip_id}    | vpc:floatingips:get    |
| Creating a floating IP address | POST /v2.0/floatingips                   | vpc:floatingips:create |
| Updating a floating IP address | PUT /v2.0/floatingips/{floatingip_id}    | vpc:floatingips:update |
| Deleting a floating IP address | DELETE /v2.0/floatingips/{floatingip_id} | vpc:floatingips:delete |

## 8.7 Precautions for API Permissions

Note:

If you have insufficient permissions, response code **200** will be returned when you query network resources and an empty list will be displayed.

You can apply for the permissions and try again.

# A Appendix

## A.1 VPC Monitoring Metrics

### Description

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

### Namespace

SYS.VPCnetwork ACL

### Metrics

Table A-1 EIP and bandwidth metrics

| ID                 | Name               | Description                                                               | Value Range | Unit  | Conversion Rule | Monitored Object (Dimension) | Monitoring Interval (Raw Data) |
|--------------------|--------------------|---------------------------------------------------------------------------|-------------|-------|-----------------|------------------------------|--------------------------------|
| upstream_bandwidth | Outbound Bandwidth | Network rate of outbound traffic (Previously called "Upstream Bandwidth") | ≥ 0         | bit/s | 1000 (SI)       | bandwidth_id,publicip_id     | 1 minute                       |

| ID                         | Name                     | Description                                                                                                               | Value Range | Unit  | Conversion Rule | Monitored Object (Dimension) | Monitoring Interval (Raw Data) |
|----------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------|-------|-----------------|------------------------------|--------------------------------|
| downstream_bandwidth       | Inbound Bandwidth        | Network rate of inbound traffic (Previously called "Downstream Bandwidth")                                                | $\geq 0$    | bit/s | 1000 (SI)       | bandwidth_id,publicip_id     | 1 minute                       |
| upstream_bandwidth_usage   | Outbound Bandwidth Usage | Usage of outbound bandwidth in the unit of percent.<br>Outbound bandwidth usage = Outbound bandwidth/ Purchased bandwidth | 0-100       | %     | N/A             | bandwidth_id,publicip_id     | 1 minute                       |
| downstream_bandwidth_usage | Inbound Bandwidth Usage  | Usage of inbound bandwidth in the unit of percent.<br>Inbound bandwidth usage = Inbound bandwidth/ Purchased bandwidth    | 0-100       | %     | N/A             | bandwidth_id,publicip_id     | 1 minute                       |
| upstream                   | Outbound Traffic         | Network traffic going out of the cloud platform in a minute (Previously called "Upstream Traffic")                        | $\geq 0$    | Byte  | 1000 (SI)       | bandwidth_id,publicip_id     | 1 minute                       |

| ID         | Name            | Description                                                                                        | Value Range | Unit | Conversion Rule | Monitored Object (Dimension) | Monitoring Interval (Raw Data) |
|------------|-----------------|----------------------------------------------------------------------------------------------------|-------------|------|-----------------|------------------------------|--------------------------------|
| downstream | Inbound Traffic | Network traffic going into the cloud platform in a minute (Previously called "Downstream Traffic") | ≥ 0         | Byte | 1000 (SI)       | bandwidth_id,publicip_id     | 1 minute                       |

Dimension

| Key          | Value        |
|--------------|--------------|
| publicip_id  | EIP ID       |
| bandwidth_id | Bandwidth ID |

A.2 Status Codes

Table A-2 Normal values

| Normal Response Code | Type       | Description                                                                                        |
|----------------------|------------|----------------------------------------------------------------------------------------------------|
| 200                  | OK         | Specifies the normal response code for the GET, PUT, and POST operations.                          |
| 201                  | Created    | Specifies the normal response code for the POST operation of the OpenStack Neutron API and API V3. |
| 202                  | Accepted   | Specifies the normal response to the pre-check request of the V3 API.                              |
| 204                  | No Content | Specifies the normal response code for the DELETE operation.                                       |

**Table A-3** Abnormal values

| Returned Value                    | Description                                                                                |
|-----------------------------------|--------------------------------------------------------------------------------------------|
| 400 Bad Request                   | The server failed to process the request.                                                  |
| 401 Unauthorized                  | You must enter a username and password to access the requested page.                       |
| 403 Forbidden                     | You are forbidden to access the requested page.                                            |
| 404 Not Found                     | The server could not find the requested page.                                              |
| 405 Method Not Allowed            | You are not allowed to use the method specified in the request.                            |
| 406 Not Acceptable                | The response generated by the server could not be accepted by the client.                  |
| 407 Proxy Authentication Required | You must use the proxy server for authentication so that the request can be processed.     |
| 408 Request Timeout               | The request timed out.                                                                     |
| 409 Conflict                      | The request could not be processed due to a conflict.                                      |
| 500 Internal Server Error         | Failed to complete the request because of an internal service error.                       |
| 501 Not Implemented               | Failed to complete the request because the server does not support the requested function. |
| 502 Bad Gateway                   | Failed to complete the request because the server has received an invalid response.        |
| 503 Service Unavailable           | Failed to complete the request because the service is unavailable.                         |
| 504 Gateway Timeout               | A gateway timeout error occurred.                                                          |

## A.3 Error Codes

### Description

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

### Example of Returned Error Information

```
{  
  "code": "VPC.0504",
```

```
}  "message": "Floating IP could not be found."
```

Error Code Description

| Module | Status Codes | Error Code | Message                                | Description                                                                                        | Handling Measure                                                                                          |
|--------|--------------|------------|----------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Public | 400          | VPC.0002   | Available zone Name is null.           | The AZ is left blank.                                                                              | Check whether the <b>availability_zone</b> field in the request body for creating a subnet is left blank. |
|        | 404          | VPC.0003   | VPC does not exist.                    | The VPC does not exist.                                                                            | Check whether the VPC ID is correct or whether the VPC exists under the tenant.                           |
|        | 400          | VPC.0004   | VPC is not active, please try later.   | The VPC status is abnormal.                                                                        | Try again later or contact technical support.                                                             |
|        | 401          | VPC.0009   | real-name authentication fail.         | Real-name authentication fails.                                                                    | Contact technical support.                                                                                |
| Public | 400          | VPC.0007   | urlTenantId is not equal tokenTenantId | Inconsistent tenant IDs.                                                                           | The tenant ID in the URL is different from that parsed in the token.                                      |
|        | 401          | VPC.0008   | Invalid token in the header.           | Invalid token.                                                                                     | Check whether the token in the request header is valid.                                                   |
|        | 403          | VPC.2701   | Token not allowed to do this action.   | You do not have the permission to perform this operation, or your account balance is insufficient. | Check whether the account balance is insufficient or whether your account has been frozen.                |

| Module           | Status Codes | Error Code | Message                                                                          | Description                                                                    | Handling Measure                                                                                             |
|------------------|--------------|------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Public           | 403          | VPC.0010   | Rules on xx by ** disallowed by policy                                           | Insufficient permissions to make calls to the underlying system.               | Obtain the required permissions.                                                                             |
|                  | 403          | VPC.2201   | Policy doesn't allow <x:x:x> to be performed                                     | Insufficient fine-grained permissions.                                         | Obtain the required permissions.                                                                             |
| Public           | 400          | VPC.0014   | This enterpriseProject status is disable.                                        | The enterprise project is unavailable.                                         | Use the ID of another available enterprise project.                                                          |
|                  | 400          | VPC.0011   | EnterpriseProjectId is invalid                                                   | Invalid enterprise project ID.                                                 | Enter a valid enterprise project ID.                                                                         |
|                  | 500409       | VPC.0304   | createBandwidth error.<br>NO QUOTAS for shareBandwidthIP!<br>Query routers fail. | An internal error occurs when operations are being performed on the bandwidth. | Contact technical support for handling the error based on the displayed error message.                       |
| Assigning an EIP | 400          | VPC.0301   | Bandwidth name or share_type is invalid.                                         | The specified bandwidth parameter for assigning an EIP is invalid.             | Check whether the specified bandwidth parameter is valid.                                                    |
|                  | 400          | VPC.0501   | Bandwidth share_type is invalid.                                                 | Invalid EIP parameters.                                                        | Check whether the parameter values are valid based on the returned error message and API reference document. |

| Module | Status Codes | Error Code | Message                                       | Description                                              | Handling Measure                                                                           |
|--------|--------------|------------|-----------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|
|        | 403          | VPC.0502   | Tenant status is op_restricted.               | You are not allowed to assign the EIP.                   | Check whether the account balance is insufficient or whether your account has been frozen. |
|        | 500          | VPC.0503   | Creating publicip failed.                     | Failed to assign the EIP.                                | Contact technical support.                                                                 |
|        | 500          | VPC.0504   | Floatip is null.                              | Failed to assign the EIP because no IP address is found. | Contact technical support.                                                                 |
|        | 500          | VPC.0508   | Port is invalid.                              | Port-related resources could not be found.               | Contact technical support.                                                                 |
|        | 409          | VPC.0510   | Floatingip has already associated with port.  | The EIP has already been bound to another ECS.           | Unbind the EIP from the ECS.                                                               |
|        | 409          | VPC.0511   | Port has already associated with floatingip.  | The port has already been bound with an EIP.             | Disassociate the port from the EIP.                                                        |
|        | 409          | VPC.0521   | Quota exceeded for resources: ['floatingip']. | Insufficient EIP quota.                                  | Release the unbound EIPs or request to increase the EIP quota.                             |
|        | 409          | VPC.0522   | The IP address is in use.                     | The IP address is invalid or in use.                     | Check whether the IP address format is valid or replace it with another IP address.        |

| Module           | Status Codes | Error Code | Message                                    | Description                                                            | Handling Measure                                                                                             |
|------------------|--------------|------------|--------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                  | 409          | VPC.0532   | No more IP addresses available on network. | Failed to assign the IP address because no IP addresses are available. | Release unbound EIPs or try again later.                                                                     |
|                  | 404          | VPC.0012   | Requested resources not found.             | The enterprise project ID does not exist.                              | Check whether an enterprise project with this ID exists for the tenant.                                      |
|                  | 400          | EIP.7901   | Input param is invalid.                    | Invalid request body.                                                  | Check the JSON format and the value range as prompted.                                                       |
| Querying an EIP  | 400          | VPC.0501   | Invalid floatingip_id.                     | Invalid EIP parameters.                                                | Check whether the EIP ID is valid.                                                                           |
|                  | 404          | VPC.0504   | Floating IP could not be found.            | The EIP could not be found.                                            | Check whether the specified EIP ID is valid.                                                                 |
|                  | 500          | VPC.0514   | Neutron Error.                             | An exception occurs in the IaaS OpenStack system.                      | Check whether the Neutron service is normal or contact technical support.                                    |
| Querying EIPs    | 400          | VPC.0501   | Invalid limit.                             | Invalid EIP parameters.                                                | Check whether the parameter values are valid based on the returned error message and API reference document. |
| Releasing an EIP | 400          | VPC.0501   | Invalid param.                             | Invalid EIP parameters.                                                | Contact technical support.                                                                                   |
|                  | 404          | VPC.0504   | Floating IP could not be found.            | The EIP could not be found.                                            | Check whether the specified EIP ID is valid.                                                                 |

| Module          | Status Codes | Error Code | Message                                                              | Description                                                              | Handling Measure                              |
|-----------------|--------------|------------|----------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------|
|                 | 409          | VPC.0512   | Resource status is busy, try it again later.                         | The EIP status is abnormal.                                              | Try again later or contact technical support. |
|                 | 500          | VPC.0513   | getElementByKey error.                                               | Network resources cannot be found.                                       | Contact technical support.                    |
|                 | 500          | VPC.0516   | Publicip is in used by ELB.                                          | Failed to release the EIP because it is being used by a load balancer.   | Unbind the EIP from the load balancer.        |
|                 | 409          | VPC.0517   | Floatingip has associated with port, please disassociate it firstly. | Failed to release the EIP because it is bound to an ECS.                 | Unbind the EIP from the ECS.                  |
|                 | 500          | VPC.0518   | Public IP has firewall rules.                                        | Failed to release the EIP because it is being used by a network ACL.     | Contact technical support.                    |
|                 | 409          | VPC.0525   | The Floatingip is billing, can not delete.                           | An EIP whose billing mode is yearly/monthly cannot be released directly. | Perform rollback operations.                  |
| Updating an EIP | 400          | VPC.0501   | Port id is invalid.                                                  | Invalid EIP parameters.                                                  | Check whether the port ID is valid.           |
|                 | 404          | VPC.0504   | Floating IP could not be found.                                      | The EIP could not be found.                                              | Check whether the specified EIP ID is valid.  |

| Module               | Status Codes | Error Code | Message                                      | Description                                                                              | Handling Measure                                                          |
|----------------------|--------------|------------|----------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
|                      | 500          | VPC.0509   | Floating ip double status is invalid.        | The port has already been associated with an EIP.                                        | Disassociate the port from the EIP.                                       |
|                      | 409          | VPC.0510   | Floatingip has already associated with port. | The EIP has already been bound to another ECS.                                           | Unbind the EIP from the ECS.                                              |
|                      | 409          | VPC.0511   | Port has already associated with floatingip. | Failed to bind the EIP to the ECS because another EIP has already been bound to the ECS. | Unbind the EIP from the ECS.                                              |
|                      | 409          | VPC.0512   | Resource status is busy, try it again later. | The EIP status is abnormal.                                                              | Try again later or contact technical support.                             |
|                      | 404/500      | VPC.0514   | Neutron Error.                               | An exception occurs in the IaaS OpenStack system.                                        | Check whether the Neutron service is normal or contact technical support. |
| Querying a bandwidth | 400          | VPC.0301   | getBandwidth error bandwidthId is invalid.   | The bandwidth parameters are incorrect.                                                  | Check whether the bandwidth ID is valid.                                  |
|                      | 404          | VPC.0306   | No Eip bandwidth exist with id.              | The bandwidth object does not exist.                                                     | The bandwidth object to be queried does not exist.                        |
|                      | 500          | VPC.0302   | Neutron Error.                               | An exception occurs in the IaaS OpenStack system.                                        | Check whether the Neutron service is normal or contact technical support. |

| Module                       | Status Codes | Error Code | Message                                 | Description                                           | Handling Measure                                                                                             |
|------------------------------|--------------|------------|-----------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Querying bandwidths          | 400          | VPC.0301   | Get bandwidths error limit is invalid.  | The bandwidth parameters are incorrect.               | Check whether the parameter values are valid based on the returned error message and API reference document. |
|                              | 404          | VPC.0306   | No Eip bandwidth exist with id.         | The bandwidth object does not exist.                  | The bandwidth object to be queried does not exist.                                                           |
|                              | 500          | VPC.0302   | Neutron Error.                          | An exception occurs in the IaaS OpenStack system.     | Check whether the Neutron service is normal or contact technical support.                                    |
| Updating a bandwidth         | 400          | VPC.0301   | updateBandwidth input param is invalid. | The bandwidth parameters are incorrect.               | Check whether the parameter values are valid based on the returned error message and API reference document. |
|                              | 500          | VPC.0302   | Neutron Error.                          | Failed to obtain underlying resources.                | Check whether the Neutron service is normal or contact technical support.                                    |
|                              | 500          | VPC.0305   | updateBandwidth error.                  | An internal error occurs during the bandwidth update. | Contact technical support.                                                                                   |
| Assigning a shared bandwidth | 400          | VPC.0310   | NO QUOTAS for shareBandwidth!           | Insufficient shared bandwidth quota.                  | Delete the shared bandwidth that is no longer required or contact technical support.                         |

| Module                                                      | Status Codes | Error Code | Message                                         | Description                                                       | Handling Measure                                                                |
|-------------------------------------------------------------|--------------|------------|-------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Adding an EIP to or removing an EIP from a shared bandwidth | 400          | VPC.0301   | Invalid publicip_id                             | Invalid EIP.                                                      | Check whether the value of <b>publicip_id</b> in <b>publicip_info</b> is valid. |
|                                                             | 400          | VPC.0323   | publicip can not be operate with this bandwidth | Failed to add an EIP to or remove an EIP from a shared bandwidth. | Check whether the shared bandwidth or EIP is normal.                            |
| Querying the Quota                                          | 400          | VPC.1207   | resource type is invalid.                       | The specified resource type does not exist.                       | Use an existing resource type.                                                  |

## A.4 Obtaining a Project ID

### Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

### Obtain the Project ID by Calling an API

You can obtain a project ID by calling the API used to [query projects based on specified criteria](#).

The API used to obtain a project ID is GET `https://{Endpoint}/v3/projects`. {Endpoint} is the IAM endpoint and can be obtained from Regions and Endpoints. For details about API authentication, see [Authentication](#).

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

```
{
  "projects": [
    {
      "domain_id": "65ewtrgaggshhk1223245sghjlse684b",
      "is_domain": false,
      "parent_id": "65ewtrgaggshhk1223245sghjlse684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
```

```
    "previous": null,
    "self": "https://www.example.com/v3/projects/a4adasfjljaaaakla12334jklga9sasfg"
  },
  "id": "a4adasfjljaaaakla12334jklga9sasfg",
  "enabled": true
}
],
"links": {
  "next": null,
  "previous": null,
  "self": "https://www.example.com/v3/projects"
}
}
```

## Obtain a Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.  
On the **API Credentials** page, view the project ID in the project list.