

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, NAT gateways, or load balancers. 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](#).

Additionally, EIPs offer software development kits (SDKs) for multiple programming languages. For details about how to use SDKs, log in at <https://developer.huaweicloud.com/intl/en-us/sdk?VPC>.

EIP 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](#).

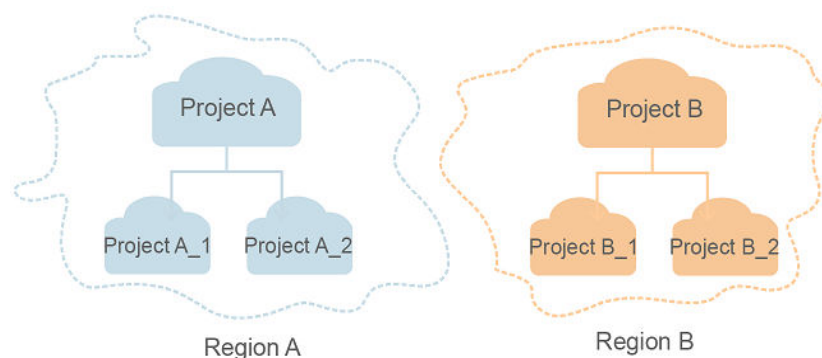
- AZ

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 to group and physically isolate resources (including computing, storage, and network resources) across regions. 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.

Figure 1-1 Project isolation model



- Enterprise Project

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

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
Elastic IP	APIs for assigning, querying, updating, and releasing EIPs
Bandwidth	APIs for querying and updating bandwidth
Quota	API for querying quota values
EIP Tag Management	APIs for adding tags to EIPs as well as querying and deleting EIP tags Currently, this type of API is available only in the AP-Singapore region.

Native OpenStack APIs

Table 2-2 Native OpenStack APIs

Type	Description
API Version Information	APIs for querying all available API versions and displaying the results in pages.
Floating IP Address	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. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI is in the following format:

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

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be 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 . For example, the endpoint of IAM in region CN-Hong Kong is iam.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of <i>Parameter name=Parameter value</i> . For example, ? limit=10 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 **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) 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.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Figure 3-1 Example URI



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.

Method	Description
PATCH	Requests the server to update partial content of a specified resource. 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.ap-southeast-1.myhuaweicloud.com/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 https is 443 .	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value application/json 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

Parameter	Description	Mandatory	Example Value
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	Specifies the user token. It is a response to the API for obtaining a user token (This is the only API that does not require authentication). After the request is processed, the value of X-Subject-Token in the response header is the token value.	No This field is mandatory for token authentication.	The following is part of an example token: MIIPAgYJKoZlhvcNAQcCo...ggg1BBIINPXsidG9rZ

 **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.ap-southeast-1.myhuaweicloud.com/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.ap-southeast-1.myhuaweicloud.com/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. In the response to the API used to obtain a user token, **X-Subject-Token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

3.2 Authentication

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

- Token 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 requests to get permissions for calling the API. You can obtain a token by calling the [Obtaining User Token](#) API.

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.ap-southeast-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK Authentication

NOTE

AK/SK authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token authentication is recommended.

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 3-2 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 3-2 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 is 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	SubJobsInfo 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 Changing EIP Billing Mode from Pay-per-Use to Yearly/Monthly

Function

This API is used to change the EIP billing mode from pay-per-use to yearly/monthly.

URI

POST /v2.0/{project_id}/publicips/change-to-period

Table 4-4 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-5 Request body parameters

Parameter	Mandatory	Type	Description
publicip_ids	Yes	Array	List of pay-per-use EIPs to be changed to yearly/monthly
extendParam	Yes	CreatePrePaidPublicipExtendParamOption object	Change billing mode from pay-per-use to yearly/monthly.

Table 4-6 CreatePrePaidPublicipExtendParamOption

Parameter	Mandatory	Type	Description
charge_mode	No	String	<ul style="list-style-type: none"> • Billing mode. • The value can be: <ul style="list-style-type: none"> - prePaid: yearly/monthly, which is prepayment. - postPaid: pay-per-use, which is postpayment. • In the postpayment mode, fields in extendParam will be ignored. <p>Default value: postPaid</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • prePaid • postPaid
period_type	No	String	<ul style="list-style-type: none"> • Subscription unit. • The value can be: <ul style="list-style-type: none"> - month: indicates that the subscription is in the unit of month. - year: indicates that the subscription is in the unit of year. • If you specify the shared bandwidth ID when you assign an EIP that is billed on a yearly/monthly basis, this parameter is optional. This parameter is mandatory if an EIP is billed on a yearly/monthly basis and is not assigned together with a shared bandwidth. If an EIP is assigned together with a shared bandwidth, the expiration time of the bandwidth is the same as that of the EIP. <p>Enumerated values:</p> <ul style="list-style-type: none"> • month • year

Parameter	Mandatory	Type	Description
period_num	No	Integer	<ul style="list-style-type: none"> Subscription period. Value range: (The value will change with the operation policy.) <ul style="list-style-type: none"> If period_type is set to month, the value ranges from 1 to 9. If period_type is set to year, the value ranges from 1 to 13. The constraints for period_num are the same as those for period_type. <p>Minimum value: 1 Maximum value: 9</p>
is_auto_renew	No	Boolean	<ul style="list-style-type: none"> Whether to automatically renew the subscription. false: The subscription will not be automatically renewed. true: The subscription will be automatically renewed. After the subscription expires, the system automatically renews the subscription for one month by default (the automatic renewal period may change). For details, contact customer service. <p>Default value: false</p>

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	<ul style="list-style-type: none"> Whether the payment will be automatically deducted from your account balance when an order is submitted. The value can be: <ul style="list-style-type: none"> true: indicates automatic payment. The system will automatically deduct fees from your account balance after an order is submitted. false: indicates non-automatic payment. You need to pay manually. If you use automatic payment, only your account balance can be used. If you want to use a voucher, do not use automatic payment, and select the voucher for the payment in the Billing Center. <p>Default value: false</p>

Response Parameters

Status code: 200

Table 4-7 Response body parameters

Parameter	Type	Description
publicip_ids	Array	List of EIPs with billing mode changed to yearly/monthly
order_id	String	Order ID
request_id	String	Request ID

Example Request

```
POST /v2.0/{project_id}/publicips/change-to-period
{
  "publicip_ids": [ "fe2a11c7-c880-49f7-b1e0-e151df2cc836" ],
  "extendParam": {
```

```
"charge_mode": "prePaid",
"period_type": "month",
"period_num": 1,
"is_auto_renew": false,
"is_auto_pay": true
}
```

Example Response

Status code: 200

OK

```
{
  "publicip_ids": [ "2c3b404b-d595-4ab5-a333-69f3ff937dc2" ],
  "order_id": "CS2212141730K2FGR",
  "request_id": "9d5bc34c-810f-48f2-95c4-9c48d02f2a33"
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.2.2 Assigning an EIP (Pay-per-Use)

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

URI

POST /v1/{project_id}/publicips

[Table 4-8](#) describes the parameters.

Table 4-8 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Parameters

Table 4-9 Request body parameter

Parameter	Mandatory	Type	Description
publicip	Yes	publicip object	Specifies the EIP object. For details, see Table 4-10 .
bandwidth	Yes	bandwidth object	Specifies the bandwidth object. For details, see Table 4-11 .
enterprise_project_id	No	String	<ul style="list-style-type: none">Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-).When you assign an EIP, associate an enterprise project ID with the EIP.If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>

Table 4-10 Description of the **publicip** field

Parameter	Mandatory	Type	Description
type	Yes	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> – CN South-Guangzhou: 5_bgp and 5_sbgp – CN East-Shanghai1: 5_bgp and 5_sbgp – CN East-Shanghai2: 5_bgp and 5_sbgp – CN North-Beijing1: 5_bgp and 5_sbgp – CN-Hong Kong: 5_bgp – AP-Bangkok: 5_bgp – AP-Singapore: 5_bgp – AF-Johannesburg: 5_bgp – CN Southwest-Guiyang1: 5_sbgp – CN North-Beijing4: 5_bgp and 5_sbgp – LA-Santiago: 5_bgp – LA-Sao Paulo1: 5_bgp – LA-Mexico City1: 5_bgp – LA-Buenos Aires1: 5_bgp – LA-Lima1: 5_bgp – LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> – The configured value must be supported by the system. – publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Parameter	Mandatory	Type	Description
ip_version	No	Integer	<ul style="list-style-type: none">• Specifies the EIP version.• The value can be 4 and 6, indicating IPv4 address and IPv6 address, respectively.• Constraints:<ul style="list-style-type: none">- The configured value must be supported by the system.- If this parameter is left blank or is an empty string, IPv4 address is created by default.
ip_addresses	No	String	<ul style="list-style-type: none">• Specifies the EIP to be assigned. The system automatically assigns an EIP if you do not specify it.• The value must be a valid IPv4 address in the available IP address range.
alias	No	String	<ul style="list-style-type: none">• Specifies the EIP name.• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
port_id	No	String	<ul style="list-style-type: none">• Specifies the port ID. The EIP to be assigned is bound to this port.• 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.

Table 4-11 Description of the **bandwidth** field

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

Parameter	Mandatory	Type	Description
size	No	Integer	<ul style="list-style-type: none"> • Specifies the bandwidth size. • 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.) • This parameter is mandatory when share_type is set to PER. This parameter will be ignored when share_type is set to WHOLE with an ID specified. • The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows: <ul style="list-style-type: none"> - 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). - The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1000 Mbit/s (with

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

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 4-12 Response parameter

Parameter	Type	Description
publicip	publicip object	Specifies the EIP object. For details, see Table 4-13 .

Table 4-13 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">• Specifies the EIP status.• Possible values are as follows:<ul style="list-style-type: none">- FREEZED (Frozen)- BIND_ERROR (Binding failed)- BINDING (Binding)- PENDING_DELETE (Releasing)- PENDING_CREATE (Assigning)- PENDING_UPDATE (Updating)- NOTIFYING (Assigning)- NOTIFY_DELETE (Release)- DOWN (Unbound)- ACTIVE (Bound)- ELB (Bound to a load balancer)- VPN (Bound to a VPN)- ERROR (Exceptions)

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> - CN South-Guangzhou: 5_bgp and 5_sbgp - CN East-Shanghai1: 5_bgp and 5_sbgp - CN East-Shanghai2: 5_bgp and 5_sbgp - CN North-Beijing1: 5_bgp and 5_sbgp - CN-Hong Kong: 5_bgp - AP-Bangkok: 5_bgp - AP-Singapore: 5_bgp - AF-Johannesburg: 5_bgp - CN Southwest-Guiyang1: 5_sbgp - CN North-Beijing4: 5_bgp and 5_sbgp - LA-Santiago: 5_bgp - LA-Sao Paulo1: 5_bgp - LA-Mexico City1: 5_bgp - LA-Buenos Aires1: 5_bgp - LA-Lima1: 5_bgp - LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Parameter	Type	Description
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	Specifies the IP address version. The value can be 4 or 6 . <ul style="list-style-type: none">● 4: IPv4● 6: IPv6
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned. 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">● Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-).● When you assign an EIP, associate an enterprise project ID with the EIP.● If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>

Parameter	Type	Description
public_border_group	String	Specifies whether it is in a central site or an edge site. The value can be: <ul style="list-style-type: none">center<i>Edge site name</i> 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](#).

4.2.3 Querying an EIP

Function

This API is used to query a specific EIP.

URI

GET /v1/{project_id}/publicips/{publicip_id}

[Table 4-14](#) describes the parameters.

Table 4-14 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
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 4-15 Response parameter

Parameter	Type	Description
publicip	publicip object	Specifies the EIP object. For details, see Table 4-16 .

Table 4-16 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">• Specifies the EIP status.• Possible values are as follows:<ul style="list-style-type: none">- FREEZED (Frozen)- BIND_ERROR (Binding failed)- BINDING (Binding)- PENDING_DELETE (Releasing)- PENDING_CREATE (Assigning)- PENDING_UPDATE (Updating)- NOTIFYING (Assigning)- NOTIFY_DELETE (Releasing)- DOWN (Unbound)- ACTIVE (Bound)- ELB (Bound to a load balancer)- VPN (Bound to a VPN)- ERROR (Exceptions)
profile	profile object	Specifies the additional parameters, including the order ID and product ID. For details, see Table 4-17 .

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> - CN South-Guangzhou: 5_bgp and 5_sbgp - CN East-Shanghai1: 5_bgp and 5_sbgp - CN East-Shanghai2: 5_bgp and 5_sbgp - CN North-Beijing1: 5_bgp and 5_sbgp - CN-Hong Kong: 5_bgp - AP-Bangkok: 5_bgp - AP-Singapore: 5_bgp - AF-Johannesburg: 5_bgp - CN Southwest-Guiyang1: 5_sbgp - CN North-Beijing4: 5_bgp and 5_sbgp - LA-Santiago: 5_bgp - LA-Sao Paulo1: 5_bgp - LA-Mexico City1: 5_bgp - LA-Buenos Aires1: 5_bgp - LA-Lima1: 5_bgp - LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - publicip_id is an IPv4 port. If publicip_type is

Parameter	Type	Description
		not specified, the default value is 5_bgp .
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 4 or 6 . <ul style="list-style-type: none">• 4: IPv4• 6: IPv6
private_ip_address	String	<ul style="list-style-type: none">• Specifies the private IP address bound to the EIP.• This parameter is returned only if the private IP address is bound to the EIP.
port_id	String	<ul style="list-style-type: none">• Specifies the port ID.• This parameter is returned only when a port is associated with the EIP.
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned. 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).

Parameter	Type	Description
bandwidth_share_type	String	<ul style="list-style-type: none"> Specifies the EIP bandwidth type. The value can be PER or WHOLE. <ul style="list-style-type: none"> PER: Dedicated bandwidth WHOLE: Shared bandwidth
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.
enterprise_project_id	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). When assigning an EIP, you need to associate an enterprise project ID with the EIP. If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</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"> center <i>Edge site name</i> <p>An EIP can only be bound to a resource of the same region.</p>

Parameter	Type	Description
allow_share_bandwidth_types	Array of strings	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. The EIP can be added only to the shared bandwidth of these types.
tags	Array of ResourceTagResp objects	Specifies the list of tags.

Table 4-17 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 4-18 ResourceTagResp

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

Parameter	Type	Description
value	String	<ul style="list-style-type: none"> • Tag value • Constraints: <ul style="list-style-type: none"> - Can contain a maximum of 43 characters. - Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@). - The tag key of an EIP must be unique. <p>Minimum length: 0 Maximum length: 43</p>

- Example response

```
{
  "publicip": {
    "id": "2ec9b78d-9368-46f3-8f29-d1a95622a568",
    "status": "DOWN",
    "alias": "tom",
    "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](#).

4.2.4 Querying EIPs

Function

This API is used to query EIPs.

URI

GET /v1/{project_id}/publicips

[Table 4-19](#) describes the parameters.

Table 4-19 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

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 limit.</p> <ul style="list-style-type: none"> • If parameters marker and limit are not passed, resource records on the first page will be returned. • If the parameter marker is not passed and the value of parameter limit is set to 10, the first 10 resource records will be returned. • If the value of the parameter marker is set to the resource ID of the 10th record and the value of parameter limit is set to 10, the 11th to 20th resource records will be returned. • If the value of the parameter marker is set to the resource ID of the 10th record and the parameter limit is not passed, 11th to 2,000th resource records will be returned. The default value of limit is 2000.

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. limit can be used together with marker . For details, see the parameter description of marker .
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">• Specifies the private IP address bound to the EIP.• This parameter is returned only if the private IP address is bound to the EIP.
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 4-20 Response parameter

Parameter	Type	Description
publicips	Array of publicips objects	Specifies the EIP object. For details, see Table 4-21 .

Table 4-21 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"> • Specifies the EIP status. • Possible values are as follows: <ul style="list-style-type: none"> - FREEZED (Frozen) - BIND_ERROR (Binding failed) - BINDING (Binding) - PENDING_DELETE (Releasing) - PENDING_CREATE (Assigning) - PENDING_UPDATE (Updating) - DOWN (Unbound) - ACTIVE (Bound) - ELB (Bound to a load balancer) - ERROR (Exceptions)
profile	Object	Specifies the additional parameters, including the order ID and product ID. For details, see Table 4-22 .

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> - CN South-Guangzhou: 5_bgp and 5_sbgp - CN East-Shanghai1: 5_bgp and 5_sbgp - CN East-Shanghai2: 5_bgp and 5_sbgp - CN North-Beijing1: 5_bgp and 5_sbgp - CN-Hong Kong: 5_bgp - AP-Bangkok: 5_bgp - AP-Singapore: 5_bgp - AF-Johannesburg: 5_bgp - CN Southwest-Guiyang1: 5_sbgp - CN North-Beijing4: 5_bgp and 5_sbgp - LA-Santiago: 5_bgp - LA-Sao Paulo1: 5_bgp - LA-Mexico City1: 5_bgp - LA-Buenos Aires1: 5_bgp - LA-Lima1: 5_bgp - LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - publicip_id is an IPv4 port. If publicip_type is

Parameter	Type	Description
		not specified, the default value is 5_bgp .
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	Specifies the IP address version. The value can be 4 or 6 . <ul style="list-style-type: none">• 4: IPv4• 6: IPv6
private_ip_address	String	<ul style="list-style-type: none">• Specifies the private IP address bound to the EIP.• This parameter is returned only if the private IP address is bound to the EIP.
port_id	String	<ul style="list-style-type: none">• Specifies the port ID.• This parameter is returned only when a port is associated with the EIP.
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned. 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).

Parameter	Type	Description
bandwidth_share_type	String	<ul style="list-style-type: none"> Specifies the EIP bandwidth type. The value can be PER or WHOLE. <ul style="list-style-type: none"> PER: Dedicated bandwidth WHOLE: Shared bandwidth
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.
enterprise_project_id	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). When assigning an EIP, you need to associate an enterprise project ID with the EIP. If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</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"> center <i>Edge site name</i> <p>An EIP can only be bound to a resource of the same region.</p>

Parameter	Type	Description
allow_share_bandwidth_types	Array of strings	<ul style="list-style-type: none"> Specifies the types of the shared bandwidth to which the EIP can be added. If the list is empty, the EIP cannot be added to any shared bandwidth. The EIP can be added only to the shared bandwidth of these types.
tags	Array of ResourceTagResp objects	Specifies the list of tags.

Table 4-22 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 4-23 ResourceTagResp

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

Parameter	Type	Description
value	String	<ul style="list-style-type: none">• Tag value• Constraints:<ul style="list-style-type: none">– Can contain a maximum of 43 characters.– Can contain letters and special characters, including hyphens (-), underscores (_), and at signs (@).– The tag key of an EIP must be unique. <p>Minimum length: 0 Maximum length: 43</p>

- 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](#).

4.2.5 Updating an EIP

Function

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

URI

PUT /v1/{project_id}/publicips/{publicip_id}

[Table 4-24](#) describes the parameters.

Table 4-24 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Table 4-25 Request parameter

Parameter	Mandatory	Type	Description
publicip	Yes	publicip object	Specifies the EIP object. For details, see Table 4-26 .

Table 4-26 Description of the **publicip** field

Parameter	Mandatory	Type	Description
port_id	No	String	<ul style="list-style-type: none"> Specifies the port ID. 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.
ip_version	No	Integer	<ul style="list-style-type: none"> Specifies the IP address version. The value can be 4 or 6. <ul style="list-style-type: none"> 4: IPv4 address 6: IPv6 Constraints: <ul style="list-style-type: none"> The IP version must be supported by the system. The port_id and ip_version fields cannot be set at the same time.
alias	No	String	<ul style="list-style-type: none"> Specifies the EIP name. The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

- 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 4-27 Response parameter

Parameter	Type	Description
publicip	publicip object	Specifies the EIP object. For details, see Table 4-28 .

Table 4-28 Description of the **publicips** field

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

Parameter	Type	Description
status	String	<ul style="list-style-type: none">• Specifies the EIP status.• Possible values are as follows:<ul style="list-style-type: none">- FREEZED (Frozen)- BIND_ERROR (Binding failed)- BINDING (Binding)- PENDING_DELETE (Releasing)- PENDING_CREATE (Assigning)- PENDING_UPDATE (Updating)- NOTIFYING (Assigning)- NOTIFY_DELETE (Releasing)- DOWN (Unbound)- ACTIVE (Bound)- ELB (Bound to a load balancer)- VPN (Bound to a VPN)- ERROR (Exceptions)
profile	profile object	Specifies the additional parameters, including the order ID and product ID. For details, see Table 4-29 .

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> - CN South-Guangzhou: 5_bgp and 5_sbgp - CN East-Shanghai1: 5_bgp and 5_sbgp - CN East-Shanghai2: 5_bgp and 5_sbgp - CN North-Beijing1: 5_bgp and 5_sbgp - CN-Hong Kong: 5_bgp - AP-Bangkok: 5_bgp - AP-Singapore: 5_bgp - AF-Johannesburg: 5_bgp - CN Southwest-Guiyang1: 5_sbgp - CN North-Beijing4: 5_bgp and 5_sbgp - LA-Santiago: 5_bgp - LA-Sao Paulo1: 5_bgp - LA-Mexico City1: 5_bgp - LA-Buenos Aires1: 5_bgp - LA-Lima1: 5_bgp - LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - publicip_id is an IPv4 port. If publicip_type is

Parameter	Type	Description
		not specified, the default value is 5_bgp .
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	Specifies the IP address version. The value can be 4 or 6 . <ul style="list-style-type: none">• 4: IPv4• 6: IPv6
private_ip_address	String	<ul style="list-style-type: none">• Specifies the private IP address bound to the EIP.• This parameter is returned only when a port is associated with the EIP.
port_id	String	<ul style="list-style-type: none">• Specifies the port ID.• This parameter is returned only when a port is associated with the EIP.
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned. 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).

Parameter	Type	Description
bandwidth_share_type	String	<ul style="list-style-type: none">Specifies the EIP bandwidth type.The value can be PER or WHOLE.<ul style="list-style-type: none">PER: Dedicated bandwidthWHOLE: Shared bandwidth
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.
enterprise_project_id	String	<ul style="list-style-type: none">Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-).When you assign an EIP, associate an enterprise project ID with the EIP.If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>

Table 4-29 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](#).

4.2.6 Releasing an EIP

Function

This API is used to release an EIP.

URI

DELETE /v1/{project_id}/publicips/{publicip_id}

[Table 4-30](#) describes the parameters.

Table 4-30 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
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](#).

4.2.7 Assigning an EIP (Yearly/Monthly)

Function

This API is used to assign a yearly/monthly EIP.

URI

POST /v2.0/{project_id}/publicips

[Table 4-31](#) describes the parameters.

Table 4-31 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request parameter

- Request parameter

Table 4-32 Request parameter

Parameter	Mandatory	Type	Description
publicip	Yes	publicip object	Specifies the EIP object. For details, see Table 4-33 .
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-34 .
extendParam	No	extendParam object	Specifies the extended parameter, which is used to apply for resources in yearly/monthly billing mode. For details, see section Table 4-35 .
enterprise_project_id	No	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). When you assign an EIP, associate an enterprise project ID with the EIP. If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>

Table 4-33 Description of the **publicip** field

Parameter	Mandatory	Type	Description
type	Yes	String	<ul style="list-style-type: none"> • Specifies the EIP type. • The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> - CN South-Guangzhou: 5_bgp and 5_sbgp - CN East-Shanghai1: 5_bgp and 5_sbgp - CN East-Shanghai2: 5_bgp and 5_sbgp - CN North-Beijing1: 5_bgp and 5_sbgp - CN-Hong Kong: 5_bgp - AP-Bangkok: 5_bgp - AP-Singapore: 5_bgp - AF-Johannesburg: 5_bgp - CN Southwest-Guiyang1: 5_sbgp - CN North-Beijing4: 5_bgp and 5_sbgp - LA-Santiago: 5_bgp - LA-Sao Paulo1: 5_bgp - LA-Mexico City1: 5_bgp - LA-Buenos Aires1: 5_bgp

Parameter	Mandator y	Type	Description
			<ul style="list-style-type: none"> - LA-Lima1: 5_bgp - LA-Santiago2: 5_bgp • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.
ip_version	No	Integer	<ul style="list-style-type: none"> • Specifies the EIP version. • The value can be 4 and 6, indicating IPv4 address and IPv6 address, respectively. • Constraints: <ul style="list-style-type: none"> - The configured value must be supported by the system. - If this parameter is left blank or is an empty string, IPv4 address is created by default.
alias	No	String	<ul style="list-style-type: none"> • Specifies the EIP name. • The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Parameter	Mandatory	Type	Description
port_id	No	String	<ul style="list-style-type: none">• Specifies the port ID.• 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.

Table 4-34 Description of the **bandwidth** field

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

Parameter	Mandatory	Type	Description
size	No	Integer	<ul style="list-style-type: none"> • Specifies the bandwidth size. • 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.) • This parameter is mandatory when share_type is set to PER. This parameter will be ignored if the bandwidth has a specified ID. • The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows: <ul style="list-style-type: none"> - 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). - The minimum increment is 50 Mbit/s if the allowed bandwidth

Parameter	Mandatory	Type	Description
			<p>ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included).</p> <ul style="list-style-type: none">- The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
id	No	String	<ul style="list-style-type: none">• Use the existing shared bandwidth to assign an IP address.• Specifies the ID of the shared bandwidth.• Constraints:<ul style="list-style-type: none">- The value must be the ID of bandwidth whose share_type is WHOLE.- This parameter does not need to be specified in prepayment mode. This parameter will be ignored if its value is left blank.

Parameter	Mandatory	Type	Description
share_type	Yes	String	<ul style="list-style-type: none">• Specifies the bandwidth type.• Possible values are as follows:<ul style="list-style-type: none">– PER: Dedicated bandwidth– WHOLE: Shared bandwidth• When the existing bandwidth is used to assign an IP address, the value of this parameter depends on the bandwidth type.• The parameter value can only be PER in prepayment mode.
charge_mode	No	String	<ul style="list-style-type: none">• Specifies the billing mode. The yearly/monthly billing mode supports only the bandwidth-based billing.• The value can be bandwidth.

Table 4-35 Description of the **extendParam** field

Parameter	Mandatory	Type	Description
charge_mode	No	String	<ul style="list-style-type: none"> Specifies the billing mode. Possible values are as follows: <ul style="list-style-type: none"> prePaid: prepayment. The billing mode is yearly/monthly. postPaid: postpayment. The billing mode is pay per use. The default value is postPaid. In the postpayment mode, parameters in extendParam will be ignored.
period_type	No	String	<ul style="list-style-type: none"> Specifies the subscription unit. Possible values are as follows: <ul style="list-style-type: none"> month: indicates that resources are subscribed by month. year: indicates that resources are subscribed by year. Constraints: <p>If you assign an EIP that uses an existing yearly/monthly shared bandwidth (that is, you specify the shared bandwidth ID to assign an EIP), this parameter is optional. This parameter is mandatory when the billing mode is prepayment and the EIP does not use a shared bandwidth.</p> <p>When an EIP is created using the shared bandwidth, the expiration time of the bandwidth is the same as that of the EIP.</p>

Parameter	Mandatory	Type	Description
period_num	No	Integer	<ul style="list-style-type: none"> Specifies the subscription period. The value range varies depending on the operation strategy. <ul style="list-style-type: none"> When period_type is set to month, the parameter value ranges from 1 to 9. When period_type is set to year, the parameter value must be set to 1. The constraints for period_num are the same as those for period_type.
is_auto_renew	No	boolean	<ul style="list-style-type: none"> Specifies whether to renew the subscription. Possible values are as follows: The value false indicates that the automatic subscription renewal is enabled. The value true indicates that the automatic subscription renewal is disabled. The default value is false. Constraints: After the subscription is expired, the system automatically renews the subscription for one month by default (the automatic renewal period may change). For details, contact the customer service personnel.

Parameter	Mandatory	Type	Description
is_auto_pay	No	boolean	<ul style="list-style-type: none">• Specifies whether the fee is automatically deducted from the customer's account balance after an order is submitted. The non-automatic payment mode is used by default.• Possible values are as follows:<ul style="list-style-type: none">– true: indicates automatic payment. The system will automatically deduct fees from the account balance after an order is submitted.– false: indicates non-automatic payment. This is the default value. Customers need to pay manually.• Constraints: If you use automatic payment, the order is paid with your account balance. If you want to use cash coupons, do not use automatic payment and select the cash coupons for the payment in the Billing Center.

Example Request

Assign an EIP that uses a new yearly/monthly dedicated bandwidth. The bandwidth size is 1 Mbit/s and the required duration is 1 month. The system does not automatically renew the subscription and deduct the fee after an order is submitted.

POST https://{Endpoint}/v2.0/{project_id}/publicips

```
{
  "publicip": {
    "type": "5_bgp"
  },
  "bandwidth": {
    "name": "bw_666",
    "size": 1,
    "share_type": "PER",
    "charge_mode": "bandwidth"
  },
  "extendParam": {
    "charge_mode": "prePaid",
    "period_type": "month",
    "period_num": 1,
    "is_auto_renew": "false",
    "is_auto_pay": "false"
  }
}
```

Assign an EIP that uses a pay-per-use bandwidth. Leave the parameter **extendParam** blank.

```
POST https://{Endpoint}/v2.0/{project_id}/publicips
{
  "publicip": {
    "type": "5_bgp"
  },
  "bandwidth": {
    "name": "bw_666",
    "size": 1,
    "share_type": "PER",
    "charge_mode": "bandwidth"
  }
}
```

Response Message

- Response parameter

Parameter	Type	Description
publicip	publicip object	Specifies the EIP object. (This parameter is returned in the pay-per-use scenario.)
order_id	String	Specifies the order ID. (This parameter is returned in the yearly/monthly scenario.)
publicip_id	String	Specifies the EIP ID. This parameter takes effect 1 minute later in the yearly/monthly scenario.

Table 4-36 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">• Specifies the EIP status.• Possible values are as follows:<ul style="list-style-type: none">- FREEZED (Frozen)- BIND_ERROR (Binding failed)- BINDING (Binding)- PENDING_DELETE (Releasing)- PENDING_CREATE (Assigning)- PENDING_UPDATE (Updating)- NOTIFYING (Assigning)- NOTIFY_DELETE (Releasing)- DOWN (Unbound)- ACTIVE (Bound)- ELB (Bound to a load balancer)- ERROR (Exceptions)

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.
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 4 or 6.</p> <ul style="list-style-type: none"> 4: IPv4 address 6: IPv6
tenant_id	String	Specifies the project ID.

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

Example Response

Yearly/monthly

```
{
  "order_id": "CS1802081410IMDRN",
  "publicip_id": "4eaf3b63-48ca-4410-ab85-bdfddf4b35fd"
}
```

Pay-per-use

```
{
  "publicip": {
    "id": "4eaf3b63-48ca-4410-ab85-bdfddf4b35fd",
    "status": "PENDING_CREATE",
    "type": "5_bgp",
    "public_ip_address": "10.xx.xx.238",
    "tenant_id": "26ae5181a416420998eb2093aaed84d9",
    "create_time": "2019-03-27 13:11:58",
    "bandwidth_size": 0,
    "enterprise_project_id": "0",
    "ip_version": 4
  }
}
```

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 4-37 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-38 Request body parameters

Parameter	Mandatory	Type	Description
bandwidth	Yes	BatchBandwidth object	Bandwidth information
publicip	Yes	BatchPublicIp object	EIP information
publicip_number	Yes	Integer	Number of EIPs to be created in batches
enterprise_project_id	Yes	String	Enterprise project ID

Table 4-39 BatchBandwidth

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

Parameter	Mandatory	Type	Description
size	Yes	Integer	<ul style="list-style-type: none"> Bandwidth size (Mbit/s). 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.) This parameter is mandatory if share_type is set to PER. This parameter will be ignored if share_type is set to WHOLE with an ID specified. The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows: <ul style="list-style-type: none"> 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). 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). The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
id	No	String	<ul style="list-style-type: none"> Bandwidth ID. You can specify an existing shared bandwidth ID when assigning an EIP that uses the bandwidth whose type is WHOLE. Value: ID of the bandwidth of type WHOLE

Table 4-40 BatchPublicIp

Parameter	Mandatory	Type	Description
id	No	String	Assigning an EIP by specifying an ID
type	Yes	String	EIP type Enumerated values: <ul style="list-style-type: none">• 5_bgp• 5_union• 5_sbgp
ip_version	No	String	EIP version, for example, IPv4 and IPv6. The default value is ipv4 .
enterprise_project_id	No	String	Enterprise project ID
tags	No	Array of ResourceTag Option objects	<ul style="list-style-type: none">• Tag list• 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.
profile	No	BatchProfile object	Order information

Table 4-41 ResourceTagOption

Parameter	Mandatory	Type	Description
key	Yes	String	<ul style="list-style-type: none">• Tag key• Constraints:<ul style="list-style-type: none">- Cannot be left blank.- Can contain a maximum of 128 characters.- Can contain letters, digits, underscores (_), and hyphens (-).- The tag key of a resource must be unique. Maximum length: 128
value	Yes	String	<ul style="list-style-type: none">• Tag value• Constraints:<ul style="list-style-type: none">- Can contain no more than 255 characters.- Can contain letters, digits, underscores (_), and hyphens (-).- The tag key of a resource must be unique. Maximum length: 255

Table 4-42 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 4-43 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 4-44 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-45 Request body parameters

Parameter	Mandatory	Type	Description
publicip_ids	Yes	Array of strings	EIP IDs

Response Parameters

Status code: 200

Table 4-46 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 4-47 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-48 Request body parameters

Parameter	Mandatory	Type	Description
publicip_ids	Yes	Array of strings	EIP IDs

Response Parameters

Status code: 200

Table 4-49 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 4-50](#) 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 Obtaining a Project ID .
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 4-51 Response parameter

Parameter	Type	Description
bandwidth	bandwidth object	Specifies the bandwidth object.

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

Parameter	Type	Description
name	String	<ul style="list-style-type: none">• Specifies the bandwidth name.• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	<ul style="list-style-type: none">• Specifies the bandwidth size.• 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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none">• Specifies whether the bandwidth is shared or dedicated.• Possible values are as follows:<ul style="list-style-type: none">– PER: Dedicated bandwidth– WHOLE: Shared bandwidth
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">• Specifies information about the EIP that uses the bandwidth. For details, see Table 4-53.• The bandwidth, whose type is WHOLE, can be used by up to 20 EIPs. The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.

Parameter	Type	Description
bandwidth_type	String	<ul style="list-style-type: none"> Specifies the bandwidth type. The value can be: <ul style="list-style-type: none"> share: Shared bandwidth bgp: Dynamic BGP sbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none"> Specifies whether the billing is based on traffic or bandwidth. Possible values can be bandwidth (billed by bandwidth) and traffic (billed by traffic). If the value is an empty character string or no value is specified, value bandwidth is used.
billing_info	String	<p>Specifies the bill information.</p> <p>If billing_info is specified, the bandwidth is in yearly/monthly billing mode.</p>
enterprise_project_id	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). When creating a bandwidth, associate the enterprise project ID with the bandwidth. If this parameter is not specified, the default value is 0, which indicates that the default enterprise project is used. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>
status	String	<ul style="list-style-type: none"> Specifies the bandwidth status. Possible values are as follows: <ul style="list-style-type: none"> FREEZED (Frozen) NORMAL (Normal)
created_at	String	<ul style="list-style-type: none"> Specifies the time (UTC) when the bandwidth is created. Format: <i>yyyy-MM-ddTHH:mm:ss</i>

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

Table 4-53 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">Specifies the IP address version.Possible values are as follows:<ul style="list-style-type: none">4: IPv46: IPv6

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-54 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none">Specifies the maximum outbound bandwidth in Mbit/s.The value range ranges from 0 to <i>n</i>, where <i>n</i> indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none">Specifies the guaranteed outbound bandwidth in Mbit/s.The value ranges from 0 to <i>x</i>, where <i>x</i> indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies the EIP associated with the bandwidth.The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- 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 4-55](#) describes the parameters.

Table 4-55 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

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 limit.</p> <ul style="list-style-type: none"> • If parameters marker and limit are not passed, resource records on the first page will be returned. • If the parameter marker is not passed and the value of parameter limit is set to 10, the first 10 resource records will be returned. • If the value of the parameter marker is set to the resource ID of the 10th record and the value of parameter limit is set to 10, the 11th to 20th resource records will be returned. • If the value of the parameter marker is set to the resource ID of the 10th record and the parameter limit is not passed, 11th to 2,000th resource records will be returned. The default value of limit is 2000.
limit	No	Integer	<p>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. limit can be used together with marker. For details, see the parameter description of marker.</p>
share_type	No	String	<ul style="list-style-type: none"> • Specifies the bandwidth type. • Possible values are as follows: <ul style="list-style-type: none"> – PER: Dedicated bandwidth – WHOLE: Shared bandwidth • If this parameter is not set, the list of all bandwidths will be returned by default.

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

- Example request
GET `https://{Endpoint}/v1/{project_id}/bandwidths?limit={limit}&marker={marker}`

Response Message

- Response parameter

Table 4-56 Response parameter

Parameter	Type	Description
bandwidths	Array of bandwidths objects	Specifies the bandwidth objects. For details, see Table 4-57 .

Table 4-57 Description of the **bandwidths** field

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

Parameter	Type	Description
size	Integer	<ul style="list-style-type: none"> Specifies the bandwidth size in Mbit/s. 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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none"> Specifies whether the bandwidth is shared or dedicated. Possible values are as follows: <ul style="list-style-type: none"> PER: Dedicated bandwidth WHOLE: Shared bandwidth <p>If this parameter is not set, the list of all bandwidths will be returned by default.</p>
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies the information about the EIP that uses the bandwidth. For details, see Table 4-58. The bandwidth, whose type is WHOLE, can be used by multiple EIPs (up to 20 EIPs by default). The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.
bandwidth_type	String	<ul style="list-style-type: none"> Specifies the bandwidth type. The value can be: <ul style="list-style-type: none"> share: Shared bandwidth bgp: Dynamic BGP sbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none"> Specifies whether the bandwidth is billed by traffic or by bandwidth size. Possible values can be bandwidth (billed by bandwidth) and traffic (billed by traffic). If the value is an empty character string or no value is specified, value bandwidth is used.

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

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

Table 4-58 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4- 6: IPv6

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-59 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none"> Specifies the maximum outbound bandwidth in Mbit/s. The value range ranges from 0 to <i>n</i>, where <i>n</i> indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none"> Specifies the guaranteed outbound bandwidth in Mbit/s. The value ranges from 0 to <i>x</i>, where <i>x</i> indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies the EIP associated with the bandwidth. The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- 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"
    }
  ],
  "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": "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 4-60](#) describes the parameters.

Table 4-60 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Table 4-61 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-62 .

Table 4-62 Description of the **bandwidth** field

Parameter	Mandatory	Type	Description
name	No	String	<ul style="list-style-type: none">• Specifies the bandwidth name.• 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.• Either parameter name or size must be specified.
size	No	Integer	<ul style="list-style-type: none">• Specifies the bandwidth size in Mbit/s.• 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.• Either parameter name or size must be specified.• If a decimal fraction (for example 10.2) or a character string (for example "10") is specified, the specified value will be automatically converted to an integer.• The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none">– 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).– 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).– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.

Parameter	Mandatory	Type	Description
charge_mode	No	String	<ul style="list-style-type: none"> Specifies whether the billing is based on traffic, bandwidth, or 95th percentile bandwidth (enhanced). Possible values can be bandwidth (billed by bandwidth), traffic (billed by traffic), or 95peak_plus (billed by enhanced 95th percentile bandwidth). If the value is an empty character string or no value is specified, value bandwidth is used. Only the shared bandwidth supports 95peak_plus (billed by enhanced 95th percentile bandwidth). If you choose to be billed by 95th percentile bandwidth (enhanced), you need to specify the guaranteed bandwidth percentage. The default value is 20%.

- Example request

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

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

Response Message

- Response parameter

Table 4-63 Response parameter

Parameter	Type	Description
bandwidth	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-64 .

Table 4-64 Description of the **bandwidth** field

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

Parameter	Type	Description
size	Integer	<ul style="list-style-type: none">Specifies the bandwidth size in Mbit/s.The value ranges from 1Mbit/s~300Mbit/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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none">Specifies whether the bandwidth is shared or dedicated.Possible values are as follows:<ul style="list-style-type: none">PER: Dedicated bandwidthWHOLE: Shared bandwidth
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies the information about the EIP that uses the bandwidth. For details, see Table 4-65.The bandwidth, whose type is WHOLE, can be used by multiple EIPs (up to 20 EIPs by default). The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.
bandwidth_type	String	<ul style="list-style-type: none">Specifies the bandwidth type.The value can be bgp, sbgp, or share.<ul style="list-style-type: none">share: Shared bandwidthbgp: Dynamic BGPsbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none">Specifies whether the bandwidth is billed by traffic or by bandwidth size.Possible values can be bandwidth (billed by bandwidth) and traffic (billed by traffic). If the value is an empty character string or no value is specified, value bandwidth is used.

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

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

Table 4-65 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4- 6: IPv6

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-66 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none">Specifies the maximum outbound bandwidth in Mbit/s.The value range ranges from 0 to n, where n indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none">Specifies the guaranteed outbound bandwidth in Mbit/s.The value ranges from 0 to x, where x indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies the EIP associated with the bandwidth.The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- 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](#).

4.4.4 Updating Bandwidths in Batches

Function

This API is used to update bandwidths in batches. This API is not applicable to shared bandwidths and yearly/monthly bandwidths.

URI

PUT /v2/{project_id}/batch-bandwidths/modify

Table 4-67 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-68 Request body parameters

Parameter	Mandatory	Type	Description
bandwidths	Yes	Array of ModifyBandwidthOption objects	Update bandwidths.

Table 4-69 ModifyBandwidthOption

Parameter	Mandatory	Type	Description
id	Yes	String	<ul style="list-style-type: none">Bandwidth ID, which uniquely identifies a bandwidth Maximum length: 36

Parameter	Mandatory	Type	Description
name	No	String	<p>The name of the bandwidth. The value can contain 1 to 64 characters, including letters, digits, underscores (_), and hyphens (-). If the value is left blank, the name of the bandwidth is not changed.</p> <p>Either parameter name, size or charge_mode must be specified.</p> <p>Minimum length: 1 Maximum length: 64</p>

Parameter	Mandatory	Type	Description
size	No	Integer	<p>The bandwidth size, in Mbit/s. The value ranges from 1 Mbit/s to 2,000 Mbit/s by default. (The specific range may vary by 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.</p> <p>Either parameter name, size or charge_mode must be specified.</p> <p>If a decimal fraction (for example 10.2) or a character string (for example "10") is specified, the specified value will be automatically converted to an integer.</p> <p>Either parameter name or size must be specified.</p> <p>The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:</p> <p>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).</p> <p>The minimum increment is 50 Mbit/s if the allowed bandwidth ranges from 300 Mbit/s to 1,000 Mbit/s (with 1,000 Mbit/s included).</p> <p>The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1,000 Mbit/s.</p>

Parameter	Mandatory	Type	Description
charge_mode	No	String	<p>Whether the bandwidth is billed by traffic, bandwidth, or 95th percentile bandwidth (enhanced).</p> <p>The value can be bandwidth, traffic, or 95peak_plus (billed by enhanced 95th percentile bandwidth). If the value is an empty character string or no value is specified, value bandwidth is used.</p> <p>Only the shared bandwidth supports 95peak_plus (billed by enhanced 95th percentile bandwidth). If you choose to be billed by 95th percentile bandwidth (enhanced), you need to specify the guaranteed bandwidth percentage. The default value is 20%.</p>

Response Parameters

Status code: 200

Table 4-70 Response body parameters

Parameter	Type	Description
success_resources	Array of SuccessResources objects	Successful resources
failure_resources	Array of FailureResources objects	Failed resources

Table 4-71 SuccessResources

Parameter	Type	Description
id	String	<ul style="list-style-type: none">ID of the bandwidth that is successfully updated. <p>Minimum length: 1 Maximum length: 36</p>

Table 4-72 FailureResources

Parameter	Type	Description
id	String	<ul style="list-style-type: none">ID of the bandwidth that fails to be updated. Minimum length: 1 Maximum length: 36
code	String	<ul style="list-style-type: none">Error code Minimum length: 1 Maximum length: 36
message	String	<ul style="list-style-type: none">Error message Minimum length: 1 Maximum length: 256

Example Request

Update bandwidths in batches.

```
{
  "bandwidths": [ {
    "id": "837d84a0-b940-4401-9477-4a99de1979a7",
    "name": "bandwidth123",
    "size": 5
  }, {
    "id": "f2549bed-c419-4f58-9609-7ade104772bb",
    "name": "bandwidth123",
    "size": 5
  } ]
}
```

Example Response

Status code: 200

Normal response for batch bandwidth update

```
{
  "success_resources": [ {
    "id": "837d84a0-b940-4401-9477-4a99de1979a7"
  } ],
  "failure_resources": [ {
    "id": "f2549bed-c419-4f58-9609-7ade104772bb",
    "code": "VPC.0319",
    "message": "updateBandwidth bandwidth failed. the bandwidth is share bandwidth."
  } ]
}
```

SDK Sample Code

The sample code is as follows:

Java

Update bandwidths in batches.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.eip.v2.region.EipRegion;
import com.huaweicloud.sdk.eip.v2.*;
import com.huaweicloud.sdk.eip.v2.model.*;

import java.util.List;
import java.util.ArrayList;

public class BatchModifyBandwidthSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        EipClient client = EipClient.newBuilder()
            .withCredential(auth)
            .withRegion(EipRegion.valueOf("<YOUR REGION>"))
            .build();
        BatchModifyBandwidthRequest request = new BatchModifyBandwidthRequest();
        ModifyBandwidthRequestBody body = new ModifyBandwidthRequestBody();
        List<ModifyBandwidthOption> listbodyBandwidths = new ArrayList<>();
        listbodyBandwidths.add(
            new ModifyBandwidthOption()
                .withId("837d84a0-b940-4401-9477-4a99de1979a7")
                .withName("bandwidth123")
                .withSize(5)
        );
        listbodyBandwidths.add(
            new ModifyBandwidthOption()
                .withId("f2549bed-c419-4f58-9609-7ade104772bb")
                .withName("bandwidth123")
                .withSize(5)
        );
        body.withBandwidths(listbodyBandwidths);
        request.withBody(body);
        try {
            BatchModifyBandwidthResponse response = client.batchModifyBandwidth(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

Update bandwidths in batches.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkeip.v2.region.eip_region import EipRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkeip.v2 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = EipClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EipRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = BatchModifyBandwidthRequest()
        listBandwidthsbody = [
            ModifyBandwidthOption(
                id="837d84a0-b940-4401-9477-4a99de1979a7",
                name="bandwidth123",
                size=5
            ),
            ModifyBandwidthOption(
                id="f2549bed-c419-4f58-9609-7ade104772bb",
                name="bandwidth123",
                size=5
            )
        ]
        request.body = ModifyBandwidthRequestBody(
            bandwidths=listBandwidthsbody
        )
        response = client.batch_modify_bandwidth(request)
        print(response)
    except exceptions.ClientRequestException as e:
        print(e.status_code)
        print(e.request_id)
        print(e.error_code)
        print(e.error_msg)
```

Go

Update bandwidths in batches.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    eip "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v2"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v2/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v2/region"
)
```



```
func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := eip.NewEipClient(
        eip.EipClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.BatchModifyBandwidthRequest{
        nameBandwidths:= "bandwidth123"
        sizeBandwidths:= int32(5)
        nameBandwidths1:= "bandwidth123"
        sizeBandwidths1:= int32(5)
        var listBandwidthsbody = []model.ModifyBandwidthOption{
            {
                Id: "837d84a0-b940-4401-9477-4a99de1979a7",
                Name: &nameBandwidths,
                Size: &sizeBandwidths,
            },
            {
                Id: "f2549bed-c419-4f58-9609-7ade104772bb",
                Name: &nameBandwidths1,
                Size: &sizeBandwidths1,
            },
        }
        request.Body = &model.ModifyBandwidthRequestBody{
            Bandwidths: listBandwidthsbody,
        }
        response, err := client.BatchModifyBandwidth(request)
        if err == nil {
            fmt.Printf("%+v\n", response)
        } else {
            fmt.Println(err)
        }
    }
}
```

More SDK Sample Code

For more SDK sample codes of programming languages, visit [API Explorer](#) and click the **Sample Code** tab. Example codes can be automatically generated.

Status Codes

Status Code	Description
200	Normal response for batch bandwidth update

Error Code

See [Error Codes](#).

4.5 Bandwidth (V2.0)

4.5.1 Changing Bandwidth Billing Mode from Pay-per-Use to Yearly/Monthly

Function

This API is used to change the bandwidth billing mode from pay-per-use to yearly/monthly.

URI

POST /v2.0/{project_id}/bandwidths/change-to-period

Table 4-73 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

Table 4-74 Request body parameters

Parameter	Mandatory	Type	Description
bandwidth_ids	Yes	Array	List of pay-per-use bandwidths to be changed to yearly/monthly
extendParam	Yes	CreatePrePaidPublicIPExtendParamOption object	Change billing mode from pay-per-use to yearly/monthly.

Table 4-75 CreatePrePaidPublicipExtendParamOption

Parameter	Mandatory	Type	Description
charge_mode	No	String	<ul style="list-style-type: none"> • Billing mode. • The value can be: <ul style="list-style-type: none"> - prePaid: yearly/monthly, which is prepayment. - postPaid: pay-per-use, which is postpayment. • In the postpayment mode, fields in extendParam will be ignored. <p>Default value: postPaid</p> <p>Enumerated values:</p> <ul style="list-style-type: none"> • prePaid • postPaid
period_type	No	String	<ul style="list-style-type: none"> • Subscription unit. • The value can be: <ul style="list-style-type: none"> - month: indicates that the subscription is in the unit of month. - year: indicates that the subscription is in the unit of year. • If you specify the shared bandwidth ID when you assign an EIP that is billed on a yearly/monthly basis, this parameter is optional. This parameter is mandatory if an EIP is billed on a yearly/monthly basis and is not assigned together with a shared bandwidth. If an EIP is assigned together with a shared bandwidth, the expiration time of the bandwidth is the same as that of the EIP. <p>Enumerated values:</p> <ul style="list-style-type: none"> • month • year

Parameter	Mandatory	Type	Description
period_num	No	Integer	<ul style="list-style-type: none">• Subscription period.• Value range: (The value will change with the operation policy.)<ul style="list-style-type: none">- If period_type is set to month, the value ranges from 1 to 9.- If period_type is set to year, the value ranges from 1 to 13.• The constraints for period_num are the same as those for period_type. Minimum value: 1 Maximum value: 9
is_auto_renew	No	Boolean	<ul style="list-style-type: none">• Whether to automatically renew the subscription.• false: The subscription will not be automatically renewed. true: The subscription will be automatically renewed.• After the subscription expires, the system automatically renews the subscription for one month by default (the automatic renewal period may change). For details, contact customer service. Default value: false

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	<ul style="list-style-type: none"> Whether the payment will be automatically deducted from your account balance when an order is submitted. The value can be: <ul style="list-style-type: none"> true: indicates automatic payment. The system will automatically deduct fees from your account balance after an order is submitted. false: indicates non-automatic payment. You need to pay manually. If you use automatic payment, only your account balance can be used. If you want to use a voucher, do not use automatic payment, and select the voucher for the payment in the Billing Center. <p>Default value: false</p>

Response Parameters

Status code: 200

Table 4-76 Response body parameters

Parameter	Type	Description
bandwidth_ids	Array	List of bandwidths with billing mode changed to yearly/monthly
order_id	String	Order ID
request_id	String	Request ID

Example Request

```
POST /v2.0/{project_id}/bandwidths/change-to-period
{
  "bandwidth_ids": [ "fe2a11c7-c880-49f7-b1e0-e151df2cc836" ],
  "extendParam": {
```

```
"charge_mode": "prePaid",
"period_type": "month",
"period_num": 1,
"is_auto_renew": false,
"is_auto_pay": true
}
}
```

Example Response

Status code: 200

OK

```
{
  "bandwidth_ids": [ "fe2a11c7-c880-49f7-b1e0-e151df2cc836" ],
  "order_id": "CS2212141741L0QZG",
  "request_id": "8bcadb5d-1bf4-42e8-909f-1606ecf781ce"
}
```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.5.2 Assigning a Shared Bandwidth

Function

This API is used to assign a shared bandwidth.

URI

POST /v2.0/{project_id}/bandwidths

[Table 4-77](#) describes the parameters.

Table 4-77 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Message

- Request parameter

Table 4-78 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-79 .

Table 4-79 Description of the **bandwidth** field

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

Parameter	Mandatory	Type	Description
size	Yes	Integer	<ul style="list-style-type: none"> • 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. • 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.) • If a decimal fraction (for example 10.2) or a character string (for example "10") is specified, the specified value will be automatically converted to an integer. • The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows: <ul style="list-style-type: none"> – 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). – 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). – The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value 0 indicates the default enterprise project. When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>
charge_mode	No	String	<ul style="list-style-type: none"> Specifies whether the billing is based on bandwidth, or 95th percentile bandwidth (enhanced). Possible values can be bandwidth (billed by bandwidth) and 95peak_plus (billed by enhanced 95th percentile bandwidth). If the value is an empty character string or no value is specified, value bandwidth is used. Only the shared bandwidth supports 95peak_plus (billed by enhanced 95th percentile bandwidth). If you use the enhanced 95th percentile bandwidth, you need to specify the guaranteed bandwidth percentage. The default value is 20%.
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"> center <i>Edge site name</i> <p>This resource can only be associated with an EIP of the same region.</p>

Parameter	Mandatory	Type	Description
bandwidth_type	No	String	<ul style="list-style-type: none"> Specifies the type of the bandwidth to be created. For details about supported types of bandwidth, see Querying a Bandwidth. By default: <ul style="list-style-type: none"> Central region: share Edge site: edgeshare

- Example request

POST https://{Endpoint}/v2.0/{project_id}/bandwidths

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

Response Message

- Response parameter

Table 4-80 Response parameter

Parameter	Type	Description
bandwidth	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-81 .

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

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

Parameter	Type	Description
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none">Specifies whether the bandwidth is shared or dedicated.The value can be PER or WHOLE.<ul style="list-style-type: none">WHOLE: Shared bandwidthPER: Dedicated bandwidth
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies information about the EIP that uses the bandwidth. For details, see Table 4-82.The bandwidth, whose type is WHOLE, can be used by multiple EIPs. The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.
bandwidth_type	String	<ul style="list-style-type: none">Specifies the bandwidth type. The default value for the shared bandwidth is share.The value can be share, bgp, or sbgp.<ul style="list-style-type: none">share: Shared bandwidthbgp: Dynamic BGPsbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none">Specifies whether the bandwidth is billed by traffic or by bandwidth size.Possible values can be bandwidth (billed by bandwidth) and traffic (billed by traffic). If the value is an empty character string or no value is specified, value bandwidth is used.The shared bandwidth can be billed only by bandwidth.
billing_info	String	Specifies the bill information. If billing_info is specified, the bandwidth is in yearly/monthly billing mode.

Parameter	Type	Description
enterprise_project_id	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a UUID that can contain a maximum of 36 characters, including hyphens (-). Value 0 indicates the default enterprise project. When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>
status	String	<ul style="list-style-type: none"> Specifies the bandwidth status. Possible values are as follows: <ul style="list-style-type: none"> FREEZED (Frozen) NORMAL (Normal)
created_at	String	<ul style="list-style-type: none"> Specifies the time (UTC) when the bandwidth is created. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
updated_at	String	<ul style="list-style-type: none"> Specifies the time (UTC) when the bandwidth is updated. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
enable_bandwidth_rules	boolean	<ul style="list-style-type: none"> Specifies whether to enable QoS. The value can be true or false.
rule_quota	integer	Specifies the maximum number of grouping rules supported by the bandwidth.
bandwidth_rules	Array of bandwidth_rules 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"> center <i>Edge site name</i> <p>This resource can only be associated with an EIP of the same region.</p>

Table 4-82 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4 address- 6: IPv6 address

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-83 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none">Specifies the maximum outbound bandwidth in Mbit/s.The value range ranges from 0 to n, where n indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none">Specifies the guaranteed outbound bandwidth in Mbit/s.The value ranges from 0 to x, where x indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies the EIP associated with the bandwidth.The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- 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](#).

4.5.3 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 4-84](#) describes the parameters.

Table 4-84 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Message

- Request parameter

Table 4-85 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-86 .

Table 4-86 Description of the **bandwidth** field

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

Parameter	Mandatory	Type	Description
size	Yes	Integer	<ul style="list-style-type: none"> • 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. • 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.) • The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows: <ul style="list-style-type: none"> - 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). - The minimum increment is 50 Mbit/s if the allowed bandwidth

Parameter	Mandator y	Type	Description
			<p>ranges from 300 Mbit/s to 1000 Mbit/s (with 1000 Mbit/s included).</p> <ul style="list-style-type: none"> - The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
count	Yes	Integer	<ul style="list-style-type: none"> • Specifies the number of shared bandwidths that can be assigned at a time. • The value is a positive integer. • 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.
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"> • center • <i>Edge site name</i> <p>This resource can only be associated with an EIP of the same region.</p>

- **Example request**
 POST https://{Endpoint}/v2.0/{project_id}/batch-bandwidths

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

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

Response Message

- Response parameter

Table 4-87 Response parameter

Parameter	Type	Description
bandwidths	Array of bandwidths objects	Specifies the bandwidth objects. For details, see Table 4-88 .

Table 4-88 Description of the **bandwidths** field

Parameter	Type	Description
name	String	<ul style="list-style-type: none">• Specifies the bandwidth name.• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	<ul style="list-style-type: none">• Specifies the bandwidth size.• 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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none">• Specifies whether the bandwidth is shared or dedicated.• The value can be PER or WHOLE.<ul style="list-style-type: none">- WHOLE: Shared bandwidth- PER: Dedicated bandwidth

Parameter	Type	Description
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies information about the EIP that uses the bandwidth. For details, see Table 4-89. The bandwidth, whose type is WHOLE, can be used by multiple EIPs. The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.
bandwidth_type	String	<ul style="list-style-type: none"> Specifies the bandwidth type. The default value for the shared bandwidth is share. The value can be share, bgp, or sbgp. <ul style="list-style-type: none"> share: Shared bandwidth bgp: Dynamic BGP sbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none"> Specifies whether the bandwidth is billed by traffic or by bandwidth size. Possible values can be bandwidth (billed by bandwidth) and traffic (billed by traffic). If the value is an empty character string or no value is specified, value bandwidth is used. The shared bandwidth can be billed only by bandwidth.
billing_info	String	Specifies the bill information. If billing_info is specified, the bandwidth is in yearly/monthly billing mode.
status	String	<ul style="list-style-type: none"> Specifies the bandwidth status. Possible values are as follows: <ul style="list-style-type: none"> FREEZED (Frozen) NORMAL (Normal)

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

Table 4-89 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4 address- 6: IPv6 address

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

- 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](#).

4.5.4 Deleting a Shared Bandwidth

Function

This API is used to delete a shared bandwidth.

URI

DELETE /v2.0/{project_id}/bandwidths/{bandwidth_id}

[Table 4-90](#) describes the parameters.

Table 4-90 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
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](#).

4.5.5 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 4-91](#) 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 Obtaining a Project ID .
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Table 4-92 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-93 .

Table 4-93 Description of the **bandwidth** field

Parameter	Mandatory	Type	Description
publicip_info	Yes	Array of publicip_info objects	<ul style="list-style-type: none">Specifies information about the EIP to be added to the shared bandwidth. For details, see Table 4-94.The bandwidth, whose type is WHOLE, 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.

Table 4-94 **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	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

- Example request

POST 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 4-95 Response parameter

Parameter	Type	Description
bandwidth	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-96 .

Table 4-96 Description of the **bandwidth** field

Parameter	Type	Description
name	String	<ul style="list-style-type: none">• Specifies the bandwidth name.• The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	<ul style="list-style-type: none">• Specifies the bandwidth size.• 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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none">• Specifies whether the bandwidth is shared or dedicated.• The value can be PER or WHOLE.<ul style="list-style-type: none">– WHOLE: Shared bandwidth– PER: Dedicated bandwidth
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">• Specifies information about the EIP that uses the bandwidth. For details, see Table 4-97.• The bandwidth, whose type is WHOLE, can be used by multiple EIPs. The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.

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

Parameter	Type	Description
rule_quota	integer	Specifies the maximum number of grouping rules supported by the bandwidth.
bandwidth_rules	Array of bandwidth_rules objects	Specifies the bandwidth rules.

Table 4-97 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4- 6: IPv6

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-98 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none"> Specifies the maximum outbound bandwidth in Mbit/s. The value range ranges from 0 to <i>n</i>, where <i>n</i> indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none"> Specifies the guaranteed outbound bandwidth in Mbit/s. The value ranges from 0 to <i>x</i>, where <i>x</i> indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies the EIP associated with the bandwidth. The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- 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:35f2b308f5d64441a6fa7999fbc4321",
    "bandwidth_type": "share",
    "status": "NORMAL"
  }
}

```

Status Code

See [Status Codes](#).

Error Code

See [Error Codes](#).

4.5.6 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 4-99](#) describes the parameters.

Table 4-99 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Table 4-100 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-101 .

Table 4-101 Description of the **bandwidth** field

Parameter	Mandatory	Type	Description
publicip_info	Yes	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies information about the EIP to be removed from the bandwidth. For details, see Table 4-102. The bandwidth, whose type is WHOLE, 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.
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 bandwidth or traffic.</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 4-102 **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 publicip_id value is the EIP ID, this parameter will be ignored. If publicip_id is the ID of the IPv6 port, this parameter must be set to 5_dualStack . This only applies to the CN North-Beijing4 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](#).

4.5.7 Updating a Yearly/Monthly Bandwidth

Function

This API is used to update information about a bandwidth in yearly/monthly billing mode.

URI

PUT /v2.0/{project_id}/bandwidths/{bandwidth_id}

[Table 4-103](#) describes the parameters.

Table 4-103 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth. You can obtain it in Querying an EIP .

Request Message

- Request parameter

Table 4-104 Request parameter

Parameter	Mandatory	Type	Description
bandwidth	Yes	bandwidth object	Specifies the bandwidth objects. For details, see Table 4-105 .
extendParam	No	extendParam object	Specifies the extended parameter, which is used to apply for resources in yearly/monthly billing mode. For details, see Table 4-106 .

Table 4-105 Description of the **bandwidth** field

Parameter	Mandatory	Type	Description
name	No	String	<ul style="list-style-type: none">• Specifies the bandwidth name.• 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.• Either name or size must be specified.

Parameter	Mandatory	Type	Description
size	No	Integer	<ul style="list-style-type: none">• Specifies the bandwidth size. The size of the bandwidth in yearly/monthly billing mode can only be changed to a larger value.• 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.) If the parameter is not included, the bandwidth size is not changed.• Either name or size must be specified.• The minimum increment for bandwidth adjustment varies depending on the bandwidth range. The details are as follows:<ul style="list-style-type: none">– 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).– 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).– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.

Table 4-106 Description of the **extendParam** field

Parameter	Mandatory	Type	Description
is_auto_pay	No	boolean	<ul style="list-style-type: none"> Specifies whether an order is automatically paid from the customer's account without manual operations. By default, the system will not automatically pay the order. Possible values are as follows: <ul style="list-style-type: none"> true: Yes (The order will be automatically paid.) false: No (Default value. You must manually pay the order.) Constraints: If you use automatic payment, the order is paid with your account balance. If you want to use cash coupons, do not use automatic payment and select the cash coupons for the payment in the Billing Center.

- Example request

PUT https://{Endpoint}/v2.0/{project_id}/bandwidths/{bandwidth_id}

```
{
  "bandwidth": {
    "name": "bandwidth123",
    "size": 10
  },
  "extendParam": {
    "is_auto_pay": "false"
  }
}
```

Response Message

- Response parameter

Table 4-107 Response parameter

Parameter	Type	Description
bandwidth	bandwidth object	Specifies the bandwidth object. This object is returned only when the value of the name parameter in the bandwidth fields is updated in the pay-per-use or yearly/monthly billing mode. For details, see Table 4-108 .

Parameter	Type	Description
order_id	String	Specifies the order ID. (yearly/monthly billing mode)

Table 4-108 Description of the **bandwidth** field

Parameter	Type	Description
name	String	<ul style="list-style-type: none"> Specifies the bandwidth name. The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	<ul style="list-style-type: none"> Specifies the bandwidth size. The value ranges from 5 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.)
id	String	Specifies the bandwidth ID, which uniquely identifies the bandwidth.
share_type	String	<ul style="list-style-type: none"> Specifies whether the bandwidth is shared or dedicated. The value can be PER or WHOLE. <ul style="list-style-type: none"> WHOLE: Shared bandwidth PER: Dedicated bandwidth
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none"> Specifies information about the EIP that uses the bandwidth. For details, see Table 4-109. The bandwidth, whose type is WHOLE, can be used by multiple EIPs. The bandwidth, whose type is PER, can be used by only one EIP.
tenant_id	String	Specifies the project ID.

Parameter	Type	Description
bandwidth_type	String	<ul style="list-style-type: none">• Specifies the bandwidth type. The default value for the shared bandwidth is share.• The value can be share, bgp, or sbgp.<ul style="list-style-type: none">– share: Shared bandwidth– bgp: Dynamic BGP– sbgp: Static BGP
charge_mode	String	<ul style="list-style-type: none">• Specifies whether the bandwidth is billed by traffic, bandwidth, or 95th percentile bandwidth (enhanced).• Possible values can be bandwidth (billed by bandwidth), traffic (billed by traffic), or 95peak_plus (billed by enhanced 95th percentile bandwidth). If the value is an empty character string or no value is specified, value bandwidth is used.• Only the shared bandwidth supports 95peak_plus (billed by enhanced 95th percentile bandwidth). If you use the enhanced 95th percentile bandwidth, specify the guaranteed bandwidth percentage. The default value is 20%. Shared bandwidth does not support billing by traffic. Yearly/monthly shared bandwidth does not support billing by enhanced 95th percentile bandwidth.
billing_info	String	Specifies the bill information. If billing_info is specified, the bandwidth is in yearly/monthly billing mode.

Parameter	Type	Description
enterprise_project_id	String	<ul style="list-style-type: none"> Specifies the enterprise project ID. The value is 0 or a string that contains a maximum of 36 characters in UUID format with hyphens (-). Value 0 indicates the default enterprise project. When creating a shared bandwidth, associate the enterprise project ID with the shared bandwidth. <p>NOTE For more information about enterprise projects and how to obtain enterprise project IDs, see the Enterprise Management User Guide.</p>
status	String	<ul style="list-style-type: none"> Specifies the bandwidth status. Values: <ul style="list-style-type: none"> FREEZED (Frozen) NORMAL (Normal)
created_at	String	<ul style="list-style-type: none"> Specifies the time (UTC) when the bandwidth is created. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
updated_at	String	<ul style="list-style-type: none"> Specifies the time (UTC) when the bandwidth is updated. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
enable_bandwidth_rules	boolean	<ul style="list-style-type: none"> Specifies whether to enable QoS. The value can be true or false.
rule_quota	integer	Specifies the maximum number of grouping rules supported by the bandwidth.
bandwidth_rules	Array of bandwidth_rules 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"> center <i>Edge site name</i> <p>This resource can only be associated with an EIP of the same region.</p>

Table 4-109 publicip_info object

Parameter	Type	Description
publicip_id	String	Specifies the ID of the EIP or IPv6 port 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">• Specifies the IP address version.• Possible values are as follows:<ul style="list-style-type: none">- 4: IPv4 address- 6: IPv6 address

Parameter	Type	Description
publicip_type	String	<ul style="list-style-type: none"> Specifies the EIP type. The value can be 5_bgp (dynamic BGP) or 5_sbgp (static BGP). <ul style="list-style-type: none"> CN South-Guangzhou: 5_bgp and 5_sbgp CN East-Shanghai1: 5_bgp and 5_sbgp CN East-Shanghai2: 5_bgp and 5_sbgp CN North-Beijing1: 5_bgp and 5_sbgp CN-Hong Kong: 5_bgp AP-Bangkok: 5_bgp AP-Singapore: 5_bgp AF-Johannesburg: 5_bgp CN Southwest-Guiyang1: 5_sbgp CN North-Beijing4: 5_bgp and 5_sbgp LA-Santiago: 5_bgp LA-Sao Paulo1: 5_bgp LA-Mexico City1: 5_bgp LA-Buenos Aires1: 5_bgp LA-Lima1: 5_bgp LA-Santiago2: 5_bgp Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If publicip_type is not specified, the default value is 5_bgp.

Table 4-110 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 False indicates that the configuration does not take effect.

Parameter	Type	Description
egress_size	integer	<ul style="list-style-type: none">Specifies the maximum outbound bandwidth in Mbit/s.The value range ranges from 0 to n, where n indicates the shared bandwidth size. If the value is set to 0, the maximum bandwidth, that is the shared bandwidth size will be used.
egress_guarented_size	integer	<ul style="list-style-type: none">Specifies the guaranteed outbound bandwidth in Mbit/s.The value ranges from 0 to x, where x indicates the remaining bandwidth.
publicip_info	Array of publicip_info objects	<ul style="list-style-type: none">Specifies the EIP associated with the bandwidth.The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

- Example response 1 (only the value of the **name** parameter in the **bandwidth** field is updated in the pay-per-use or yearly/monthly billing mode.)

```
{
  "bandwidth": {
    "id": "3fa5b383-5a73-4dcb-a314-c6128546d855",
    "name": "bandwidth123",
    "size": 10,
    "share_type": "PER",
    "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",
    "created_at": "2020-04-21T08:56:42Z",
    "updated_at": "2020-04-21T08:56:42Z",
    "bandwidth_type": "bgp"
  }
}
```

- Example response 2 (yearly/monthly bandwidth)

```
{
  "order_id": "xxxx"
}
```

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 4-111 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

None

Response Parameters

Status code: 200

Table 4-112 Response body parameters

Parameter	Type	Description
bandwidthpkgs	Array of BandwidthPkgResp objects	List of bandwidth add-on packages
bandwidthpkgs_links	Array of BandwidthPkgPage objects	Page turning display

Table 4-113 BandwidthPkgResp

Parameter	Type	Description
resourceId	String	<ul style="list-style-type: none">Bandwidth add-on package IDThe value can contain 1 to 64 characters, including digits, letters, underscores (_), and hyphens (-).
resourceName	String	<ul style="list-style-type: none">Bandwidth add-on package name
processedTime	String	<ul style="list-style-type: none">Time (UTC) when the bandwidth add-on package is created. The value is in the format of 2016-03-28T00:00:00Z.
bandwidthId	String	<ul style="list-style-type: none">ID of the bandwidth that uses the bandwidth add-on package
pkgSize	Integer	<ul style="list-style-type: none">Bandwidth add-on package sizeValue range: > 1 Mbit/s; Bandwidth add-on package size + Bandwidth size < Bandwidth upper limit defined by cloud service bandwidth API
tenantId	String	<ul style="list-style-type: none">Tenant ID
billingInfo	String	<ul style="list-style-type: none">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>.
startTime	String	<ul style="list-style-type: none">Start time (UTC) when the bandwidth add-on package takes effect. The value is in the format of 2016-03-28T00:00:00Z.Value range: startTime must be later than or the same as processedTime.
endTime	String	<ul style="list-style-type: none">End time (UTC) when the bandwidth add-on package takes effect. The value is in the format of 2016-03-28T00:00:00Z.Value range: endTime must be later than startTime.
status	String	<ul style="list-style-type: none">Status of the bandwidth add-on package. Only administrators can change the status.Value range: pending, active, completed, and error

Table 4-114 BandwidthPkgPage

Parameter	Type	Description
href	String	• Link
rel	String	• Page turning mark

Example Request

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

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "bandwidthpkgs": [ {
    "resourceId": "0003cb59-eea4-4c05-85bd-4b4cc806992c",
    "resourceName": "bandwidthpkg-test",
    "pkgSize": "5",
    "processedTime": "2018-10-13 20:21:17.465126",
    "bandwidthId": "6c50f312-2eab-4f08-9da2-b41b0801d8be",
    "tenantId": "e136ddf186a84dff9c5d5364de79f4e4",
    "billingInfo": "CS1810091953K113V: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.ulanqab.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 4-115 describes the parameters.

Table 4-115 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Name	Mandatory	Type	Description
type	No	String	<ul style="list-style-type: none"> • Specifies the resource type. • Values: <ul style="list-style-type: none"> - vpc: VPC - subnet: Subnet - securityGroup: Security group - securityGroupRule: Security group rule - publicIp: EIP - vpn: VPN - vpngw: VPN gateway - vpcPeer: VPC peering connection - loadbalancer: Load balancer - listener: Load balancer listener - physicalConnect: Direct Connect connection - virtualInterface: Virtual interface - firewall: Firewall - shareBandwidthIP: IP address added to a shared bandwidth - shareBandwidth: Shared bandwidth - address_group: IP address group - flow_log: VPC flow log - vpcContainRoutetable: Number of route tables associated with a VPC - routetableContainRoutes: Number of routes in a route table

Request Parameters

None

Response Parameters

Table 4-116 Response parameter

Parameter	Type	Description
quotas	quotas object	Specifies the quota object. For details, see Table 4-117 .

Table 4-117 Description of the **quotas** field

Parameter	Type	Description
resources	Array of resource objects	Specifies the resource objects. For details, see Table 4-118 .

Table 4-118 Description of the **resource** field

Parameter	Type	Description
type	String	<ul style="list-style-type: none"> Specifies the resource type. Values: <ul style="list-style-type: none"> vpc: VPC subnet: Subnet securityGroup: Security group securityGroupRule: Security group rule publicIp: EIP vpn: VPN vpngw: VPN gateway vpcPeer: VPC peering connection loadbalancer: Load balancer listener: Load balancer listener physicalConnect: Direct Connect connection virtualInterface: Virtual interface firewall: Firewall shareBandwidthIP: IP address added to a shared bandwidth shareBandwidth: Shared bandwidth address_group: IP address group flow_log: VPC flow log vpcContainRoutetable: Number of route tables associated with a VPC routetableContainRoutes: Number of routes in a route table
used	Integer	<ul style="list-style-type: none"> Specifies the number of created network resources. The value ranges from 0 to the value of quota.
quota	Integer	<ul style="list-style-type: none"> Specifies the maximum quota values for the resources. The value ranges from the default quota value to the maximum quota value.
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 4-119](#) describes the parameters.

Table 4-119 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Table 4-120 Request parameter

Parameter	Type	Mandatory	Description
tag	tag object	Yes	Specifies the tag objects. For details, see Table 4-121 .

Table 4-121 tag objects

Attribute	Type	Mandatory	Description
key	String	Yes	<ul style="list-style-type: none">Specifies the tag key.Cannot be left blank.Can contain a maximum of 36 characters.Can contain letters, digits, underscores (_), and hyphens (-).The tag key of a VPC must be unique.

Attribute	Type	Mandatory	Description
value	String	Yes	<ul style="list-style-type: none"> Specifies the tag value. Can contain a maximum of 43 characters. Can contain letters, digits, underscores (_), periods (.), and hyphens (-).

- 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 4-122](#) describes the parameters.

Table 4-122 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
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 4-123 Response parameter

Parameter	Type	Description
tags	Array of tag objects	Specifies the tag object list. For details, see Table 4-124 .

Table 4-124 tag objects

Attribute	Type	Description
key	String	<ul style="list-style-type: none">Specifies the tag key.Cannot be left blank.Can contain a maximum of 36 characters.Can contain letters, digits, underscores (_), and hyphens (-).The tag key of a VPC must be unique.
value	String	<ul style="list-style-type: none">Specifies the tag value.Can contain a maximum of 43 characters.Can contain letters, digits, underscores (_), periods (.), and hyphens (-).

- 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 4-125](#) describes the parameters.

Table 4-125 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .
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 4-126](#) describes the parameters.

Table 4-126 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Parameter	Mandatory	Description
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Table 4-127 Request parameter

Parameter	Type	Mandatory	Description
tags	Array of tag objects	Yes	Specifies the tag object list. For details, see Table 4-128 .
action	String	Yes	Specifies the operation. Possible values are as follows: <ul style="list-style-type: none"> create delete

Table 4-128 tag objects

Attribute	Type	Mandatory	Description
key	String	Yes	<ul style="list-style-type: none"> Specifies the tag key. Cannot be left blank. Can contain a maximum of 36 characters. Can contain letters, digits, underscores (_), and hyphens (-). The tag key of a VPC must be unique.
value	String	Yes	<ul style="list-style-type: none"> Specifies the tag value. Can contain a maximum of 43 characters. Can contain letters, digits, underscores (_), periods (.), and hyphens (-).

- 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 4-129](#) describes the parameters.

Table 4-129 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Message

- Request parameter

Table 4-130 Request parameter

Parameter	Type	Mandatory	Description
tags	Array of tags 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.
limit	Integer	No	Sets the page size. This parameter is not available when action is set to count . The default value is 1000 when action is set to filter . The maximum value is 1000 , and the minimum value is 1 . 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 action is set to count . If action is set to filter , the value must be a number, and the default value is 0 . The value cannot be a negative number.

Parameter	Type	Mandatory	Description
action	String	Yes	Specifies the operation to perform. The value can only be filter (filtering) or count (querying the total number). The value filter indicates pagination query. The value count indicates that the total number of query results meeting the search criteria will be returned.
matches	Array of match objects	No	Specifies the search criteria. The tag key is the field to match. Currently, only resource_name is supported. The tag value indicates the matched value. This field is a fixed dictionary value.

Table 4-131 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.)
values	Yes	Array of strings	Specifies the tag value list. Each value can contain a maximum of 255 Unicode characters. An empty list for values indicates any value. The values are in the OR relationship.

Table 4-132 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.

Parameter	Mandatory	Type	Description
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

```
{
  "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 4-133 Response parameter

Parameter	Type	Description
resources	Array of resource objects	Specifies the resource object list. For details, see Table 4-134 .
total_count	Integer	Specifies the total number of query records.

Table 4-134 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 tags objects	Specifies the tag list. This parameter is an empty array by default if there is no tag. For details, see Table 4-135 .
resource_name	String	Specifies the resource name. This parameter is an empty string by default if there is no resource name.

Table 4-135 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
value	Yes	String	Specifies the tag value list. Each value can contain a maximum of 255 Unicode characters. An empty list for values indicates any value. The values are in the OR relationship.

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

```
{
  "resources": [
    {
      "resource_detail": null,
      "resource_id": "cdfc_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 4-136](#) describes the parameters.

Table 4-136 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Specifies the project ID. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Message

- Request parameter
None
- Example request
GET /v2.0/{project_id}/publicips/tags

Response Message

- Response parameter

Table 4-137 Response parameter

Parameter	Type	Description
tags	Array of tag objects	Specifies the tag object list. For details, see Table 4-138 .

Table 4-138 Description of the **tag** field

Parameter	Type	Description
key	String	Specifies the tag key. <ul style="list-style-type: none"> Cannot be left blank. Contain up to 128 characters (36 characters on the console). Can contain letters, digits, underscores (_), and hyphens (-).
values	Array of strings	Specifies the tag value list. <ul style="list-style-type: none"> Contain up to 255 characters (43 characters on the console). Can contain letters, digits, underscores (_), periods (.), and hyphens (-).

- 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 4-139 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 4-140 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": "caae6af-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 4-141 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID

Request Parameters

None

Response Parameters

Status code: 200

Table 4-142 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 Adding EIPs to a Shared Bandwidth in Batches

Function

This API is used to add multiple EIPs to a shared bandwidth.

URI

POST /v3/{project_id}/eip/publicips/attach-share-bandwidth

Table 5-1 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID Minimum length: 32 Maximum length: 32

Request Parameters

Table 5-2 Request body parameters

Parameter	Mandatory	Type	Description
publicips	No	Array of BatchAttachSharebwDict objects	<ul style="list-style-type: none"> EIPs in a shared bandwidth If multiple EIPs are added to a shared bandwidth, the value of bandwidth_id of these EIPs must be the same. Array length: 1 to 50

Table 5-3 BatchAttachSharebwDict

Parameter	Mandatory	Type	Description
bandwidth_id	No	String	<ul style="list-style-type: none"> Shared bandwidth ID Minimum length: 36 Maximum length: 36
publicip_id	No	String	<ul style="list-style-type: none"> EIP ID Minimum length: 36 Maximum length: 36

Response Parameters

Status code: 200

Table 5-4 Response body parameters

Parameter	Type	Description
publicips	Array of BatchPublicipResp objects	EIPs
request_id	String	Request ID

Table 5-5 BatchPublicipResp

Parameter	Type	Description
statusCode	Integer	Status code

Parameter	Type	Description
publicip	PublicipResp object	EIP

Table 5-6 PublicipResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none"> EIP ID, which uniquely identifies the EIP. Minimum length: 36 Maximum length: 36
project_id	String	<ul style="list-style-type: none"> Project ID Minimum length: 32 Maximum length: 32
ip_version	Integer	<ul style="list-style-type: none"> EIP version The value can be 4 or 6. 6 indicates that the NAT64 capability is enabled. <ul style="list-style-type: none"> 4: IPv4 EIP 6: IPv6 EIP Minimum value: 4 Maximum value: 6
public_ip_address	String	<ul style="list-style-type: none"> IPv4 EIP Minimum length: 0 Maximum length: 64
public_ipv6_address	String	<ul style="list-style-type: none"> IPv6 EIP Minimum length: 0 Maximum length: 64

Parameter	Type	Description
status	String	<ul style="list-style-type: none"> EIP status The value can be FREEZED, DOWN, ACTIVE, or ERROR. <ul style="list-style-type: none"> FREEZED: The EIP is frozen. DOWN: The EIP is not bound to any instance. ACTIVE: The EIP is bound to an instance and is in use. ERROR: The EIP status is abnormal. <p>Minimum length: 0 Maximum length: 16</p>
description	String	<ul style="list-style-type: none"> Supplementary information about the EIP You can customize this value to identify your EIP, which is not perceived by the system. <p>Minimum length: 0 Maximum length: 1024</p>
created_at	String	<ul style="list-style-type: none"> Time when an EIP is assigned The value is in UTC format, for example, 2018-12-25T10:07:24Z. <p>Minimum length: 0 Maximum length: 64</p>
updated_at	String	<ul style="list-style-type: none"> Time when an EIP is updated The value is in UTC format, for example, 2018-12-25T10:09:20Z. <p>Minimum length: 0 Maximum length: 64</p>
type	String	<ul style="list-style-type: none"> EIP type The value can be EIP or DUALSTACK. <p>Minimum length: 0 Maximum length: 36</p>
vnic	VnicResp object	<ul style="list-style-type: none"> Port information of the instance with an EIP bound If the instance has no port, the value is null.
bandwidth	BandwidthResp object	<ul style="list-style-type: none"> Bandwidth of an EIP

Parameter	Type	Description
enterprise_project_id	String	<ul style="list-style-type: none"> Enterprise project ID of the EIP Minimum length: 32 Maximum length: 32
billing_info	String	<ul style="list-style-type: none"> Order information of an EIP The value is available only for yearly/monthly resources. This value is left blank for pay-per-use resources. Minimum length: 0 Maximum length: 1024
lock_status	String	<ul style="list-style-type: none"> Frozen status of an EIP The metadata type indicates that the EIP is frozen due to arrears or security reasons. Minimum length: 0 Maximum length: 36
associate_instance_type	String	<ul style="list-style-type: none"> Type of the instance with an EIP bound The value can be PORT, NATGW, ELB, ELBV1, or VPN. Minimum length: 0 Maximum length: 36
associate_instance_id	String	<ul style="list-style-type: none"> ID of the instance with an EIP bound Minimum length: 0 Maximum length: 36
publicip_pool_id	String	<ul style="list-style-type: none"> ID of the network that an EIP belongs to. It is the network ID corresponding to publicip_pool_name. Minimum length: 36 Maximum length: 36
publicip_pool_name	String	<ul style="list-style-type: none"> Network type of an EIP, including public EIP pool (for example, 5_bgp or 5_sbgp) and dedicated EIP pool. For details about the dedicated EIP pool, see the APIs about publicip_pool. Minimum length: 0 Maximum length: 128

Parameter	Type	Description
alias	String	<ul style="list-style-type: none"> EIP alias Minimum length: 0 Maximum length: 255
public_border_group	String	<ul style="list-style-type: none"> Whether it is a central or an edge EIP. The value is CENTER for a central EIP and an edge AZ name for an edge EIP. Minimum length: 0 Maximum length: 64

Table 5-7 VnicResp

Parameter	Type	Description
private_ip_address	String	<ul style="list-style-type: none"> Private IP address of a port Minimum length: 0 Maximum length: 36
device_id	String	<ul style="list-style-type: none"> Device ID of a port If there is a port, the value of this parameter is the same as that of associate_instance_id. Minimum length: 0 Maximum length: 36
device_owner	String	<ul style="list-style-type: none"> Device owner of a port If there is a port, this parameter and associate_instance_type can be used to identify the instance type. Minimum length: 0 Maximum length: 36
vtep	String	<ul style="list-style-type: none"> VTEP IP address Minimum length: 0 Maximum length: 36
vni	String	<ul style="list-style-type: none"> VXLAN ID Minimum length: 0 Maximum length: 36

Parameter	Type	Description
vpc_id	String	<ul style="list-style-type: none">ID of the VPC that the port belongs to Minimum length: 36 Maximum length: 36
port_id	String	<ul style="list-style-type: none">Port ID, which uniquely identifies a port. Minimum length: 36 Maximum length: 36
port_profile	String	<ul style="list-style-type: none">Port profile Minimum length: 0 Maximum length: 256
mac	String	<ul style="list-style-type: none">MAC address of a port Minimum length: 0 Maximum length: 36
instance_id	String	<ul style="list-style-type: none">User of a port, which is different from the owner of device_id. For example, the device_owner of a virtual IP address port is a virtual IP address, but the actual user of the port may be a VM or others. Minimum length: 0 Maximum length: 36
instance_type	String	<ul style="list-style-type: none">Instance type. This parameter is used together with instance_id. Minimum length: 0 Maximum length: 36
port_vif_details	String	<ul style="list-style-type: none">Details about the NIC virtual interface. Minimum length: 0 Maximum length: 255

Table 5-8 BandwidthResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none">Bandwidth ID Minimum length: 36 Maximum length: 36

Parameter	Type	Description
size	Integer	<ul style="list-style-type: none">Bandwidth size Minimum value: 0 Maximum value: 2000
share_type	String	<ul style="list-style-type: none">Bandwidth type WHOLE indicates a shared bandwidth, and PER indicates a dedicated bandwidth. Minimum length: 0 Maximum length: 36
charge_mode	String	<ul style="list-style-type: none">Bandwidth billing mode Minimum length: 0 Maximum length: 36
name	String	<ul style="list-style-type: none">Bandwidth name Minimum length: 0 Maximum length: 255
billing_info	String	<ul style="list-style-type: none">Bandwidth order information Minimum length: 0 Maximum length: 1024

Example Request

If multiple EIPs are added to the same shared bandwidth, the bandwidth ID of these EIPs must be the same.

```
POST /v3/{project_id}/eip/publicips/attach-share-bandwidth
```

```
{
  "publicips" : [ {
    "bandwidth_id" : "e6af636c-ea79-4c20-ba2f-402057ba7886",
    "publicip_id" : "99c8a2df-9e90-48df-9132-e2216e659459"
  }, {
    "bandwidth_id" : "e6af636c-ea79-4c20-ba2f-402057ba7886",
    "publicip_id" : "7b484d78-550a-4e92-8363-a34b5194ddcb"
  } ]
}
```

Example Response

Status code: 200

Normal response to POST requests

```
{
  "publicips" : [ {
    "statusCode" : 200,
    "publicip" : {
      "alias" : "test",
      "associate_instance_id" : null,

```

```
"associate_instance_type" : null,
"bandwidth" : {
  "id" : "e6af636c-ea79-4c20-ba2f-402057ba7886",
  "size" : 5,
  "share_type" : "WHOLE",
  "charge_mode" : "traffic",
  "name" : "bandwidth-b8ff",
  "billing_info" : ""
},
"billing_info" : null,
"created_at" : "2020-07-10T10:10:18Z",
"description" : "",
"enterprise_project_id" : "0",
"id" : "99c8a2df-9e90-48df-9132-e2216e659459",
"ip_version" : 4,
"lock_status" : null,
"project_id" : "8d53f081ea2444aa95e2bfa942ef6ee",
"public_border_group" : "center",
"public_ip_address" : "10.246.165.44",
"public_ipv6_address" : null,
"publicip_pool_id" : "ece62314-858c-4793-a768-346efca42131",
"publicip_pool_name" : "5_bgp",
"status" : "ACTIVE",
"type" : "EIP",
"updated_at" : "2020-07-11T05:03:25Z",
"vnic" : {
  "device_id" : "cc03e7f7-b820-4a2e-b243-8022daabf0cf",
  "device_owner" : "compute:br-iaas-odin1a",
  "instance_id" : "",
  "instance_type" : "",
  "mac" : "fa:16:3e:7a:5f:db",
  "port_id" : "fb68a8e1-b93e-4100-8735-6d6b0a6a0eb5",
  "port_profile" : "",
  "private_ip_address" : "192.168.3.222",
  "vni" : "435405",
  "vpc_id" : "ac17491b-0769-4d96-b883-6d6295f6afad",
  "vtep" : "18.8.152.158",
  "port_vif_details" : "{\"primary_interface\": true}"
}
}, {
  "statusCode" : 200,
  "publicip" : {
    "alias" : "test",
    "associate_instance_id" : null,
    "associate_instance_type" : null,
    "bandwidth" : {
      "id" : "e6af636c-ea79-4c20-ba2f-402057ba7886",
      "size" : 5,
      "share_type" : "WHOLE",
      "charge_mode" : "traffic",
      "name" : "bandwidth-b8ff",
      "billing_info" : ""
    },
    "billing_info" : null,
    "created_at" : "2020-07-10T10:10:18Z",
    "description" : "",
    "enterprise_project_id" : "0",
    "id" : "7b484d78-550a-4e92-8363-a34b5194ddcb",
    "ip_version" : 4,
    "lock_status" : null,
    "project_id" : "8d53f081ea2444aa95e2bfa942ef6ee",
    "public_border_group" : "center",
    "public_ip_address" : "10.246.165.45",
    "public_ipv6_address" : null,
    "publicip_pool_id" : "ece62314-858c-4793-a768-346efca42131",
    "publicip_pool_name" : "5_bgp",
    "status" : "ACTIVE",
    "type" : "EIP",
```

```
"updated_at" : "2020-07-11T05:03:25Z",
"vnic" : {
  "device_id" : "cc03e7f7-b820-4a2e-b243-8022daabf0dd",
  "device_owner" : "compute:br-iaas-odin1a",
  "instance_id" : "",
  "instance_type" : "",
  "mac" : "fa:16:3e:7a:5f:cc",
  "port_id" : "fb68a8e1-b93e-4100-8735-6d6b0a6a0eb6",
  "port_profile" : "",
  "private_ip_address" : "192.168.3.221",
  "vni" : "435405",
  "vpc_id" : "ac17491b-0769-4d96-b883-6d6295f6afad",
  "vtep" : "18.8.152.158",
  "port_vif_details" : "{\"primary_interface\": true}"
}
},
},
"request_id" : "db4b975a79d1da86dda3d02054f11e16"
}
```

SDK Sample Code

The sample code is as follows:

Java

If multiple EIPs are added to the same shared bandwidth, the bandwidth ID of these EIPs must be the same.

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.eip.v3.region.EipRegion;
import com.huaweicloud.sdk.eip.v3.*;
import com.huaweicloud.sdk.eip.v3.model.*;

import java.util.List;
import java.util.ArrayList;

public class AttachBatchPublicIpSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        EipClient client = EipClient.newBuilder()
            .withCredential(auth)
            .withRegion(EipRegion.valueOf("<YOUR REGION>"))
            .build();
        AttachBatchPublicIpRequest request = new AttachBatchPublicIpRequest();
        BatchAttachSharebwReq body = new BatchAttachSharebwReq();
        List<BatchAttachSharebwDict> listbodyPublicips = new ArrayList<>();
```

```
listbodyPublicips.add(
    new BatchAttachSharebwDict()
        .withBandwidthId("e6af636c-ea79-4c20-ba2f-402057ba7886")
        .withPublicipId("99c8a2df-9e90-48df-9132-e2216e659459")
);
listbodyPublicips.add(
    new BatchAttachSharebwDict()
        .withBandwidthId("e6af636c-ea79-4c20-ba2f-402057ba7886")
        .withPublicipId("7b484d78-550a-4e92-8363-a34b5194ddcb")
);
body.withPublicips(listbodyPublicips);
request.withBody(body);
try {
    AttachBatchPublicipResponse response = client.attachBatchPublicip(request);
    System.out.println(response.toString());
} catch (ConnectionException e) {
    e.printStackTrace();
} catch (RequestTimeoutException e) {
    e.printStackTrace();
} catch (ServiceResponseException e) {
    e.printStackTrace();
    System.out.println(e.getStatusCode());
    System.out.println(e.getRequestId());
    System.out.println(e.getErrorCode());
    System.out.println(e.getErrorMsg());
}
}
```

Python

If multiple EIPs are added to the same shared bandwidth, the bandwidth ID of these EIPs must be the same.

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdsdk.v3.region.eip_region import EipRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdsdk.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.environ["CLOUD_SDK_AK"]
    sk = os.environ["CLOUD_SDK_SK"]
    projectId = "{project_id}"

    credentials = BasicCredentials(ak, sk, projectId)

    client = EipClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(EipRegion.value_of("<YOUR REGION>")) \
        .build()

    try:
        request = AttachBatchPublicipRequest()
        listPublicipsbody = [
            BatchAttachSharebwDict(
                bandwidth_id="e6af636c-ea79-4c20-ba2f-402057ba7886",
                publicip_id="99c8a2df-9e90-48df-9132-e2216e659459"
            ),
            BatchAttachSharebwDict(
                bandwidth_id="e6af636c-ea79-4c20-ba2f-402057ba7886",
                publicip_id="7b484d78-550a-4e92-8363-a34b5194ddcb"
            )
        ]
```



```
)
]
request.body = BatchAttachSharebwReq(
    publicips=listPublicipsbody
)
response = client.attach_batch_public_ip(request)
print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

If multiple EIPs are added to the same shared bandwidth, the bandwidth ID of these EIPs must be the same.

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    eip "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := eip.NewEipClient(
        eip.EipClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.AttachBatchPublicIpRequest{
        bandwidthIdPublicips:= "e6af636c-ea79-4c20-ba2f-402057ba7886"
        publicIpIdPublicips:= "99c8a2df-9e90-48df-9132-e2216e659459"
        bandwidthIdPublicips1:= "e6af636c-ea79-4c20-ba2f-402057ba7886"
        publicIpIdPublicips1:= "7b484d78-550a-4e92-8363-a34b5194ddcb"
        var listPublicipsbody = []model.BatchAttachSharebwDict{
            {
                BandwidthId: &bandwidthIdPublicips,
                PublicIpId: &publicIpIdPublicips,
            },
            {
                BandwidthId: &bandwidthIdPublicips1,
                PublicIpId: &publicIpIdPublicips1,
            },
        }
    }
    request.Body = &model.BatchAttachSharebwReq{
        Publicips: &listPublicipsbody,
    }
    response, err := client.AttachBatchPublicIp(request)
```

```
if err == nil {
    fmt.Printf("%+v\n", response)
} else {
    fmt.Println(err)
}
```

More SDK Sample Code

For more SDK sample codes of programming languages, visit [API Explorer](#) and click the **Sample Code** tab. Example codes can be automatically generated.

Status Codes

Status Code	Description
200	Normal response to POST requests

Error Codes

See [Error Codes](#).

5.1.2 Querying All EIPs

Function

This API is used to query all EIPs.

URI

GET /v3/{project_id}/eip/publicips

Table 5-9 Path parameter

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

Table 5-10 Query parameters

Parameter	Mandatory	Type	Description
marker	No	String	<ul style="list-style-type: none"> Start resource ID of pagination query. If the parameter is left blank, only resources on the first page are queried. Minimum length: 0 Maximum length: 36
offset	No	Integer	<ul style="list-style-type: none"> Start resource number of pagination query. Minimum value: 0 Maximum value: 99999
limit	No	Integer	<ul style="list-style-type: none"> Number of records returned on each page. The value ranges from 0 to 2,000. The maximum value varies by region. Minimum value: 0 Maximum value: 2000
fields	No	Array	<ul style="list-style-type: none"> Field. Format: "fields=id&fields=owner&..." Supported fields: id, project_id, ip_version, type, public_ip_address, public_ipv6_address, network_type, status, description, created_at, updated_at, vnic, bandwidth, associate_instance_type, associate_instance_id, lock_status, billing_info, tags, enterprise_project_id, allow_share_bandwidth_types, public_border_group, alias, publicip_pool_name, and publicip_pool_id.

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

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

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

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

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

Request Parameter

None

Response Parameters

Status code: 200

Table 5-11 Response body parameters

Parameter	Type	Description
request_id	String	Request ID. Minimum length: 0 Maximum length: 36
publicips	Array of PublicipSingleShowResp objects	EIP object.
page_info	PageInfoOption object	Pagination page number information.
total_count	Integer	Total number of EIPs. Minimum value: 0 Maximum value: 999999

Table 5-12 PublicipSingleShowResp

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

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

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

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

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

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

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

Table 5-13 VnicInfo

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

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

Table 5-14 PublicipBandwidthInfo

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

Table 5-15 ProfileInfo

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

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

Table 5-16 BandwidthInfoResp

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

Table 5-17 PageInfoOption

Parameter	Type	Description
previous_marker	String	Marker value of the previous page. Minimum length: 0 Maximum length: 36
next_marker	String	Marker value of the next page. Minimum length: 0 Maximum length: 36
current_count	Integer	Total number of data records on the current page. Minimum value: 0 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](#).

5.1.3 Querying EIP Details

Function

This API is used to query EIP details.

URI

GET /v3/{project_id}/eip/publicips/{publicip_id}

Table 5-18 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. Minimum length: 0 Maximum length: 32
publicip_id	Yes	String	EIP ID. Minimum length: 0 Maximum length: 36

Table 5-19 Query parameter

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

Request Parameter

None

Response Parameters

Status code: 200

Table 5-20 Response body parameters

Parameter	Type	Description
request_id	String	Request ID. Minimum length: 0 Maximum length: 36
publicip	PublicipSingleShowResp object	EIP.

Table 5-21 PublicipSingleShowResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none">Unique ID of the EIP. Minimum length: 0 Maximum length: 36
project_id	String	<ul style="list-style-type: none">Project ID. Minimum length: 0 Maximum length: 32
ip_version	Integer	<ul style="list-style-type: none">IP address version.The value can be:<ul style="list-style-type: none">4: IPv4 EIP6: IPv6 EIP Enumerated values: <ul style="list-style-type: none">46
public_ip_address	String	<ul style="list-style-type: none">EIP or IPv6 port address. Minimum length: 0 Maximum length: 36
public_ipv6_address	String	<ul style="list-style-type: none">Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available. Minimum length: 0 Maximum length: 64
network_type	String	<ul style="list-style-type: none">Network type of an EIP. This parameter is discarded and is not displayed by default. It is inherited by publicip_pool_name. Minimum length: 0 Maximum length: 64

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

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

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

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

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

Table 5-22 VnicInfo

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

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

Table 5-23 PublicipBandwidthInfo

Parameter	Type	Description
id	String	<ul style="list-style-type: none">Bandwidth ID. Minimum length: 0 Maximum length: 36
size	Integer	<ul style="list-style-type: none">Bandwidth size.The value ranges from 5 Mbit/s to 2000 Mbit/s by default. Minimum value: 0 Maximum value: 99999
share_type	String	<ul style="list-style-type: none">Whether the bandwidth is shared or dedicated.The value can be:<ul style="list-style-type: none">PER: Dedicated bandwidthWHOLE: Shared bandwidthIPv6 addresses do not support bandwidth whose type is WHOLE. Minimum length: 0 Maximum length: 36
charge_mode	String	<ul style="list-style-type: none">Whether the billing is based on traffic or bandwidth.The value can be:<ul style="list-style-type: none">bandwidth: billed by bandwidthtraffic: billed by traffic95peak_plus: billed by 95th percentile bandwidth (enhanced) Minimum length: 0 Maximum length: 36
name	String	<ul style="list-style-type: none">Bandwidth name.The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). Minimum length: 0 Maximum length: 64
billing_info	String	<ul style="list-style-type: none">Billing information. If billing_info is specified, the bandwidth is billed on a yearly/monthly basis. Minimum length: 0 Maximum length: 256

Table 5-24 ProfileInfo

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

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

Table 5-25 BandwidthInfoResp

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

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](#).

5.1.4 Updating an EIP

Function

This API is used to update an EIP.

URI

PUT /v3/{project_id}/eip/publicips/{publicip_id}

Table 5-26 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID Maximum length: 32
publicip_id	Yes	String	EIP ID Minimum length: 0 Maximum length: 36

Request Parameters

Table 5-27 Request body parameters

Parameter	Mandatory	Type	Description
publicip	Yes	UpdatePublic ipOption object	EIP

Table 5-28 UpdatePublicipOption

Parameter	Mandatory	Type	Description
alias	No	String	<ul style="list-style-type: none">EIP name Minimum length: 0 Maximum length: 64
description	No	String	<ul style="list-style-type: none">Supplementary information about the EIPThe value can contains 0 to 255 characters and cannot contain the following special characters: <> Minimum length: 0 Maximum length: 255

Parameter	Mandatory	Type	Description
associate_instance_type	No	String	<ul style="list-style-type: none"> • Type of the instance that the port belongs to • The value can be: <ul style="list-style-type: none"> - PORT - NATGW - VPN - ELB • Constraints: <ul style="list-style-type: none"> - If neither associate_instance_type nor associate_instance_id is left empty, the EIP is bound to an instance. - If both associate_instance_type and associate_instance_id are null, an instance is unbound. You can set associate_instance_type and associate_instance_id to null on API Explorer. For details, see the example request for unbinding an EIP from an instance. - A dual-stack EIP cannot have its bound instance changed. <p>Minimum length: 0 Maximum length: 36</p>

Parameter	Mandatory	Type	Description
associate_instance_id	No	String	<ul style="list-style-type: none"> • ID of the bound instance, such as a load balancer ID or an ECS NIC ID. • Constraints: <ul style="list-style-type: none"> - If neither associate_instance_type nor associate_instance_id is left empty, the EIP is bound to an instance. - If both associate_instance_type and associate_instance_id are null, an instance is unbound. You can set associate_instance_type and associate_instance_id to null on API Explorer. For details, see the example request for unbinding an EIP from an instance. - A dual-stack EIP cannot have its bound instance changed. <p>Minimum length: 0 Maximum length: 36</p>

Response Parameters

Status code: 200

Table 5-29 Response body parameters

Parameter	Type	Description
request_id	String	Request ID Minimum length: 0 Maximum length: 36
publicip	PublicipUpdateResp object	Response object of updating an EIP

Table 5-30 PublicipUpdateResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none">EIP ID, which uniquely identifies the EIP. Minimum length: 0 Maximum length: 36
project_id	String	<ul style="list-style-type: none">Project ID Minimum length: 0 Maximum length: 32
ip_version	Integer	<ul style="list-style-type: none">IP address versionThe value can be:<ul style="list-style-type: none">4: IPv4 EIP6: IPv6 EIP
public_ip_address	String	<ul style="list-style-type: none">EIP or IPv6 port address Minimum length: 0 Maximum length: 36
public_ipv6_address	String	<ul style="list-style-type: none">Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available. Minimum length: 0 Maximum length: 64

Parameter	Type	Description
status	String	<ul style="list-style-type: none"> EIP status The value can be: <ul style="list-style-type: none"> FREEZED (Frozen) BIND_ERROR (Binding failed) BINDING (Binding) PENDING_DELETE (Releasing) PENDING_CREATE (Assigning) NOTIFYING (Notify that EIP is assigned) NOTIFY_DELETE (Notify to release an EIP) PENDING_UPDATE (Updating) DOWN (Unbound) ACTIVE (Bound) ELB (Bound to a load balancer) VPN (Bound to a VPN) ERROR (Assignment failed) <p>Minimum length: 0 Maximum length: 64</p>
description	String	<ul style="list-style-type: none"> Supplementary information about the EIP You can customize this value to identify your EIP, which is not perceived by the system. <p>Minimum length: 0 Maximum length: 255</p>
public_border_group	String	<ul style="list-style-type: none"> Whether it is a central or an edge EIP. The value can be center or an edge site name. An EIP can only be bound to a resource of the same region or site. <p>Minimum length: 1 Maximum length: 64</p>
created_at	String	<ul style="list-style-type: none"> Time (UTC) when an EIP is assigned Format: <i>yyyy-MM-ddTHH:mm:ssZ</i> <p>Minimum length: 0 Maximum length: 64</p>

Parameter	Type	Description
updated_at	String	<ul style="list-style-type: none">Time (UTC) when an EIP is updatedFormat: <i>yyyy-MM-ddTHH:mm:ssZ</i> Minimum length: 0 Maximum length: 64
type	String	EIP type Minimum length: 1 Maximum length: 36
vnic	VnicInfo object	<ul style="list-style-type: none">Port information of the instance with an EIP boundIf the instance has no port, the value is null.
bandwidth	PublicipBandwidthInfo object	Bandwidth of an EIP
enterprise_project_id	String	Enterprise project ID. The value is 0 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. Minimum length: 0 Maximum length: 36
billing_info	String	<ul style="list-style-type: none">Order information of an EIPThe value is available only for yearly/monthly resources. This value is left blank for pay-per-use resources. Minimum length: 0 Maximum length: 256
lock_status	String	<ul style="list-style-type: none">Frozen status of an EIPThe metadata type indicates that the EIP is frozen due to arrears or security reasons.The value can be:<ul style="list-style-type: none">- police- locked Minimum length: 0 Maximum length: 64

Parameter	Type	Description
associate_instance_type	String	<ul style="list-style-type: none"> Type of the instance with an EIP bound The value can be: <ul style="list-style-type: none"> PORT NATGW ELB ELBV1 VPN <p>Minimum length: 0 Maximum length: 64</p>
associate_instance_id	String	<p>ID of the instance with an EIP bound</p> <p>Minimum length: 0 Maximum length: 36</p>
publicip_pool_id	String	<p>ID of the network that an EIP belongs to. It is the network ID corresponding to publicip_pool_name.</p> <p>Minimum length: 0 Maximum length: 36</p>
publicip_pool_name	String	<ul style="list-style-type: none"> Network type of an EIP, including public EIP pool (for example, 5_bgp or 5_sbgp) and dedicated EIP pool. For details about the dedicated EIP pool, see the APIs about publicip_pool. <p>Minimum length: 0 Maximum length: 64</p>
alias	String	<ul style="list-style-type: none"> EIP name <p>Minimum length: 0 Maximum length: 64</p>
associate_mode	String	<ul style="list-style-type: none"> Passthrough mode. (The parameter is not displayed by default.) <p>Minimum length: 1 Maximum length: 36</p>

Table 5-31 VnicInfo

Parameter	Type	Description
private_ip_address	String	<ul style="list-style-type: none">Private IP address Minimum length: 0 Maximum length: 36
device_id	String	<ul style="list-style-type: none">ID of the device that the port belongs toThe system automatically sets this parameter. Minimum length: 0 Maximum length: 36
device_owner	String	<ul style="list-style-type: none">Device that the port belongs toThe value can be:<ul style="list-style-type: none">network:dhcpnetwork:VIP_PORTnetwork:router_interface_distributednetwork:router_centralized_snatThe system automatically sets this parameter. Minimum length: 0 Maximum length: 64
vpc_id	String	<ul style="list-style-type: none">VPC ID Minimum length: 0 Maximum length: 36
port_id	String	<ul style="list-style-type: none">Port ID Minimum length: 0 Maximum length: 36
port_profile	String	<ul style="list-style-type: none">Port profile Minimum length: 0 Maximum length: 256
mac	String	<ul style="list-style-type: none">Port MAC addressThe system automatically sets this parameter. Minimum length: 0 Maximum length: 64

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

Table 5-32 PublicipBandwidthInfo

Parameter	Type	Description
id	String	<ul style="list-style-type: none">Bandwidth ID Minimum length: 0 Maximum length: 36
size	Integer	<ul style="list-style-type: none">Bandwidth sizeThe value ranges from 5 Mbit/s to 2,000 Mbit/s by default. Minimum value: 0 Maximum value: 99999

Parameter	Type	Description
share_type	String	<ul style="list-style-type: none">Whether the bandwidth is shared or dedicated.The value can be:<ul style="list-style-type: none">PER: Dedicated bandwidthWHOLE: Shared bandwidthIPv6 addresses do not support bandwidth whose type is WHOLE. Minimum length: 0 Maximum length: 36
charge_mode	String	<ul style="list-style-type: none">Whether the billing is based on traffic or bandwidth.The value can be:<ul style="list-style-type: none">bandwidth: billed by bandwidthtraffic: billed by traffic95peak_plus: billed by 95th percentile bandwidth (enhanced) Minimum length: 0 Maximum length: 36
name	String	<ul style="list-style-type: none">Bandwidth nameThe value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). Minimum length: 0 Maximum length: 64
billing_info	String	<ul style="list-style-type: none">Billing information. If billing_info is specified, the bandwidth is billed on a yearly/monthly basis. Minimum length: 0 Maximum length: 256

Example Request

- Update the alias and description of an EIP.

```
{
  "publicip" : {
    "alias" : "abcd",
    "description" : "test!!!!"
  }
}
```

- Unbind an EIP from an instance.

```
{
  "publicip" : {
```

```
"associate_instance_type" : null,  
"associate_instance_id" : null  
}  
}
```

Example Response

Status code: 200

Normal response to PUT requests

```
{  
  "publicip" : {  
    "alias" : "abcd",  
    "associate_instance_id" : null,  
    "associate_instance_type" : null,  
    "bandwidth" : {  
      "billing_info" : "xxxx:xxxx:xxxx",  
      "charge_mode" : "bandwidth",  
      "id" : "80549ae1-cf7a-4f39-a45f-bdb8e194a1f4",  
      "name" : "bandwidth-bd25-test",  
      "share_type" : "WHOLE",  
      "size" : 7  
    },  
    "billing_info" : null,  
    "created_at" : "2020-06-18T14:05:32Z",  
    "description" : "test!!!!",  
    "enterprise_project_id" : "0",  
    "public_border_group" : "center",  
    "id" : "b0c42aa6-3d1d-4b39-9188-35ee6aa8d6f7",  
    "ip_version" : 4,  
    "lock_status" : null,  
    "project_id" : "060576782980d5762f9ec014dd2f1148",  
    "public_ip_address" : "xx.xx.xx.xx",  
    "public_ipv6_address" : null,  
    "publicip_pool_id" : "160576782980d5762f9ec014dd2f1148",  
    "publicip_pool_name" : "5_mobile",  
    "status" : "DOWN",  
    "type" : "EIP",  
    "updated_at" : "2020-06-18T14:05:32Z",  
    "vnic" : null  
  },  
  "request_id" : "ead9f912bd1191e3d5f0037141098d91"  
}
```

Status Codes

Status Code	Description
200	Normal response to PUT requests

Error Codes

See [Error Codes](#).

5.1.5 Unbinding an EIP

Function

This API is used to unbind an EIP.

URI

POST /v3/{project_id}/eip/publicips/{publicip_id}/disassociate-instance

Table 5-33 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. Minimum length: 0 Maximum length: 32
publicip_id	Yes	String	EIP ID. Minimum length: 0 Maximum length: 36

Request Parameter

None

Response Parameters

Status code: 200

Table 5-34 Response body parameters

Parameter	Type	Description
request_id	String	Request ID. Minimum length: 0 Maximum length: 36
publicip	PublicipInstanceResp object	Response body of unbinding an EIP.

Table 5-35 PublicipInstanceResp

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

Parameter	Type	Description
ip_version	Integer	<ul style="list-style-type: none">• IP address version.• The value can be:<ul style="list-style-type: none">– 4: IPv4 EIP– 6: IPv6 EIP Enumerated values: <ul style="list-style-type: none">• 4• 6
public_ip_address	String	<ul style="list-style-type: none">• EIP or IPv6 port address. Minimum length: 0 Maximum length: 36
public_ipv6_address	String	<ul style="list-style-type: none">• Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available. Minimum length: 0 Maximum length: 64

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

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

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

Table 5-36 VnicInfo

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

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

Table 5-37 PublicipBandwidthInfo

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

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

Example Request

None

Example Response

Status code: 200

Normal response to POST requests

```
{
  "publicip": {
    "alias": "abcd",
```

```
"associate_instance_id" : null,
"associate_instance_type" : null,
"bandwidth" : {
  "billing_info" : "xxxx:xxxx:xxxx:xxxx",
  "charge_mode" : "bandwidth",
  "id" : "80549ae1-cf7a-4f39-a45f-bdb8e194a1f4",
  "name" : "bandwidth-bd25-test",
  "share_type" : "WHOLE",
  "size" : 7
},
"billing_info" : null,
"created_at" : "2020-06-18T14:05:32Z",
"description" : "test!!!!",
"enterprise_project_id" : "0",
"public_border_group" : "center",
"id" : "b0c42aa6-3d1d-4b39-9188-35ee6aa8d6f7",
"ip_version" : 4,
"lock_status" : null,
"project_id" : "060576782980d5762f9ec014dd2f1148",
"public_ip_address" : "xx.xx.xx.xx",
"public_ipv6_address" : null,
"publicip_pool_id" : "160576782980d5762f9ec014dd2f1148",
"publicip_pool_name" : "5_mobile",
"status" : "DOWN",
"type" : "EIP",
"updated_at" : "2020-06-18T14:05:32Z",
"vnic" : null
},
"request_id" : "ead9f912bd1191e3d5f0037141098d91"
}
```

Status Codes

See [Status Codes](#).

Error Codes

See [Error Codes](#).

5.1.6 Binding an EIP

Function

This API is used to bind an EIP.

URI

POST /v3/{project_id}/eip/publicips/{publicip_id}/associate-instance

Table 5-38 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. Minimum length: 0 Maximum length: 32

Parameter	Mandatory	Type	Description
publicip_id	Yes	String	EIP ID. Minimum length: 0 Maximum length: 36

Request Parameters

Table 5-39 Request body parameter

Parameter	Mandatory	Type	Description
publicip	Yes	AssociatePublicipsOption object	EIP object.

Table 5-40 AssociatePublicipsOption

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

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

Response Parameters

Status code: 200

Table 5-41 Response body parameters

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

Table 5-42 PublicInstanceResp

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

Parameter	Type	Description
project_id	String	<ul style="list-style-type: none">Project ID. Minimum length: 0 Maximum length: 32
ip_version	Integer	<ul style="list-style-type: none">IP address version.The value can be:<ul style="list-style-type: none">4: IPv4 EIP6: IPv6 EIP Enumerated values: <ul style="list-style-type: none">46
public_ip_address	String	<ul style="list-style-type: none">EIP or IPv6 port address. Minimum length: 0 Maximum length: 36
public_ipv6_address	String	<ul style="list-style-type: none">Obtained EIP if IPv6 EIPs are available. This parameter does not exist if only IPv4 EIPs are available. Minimum length: 0 Maximum length: 64

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

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

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

Table 5-43 VnicInfo

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

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

Table 5-44 PublicipBandwidthInfo

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

Parameter	Type	Description
share_type	String	<ul style="list-style-type: none">Whether the bandwidth is shared or dedicated.The value can be:<ul style="list-style-type: none">PER: Dedicated bandwidthWHOLE: Shared bandwidthIPv6 addresses do not support bandwidth whose type is WHOLE. Minimum length: 0 Maximum length: 36
charge_mode	String	<ul style="list-style-type: none">Whether the billing is based on traffic or bandwidth.The value can be:<ul style="list-style-type: none">bandwidth: billed by bandwidthtraffic: billed by traffic95peak_plus: billed by 95th percentile bandwidth (enhanced) Minimum length: 0 Maximum length: 36
name	String	<ul style="list-style-type: none">Bandwidth name.The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). Minimum length: 0 Maximum length: 64
billing_info	String	<ul style="list-style-type: none">Billing information. If billing_info is specified, the bandwidth is billed on a yearly/monthly basis. Minimum length: 0 Maximum length: 256

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

```
{
  "publicip": {
    "alias": "abcd",
    "associate_instance_id": "921b9dc7-8151-41e1-b83c-d50fe959592a",
    "associate_instance_type": "PORT",
    "bandwidth": {
      "billing_info": "xxx:xxx:xxx:xxx",
      "charge_mode": "bandwidth",
      "id": "80549ae1-cf7a-4f39-a45f-bdb8e194a1f4",
      "name": "bandwidth-bd25-test",
      "share_type": "WHOLE",
      "size": 7
    },
    "billing_info": null,
    "created_at": "2020-06-18T14:05:32Z",
    "description": "test!!!!",
    "enterprise_project_id": "0",
    "public_border_group": "center",
    "id": "b0c42aa6-3d1d-4b39-9188-35ee6aa8d6f7",
    "ip_version": 4,
    "lock_status": null,
    "project_id": "060576782980d5762f9ec014dd2f1148",
    "public_ip_address": "xx.xx.xx.xx",
    "public_ipv6_address": null,
    "publicip_pool_id": "160576782980d5762f9ec014dd2f1148",
    "publicip_pool_name": "5_mobile",
    "status": "ACTIVE",
    "type": "EIP",
    "updated_at": "2020-06-18T14:05:32Z",
    "vnic": {
      "device_id": "78aa6d7f-7111-434e-9a93-0dc6fdacff63",
      "device_owner": "network:nat_gateway",
      "instance_id": "",
      "instance_type": "",
      "mac": "fa:16:3e:83:6b:0a",
      "port_id": "921b9dc7-8151-41e1-b83c-d50fe959592a",
      "port_profile": null,
      "private_ip_address": "xx.xx.xx.xx",
      "vni": null,
      "vpc_id": "a26c231a-cf6f-48d3-83db-1e261d0e235a",
      "vtep": null,
      "port_vif_details": ""
    }
  },
  "request_id": "ead9f912bd1191e3d5f0037141098d91"
}
```

Status Codes

See [Status Codes](#).

Error Codes

See [Error Codes](#).

5.1.7 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 5-45 Path parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID.

Request Parameters

Table 5-46 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 5-47 Response body parameter

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

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 5-48 Path parameter

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

Table 5-49 Query parameters

Parameter	Mandatory	Type	Description
fields	No	String	<ul style="list-style-type: none">Field. Format: "fields=id&fields=bandwidth_type&..."Supported fields: id, bandwidth_type, name_en, name_zh, created_at, update_at, public_border_group, and description. Minimum length: 0 Maximum length: 1024
id	No	String	<ul style="list-style-type: none">Bandwidth type ID. Minimum length: 0 Maximum length: 36
bandwidth_type	No	String	<ul style="list-style-type: none">Bandwidth type. Minimum length: 1 Maximum length: 36

Parameter	Mandatory	Type	Description
name_en	No	String	<ul style="list-style-type: none">Bandwidth type in English. Minimum length: 0 Maximum length: 256
name_zh	No	String	<ul style="list-style-type: none">Bandwidth type in Chinese. Minimum length: 0 Maximum length: 256
public_border_group	No	String	<ul style="list-style-type: none">Whether the bandwidth type is in a central region or an edge site. Minimum length: 0 Maximum length: 36
sort_key	No	String	<ul style="list-style-type: none">Sort. Format: "sort_key=id&sort_dir=asc"Supported fields: id, bandwidth_type, and public_border_group. Minimum length: 0 Maximum length: 1024
sort_dir	No	String	<ul style="list-style-type: none">Sorting direction.The value can be asc or desc Minimum length: 0 Maximum length: 1024
limit	No	Integer	<ul style="list-style-type: none">Number of records returned on each page.The value ranges from 0 to 2,000. The maximum value varies by region. Minimum value: 0 Maximum value: 2000

Request Parameter

None

Response Parameters

Status code: **200**

Table 5-50 Response body parameters

Parameter	Type	Description
share_bandwidth_types	Array of ShareBandwidthTypeShowResp objects	Shared bandwidth type.
request_id	String	Request ID.
page_info	PageInfoOption object	Pagination page number information.

Table 5-51 ShareBandwidthTypeShowResp

Parameter	Type	Description
id	String	Bandwidth type ID. Minimum length: 0 Maximum length: 36
bandwidth_type	String	Bandwidth type. Minimum length: 0 Maximum length: 36
public_border_group	String	Central region or edge site. The parameter is displayed by default. Minimum length: 0 Maximum length: 64
created_at	String	Assigning time Minimum length: 0 Maximum length: 64
updated_at	String	Update time Minimum length: 0 Maximum length: 64
name_en	String	Bandwidth type in English. Minimum length: 0 Maximum length: 256
name_zh	String	Bandwidth type in Chinese. Minimum length: 0 Maximum length: 256

Parameter	Type	Description
description	String	Bandwidth type description. Minimum length: 0 Maximum length: 1024

Table 5-52 PageInfoOption

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

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 Bandwidths

5.3.1 Querying Bandwidths (Old APIs)

Function

This API is used to query bandwidths.

URI

GET /v3/{project_id}/eip-bandwidths

Table 5-53 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID Maximum length: 32

Table 5-54 Query parameters

Parameter	Mandatory	Type	Description
limit	No	String	<ul style="list-style-type: none">Number of records returned on each page.The value ranges from 0 to 2000. The maximum value varies by region.
marker	No	String	<ul style="list-style-type: none">Start resource ID of pagination query. If the parameter is left blank, only resources on the first page are queried. Minimum length: 0 Maximum length: 36

Parameter	Mandatory	Type	Description
id	No	String	<ul style="list-style-type: none">• Bandwidth ID, which uniquely identifies a bandwidth
bandwidth_type	No	String	<ul style="list-style-type: none">• Bandwidth type. The default value for a shared bandwidth is share.• The value can be share, bgp, telcom, or sbgp.<ul style="list-style-type: none">- share: Shared bandwidth- bgp: Dynamic BGP- telcom: China Unicom- sbgp: Static BGP
name	No	String	<ul style="list-style-type: none">• Bandwidth name. You can filter by bandwidth name.
name_like	No	String	<ul style="list-style-type: none">• Fuzzy search by bandwidth name.
tenant_id	No	String	<ul style="list-style-type: none">• Filter by the tenant ID.
ingress_size	No	String	<ul style="list-style-type: none">• Filter by inbound bandwidth size.
admin_state	No	String	<ul style="list-style-type: none">• Filter by bandwidth status.
billing_info	No	String	<ul style="list-style-type: none">• Filter by billing information.
tags	No	String	<ul style="list-style-type: none">• Filter by tag.
enable_bandwidth_rules	No	String	<ul style="list-style-type: none">• Filter based on whether bandwidth rules are enabled.• The value can be true or false.
rule_quota	No	Integer	<ul style="list-style-type: none">• Filter by rule numbers.
public_border_group	No	String	<ul style="list-style-type: none">• Filter by border group.

Parameter	Mandatory	Type	Description
charge_mode	No	String	<ul style="list-style-type: none">• Whether the bandwidth is billed by traffic, bandwidth, or 95th percentile bandwidth (enhanced).• Possible values can be bandwidth (billed by bandwidth), traffic (billed by traffic), or 95peak_plus (billed by enhanced 95th percentile bandwidth). If the value is an empty character string or no value is specified, value bandwidth is used.• Only the shared bandwidth supports 95peak_plus (billed by enhanced 95th percentile bandwidth). If you choose to be billed by 95th percentile bandwidth (enhanced), you need to specify the guaranteed bandwidth percentage. The default value is 20%.

Parameter	Mandatory	Type	Description
size	No	String	<ul style="list-style-type: none"> Bandwidth size. The shared bandwidth has a minimum limit, which may vary by site. The default minimum value is 5 Mbit/s. The value ranges from 5 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.) The minimum increment for bandwidth adjustment varies by the bandwidth range. 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). 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). The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
type	No	String	<ul style="list-style-type: none"> Whether the bandwidth is shared or dedicated. The value can be PER or WHOLE. <ul style="list-style-type: none"> WHOLE: Shared bandwidth PER: Dedicated bandwidth

Request Parameters

None

Response Parameters

Status code: 200

Table 5-55 Response body parameters

Parameter	Type	Description
eip_bandwidths	Array of EipBandwidthResponseBody objects	Bandwidths
page_info	PageInfoDict object	Pagination page number information
request_id	String	Request ID

Table 5-56 EipBandwidthResponseBody

Parameter	Type	Description
admin_state	String	<ul style="list-style-type: none">Bandwidth statusThe value can be normal or frozen.
ingress_size	Integer	<ul style="list-style-type: none">Inbound bandwidth size in Mbit/s
rule_quota	Integer	<ul style="list-style-type: none">Number of bandwidth rules. The minimum value can be adjusted.
ratio_95peak_plus	Integer	<ul style="list-style-type: none">Guaranteed rate of the enhanced 95th percentile bandwidth. The minimum rate is 20%.
enable_bandwidth_rules	Boolean	<ul style="list-style-type: none">Whether to enable the bandwidth rules.
bandwidth_rules	Array of BandWidthRules objects	<ul style="list-style-type: none">Bandwidth rules (This parameter is available only in CN East-Shanghai1.)
public_border_group	String	<ul style="list-style-type: none">Whether it is a central or edge bandwidth. Value center indicates a central bandwidth.

Parameter	Type	Description
bandwidth_type	String	<ul style="list-style-type: none">Bandwidth type. The default value for a shared bandwidth is share.The value can be share, bgp, telcom, or sbgp. share: Shared bandwidth bgp: Dynamic BGP telcom: China Unicom sbgp: Static BGP Minimum length: 1 Maximum length: 36
billinginfo	String	<ul style="list-style-type: none">Billing information Minimum length: 0 Maximum length: 255
id	String	<ul style="list-style-type: none">Bandwidth ID, which uniquely identifies a bandwidth Minimum length: 1 Maximum length: 36
name	String	<ul style="list-style-type: none">Bandwidth nameThe value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). Minimum length: 1 Maximum length: 64
publicip_info	Array of PublicipInfoResponseBody objects	<ul style="list-style-type: none">EIP associated with the bandwidthThe bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.
type	String	<ul style="list-style-type: none">Whether the bandwidth is shared or dedicated.The value can be PER or WHOLE. The value WHOLE indicates the shared bandwidth, and the value PER indicates the dedicated bandwidth.

Parameter	Type	Description
size	Integer	<ul style="list-style-type: none"> Bandwidth size The value ranges from 5 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.) Minimum value: 5 Maximum value: 2000
tenant_id	String	<ul style="list-style-type: none"> Project ID
tags	Array of strings	<ul style="list-style-type: none"> EIP tag
created_at	String	<ul style="list-style-type: none"> Time (UTC) when a resource is created. The format is YYYY-MM-DDTHH:MM:SS.
updated_at	String	<ul style="list-style-type: none"> Time (UTC) when a resource is updated. The format is YYYY-MM-DDTHH:MM:SS.

Table 5-57 BandWidthRules

Parameter	Type	Description
id	String	<ul style="list-style-type: none"> Bandwidth rule ID Maximum length: 36
name	String	<ul style="list-style-type: none"> Bandwidth rule name Minimum length: 0 Maximum length: 64
admin_state_up	Boolean	<ul style="list-style-type: none"> Configuration status. The value False indicates that the configuration does not take effect.
egress_size	Integer	<ul style="list-style-type: none"> Maximum outbound bandwidth in Mbit/s The value range ranges from 0 to <i>n</i>, where <i>n</i> indicates the bandwidth size. If the value is set to 0, the maximum bandwidth size will be used. Minimum value: 0 Default value: 0

Parameter	Type	Description
egress_guarented_size	Integer	<ul style="list-style-type: none"> Guaranteed outbound bandwidth in Mbit/s The value ranges from 0 to x, where x indicates the remaining bandwidth. Minimum value: 0 Default value: 0
publicip_info	Array of PublicipInfoResponseBody objects	<ul style="list-style-type: none"> EIP associated with the bandwidth The bandwidth, whose type is set to WHOLE, can be used by multiple EIPs. The bandwidth, whose type is set to PER, can be used by only one EIP.

Table 5-58 PublicipInfoResponseBody

Parameter	Type	Description
publicip_address	String	<ul style="list-style-type: none"> IPv4 or IPv6 EIP
publicip_id	String	<ul style="list-style-type: none"> ID of the IPv4 or IPv6 EIP that uses the bandwidth Minimum length: 1 Maximum length: 36
publicip_type	String	<ul style="list-style-type: none"> EIP type The value can be 5_bgp. Constraints: <ul style="list-style-type: none"> The configured value must be supported by the system. publicip_id is an IPv4 port. If type is not specified, the default value is 5_bgp. Maximum length: 36
publicipv6_addresses	String	<ul style="list-style-type: none"> 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"> IP address version The value can be: <ul style="list-style-type: none"> 4: IPv4 6: IPv6

Table 5-59 PageInfoDict

Parameter	Type	Description
previous_marker	String	Marker value of the previous page
next_marker	String	Marker value of the next page
current_count	Integer	Total number of data records on the current page

Example Request

Query the bandwidths. You can filter the bandwidths based on the **query** field.

```
GET https://{Endpoint}/v3/{project_id}/eip-bandwidths?limit=3&marker=4779ab1c-7c1a-44b1-a02e-93dfc361b32d
```

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "request_id" : "4e5945ddd409f306b3cb4fd921a45390",
  "eip_bandwidths" : [ {
    "name" : "bandwidth-838f",
    "id" : "08b4700e-cc3c-4aed-a35a-66022bcbd0f6",
    "tenant_id" : "cb576f8cf0df40b8bb6cea0a1765c569",
    "size" : 10,
    "bandwidth_type" : "bgp",
    "ratio_95peak_plus" : null,
    "admin_state" : "NORMAL",
    "ingress_size" : 10,
    "type" : "PER",
    "enable_bandwidth_rules" : false,
    "rule_quota" : 0,
    "created_at" : "2023-05-17T02:06:49Z",
    "updated_at" : "2023-05-17T02:06:49Z",
    "bandwidth_rules" : [ ],
    "publicip_info" : [ {
      "publicip_address" : "10.83.15.65",
      "publicip_type" : "5_bgp",
      "publicip_id" : "e73fcc26-c009-4ea3-9b57-d546359bda38",
      "ip_version" : 4,
      "publicipv6_address" : null
    } ],
    "tags" : [ ],
    "public_border_group" : "center"
  } ],
  "page_info" : [ {
    "next_marker" : "08b4700e-cc3c-4aed-a35a-66022bcbd0f6",
    "previous_marker" : "08b4700e-cc3c-4aed-a35a-66022bcbd0f6",
    "current_count" : 1
  } ]
}
```

SDK Sample Code

The sample code is as follows:

Java

```
package com.huaweicloud.sdk.test;

import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.eip.v3.region.EipRegion;
import com.huaweicloud.sdk.eip.v3.*;
import com.huaweicloud.sdk.eip.v3.model.*;

public class ListEipBandwidthsSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        EipClient client = EipClient.newBuilder()
            .withCredential(auth)
            .withRegion(EipRegion.valueOf("<YOUR REGION>"))
            .build();
        ListEipBandwidthsRequest request = new ListEipBandwidthsRequest();
        try {
            ListEipBandwidthsResponse response = client.listEipBandwidths(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getHttpStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkeip.v3.region.eip_region import EipRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkeip.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
```

```
ak = os.environ["CLOUD_SDK_AK"]
sk = os.environ["CLOUD_SDK_SK"]
projectId = "{project_id}"

credentials = BasicCredentials(ak, sk, projectId)

client = EipClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(EipRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListEipBandwidthsRequest()
    response = client.list_eip_bandwidths(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    eip "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := eip.NewEipClient(
        eip.EipClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListEipBandwidthsRequest{}
    response, err := client.ListEipBandwidths(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More SDK Sample Code

For more SDK sample codes of programming languages, visit [API Explorer](#) and click the **Sample Code** tab. Example codes can be automatically generated.

Status Codes

Status Code	Description
200	Normal response to the GET operation

Error Codes

See [Error Codes](#).

5.3.2 Viewing Bandwidth Limits

Function

This API is used to obtain the EIP bandwidth limits. You can call this API to query data about a bandwidth, including its billing mode and upper and lower limits.

URI

GET /v3/{project_id}/eip/eip-bandwidth-limits

Table 5-60 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID Maximum length: 32

Table 5-61 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records on each page Minimum value: 0 Maximum value: 2000
offset	No	Integer	Start page number
marker	No	String	Start page number
page_reverse	No	Boolean	Direction of page turning
fields	No	Array of strings	Display only the specified fields. If ext-fields is used, fields are added in addition to the default ones.
charge_mode	No	String	Filter by billing mode

Request Parameters

None

Response Parameters

Status code: 200

Table 5-62 Response body parameters

Parameter	Type	Description
eip_bandwidth_limits	Array of ShowTenantDict objects	Bandwidth limits Array length: 0 to 2000
page_info	PageInfoDict object	Pagination page number information
request_id	String	Request ID

Table 5-63 ShowTenantDict

Parameter	Type	Description
id	String	<ul style="list-style-type: none">EIP ID, which uniquely identifies the EIP. Minimum length: 36 Maximum length: 36
charge_mode	String	Bandwidth billing mode
min_size	Integer	Minimum size of the bandwidth that can be purchased
max_size	Integer	Maximum size of the bandwidth that can be purchased
ext_limit	ExtLimitPojo object	Additional limits

Table 5-64 ExtLimitPojo

Parameter	Type	Description
min_ingress_size	Integer	<ul style="list-style-type: none">Minimum inbound bandwidth
max_ingress_size	Integer	<ul style="list-style-type: none">Maximum inbound bandwidth

Parameter	Type	Description
ratio_95peak	Integer	Minimum ratio of 95th percentile billing

Table 5-65 PageInfoDict

Parameter	Type	Description
previous_marker	String	Marker value of the previous page
next_marker	String	Marker value of the next page
current_count	Integer	Total number of data records on the current page

Example Request

Query the bandwidth limits. You can filter the bandwidth limits based on the **query** field.

```
GET https://{Endpoint}/v3/{project_id}/eip/eip-bandwidth-limits
```

Example Response

Status code: 200

Normal response to the GET operation

```
{
  "request_id": "4e5945ddd409f306b3cb4fd921a45390",
  "eip_bandwidth_limits": [ {
    "id": "08b4700e-cc3c-4aed-a35a-66022bcbd0f6",
    "charge_mode": "bandwidth",
    "min_size": 1,
    "max_size": 500,
    "ext_limit": null
  }, {
    "id": "8a6990e6-638c-4a80-9da7-3c1a465ccf59",
    "charge_mode": "traffic",
    "min_size": 5,
    "max_size": 2000,
    "ext_limit": null
  } ],
  "page_info": [ {
    "previous_marker": "08b4700e-cc3c-4aed-a35a-66022bcbd0f6",
    "current_count": 2
  } ]
}
```

SDK Sample Code

The sample code is as follows:

Java

```
package com.huaweicloud.sdk.test;
```

```
import com.huaweicloud.sdk.core.auth.ICredential;
import com.huaweicloud.sdk.core.auth.BasicCredentials;
import com.huaweicloud.sdk.core.exception.ConnectionException;
import com.huaweicloud.sdk.core.exception.RequestTimeoutException;
import com.huaweicloud.sdk.core.exception.ServiceResponseException;
import com.huaweicloud.sdk.eip.v3.region.EipRegion;
import com.huaweicloud.sdk.eip.v3.*;
import com.huaweicloud.sdk.eip.v3.model.*;

public class ListBandwidthsLimitSolution {

    public static void main(String[] args) {
        // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great
        // security risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or
        // environment variables and decrypted during use to ensure security.
        // In this example, AK and SK are stored in environment variables for authentication. Before running
        // this example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
        String ak = System.getenv("CLOUD_SDK_AK");
        String sk = System.getenv("CLOUD_SDK_SK");
        String projectId = "{project_id}";

        ICredential auth = new BasicCredentials()
            .withProjectId(projectId)
            .withAk(ak)
            .withSk(sk);

        EipClient client = EipClient.newBuilder()
            .withCredential(auth)
            .withRegion(EipRegion.valueOf("<YOUR REGION>"))
            .build();
        ListBandwidthsLimitRequest request = new ListBandwidthsLimitRequest();
        try {
            ListBandwidthsLimitResponse response = client.listBandwidthsLimit(request);
            System.out.println(response.toString());
        } catch (ConnectionException e) {
            e.printStackTrace();
        } catch (RequestTimeoutException e) {
            e.printStackTrace();
        } catch (ServiceResponseException e) {
            e.printStackTrace();
            System.out.println(e.getStatusCode());
            System.out.println(e.getRequestId());
            System.out.println(e.getErrorCode());
            System.out.println(e.getErrorMsg());
        }
    }
}
```

Python

```
# coding: utf-8

import os
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkeip.v3.region.eip_region import EipRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkeip.v3 import *

if __name__ == "__main__":
    # The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    # risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    # variables and decrypted during use to ensure security.
    # In this example, AK and SK are stored in environment variables for authentication. Before running this
    # example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak = os.getenv("CLOUD_SDK_AK")
    sk = os.getenv("CLOUD_SDK_SK")
    projectId = "{project_id}"
```

```
credentials = BasicCredentials(ak, sk, projectId)

client = EipClient.new_builder() \
    .with_credentials(credentials) \
    .with_region(EipRegion.value_of("<YOUR REGION>")) \
    .build()

try:
    request = ListBandwidthsLimitRequest()
    response = client.list_bandwidths_limit(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

Go

```
package main

import (
    "fmt"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/core/auth/basic"
    eip "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3"
    "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/model"
    region "github.com/huaweicloud/huaweicloud-sdk-go-v3/services/eip/v3/region"
)

func main() {
    // The AK and SK used for authentication are hard-coded or stored in plaintext, which has great security
    // risks. It is recommended that the AK and SK be stored in ciphertext in configuration files or environment
    // variables and decrypted during use to ensure security.
    // In this example, AK and SK are stored in environment variables for authentication. Before running this
    // example, set environment variables CLOUD_SDK_AK and CLOUD_SDK_SK in the local environment
    ak := os.Getenv("CLOUD_SDK_AK")
    sk := os.Getenv("CLOUD_SDK_SK")
    projectId := "{project_id}"

    auth := basic.NewCredentialsBuilder().
        WithAk(ak).
        WithSk(sk).
        WithProjectId(projectId).
        Build()

    client := eip.NewEipClient(
        eip.EipClientBuilder().
            WithRegion(region.ValueOf("<YOUR REGION>")).
            WithCredential(auth).
            Build())

    request := &model.ListBandwidthsLimitRequest{}
    response, err := client.ListBandwidthsLimit(request)
    if err == nil {
        fmt.Printf("%+v\n", response)
    } else {
        fmt.Println(err)
    }
}
```

More SDK Sample Code

For more SDK sample codes of programming languages, visit [API Explorer](#) and click the **Sample Code** tab. Example codes can be automatically generated.

Status Codes

Status Code	Description
200	Normal response to the GET operation

Error Codes

See [Error Codes](#).

5.4 Common Pools

5.4.1 Querying Common Pools

Function

This API is used to query common pools.

URI

GET /v3/{project_id}/eip/publicip-pools/common-pools

Table 5-66 Path parameter

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

Table 5-67 Query parameters

Parameter	Mandatory	Type	Description
fields	No	String	<ul style="list-style-type: none">Field. Format: "fields=id&fields=name&.."Supported fields: id, name, status, type, used, allow_share_bandwidth_types, and public_border_group. Minimum length: 0 Maximum length: 1024

Parameter	Mandatory	Type	Description
name	No	String	<ul style="list-style-type: none"> Common pool name. Minimum length: 0 Maximum length: 36
public_border_group	No	String	<ul style="list-style-type: none"> Whether the common pool is in a central region or an edge site. Minimum length: 0 Maximum length: 64

Request Parameter

None

Response Parameters

Status code: 200

Table 5-68 Response body parameters

Parameter	Type	Description
common_pools	Array of CommonPoolDict objects	Common pool.
request_id	String	Request ID.

Table 5-69 CommonPoolDict

Parameter	Type	Description
name	String	<ul style="list-style-type: none"> Common pool name. Minimum length: 0 Maximum length: 36
status	String	<ul style="list-style-type: none"> Common pool status Minimum length: 0 Maximum length: 36
type	String	<ul style="list-style-type: none"> Common pool type, such as bgp. Minimum length: 0 Maximum length: 36

Parameter	Type	Description
used	Integer	<ul style="list-style-type: none">Number of used EIPs. Minimum value: 0 Maximum value: 99999
public_border_group	String	<ul style="list-style-type: none">Whether the resource is in a central region or an edge site.The value can be center or an edge site name.This resource can only be associated with an EIP of the same region. Minimum length: 1 Maximum length: 64
id	String	<ul style="list-style-type: none">Common pool ID. The parameter is not displayed by default. Minimum length: 0 Maximum length: 36
allow_share_bandwidth_types	Array of strings	<ul style="list-style-type: none">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.The EIP can be added only to the shared bandwidth of these types. Maximum length: 64

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](#).

5.4.2 Querying EIP Pools

Function

This API is used to query EIP pools.

URI

GET /v3/{project_id}/eip/publicip-pools

Table 5-70 Path parameter

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

Table 5-71 Query parameters

Parameter	Mandatory	Type	Description
marker	No	String	<ul style="list-style-type: none">Start resource ID of pagination query. If the parameter is left blank, only resources on the first page are queried. Minimum length: 0 Maximum length: 36
limit	No	Integer	<ul style="list-style-type: none">Number of records returned on each page.The value ranges from 0 to 2,000. The maximum value varies by region. Minimum value: 0 Maximum value: 2000

Parameter	Mandatory	Type	Description
fields	No	String	<ul style="list-style-type: none"> Field. Format: "fields=id&fields=name&..." Supported fields: id, name, size, used, project_id, status, billing_info, created_at, updated_at, type, shared, is_common, description, tags, enterprise_project_id, allow_share_bandwidth_types, and public_border_group. <p>Minimum length: 0 Maximum length: 1024</p>
sort_key	No	String	<ul style="list-style-type: none"> Sort. Format: "sort_key=id&sort_dir=asc" Supported fields: id, name, created_at, updated_at, and public_border_group. <p>Minimum length: 0 Maximum length: 36</p>
sort_dir	No	String	<ul style="list-style-type: none"> Sorting direction. The value can be asc or desc <p>Minimum length: 0 Maximum length: 16</p>
id	No	String	<ul style="list-style-type: none"> Filter by id. <p>Minimum length: 0 Maximum length: 36</p>
name	No	String	<ul style="list-style-type: none"> Filter by name. <p>Minimum length: 0 Maximum length: 128</p>
size	No	Integer	<ul style="list-style-type: none"> Filter by size. <p>Minimum value: 0 Maximum value: 999999</p>
status	No	String	<ul style="list-style-type: none"> Filter by status. <p>Minimum length: 0 Maximum length: 36</p>

Parameter	Mandatory	Type	Description
type	No	String	<ul style="list-style-type: none"> Filter by type. Minimum length: 0 Maximum length: 36
description	No	String	<ul style="list-style-type: none"> Filter by description. Minimum length: 0 Maximum length: 1024
public_border_group	No	String	<ul style="list-style-type: none"> Filter by public_border_group. Minimum length: 0 Maximum length: 64

Request Parameter

None

Response Parameters

Status code: 200

Table 5-72 Response body parameters

Parameter	Type	Description
publicip_pools	Array of PublicipPools howResp objects	EIP pool.
request_id	String	Request ID.
page_info	PageInfoOption object	Pagination page number information.

Table 5-73 PublicipPoolShowResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none"> EIP pool ID. Minimum length: 1 Maximum length: 36

Parameter	Type	Description
name	String	<ul style="list-style-type: none"> EIP pool name. Minimum length: 0 Maximum length: 64
status	String	<ul style="list-style-type: none"> EIP pool status. Minimum length: 0 Maximum length: 36
type	String	<ul style="list-style-type: none"> EIP pool type. The value can be: <ul style="list-style-type: none"> spec_bgp: Dynamic spec_sbgp: Static Enumerated values: <ul style="list-style-type: none"> spec_bgp spec_sbgp
description	String	<ul style="list-style-type: none"> Supplementary information about the EIP pool. Minimum length: 0 Maximum length: 1024
project_id	String	<ul style="list-style-type: none"> Tenant ID. Minimum length: 1 Maximum length: 36
size	Integer	<ul style="list-style-type: none"> EIP pool size. Minimum value: 0 Maximum value: 999999
used	Integer	<ul style="list-style-type: none"> Number of used EIPs. Minimum value: 0 Maximum value: 999999
created_at	String	<ul style="list-style-type: none"> Time when an EIP pool is assigned. Minimum length: 0 Maximum length: 64
updated_at	String	<ul style="list-style-type: none"> Time when an EIP pool is updated. Minimum length: 0 Maximum length: 64
billing_info	BillingInfoDict object	Order information, which is available only for yearly/monthly resources.

Parameter	Type	Description
public_border_group	String	<ul style="list-style-type: none"> Whether the EIP pool is in a central region or an edge site. The value can be center. Minimum length: 0 Maximum length: 64
shared	Boolean	<ul style="list-style-type: none"> Whether the EIP pool is shared.
is_common	Boolean	<ul style="list-style-type: none"> Whether the EIP pool is a common pool.
tags	Array of TagsInfo objects	<ul style="list-style-type: none"> User tag. (The parameter is not displayed by default.)
enterprise_project_id	String	<ul style="list-style-type: none"> Enterprise project ID. The value is 0 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. Minimum length: 0 Maximum length: 36
allow_share_bandwidth_types	Array of strings	<ul style="list-style-type: none"> 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. The EIP can be added only to the shared bandwidth of these types. Maximum length: 64

Table 5-74 BillingInfoDict

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

Table 5-75 TagsInfo

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

Table 5-76 PageInfoOption

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

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](#).

5.4.3 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 5-77 Path parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID. Minimum length: 1 Maximum length: 32
publicip_pool_id	Yes	String	EIP pool ID, which uniquely identifies the EIP pool. Minimum length: 36 Maximum length: 36

Table 5-78 Query parameter

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

Request Parameter

None

Response Parameters

Status code: **200**

Table 5-79 Response body parameters

Parameter	Type	Description
publicip_pool	PublicipPools howResp object	EIP pool details.
request_id	String	Request ID.

Table 5-80 PublicipPoolShowResp

Parameter	Type	Description
id	String	<ul style="list-style-type: none"> EIP pool ID. Minimum length: 1 Maximum length: 36
name	String	<ul style="list-style-type: none"> EIP pool name. Minimum length: 0 Maximum length: 64

Parameter	Type	Description
status	String	<ul style="list-style-type: none"> EIP pool status. Minimum length: 0 Maximum length: 36
type	String	<ul style="list-style-type: none"> EIP pool type. The value can be: <ul style="list-style-type: none"> spec_bgp: Dynamic spec_sbgp: Static Enumerated values: <ul style="list-style-type: none"> spec_bgp spec_sbgp
description	String	<ul style="list-style-type: none"> Supplementary information about the EIP pool. Minimum length: 0 Maximum length: 1024
project_id	String	<ul style="list-style-type: none"> Tenant ID. Minimum length: 1 Maximum length: 36
size	Integer	<ul style="list-style-type: none"> EIP pool size. Minimum value: 0 Maximum value: 999999
used	Integer	<ul style="list-style-type: none"> Number of used EIPs. Minimum value: 0 Maximum value: 999999
created_at	String	<ul style="list-style-type: none"> Time when an EIP pool is assigned. Minimum length: 0 Maximum length: 64
updated_at	String	<ul style="list-style-type: none"> Time when an EIP pool is updated. Minimum length: 0 Maximum length: 64
billing_info	BillingInfoDict object	Order information, which is available only for yearly/monthly resources.
public_border_group	String	<ul style="list-style-type: none"> Whether the EIP pool is in a central region or an edge site. The value can be center. Minimum length: 0 Maximum length: 64
shared	Boolean	<ul style="list-style-type: none"> Whether the EIP pool is shared.

Parameter	Type	Description
is_common	Boolean	<ul style="list-style-type: none"> Whether the EIP pool is a common pool.
tags	Array of TagsInfo objects	<ul style="list-style-type: none"> User tag. (The parameter is not displayed by default.)
enterprise_project_id	String	<ul style="list-style-type: none"> Enterprise project ID. The value is 0 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. <p>Minimum length: 0 Maximum length: 36</p>
allow_share_bandwidth_types	Array of strings	<ul style="list-style-type: none"> 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. The EIP can be added only to the shared bandwidth of these types. <p>Maximum length: 64</p>

Table 5-81 BillingInfoDict

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

Table 5-82 TagsInfo

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

Parameter	Type	Description
value	String	<ul style="list-style-type: none">Values. Minimum length: 0 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 version objects	Specifies the API version list. For details, see Table 6-2 .

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">● CURRENT● STABLE● DEPRECATED
id	String	Specifies the API version.
links	Array of link objects	Specifies the link list. For details, see Table 6-3 .

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 True or False .

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 {resources}_link objects	Specifies the pagination information. For details, see Table 6-6 . {resources} indicates the resource name, for example, ports , networks , subnets , routers , firewall_rules , firewall_policies , firewall_groups , security_groups , and security_group_rules . Only when limit is used for filtering and the number of resources exceeds the value of limit or 2000 (default value of limit), value next will be returned for rel and a link for href .

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. next : The next page is queried. previous : 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=9daec7c-
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. You can only use fixed external network. You can use GET /v2.0/networks?router:external=True or GET /v2.0/networks?name={floating_network} or run the neutron net-external-list 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	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. limit can be used together with marker . For details, see the parameter description of marker .

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 limit.</p> <ul style="list-style-type: none"> • If parameters marker and limit are not passed, resource records on the first page will be returned. • If the parameter marker is not passed and the value of parameter limit is set to 10, the first 10 resource records will be returned. • If the value of the parameter marker is set to the resource ID of the 10th record and the value of parameter limit is set to 10, the 11th to 20th resource records will be returned. • If the value of the parameter marker is set to the resource

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

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 floatingip objects	Specifies the floating IP address list. For details, see Table 6-9 .
floatingips_links	Array of floatingips_link objects	Specifies the floating IP address object list. For details, see Table 6-10 . Only when limit is used for filtering and the number of resources exceeds the value of limit or 2000 (default value of limit), value next will be returned for rel and a link for href .

Table 6-9 floatingip objects

Parameter	Type	Description
status	String	Specifies the floating IP address status. The value can be ACTIVE , DOWN , or ERROR . <ul style="list-style-type: none">• DOWN indicates that the floating IP address has not been bound.• ACTIVE indicates that the floating IP address has been bound.• ERROR indicates that the floating IP address is abnormal.
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. This parameter is available only in the CN South-Guangzhou region.
dns_domain	String	Specifies the DNS domain. This parameter is available only in the CN South-Guangzhou region.

Parameter	Type	Description
created_at	String	Specifies the time when the floating IP address was created. UTC time is used. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
updated_at	String	Specifies the time when the floating IP address was updated. UTC time is used. 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	floatingip object	Specifies the floating IP address list. For details, see Table 6-12 .

Table 6-12 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be ACTIVE , DOWN , or ERROR . <ul style="list-style-type: none">• DOWN indicates that the floating IP address has not been bound.• ACTIVE indicates that the floating IP address has been bound.• ERROR indicates that the floating IP address is abnormal.
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. This parameter is available only in the CN South-Guangzhou region.
dns_domain	String	Specifies the DNS domain. This parameter is available only in the CN South-Guangzhou region.
created_at	String	Specifies the time when the floating IP address was created. UTC time is used. Format: <i>yyyy-MM-ddTHH:mm:ss</i>
updated_at	String	Specifies the time when the floating IP address was updated. UTC time is used. 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	floatingip object	Yes	Specifies the floating IP address list. For details, see Table 6-14 .

Table 6-14 floatingip objects

Parameter	Mandatory	Type	Description
floating_ip_address	No	String	Specifies the floating IP address.
floating_network_id	Yes	String	Specifies the external network ID. You can only use fixed external network. You can use GET /v2.0/networks?router:external=True or GET /v2.0/networks?name={floating_network} or run the neutron net-external-list mode 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	floatingip object	Specifies the floating IP address list. For details, see Table 6-16 .

Table 6-16 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be ACTIVE , DOWN , or ERROR . <ul style="list-style-type: none">• DOWN indicates that the floating IP address has not been bound.• ACTIVE indicates that the floating IP address has been bound.• ERROR indicates that the floating IP address is abnormal.
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. This parameter is available only in the CN South-Guangzhou region.
dns_domain	String	Specifies the DNS domain. This parameter is available only in the CN South-Guangzhou region.

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. 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	floatingip object	Yes	Specifies the floating IP address list. For details, see Table 6-19 .

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	floatingip object	Specifies the floating IP address list. For details, see Table 6-21 .

Table 6-21 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be ACTIVE , DOWN , or ERROR . <ul style="list-style-type: none">• DOWN indicates that the floating IP address has not been bound.• ACTIVE indicates that the floating IP address has been bound.• ERROR indicates that the floating IP address is abnormal.
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. This parameter is available only in the CN South-Guangzhou region.
dns_domain	String	Specifies the DNS domain. This parameter is available only in the CN South-Guangzhou region.

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](#).
- 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. 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](#).
- 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

You have planned the region where you want to assign the EIP and obtained the endpoint required for calling APIs. For details, see [EIP Endpoints](#).

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": "b3292dde618e40408e30cd874455a0652",
    "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 HUAWEI ID 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.

You can grant users permissions by using **roles** and **policies**. Roles are provided by IAM to define service-based permissions that match user's job responsibilities. Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

NOTE

If you want to allow or deny the access to an API, use policy-based authorization.

Currently, only **publicip** resources are supported and available in CN South-Shenzhen, CN Southwest-Guiyang1, CN South-Guangzhou, and CN East-Shanghai1. For other regions, you can configure policy-based authorization but the configuration does not take effect.

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?](#).

 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

Permission	API	Action
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 vpc:publicipTags:delete

Permission	API	Action
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	Monitored Object	Monitoring Interval (Raw Data)
upstream_bandwidth	Outbound Bandwidth	Network rate of outbound traffic (Previously called "Upstream Bandwidth") Unit: bit/s	≥ 0 bit/s	Bandwidth or EIP	1 minute

ID	Name	Description	Value Range	Monitored Object	Monitoring Interval (Raw Data)
downstream_bandwidth	Inbound Bandwidth	Network rate of inbound traffic (Previously called "Downstream Bandwidth") Unit: bit/s	≥ 0 bit/s	Bandwidth or EIP	1 minute
upstream_bandwidth_usage	Outbound Bandwidth Usage	Usage of outbound bandwidth in the unit of percent. Outbound bandwidth usage = Outbound bandwidth/ Purchased bandwidth	0% to 100%	Bandwidth or EIP	1 minute
upstream	Outbound Traffic	Network traffic going out of the cloud platform in a minute (Previously called "Upstream Traffic") Unit: byte	≥ 0 bytes	Bandwidth or EIP	1 minute
downstream	Inbound Traffic	Network traffic going into the cloud platform in a minute (Previously called "Downstream Traffic") Unit: byte	≥ 0 bytes	Bandwidth or EIP	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.
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.

Returned Value	Description
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

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [Error Codes](#).

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 availability_zone field in the request body for creating a subnet is left blank.

Module	Status Codes	Error Code	Message	Description	Handling Measure
	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.
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> to be performed	Insufficient fine-grained permissions.	Obtain the required permissions.

Module	Status Codes	Error Code	Message	Description	Handling Measure
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. NO QUOTAS for shareBandwidthIP! 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.
	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.

Module	Status Codes	Error Code	Message	Description	Handling Measure
	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.
	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.

Module	Status Codes	Error Code	Message	Description	Handling Measure
	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.
	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.

Module	Status Codes	Error Code	Message	Description	Handling Measure
	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.
	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.

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.
	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.
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.

Module	Status Codes	Error Code	Message	Description	Handling Measure
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.
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 publicip_id in publicip_info 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/a4adasfjljaaakla12334jklga9sasfg"
      },
      "id": "a4adasfjljaaakla12334jklga9sasfg",
      "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.

Figure A-1 Viewing the project ID

