Elastic IP

Referência de API

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Índice

1 Antes de começar

1.1 Visão geral

Bem-vindo à *Referência de API do Elastic IP*. O serviço do EIP fornece endereços IP públicos independentes e largura de banda para o acesso à Internet. Os EIPs podem ser vinculados ou desvinculados de ECSs, BMSs, endereços IP virtuais, balanceadores de carga e gateways NAT. Vários modos de cobrança são fornecidos para atender a diversos requisitos de serviço.

Este documento descreve como usar APIs (interfaces de programação de aplicações) para executar operações em EIPs, como criar, consultar, excluir e atualizar um EIP. Para obter detalhes sobre todas as operações suportadas, consulte **Visão geral de API**.

Se você planeja acessar EIPs por meio de uma API, certifique-se de estar familiarizado com os conceitos do EIP. Para obter detalhes, consulte **Visão geral de serviço** no *Guia de usuário do Elastic IP*.

1.2 Chamada de API

O EIP suporta APIs Representational State Transfer (REST), permitindo que você chame APIs usando HTTPS.

Além disso, os EIPs oferecem kits de desenvolvimento de software (SDKs) para várias linguagens de programação.

1.3 Ponto de extremidades do EIP

Um ponto de extremidade é o **request address** para chamar uma API. Os pontos de extremidade variam conforme os serviços e as regiões. Atualmente, o EIP e a VPC usam os mesmos pontos de extremidade.

1.4 Observações e restrições

O número dos EIPs que você pode criar é determinado pela sua cota. Para exibir ou aumentar a cota, consulte **O que é uma cota?**

1.5 Conceitos

- Conta

  Uma conta é criada após a registração bem sucedida. A conta tem permissões de acesso total para todos os seus serviços e recursos de nuvem. Ele pode ser usado para redefinir senhas de usuários e conceder permissões ao usuário. A conta é uma entidade de pagamento, que não deve ser usada diretamente para realizar a gestão de rotina. Para fins de segurança, crie usuários do Identity and Access Management (IAM) e conceda a eles permissões para o gerenciamento de rotina.

- Usuário

  Um usuário do IAM é criado por uma conta no IAM para usar os serviços em nuvem. Cada usuário do IAM tem suas próprias credenciais de identidade (senha e chaves de acesso).

  A autenticação da API requer informações como o nome da conta, nome de usuário e senha.

- Região

  As regiões são divididas com base na localização geográfica e na latência da rede. Serviços públicos, como Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), e Image Management Service (IMS), são compartilhados na mesma região. As regiões são classificadas em regiões universais e regiões dedicadas. Uma região universal fornece serviços de nuvem universal para locatários comuns. Uma região dedicada fornece serviços específicos para locatários específicos.

  Para obter detalhes, consulte **Região e AZ**.

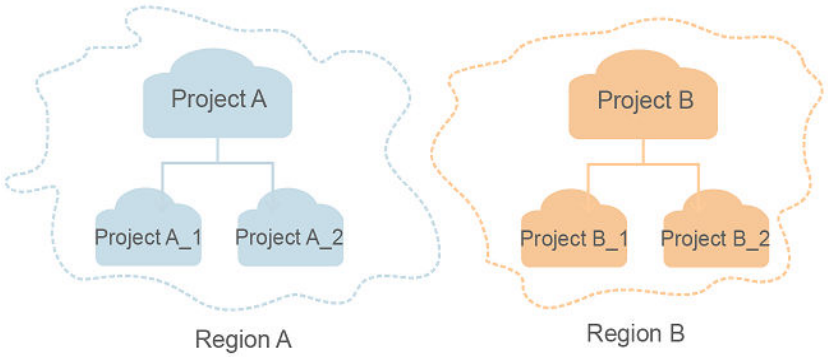
- AZ

  Uma AZ é composta por um ou mais data centers físicos equipados com instalações independentes de ventilação, incêndio, água e eletricidade. Computação, rede, armazenamento e outros recursos em uma AZ são logicamente divididos em vários clusters. As AZ dentro de uma região são interconectadas usando fibras ópticas de alta velocidade para permitir que você construa sistemas de alta disponibilidade entre as AZ.

- Projeto

  Um projeto corresponde a uma região. Os projetos padrão são definidos para agrupar e isolar fisicamente recursos (incluindo recursos de computação, armazenamento e rede) entre regiões. Os usuários podem receber permissões em um projeto padrão para acessar todos os recursos em seus contas na região associada ao projeto. Se você precisar de um controle de acesso mais refinado, crie subprojetos em um projeto padrão e crie recursos em subprojetos. Em seguida, você pode atribuir aos usuários as permissões necessárias para acessar apenas os recursos nos subprojetos específicos.

Figura 1-1 Modelo de isolamento do projeto



- Projeto empresarial

  Projetos empresariais agrupam e gerenciam recursos entre regiões. Os recursos em diferentes projetos empresariais são logicamente isolados. Um projeto empresarial pode conter recursos de várias regiões e os recursos podem ser adicionados ou removidos de projetos empresariais.

  Para obter detalhes sobre projetos empresariais e sobre como obter os ID de projetos empresariais, consulte **Guia de usuário de Enterprise Management**.

2 Visão geral de API

As APIs fornecidas pelo serviço do EIP incluem APIs OpenStack nativo e APIs do EIP.

Uma combinação desses dois tipos de APIs permite que você use todas as funções fornecidas pelo serviço do EIP.

APIs do EIP

Tabela 2-1 APIs do EIP

Tipo	Descrição
Elastic IP	APIs para atribuição, consulta, atualização e liberação de EIPs
Largura de banda	APIs para consulta e atualização de largura de banda
Cota	API para consulta de valores de cota
Gerenciamento de tags do EIP	APIs para adicionar tags a EIPs, bem como consultar e excluir tags do EIP Atualmente, esse tipo de API está disponível apenas na região **AP-Singapore**.

APIs OpenStack nativo

Tabela 2-2 APIs OpenStack nativo

Tipo	Descrição
Informações sobre a versão da API	APIs para consultar todas as versões de API disponíveis e exibir os resultados em páginas.
Endereço IP flutuante	APIs para atribuição, consulta, atualização e liberação de endereços IP flutuantes

3 APIs

3.1 EIP

3.1.1 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, load balancers, and NAT gateways. Various billing modes are provided to meet diversified service requirements.

URI

POST /v1/{project_id}/publicips

Tabela 3-1 describes the parameters.

Tabela 3-1 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request Parameters

Tabela 3-2 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-3 Request body parameter

Name	Mandatory	Type	Description
publicip	Yes	**publicip** object	Specifies the EIP object. For details, see **Tabela 3-4**.
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth object. For details, see **Tabela 3-5**.
enterprise_project_id	No	String	• 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.

Tabela 3-4 Description of the **publicip** field

Name	Mandatory	Type	Description
type	Yes	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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:

Name	Mandatory	Type	Description
			– 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	● Specifies the EIP version. ● The value can be **4** and **6**, indicating IPv4 address and IPv6 address, respectively. ● Constraints: – 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_address	No	String	● 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	● Specifies the EIP name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Name	Mandatory	Type	Description
port_id	No	String	● 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.

Tabela 3-5 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	No	String	● 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.

Name	Mandatory	Type	Description
size	No	Integer	● 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: – 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.

Name	Mandatory	Type	Description
id	No	String	● 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	● Specifies the bandwidth type. ● Possible values are as follows: – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth ● If this parameter is set to **WHOLE**, the bandwidth ID must be specified.
charge_mode	No	String	● 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 (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"
    }
}
```


Response Message

- Response parameter

Tabela 3-6 Response parameter

Name	Type	Description
publicip	**publicip** object	Specifies the EIP object. For details, see **Tabela 3-7**.

Tabela 3-7 Description of the **publicip** field

Name	Type	Description
id	String	Specifies the unique identifier of an EIP.
status	String	• Specifies the EIP status. • Possible values are as follows: – **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)

Name	Type	Description
type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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.

Name	Type	Description
ip_version	Integer	Specifies the IP address version. The value can be **4** or **6**. ● **4**: IPv4 ● **6**: IPv6
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned.
bandwidth_size	Integer	Specifies the bandwidth (Mbit/s).
alias	String	Specifies the EIP name.
enterprise_project_id	String	● 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.

- Example response (IPv4 EIP with dedicated bandwidth)

```
{
    "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"
    }
}
```

3.1.2 Querying an EIP

Function

This API is used to query a specific EIP.

URI

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

Tabela 3-8 describes the parameters.

Tabela 3-8 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

  Tabela 3-9 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

  ```
  Get https://{Endpoint}/v1/{project_id}/publicips/{publicip_id}
  ```

Response Message

- Response parameter

  Tabela 3-10 Response parameter

Name	Type	Description
publicip	**publicip** object	Specifies the EIP object. For details, see Tabela 3-11.

  Tabela 3-11 Description of the **publicip** field

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

Name	Type	Description
status	String	● Specifies the EIP status. ● Possible values are as follows: – **FREEZED** (Frozen) – **BIND_ERROR** (Binding failed) – **BINDING** (Binding) – **PENDING_DELETE** (Releasing) – **PENDING_CREAT E** (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 **Tabela 3-12**.

Name	Type	Description
type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Name	Type	Description
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**. ● **4**: IPv4 ● **6**: IPv6
private_ip_address	String	● 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	● 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.
bandwidth_id	String	Specifies the ID of the EIP bandwidth.
bandwidth_size	Integer	Specifies the bandwidth (Mbit/s).
bandwidth_share_type	String	● Specifies the EIP bandwidth type. ● The value can be **PER** or **WHOLE**. – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth

Name	Type	Description
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.
enterprise_project_id	String	● 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.
public_border_group	String	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.
allow_share_bandwidth_types	Array of strings	● 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.

Tabela 3-12 Description of the **profile** field

Name	Type	Description
order_id	String	Specifies the order ID.
product_id	String	Specifies the product ID.

Name	Type	Description
region_id	String	Specifies the region ID.
user_id	String	Specifies the user ID.

- Example response

```
{
    "publicip": {
        "id": "2ec9b78d-9368-46f3-8f29-d1a95622a568",
        "status": "DOWN",
        "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
    }
}
```

3.1.3 Querying EIPs

Function

This API is used to query EIPs.

URI

GET /v1/{project_id}/publicips

Tabela 3-13 describes the parameters.

Tabela 3-13 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.

Name	Mandatory	Type	Description
marker	No	String	Especifica um ID de recurso para consulta de paginação, indicando que a consulta começa a partir do próximo registro do ID de recurso especificado. Este parâmetro pode trabalhar em conjunto com o parâmetro **limit**. ● Se os parâmetros **marker** e **limit** não forem passados, os registros de recursos na primeira página serão retornados. ● Se o parâmetro **marker** não for passado e o valor do parâmetro **limit** for definido como **10**, os primeiros 10 registros de recurso serão devolvidos. ● Se o valor do parâmetro **marker** for definido como o ID de recurso do 10º registro e o valor do parâmetro **limit** for definido como **10**, os registros de recurso do 11º ao 20º serão retornados. ● Se o valor do parâmetro **marker** for definido como o ID do recurso do 10º registro e o parâmetro **limit** não for passado, os registros de recursos a partir do 11º registro (incluindo o 11º) serão retornados.

Name	Mandatory	Type	Description
limit	No	Integer	Especifica o número de registros que serão retornados em cada página. O valor é de 0 a intmax. **limit** pode ser usado em conjunto com o **marker**. Para obter detalhes, consulte a descrição do parâmetro de **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	● 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

  Tabela 3-14 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

```
GET https://{Endpoint}/v1/{project_id}/publicips?limit={limit}&marker={marker}
```


Response Message

- Response parameter

Tabela 3-15 Response parameter

Name	Type	Description
publicips	Array of **publicips** objects	Specifies the EIP object. For details, see **Tabela 3-16**.

Tabela 3-16 Description of the **publicips** field

Name	Type	Description
id	String	Specifies the unique identifier of an EIP.
status	String	• Specifies the EIP status. • Possible values are as follows: – **FREEZED** (Frozen) – **BIND_ERROR** (Binding failed) – **BINDING** (Binding) – **PENDING_DELETE** (Releasing) – **PENDING_CREAT E** (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 **Tabela 3-17**.

Name	Type	Description
type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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.

Name	Type	Description
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**. ● **4**: IPv4 ● **6**: IPv6
private_ip_address	String	● 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	● 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.
bandwidth_id	String	Specifies the ID of the EIP bandwidth.
bandwidth_size	Integer	Specifies the bandwidth (Mbit/s).
bandwidth_share_type	String	● Specifies the EIP bandwidth type. ● The value can be **PER** or **WHOLE**. – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.

Name	Type	Description
enterprise_project_id	String	● 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.
public_border_group	String	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.
allow_share_bandwidth_types	Array of strings	● 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.

Tabela 3-17 Description of the **profile** field

Name	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

```
{
    "publicips": [
        {
            "id": "6285e7be-fd9f-497c-bc2d-dd0bdea6efe0",
            "status": "DOWN",
            "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",            "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
        }
    ]
}
```

3.1.4 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}

Tabela 3-18 describes the parameters.

Tabela 3-18 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Tabela 3-19 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-20 Request parameter

Name	Mandatory	Type	Description
publicip	Yes	**publicip** object	Specifies the EIP object. For details, see **Tabela 3-21**.

Tabela 3-21 Description of the **publicip** field

Name	Mandatory	Type	Description
port_id	No	String	• 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.

Name	Mandatory	Type	Description
ip_version	No	Integer	● Specifies the IP address version. ● The value can be **4** or **6**. – **4**: IPv4 address – **6**: IPv6 address ● Constraints: – 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	● 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

Tabela 3-22 Response parameter

Name	Type	Description
publicip	**publicip** object	Specifies the EIP object. For details, see **Tabela 3-23**.

Tabela 3-23 Description of the **publicips** field

Name	Type	Description
id	String	Specifies the unique identifier of an EIP.
status	String	● Specifies the EIP status. ● Possible values are as follows: – **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 **Tabela 3-24**.

Name	Type	Description
type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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.

Name	Type	Description
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**. ● **4**: IPv4 ● **6**: IPv6
private_ip_address	String	● 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	● 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.
bandwidth_id	String	Specifies the ID of the EIP bandwidth.
bandwidth_size	Integer	Specifies the bandwidth (Mbit/s).
bandwidth_share_type	String	● Specifies the EIP bandwidth type. ● The value can be **PER** or **WHOLE**. – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth
bandwidth_name	String	Specifies the bandwidth name.
alias	String	Specifies the EIP name.

Name	Type	Description
enterprise_project_id	String	● 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.

Tabela 3-24 Description of the **profile** field

Name	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",
    "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"
  }
}
```

3.1.5 Releasing an EIP

Function

This API is used to release an EIP.

URI

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

Tabela 3-25 describes the parameters.

Tabela 3-25 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

  Tabela 3-26 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

```
DELETE https://{Endpoint}/v1/{project_id}/publicips/{publicip_id}
```

Response Message

- Response parameter

  None

- Example response

  None

  Or

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

3.1.6 Assigning an EIP (Yearly/Monthly)

Function

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

URI

POST /v2.0/{project_id}/publicips

Tabela 3-27 describes the parameters.

Tabela 3-27 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request parameter

- Request parameter

Tabela 3-28 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-29 Request parameter

Name	Mandatory	Type	Description
publicip	Yes	**publicip** object	Specifies the EIP object. For details, see **Tabela 3-30**.
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-31**.
extendParam	No	**extendParam** object	Specifies the extended parameter, which is used to apply for resources in yearly/monthly billing mode. For details, see section **Tabela 3-32**.

Name	Mandatory	Type	Description
enterprise_project_id	No	String	● 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. **NOTA** Para obter mais informações sobre projetos empresariais e como obter IDs de projeto empresarial, consulte o **Guia de usuário do Enterprise Management**.

Tabela 3-30 Description of the **publicip** field

Name	Mandatory	Type	Description
type	Yes	String	• Specifies the EIP type. • The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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**

Name	Mandatory	Type	Description
			– LA-Lima1: **5_bgp** – LA-Santiago2: **5_bgp** ● Constraints: – 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	● Specifies the EIP version. ● The value can be **4** and **6**, indicating IPv4 address and IPv6 address, respectively. ● Constraints: – 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	● Specifies the EIP name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Name	Mandatory	Type	Description
port_id	No	String	● 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.

Tabela 3-31 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	No	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.). ● Constraints: – This parameter is mandatory when **share_type** is set to **PER**. – This parameter will be ignored if the bandwidth has a specified ID.

Name	Mandatory	Type	Description
size	No	Integer	• 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: – 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).

Name	Mandatory	Type	Description
			– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
id	No	String	● Use the existing shared bandwidth to assign an IP address. ● Specifies the ID of the shared bandwidth. ● Constraints: – 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.
share_type	Yes	String	● Specifies the bandwidth type. ● Possible values are as follows: – **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.

Name	Mandatory	Type	Description
charge_mode	No	String	● Specifies whether the bandwidth is billed by traffic or by bandwidth size. ● The value can be **bandwidth** or **traffic**. The default value is **bandwidth**. If the value is **traffic**, the bandwidth is billed by traffic.

Tabela 3-32 Description of the **extendParam** field

Name	Mandatory	Type	Description
charge_mode	No	String	● Specifies the billing mode. ● Possible values are as follows: – **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.

Name	Mandatory	Type	Description
period_type	No	String	● Specifies the subscription unit. ● Possible values are as follows: – **month**: indicates that resources are subscribed by month. – **year**: indicates that resources are subscribed by year. ● Constraints: 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. When an EIP is created using the shared bandwidth, the expiration time of the bandwidth is the same as that of the EIP.
period_num	No	Integer	● Specifies the subscription period. ● The value range varies depending on the operation strategy. – 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**.

Name	Mandatory	Type	Description
is_auto_renew	No	boolean	● 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.
is_auto_pay	No	boolean	● 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: – **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 the automatic payment mode, only your account balance can be used. If you want to use a voucher, do not use the automatic payment mode, and select the voucher for the payment in the Billing Center.

- Example request 1

  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"
    }
}
```

- Example request 2

  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

Name	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.

Tabela 3-33 Description of the **publicip** field

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

Name	Type	Description
status	String	● Specifies the EIP status. ● Possible values are as follows: – **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)

Name	Type	Description
type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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	Specifies the IP address version. The value can be **4** or **6**. ● **4**: IPv4 address ● **6**: IPv6 address
tenant_id	String	Specifies the project ID.
create_time	String	Specifies the time (UTC) when the EIP is assigned.

Name	Type	Description
bandwidth_size	Integer	Specifies the bandwidth size.
alias	String	Specifies the EIP name.
enterprise_project_id	String	• 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. **NOTA** Para obter mais informações sobre projetos empresariais e como obter IDs de projeto empresarial, consulte o **Guia de usuário do Enterprise Management**.

- Example response 1

  Yearly/monthly

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

- Example response 2

  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
  }
}
```

3.2 Bandwidth

3.2.1 Querying a Bandwidth

Function

This API is used to query details about a bandwidth.

URI

GET /v1/{project_id}/bandwidths/{bandwidth_id}

Tabela 3-34 describes the parameters.

Tabela 3-34 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

  Tabela 3-35 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

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

Response Message

- Response parameter

  Tabela 3-36 Response parameter

Name	Type	Description
bandwidth	**bandwidth** object	Specifies the bandwidth object.

Tabela 3-37 Description of the **bandwidth** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● Possible values are as follows: – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies information about the EIP that uses the bandwidth. For details, see **Tabela 3-38**. ● 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.
bandwidth_type	String	● Specifies the bandwidth type. ● The value can be: – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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.

Name	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	● 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.
status	String	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)
created_at	String	● Specifies the time (UTC) when the bandwidth is created. ● Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	● Specifies the time (UTC) when the bandwidth is updated. ● Format: *yyyy-MM-ddTHH:mm:ss*
enable_bandwidth_rules	boolean	● 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. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

Tabela 3-38 publicip_info object

Name	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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 – **6**: IPv6

Name	Type	Description
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Tabela 3-39 bandwidth_rules object

Name	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.

Name	Type	Description
egress_size	integer	● 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	● 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	● 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",
    "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": [],
  }
}
```

3.2.2 Querying Bandwidths

Function

This API is used to query bandwidths using search criteria.

URI

GET /v1/{project_id}/bandwidths

Tabela 3-40 describes the parameters.

Tabela 3-40 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
marker	No	String	Especifica um ID de recurso para consulta de paginação, indicando que a consulta começa a partir do próximo registro do ID de recurso especificado. Este parâmetro pode trabalhar em conjunto com o parâmetro **limit**. ● Se os parâmetros **marker** e **limit** não forem passados, os registros de recursos na primeira página serão retornados. ● Se o parâmetro **marker** não for passado e o valor do parâmetro **limit** for definido como **10**, os primeiros 10 registros de recurso serão devolvidos. ● Se o valor do parâmetro **marker** for definido como o ID de recurso do 10º registro e o valor do parâmetro **limit** for definido como **10**, os registros de recurso do 11º ao 20º serão retornados. ● Se o valor do parâmetro **marker** for definido como o ID do recurso do 10º registro e o parâmetro **limit** não for passado, os registros de recursos a partir do 11º registro (incluindo o 11º) serão retornados.
limit	No	Integer	Especifica o número de registros que serão retornados em cada página. O valor é de 0 a intmax. **limit** pode ser usado em conjunto com o **marker**. Para obter detalhes, consulte a descrição do parâmetro de **marker**.

Name	Mandatory	Type	Description
share_type	No	String	● Specifies the bandwidth type. ● Possible values are as follows: – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth ● If this parameter is not set, the list of all bandwidths will be returned by default.
enterprise_project_id	No	String	● 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**.

Request Message

- Request parameter

  Tabela 3-41 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

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

Response Message

- Response parameter

Tabela 3-42 Response parameter

Name	Type	Description
bandwidths	Array of **bandwidths** objects	Specifies the bandwidth objects. For details, see **Tabela 3-43**.

Tabela 3-43 Description of the **bandwidths** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● Possible values are as follows: – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth If this parameter is not set, the list of all bandwidths will be returned by default.
publicip_info	Array of **publicip_info** objects	● Specifies the information about the EIP that uses the bandwidth. For details, see **Tabela 3-44**. ● 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.

Name	Type	Description
bandwidth_type	String	● Specifies the bandwidth type. ● The value can be: – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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.
billing_info	String	Specifies the bill information. If **billing_info** is specified, the bandwidth is in yearly/monthly billing mode.
enterprise_project_id	String	● 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.
status	String	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)
created_at	String	● Specifies the time (UTC) when the bandwidth is created. ● Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	● Specifies the time (UTC) when the bandwidth is updated. ● Format: *yyyy-MM-ddTHH:mm:ss*
enable_bandwidth_rules	boolean	● 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.

Name	Type	Description
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. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

Tabela 3-44 publicip_info object

Name	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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 – **6**: IPv6

Name	Type	Description
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Tabela 3-45 bandwidth_rules object

Name	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.

Name	Type	Description
egress_size	integer	● 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	● 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	● 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": "vpngw-f632a7b0-ef50-4ac5-97e9-ddc56b3d5977",
      "size": 200,
      "share_type": "PER",
      "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": "vpngw-7e880d5b-f458-40ad-a7e5-735c44cd8b7d",
      "size": 300,
      "share_type": "PER",
      "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",
      "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",
      "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": [],
    }
  ]
}
```


3.2.3 Updating a Bandwidth

Function

This API is used to update information about a bandwidth.

URI

PUT /v1/{project_id}/bandwidths/{bandwidth_id}

Tabela 3-46 describes the parameters.

Tabela 3-46 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Tabela 3-47 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-48 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-49**.

Tabela 3-49 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	No	String	● 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	● 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: – 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.

Name	Mandatory	Type	Description
charge_mode	No	String	• 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

Tabela 3-50 Response parameter

Name	Type	Description
bandwidth	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-51**.

Tabela 3-51 Description of the **bandwidth** field

Name	Type	Description
name	String	• Specifies the bandwidth name. • The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Name	Type	Description
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● Possible values are as follows: – **PER**: Dedicated bandwidth – **WHOLE**: Shared bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies the information about the EIP that uses the bandwidth. For details, see **Tabela 3-52**. ● 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	● Specifies the bandwidth type. ● The value can be **bgp**, **sbgp**, or **share**. – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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.
billing_info	String	Specifies the bill information. If **billing_info** is specified, the bandwidth is in yearly/monthly billing mode.

Name	Type	Description
enterprise_project_id	String	● 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.
status	String	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)
created_at	String	● Specifies the time (UTC) when the bandwidth is created. ● Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	● Specifies the time (UTC) when the bandwidth is updated. ● Format: *yyyy-MM-ddTHH:mm:ss*
enable_bandwidth_rules	boolean	● 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. Values: ● center ● Edge site name This resource can only be associated with an EIP of the same region.

Tabela 3-52 publicip_info objects

Name	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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 – **6**: IPv6

Name	Type	Description
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Tabela 3-53 bandwidth_rules object

Name	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.

Name	Type	Description
egress_size	integer	● 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	● 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	● 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",
        "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": [],
    }
}
```

3.3 Bandwidth (V2.0)

3.3.1 Assigning a Shared Bandwidth

Function

This API is used to assign a shared bandwidth.

URI

POST /v2.0/{project_id}/bandwidths

Tabela 3-54 describes the parameters.

Tabela 3-54 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request Message

- Request parameter

Tabela 3-55 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-56 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see Tabela 3-57.

Tabela 3-57 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	Yes	String	• Specifies the bandwidth name. • The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Name	Mandatory	Type	Description
size	Yes	Integer	● 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 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.) ● 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: – 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.
enterprise_project_id	No	String	● 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.

Name	Mandatory	Type	Description
charge_mode	No	String	● 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	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.
bandwidth_type	No	String	● Specifies the type of the bandwidth to be created. ● For details about supported types of bandwidth, see **Querying a Bandwidth**. By default: – 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

Tabela 3-58 Response parameter

Name	Type	Description
bandwidth	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-59**.

Tabela 3-59 Description of the **bandwidth** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● The value can be **PER** or **WHOLE**. – **WHOLE**: Shared bandwidth – **PER**: Dedicated bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies information about the EIP that uses the bandwidth. For details, see **Tabela 3-60**. ● 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.

Name	Type	Description
bandwidth_type	String	● Specifies the bandwidth type. The default value for the shared bandwidth is **share**. ● The value can be **share**, **bgp**, or **sbgp**. – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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	● 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.
status	String	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)
created_at	String	● Specifies the time (UTC) when the bandwidth is created. ● Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	● Specifies the time (UTC) when the bandwidth is updated. ● Format: *yyyy-MM-ddTHH:mm:ss*
enable_bandwidth_rules	boolean	● Specifies whether to enable QoS. ● The value can be **true** or **false**.

Name	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.
public_border_group	String	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

Tabela 3-60 publicip_info object

Name	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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 address – **6**: IPv6 address

Name	Type	Description
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Tabela 3-61 bandwidth_rules object

Name	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.

Name	Type	Description
egress_size	integer	● 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	● 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	● 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",
    "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": [],
  }
}
```

3.3.2 Assigning Multiple Shared Bandwidths

Function

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

URI

POST /v2.0/{project_id}/batch-bandwidths

Tabela 3-62 describes the parameters.

Tabela 3-62 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request Message

- Request parameter

Tabela 3-63 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-64 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-65**.

Tabela 3-65 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	Yes	String	• Specifies the bandwidth name. • The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).

Name	Mandatory	Type	Description
size	Yes	Integer	• 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 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 depending on the bandwidth range. The details are as follows: – 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).

Name	Mandatory	Type	Description
			– The minimum increment is 500 Mbit/s if the allowed bandwidth is greater than 1000 Mbit/s.
count	Yes	Integer	● 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	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

- Example request

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

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

Response Message

- Response parameter

Tabela 3-66 Response parameter

Name	Type	Description
bandwidths	Array of **bandwidths** objects	Specifies the bandwidth objects. For details, see **Tabela 3-67**.

Tabela 3-67 Description of the **bandwidths** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● The value can be **PER** or **WHOLE**. – **WHOLE**: Shared bandwidth – **PER**: Dedicated bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies information about the EIP that uses the bandwidth. For details, see **Tabela 3-68**. ● 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.

Name	Type	Description
bandwidth_type	String	● Specifies the bandwidth type. The default value for the shared bandwidth is **share**. ● The value can be **share**, **bgp**, or **sbgp**. – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)
public_border_group	String	Specifies whether it is in a central site or an edge site. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

Tabela 3-68 publicip_info object

Name	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.

Name	Type	Description
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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 address – **6**: IPv6 address
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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"
    }
  ]
}
```


3.3.3 Deleting a Shared Bandwidth

Function

This API is used to delete a shared bandwidth.

URI

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

Tabela 3-69 describes the parameters.

Tabela 3-69 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the 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

Tabela 3-70 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

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

Response Message

- Response parameter

  None

- Example response

  Or

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

3.3.4 Adding an EIP to a Shared Bandwidth

Function

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

URI

POST /v2.0/{project_id}/bandwidths/{bandwidth_id}/insert

Tabela 3-71 describes the parameters.

Tabela 3-71 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Tabela 3-72 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-73 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-74**.

Tabela 3-74 Description of the **bandwidth** field

Name	Mandatory	Type	Description
publicip_info	Yes	Array of **publicip_info** objects	• Specifies information about the EIP to be added to the shared bandwidth. For details, see **Tabela 3-75**. • 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.

Tabela 3-75 publicip_info object

Name	Mandatory	Type	Description
publicip_id	Yes	String	Specifies the ID of the EIP that uses the bandwidth.

Name	Mandatory	Type	Description
publicip_type	No	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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

Tabela 3-76 Response parameter

Name	Type	Description
bandwidth	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-77**.

Tabela 3-77 Description of the **bandwidth** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● The value can be **PER** or **WHOLE**. – **WHOLE**: Shared bandwidth – **PER**: Dedicated bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies information about the EIP that uses the bandwidth. For details, see **Tabela 3-78**. ● 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.

Name	Type	Description
bandwidth_type	String	● Specifies the bandwidth type. The default value for the shared bandwidth is **share**. ● The value can be **share**, **bgp**, or **sbgp**. – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP
charge_mode	String	● 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	● 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.
status	String	● Specifies the bandwidth status. ● Possible values are as follows: – **FREEZED** (Frozen) – **NORMAL** (Normal)

Tabela 3-78 publicip_info objects

Name	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.

Name	Type	Description
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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 – **6**: IPv6
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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

```
{
    "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:35f2b308f5d6444
1a6fa7999fbcd4321",
        "bandwidth_type": "share",
        "status": "NORMAL"
    }
}
```


3.3.5 Removing an EIP from a Shared Bandwidth

Function

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

URI

POST /v2.0/{project_id}/bandwidths/{bandwidth_id}/remove

Tabela 3-79 describes the parameters.

Tabela 3-79 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
bandwidth_id	Yes	Specifies the bandwidth ID, which uniquely identifies the bandwidth.

Request Message

- Request parameter

Tabela 3-80 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-81 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-82**.

Tabela 3-82 Description of the **bandwidth** field

Name	Mandatory	Type	Description
publicip_info	Yes	Array of **publicip_info** objects	• Specifies information about the EIP to be removed from the bandwidth. For details, see **Tabela 3-83**. • 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	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. Specifies whether the dedicated bandwidth used by the EIP that has been removed from a shared bandwidth is billed by traffic or by bandwidth. The value can be **bandwidth** or **traffic**.
size	Yes	Integer	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. Specifies the size (Mbit/s) of the dedicated bandwidth used by the EIP that has been removed from a shared bandwidth. 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.)

Tabela 3-83 publicip_info object

Name	Mandatory	Type	Description
publicip_id	Yes	String	Specifies the ID of the EIP that uses the bandwidth.
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"
}
```

3.3.6 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}

Tabela 3-84 describes the parameters.

Tabela 3-84 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the 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

Tabela 3-85 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-86 Request parameter

Name	Mandatory	Type	Description
bandwidth	Yes	**bandwidth** object	Specifies the bandwidth objects. For details, see **Tabela 3-87**.
extendParam	No	**extendParam** object	Specifies the extended parameter, which is used to apply for resources in yearly/monthly billing mode. For details, see **Tabela 3-88**.

Tabela 3-87 Description of the **bandwidth** field

Name	Mandatory	Type	Description
name	No	String	● 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.
size	No	Integer	● 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: – 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.

Tabela 3-88 Description of the **extendParam** field

Name	Mandatory	Type	Description
is_auto_pay	No	boolean	• 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: – **true**: Yes (The order will be automatically paid.) – **false**: No (Default value. You must manually pay the order.) • Constraints: If you use the automatic payment mode, only your account balance can be used. If you want to use a voucher, do not use the automatic payment mode, and select the voucher 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

Tabela 3-89 Response parameter

Name	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 **Tabela 3-90**.
order_id	String	Specifies the order ID. (yearly/monthly billing mode)

Tabela 3-90 Description of the **bandwidth** field

Name	Type	Description
name	String	● Specifies the bandwidth name. ● The value can contain 1 to 64 characters, including letters, digits, underscores (_), hyphens (-), and periods (.).
size	Integer	● 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	● Specifies whether the bandwidth is shared or dedicated. ● The value can be **PER** or **WHOLE**. – **WHOLE**: Shared bandwidth – **PER**: Dedicated bandwidth
publicip_info	Array of **publicip_info** objects	● Specifies information about the EIP that uses the bandwidth. For details, see **Tabela 3-91**. ● 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	● Specifies the bandwidth type. The default value for the shared bandwidth is **share**. ● The value can be **share**, **bgp**, or **sbgp**. – **share**: Shared bandwidth – **bgp**: Dynamic BGP – **sbgp**: Static BGP

Name	Type	Description
charge_mode	String	● 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.
enterprise_project_id	String	● 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.
status	String	● Specifies the bandwidth status. ● Values: – **FREEZED** (Frozen) – **NORMAL** (Normal)
created_at	String	● Specifies the time (UTC) when the bandwidth is created. ● Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	● Specifies the time (UTC) when the bandwidth is updated. ● Format: *yyyy-MM-ddTHH:mm:ss*

Name	Type	Description
enable_bandwidth_rules	boolean	● 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. Values: ● **center** ● *Edge site name* This resource can only be associated with an EIP of the same region.

Tabela 3-91 publicip_info object

Name	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	● Specifies the IP address version. ● Possible values are as follows: – **4**: IPv4 address – **6**: IPv6 address

Name	Type	Description
publicip_type	String	● Specifies the EIP type. ● The value can be **5_bgp** (dynamic BGP) or **5_sbgp** (static BGP). – 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: – 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**.

Tabela 3-92 bandwidth_rules object

Name	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.

Name	Type	Description
egress_size	integer	● 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	● 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	● 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"
}
```

3.4 Cota

3.4.1 Consulta da cota

Função

Essa API é usada para consultar cotas de recursos de rede de um locatário. Os recursos de rede incluem VPCs, sub-redes, grupos de segurança, regras de grupo de segurança, EIPs e VPNs.

NOTA

Essa API pode ser usada para consultar cotas de EIP.

URI

GET /v1/{project_id}/quotas

Exemplo:

```
GET https://{Endpoint}/v1/{project_id}/quotas?type={type}
```

Tabela 3-93 descreve os parâmetros.

Tabela 3-93 Descrição do parâmetro

Nome	Obrigatoriedade	Tipo	Descrição
project_id	Sim	String	Especifica o ID do projeto.

Nome	Obrigatoriedade	Tipo	Descrição
type	Não	String	● Especifica o tipo de recurso. ● Valores: – vpc – subnet – securityGroup – securityGroupRule – publicIp – vpn – vpngw – vpcPeer – loadbalancer – listener – physicalConnect – virtualInterface – firewall – shareBandwidthIP – shareBandwidth – address_group – flow_log – vpcContainRoutetable – routetableContainRoutes

Mensagem de solicitação

- Parâmetro de solicitação

  Tabela 3-94 Parâmetro de cabeçalho de solicitação

Parâmetro	Obrigatório	Tipo	Descrição
X-Auth-Token	Sim	String	Especifica o token do usuário. O token pode ser obtido chamando a API do IAM usada para obter um token de usuário. O valor de **X-Subject-Token** no cabeçalho da resposta é o token do usuário.

- Exemplo de solicitação

```
GET https://{Endpoint}/v1/{project_id}/quotas
```


Mensagem de resposta

- Parâmetro de resposta

Tabela 3-95 Parâmetro de resposta

Nome	Tipo	Descrição
quotas	**quotas** object	Especifica o objeto da cota. Para mais detalhes, consulte **Tabela 3-96**.

Tabela 3-96 Descrição do campo **quotas**

Nome	Tipo	Descrição
resources	Array of **resource** objects	Especifica os objetos de recurso. Para mais detalhes, consulte **Tabela 3-97**.

Tabela 3-97 Descrição do campo **resource**

Nome	Tipo	Descrição
type	String	• Especifica o tipo de recurso. • Valores: – vpc – subnet – securityGroup – securityGroupRule – publicIp – vpn – vpngw – vpcPeer – loadbalancer – listener – physicalConnect – virtualInterface – firewall – shareBandwidthIP – shareBandwidth – address_group – flow_log – vpcContainRoutetable – routetableContainRoutes

Nome	Tipo	Descrição
used	Integer	● Especifica o número de recursos de rede criada. ● O valor varia de **0** até o valor da **quota**.
quota	Integer	● Especifica os valores máximos de cota para os recursos. ● O valor varia do valor da cota padrão ao valor máximo da cota. ● Os valores de cota padrão podem ser alterados. Configure os valores de cota no sistema subjacente com antecedência. Valores de cota padrão: – VPC: 150 – Sub-rede: 400 – Grupo de segurança: 100 – Regra de grupo de segurança: 5000 – EIPs: 10 – VPNs: 5 – Gateways de VPN: 2 – Conexões de emparelhamento de VPC: 50 – Balanceadores de carga: 10 – Ouvintes: 10 – Conexões Direct Connect: 10 – Interfaces virtuais: 50 – Firewalls: 200 – EIPs que podem ser adicionados a uma largura de banda compartilhada: 20 – Larguras de banda compartilhadas: 5 – Grupo de endereços IP: 50 – Logs de fluxo de VPC: 10 – Tabela de rotas por VPC: 1 – Rotas por tabela de rotas: 200
min	Integer	Especifica o valor mínimo de cota permitido.

- Exemplo de resposta

```
{
    "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": "address_group",
                 "used": 0,
                 "quota": 50,
                 "min": 0
             }
        ]
    }
}
```


Códigos de erro

Consulte **Códigos de erro**.

3.5 EIP Tag Management

3.5.1 Creating a Tag for an EIP

Function

This API is used to create a tag for an EIP.

URI

POST /v2.0/{project_id}/publicips/{publicip_id}/tags

Tabela 3-98 describes the parameters.

Tabela 3-98 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Tabela 3-99 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-100 Request parameter

Parameter	Type	Mandatory	Description
tag	**tag** object	Yes	Specifies the **tag** objects. For details, see **Tabela 3-101**.

Tabela 3-101 tag objects

Attribute	Type	Mandatory	Description
key	String	Yes	● 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	● 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"
}
```

3.5.2 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

Tabela 3-102 describes the parameters.

Tabela 3-102 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

  Tabela 3-103 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

```
GET https://{Endpoint}/v2.0/{project_id}/publicips/{publicip_id}/tags
```

Response Message

- Response parameter

Tabela 3-104 Response parameter

Parameter	Type	Description
tags	Array of **tag** objects	Specifies the **tag** object list. For details, see **Tabela 3-105**.

Tabela 3-105 tag objects

Attribute	Type	Description
key	String	● 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	● 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"
        }
    ]
}
```

3.5.3 Deleting an EIP Tag

Function

This API is used to delete an EIP tag.

URI

DELETE /v2.0/{project_id}/publicips/{publicip_id}/tags/{key}

Tabela 3-106 describes the parameters.

Tabela 3-106 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.
key	Yes	Specifies the tag key.

Request Message

- Request parameter

  Tabela 3-107 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- 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"
}
```

3.5.4 Batch Creating 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

Tabela 3-108 describes the parameters.

Tabela 3-108 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.
publicip_id	Yes	Specifies the unique identifier of an EIP.

Request Message

- Request parameter

Tabela 3-109 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 3-110 Request parameter

Parameter	Type	Mandatory	Description
tags	Array of tag objects	Yes	Specifies the **tag** object list. For details, see Tabela 3-111.
action	String	Yes	Specifies the operation. Possible values are as follows: • **create** • **delete**

Tabela 3-111 tag objects

Attribute	Type	Mandatory	Description
key	String	Yes	● 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	● 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"
}
```

3.5.5 Querying EIPs by Tag

Function

This API is used to query EIPs by tag.

URI

POST /v2.0/{project_id}/publicips/resource_instances/action

Tabela 3-112 describes the parameters.

Tabela 3-112 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request Message

- Request parameter

Tabela 3-113 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.

Parameter	Type	Mandatory	Description
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.
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.

Tabela 3-114 Description of the **tags** field

Name	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.

Tabela 3-115 Description of the **match** field

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

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

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

{
    "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

Tabela 3-116 Response parameter

Name	Type	Description
resources	Array of **resource** objects	Specifies the **resource** object list. For details, see **Tabela 3-117**.
total_count	Integer	Specifies the total number of query records.

Tabela 3-117 resource objects

Name	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 **Tabela 3-118**.
resource_name	String	Specifies the resource name. This parameter is an empty string by default if there is no resource name.

Tabela 3-118 Description of the **tags** field

Name	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.)

Name	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": "cdfs_cefs_wesas_12_dsad",
            "resource_name": "resouece1",
            "tags": [
                {
                   "key": "key1",
                   "value": "value1"
                },
                {
                   "key": "key2",
                   "value": "value1"
                }
             ]
         }
       ],
      "total_count": 1000
}
```

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

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

3.5.6 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

Tabela 3-119 describes the parameters.

Tabela 3-119 Parameter description

Name	Mandatory	Description
project_id	Yes	Specifies the project ID.

Request Message

- Request parameter

Tabela 3-120 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

- Example request

```
GET /v2.0/{project_id}/publicips/tags
```

Response Message

- Response parameter

Tabela 3-121 Response parameter

Parameter	Type	Description
tags	Array of **tag** objects	Specifies the **tag** object list. For details, see **Tabela 3-122**.

Tabela 3-122 Descrição do campo de **tag**

Nome	Tipo	Descrição
key	String	Especifica a chave de tag. ● Não pode ser deixada em branco. ● Pode conter no máximo 36 caracteres. ● Pode conter letras, dígitos, sublinhados (_) e hifens (-).
valores	Array of strings	Especifica a lista dos valores da tag. ● Pode conter no máximo 43 caracteres. ● Pode conter letras, dígitos, sublinhados (_), pontos (.) e hifens (-).

- Example response

```
{
    "tags": [
        {
            "key": "key1",
```



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


4 APIs OpenStack Neutron nativo V2.0

4.1 Informações sobre a versão da API

4.1.1 Consulta de versões da API

Função

Essa API é usada para consultar todas as versões disponíveis de uma API OpenStack nativo.

URI

GET /

Mensagem de solicitação

Parâmetro de solicitação

Nenhum

Exemplo de solicitação

```
GET https://{Endpoint}/
```

Mensagem de resposta

Parâmetro de resposta

Tabela 4-1 Parâmetro de resposta

Parâmetro	Tipo	Descrição
versions	Array of **version** objects	Especifica a lista de versões de API. Para mais detalhes, consulte **Tabela 4-2**.

Tabela 4-2 Objetos de **version**

Parâmetro	Tipo	Descrição
status	String	Especifica o status da versão da API. Os valores possíveis são os seguintes: ● **CURRENT** ● **STABLE** ● **DEPRECATED**
id	String	Especifica a versão da API.
links	Array of **link** objects	Especifica a lista de links. Para mais detalhes, consulte **Tabela 4-3**.

Tabela 4-3 Objetos de **link**

Parâmetro	Tipo	Descrição
href	String	Especifica o link da API.
rel	String	Especifica a relação entre o link da API e a versão da API.

Exemplo de resposta

```
{
    "versions": [
        {
            "status": "CURRENT",
            "id": "v2.0",
            "links": [
                {
                    "href": "https://None/v2.0",
                    "rel": "self"
                }
            ]
        }
    ]
}
```

4.1.2 Paginação

Função

APIs Neutron v2.0 fornece a função de paginação. Você pode definir parâmetros **limit** e **marker** no URL para habilitar o número desejado de itens a serem retornados. Todos os itens retornados são exibidos em ordem crescente de ID.

- Para acessar a próxima página da solicitação, execute as seguintes configurações:
  - Substitua o valor de **marker** no URL da solicitação de acesso original. Substitua o valor de **marker** pelo valor de **marker** no valor de **herf** se o valor de **rel** na resposta for **next**.

  - Defina o valor de **page_reverse** como **False**.
- Para acessar a página anterior da solicitação, execute as seguintes configurações:
  - Substitua o valor de **marker** no URL da solicitação de acesso original. Substitua o valor de **marker** pelo valor de **marker** no valor de **herf** se o valor de **rel** na resposta for **previous**.
  - Defina o valor de **page_reverse** como **True**.

Mensagem de solicitação

Parâmetro de solicitação

Tabela 4-4 Parâmetro de solicitação

Parâmetro	Tipo	Obrigatório	Descrição
limit	Integer	Não	Especifica o número de itens exibidos por página.
marker	String	Não	Especifica o ID do último item na lista anterior. Se o valor de marker for inválido, o código de erro 400 será retornado.
page_reverse	Boolean	Não	Especifica a direção da página. O valor pode ser **True** ou **False**.

Exemplo de solicitação 1

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

Exemplo de solicitação 2

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

Mensagem de resposta

Parâmetro de resposta

Nenhum

Exemplo de resposta 1

```
{
    "networks": [
        {
            "status": "ACTIVE",
            "subnets": [],
            "name": "liudongtest ",
            "admin_state_up": false,
            "tenant_id": "6fbe9263116a4b68818cf1edce16bc4f",
            "id": "60c809cb-6731-45d0-ace8-3bf5626421a9"
        },
        {
            "status": "ACTIVE",
            "subnets": [
                "132dc12d-c02a-4c90-9cd5-c31669aace04"
            ],
```



```
            "name": "publicnet",
            "admin_state_up": true,
            "tenant_id": "6fbe9263116a4b68818cf1edce16bc4f",
            "id": "9daeac7c-a98f-430f-8e38-67f9c044e299"
        }
    ],
    "networks_links": [
        {
            "href": "http://192.168.82.231:9696/v2.0/networks?
limit=2&marker=9daeac7c-a98f-430f-8e38-67f9c044e299",
            "rel": "next"
        },
        {
            "href": "http://192.168.82.231:9696/v2.0/networks?
limit=2&marker=60c809cb-6731-45d0-ace8-3bf5626421a9&page_reverse=True",
            "rel": "previous"
        }
    ]
}
```


Exemplo de resposta 2


```
{
    "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"
        }
    ]
}
```


4.2 Floating IP Address

4.2.1 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 2000 records can be returned for each query operation. If the number of records exceeds 2000, 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

Tabela 4-5 describes the parameters.

Tabela 4-5 Parameter description

Parameter	Mandatory	Type	Description
id	No	String	Specifies the floating IP address ID.
floating_ip_address	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.
router_id	No	String	Specifies the ID of the belonged router.

Parameter	Mandatory	Type	Description
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	Integer	No	Especifica o número de registros que serão retornados em cada página. O valor é de 0 a intmax. **limit** pode ser usado em conjunto com o **marker**. Para obter detalhes, consulte a descrição do parâmetro de **marker**.

Parameter	Mandatory	Type	Description
marker	String	No	Especifica um ID de recurso para consulta de paginação, indicando que a consulta começa a partir do próximo registro do ID de recurso especificado. Este parâmetro pode trabalhar em conjunto com o parâmetro **limit**. ● Se os parâmetros **marker** e **limit** não forem passados, os registros de recursos na primeira página serão retornados. ● Se o parâmetro **marker** não for passado e o valor do parâmetro **limit** for definido como **10**, os primeiros 10 registros de recurso serão devolvidos. ● Se o valor do parâmetro **marker** for definido como o ID de recurso do 10º registro e o valor do parâmetro **limit** for definido como **10**, os registros de recurso do 11º ao 20º serão retornados. ● Se o valor do parâmetro **marker** for

Parameter	Mandatory	Type	Description
			definido como o ID do recurso do 10º registro e o parâmetro **limit** não for passado, os registros de recursos a partir do 11º registro (incluindo o 11º) serão retornados.
page_reverse	Boolean	No	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

Tabela 4-6 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Message

Tabela 4-7 Response parameter

Parameter	Type	Description
floatingips	Array of **floatingip** objects	Specifies the floating IP address list. For details, see **Tabela 4-8**.

Parameter	Type	Description
floatingips_links	Array of **floatingips_link** objects	Specifies the floating IP address object list. For details, see **Tabela 4-9**. 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**.

Tabela 4-8 floatingip objects

Parameter	Type	Description
status	String	Specifies the floating IP address status. The value can be **ACTIVE**, **DOWN**, or **ERROR**. ● **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.

Parameter	Type	Description
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: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	Specifies the time when the floating IP address was updated. UTC time is used. Format: *yyyy-MM-ddTHH:mm:ss*

Tabela 4-9 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:

Example request

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

Example response

```
{
    "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"
        }
    ]
}
```

4.2.2 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

Tabela 4-10 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Message

Tabela 4-11 Response parameter

Parameter	Type	Description
floatingip	**floatingip** object	Specifies the floating IP address list. For details, see **Tabela 4-12**.

Tabela 4-12 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be **ACTIVE**, **DOWN**, or **ERROR**. ● **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.

Attribute	Type	Description
created_at	String	Specifies the time when the floating IP address was created. UTC time is used. Format: *yyyy-MM-ddTHH:mm:ss*
updated_at	String	Specifies the time when the floating IP address was updated. UTC time is used. Format: *yyyy-MM-ddTHH:mm:ss*

Example:

Example request

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

Example response

```
{
    "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"
    }
}
```

4.2.3 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

Tabela 4-13 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 4-14 Request parameter

Parameter	Type	Mandatory	Description
floatingip	**floatingip** object	Yes	Specifies the floating IP address list. For details, see **Tabela 4-15**.

Tabela 4-15 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_address	No	String	Specifies the private IP address of the associated port.

Response Message

Tabela 4-16 Response parameter

Parameter	Type	Description
floatingip	**floatingip** object	Specifies the floating IP address list. For details, see **Tabela 4-17**.

Tabela 4-17 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be **ACTIVE**, **DOWN**, or **ERROR**. ● **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.

Attribute	Type	Description
dns_domain	String	Specifies the DNS domain. This parameter is available only in the **CN South-Guangzhou** region.

Example:

Example request

```
POST https://{Endpoint}/v2.0/floatingips

{
    "floatingip": {
           "floating_network_id": "0a2228f2-7f8a-45f1-8e09-9039e1d09975"
    }
}
```

Example response

```
{
    "floatingip": {
        "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
        "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": "88.88.215.205",
        "port_id": null,
        "created_at": "2018-09-20T02:10:02",
        "updated_at": "2018-09-20T02:10:02"
    }
}
```

4.2.4 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.

NOTA

This API has the following constraints:

- If you want to bind a floating IP address 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}

Tabela 4-18 describes the parameters.

Tabela 4-18 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

Tabela 4-19 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Tabela 4-20 Request parameter

Parameter	Type	Mandatory	Description
floatingip	**floatingip** object	Yes	Specifies the floating IP address list. For details, see **Tabela 4-21**.

Tabela 4-21 floatingip objects

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

Response Message

Tabela 4-22 Response parameter

Parameter	Type	Description
floatingip	**floatingip** object	Specifies the floating IP address list. For details, see **Tabela 4-23**.

Tabela 4-23 floatingip objects

Attribute	Type	Description
status	String	Specifies the floating IP address status. The value can be **ACTIVE**, **DOWN**, or **ERROR**. ● **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.

Attribute	Type	Description
dns_domain	String	Specifies the DNS domain. This parameter is available only in the **CN South-Guangzhou** region.

Example:

Example request 1 (Binding a floating IP address to a port)

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

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

Example response 1 (Binding a floating IP address to a port)

```
{
    "floatingip": {
        "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
        "status": "DOWN",
        "router_id": null,
        "tenant_id": "bbfe8c41dd034a07bebd592bf03b4b0c",
        "project_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": 00587256-27e3-489b-96bf-ea80c1da4aeb,
        "created_at": "2018-09-20T02:10:02",
        "updated_at": "2018-09-20T02:10:07"
    }
}
```

Example request 2 (Unbinding a floating IP address from a port)

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

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

Example response 2 (Unbinding a floating IP address from a port)

```
{
    "floatingip": {
        "id": "b997e0d4-3359-4c74-8f88-bc0af81cd5a2",
        "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": "88.88.215.205",
        "port_id": null,
        "created_at": "2018-09-20T02:10:02",
        "updated_at": "2018-09-20T02:10:07"
    }
}
```


4.2.5 Deleting a Floating IP Address

Function

This API is used to delete a floating IP address.

URI

DELETE /v2.0/floatingips/{floatingip_id}

Tabela 4-24 describes the parameters.

Tabela 4-24 Parameter description

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

Request Message

Tabela 4-25 Request header parameter

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Specifies the user token. The token can be obtained by calling the IAM API used for obtaining a user token. The value of **X-Subject-Token** in the response header is the user token.

Response Message

None

Example:

Example request

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

Example response

None

5 Exemplos de aplicação

5.1 Vinculação de um EIP a um ECS

Cenários

Esta seção descreve como vincular um EIP a um ECS chamando APIs.

Pré-requisitos

- Você criou um ECS. Para obter detalhes, Seção "Compra de um ECS com configurações personalizadas" no *Guia de usuário do Elastic Cloud Server*.
- Se você usar um token para autenticação, deverá obter o token e adicionar **X-Auth-Token** ao cabeçalho da solicitação ao fazer uma chamada de API.

  NOTA

  O token obtido do IAM é válido por apenas 24 horas. Se você quiser usar um token para autenticação, poderá armazená-lo em cache para evitar chamadas frequentes.

Procedimento

1. Obtenha as informações da NIC com base no ID do ECS. Para obter detalhes, seção "Consulta de uma porta" na *Referência de API da Virtual Private Cloud*.
   a. Envie **GET https://***VPC endpoint*/**v1**/*project_id*/**ports?device_id=***ecs_id*. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Verifique a mensagem de resposta.
      - A solicitação será bem sucedida se a seguinte resposta for exibida.

```
{
    "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"
        }]
}
```


- Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

2. Atribuir um EIP.
   a. Envie **POST https://***Endpoint*/**v1**/*project_id*/**publicips**. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Especifique os seguintes parâmetros no corpo da solicitação:

```
{
     "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"
}
```

   d. Verifique a mensagem de resposta.
      - A solicitação será bem-sucedida se a seguinte resposta for exibida.


```
{
     "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"
     }
}
```


      - Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

3. Vincular o EIP à NIC do ECS.
   a. Envie **PUT /v1/***project_id*/**publicips**/*publicip_id*. O parâmetro **project_id** indica o ID do projeto.

b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.

c. Especifique os seguintes parâmetros no corpo da solicitação:

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

d. Verifique a mensagem de resposta.

- A solicitação será bem-sucedida se a seguinte resposta for exibida.

```
{
   "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
   }
}
```

- Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

5.2 Desvinculação de um EIP de um ECS

Cenários

Esta seção descreve como desvincular um EIP de um ECS chamando APIs.

Pré-requisitos

- Você criou um ECS. Para obter detalhes, seção "Compra de um ECS com configurações personalizadas" no *Guia de usuário do Elastic Cloud Server*.
- Se você usar um token para autenticação, deverá obter o token e adicionar **X-Auth-Token** ao cabeçalho da solicitação ao fazer uma chamada de API.

  NOTA

  O token obtido do IAM é válido por apenas 24 horas. Se você quiser usar um token para autenticação, poderá armazená-lo em cache para evitar chamadas frequentes.

Procedimento

1. Consultar detalhes do EIP.

   a. Envie **GET /v1/***project_id*/**publicips/***publicip_id*. O parâmetro **project_id** indica o ID do projeto.

   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.

   c. Verifique a mensagem de resposta.

- A solicitação será bem sucedida se a seguinte resposta for exibida.

```
{
   "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
   }
 }
```

- Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

2. Desvincular o EIP da NIC do ECS.

a. Envie **PUT /v1/***project_id*/**publicips/***publicip_id*. O parâmetro **project_id** indica o ID do projeto.

b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.

c. Especifique os seguintes parâmetros no corpo da solicitação:

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

a. Verifique a mensagem de resposta.

- A solicitação será bem sucedida se a seguinte resposta for exibida.

```
{
   "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": {}
     "ip_version": 4
   }
 }
```

– Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

5.3 Atribuição de um EIP com uma largura de banda compartilhada específica

Cenários

Esta seção descreve como atribuir um EIP com uma largura de banda compartilhada específica chamando APIs.

Pré-requisitos

Você planejou a região onde deseja atribuir o EIP e obteve o ponto de extremidade necessário para chamar APIs. Para mais detalhes, consulte **Ponto de extremidades do EIP**.

Se você usar um token para autenticação, deverá obter o token e adicionar **X-Auth-Token** ao cabeçalho da solicitação ao fazer uma chamada de API.

NOTA

O token obtido do IAM é válido por apenas 24 horas. Se você quiser usar um token para autenticação, poderá armazená-lo em cache para evitar chamadas frequentes.

Procedimento

1. Atribua uma largura de banda compartilhada.
   a. Envie **POST https://***Endpoint***/v2.0/***project_id***/bandwidths**. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Especifique os seguintes parâmetros no corpo da solicitação:

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

   d. Verifique a mensagem de resposta.
      - A solicitação será bem-sucedida se a seguinte resposta for exibida. Na resposta, **id** indica o ID da largura de banda.

```
{
   "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"
   }
}
```

      - Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

2. Consultar os detalhes da largura de banda compartilhada.
   a. Envie **Get https://***Endpoint*//**v1**/*project_id*/**bandwidths**/*bandwidth_id*. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Verifique a mensagem de resposta.
      - A solicitação será bem-sucedida se a seguinte resposta for exibida. Na resposta, **id** indica o ID da largura de banda.

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

      - Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

3. Atribuir um EIP usando a largura de banda compartilhada.
   a. Envie **POST https://***Endpoint*/**v1**/*project_id*/**publicips**. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Especifique os seguintes parâmetros no corpo da solicitação:

```
{
     "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. Verifique a mensagem de resposta.
      - A solicitação será bem sucedida se a seguinte resposta for exibida.

```
{
     "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"
        }
 }
```


- Para obter detalhes sobre os códigos de erro quando a solicitação é anormal, consulte **Códigos de erro**.

4. Consultar detalhes do EIP.
   a. Envie **GET /v1/***project_id*/**publicips/***publicip_id*. O parâmetro **project_id** indica o ID do projeto.
   b. Adicione **X-Auth-Token** ao cabeçalho da solicitação.
   c. Verifique a mensagem de resposta.


```
{
     "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
        }
 }
```


A Apêndice

A.1 Códigos de erro

Descrição

Se ocorrer um erro quando uma API for chamada, as informações de erro serão retornadas. Esta seção descreve as informações de erro das APIs do EIP (excluindo as APIs OpenStack nativo).

Exemplo de informações de erro retornadas

```
{
    "code": "VPC.0504",
    "message": "Floating IP could not be found."
}
```

Descrição do código de erro

Se um código de erro começando com **APIGW** for retornado após você chamar uma API.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
Público	400	VPC.0002	Available zone Name is null.	A AZ é deixado em branco.	Verifique se o campo **availability_zone** no corpo da solicitação para criar uma sub-rede é deixado em branco.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	404	VPC.0003	VPC does not exist.	A VPC não existe.	Verifique se o ID da VPC está correto ou se a VPC existe sob o locatário.
	400	VPC.0004	VPC is not active, please try later.	O status da VPC é anormal.	Tente novamente mais tarde ou entre em contato com o suporte técnico.
	401	VPC.0009	real-name authentication fail.	Falha na autenticação de nome real.	Entre em contato com o suporte técnico.
Público	400	VPC.0007	urlTenantId is not equal tokenTenantId	IDs de locatário inconsistentes.	O ID do locatário no URL é diferente do analisado no token.
	401	VPC.0008	Invalid token in the header.	Token inválido.	Verifique se o token no cabeçalho da solicitação é válido.
	403	VPC.2701	Token not allowed to do this action.	Você não tem permissão para realizar esta operação, ou o saldo da sua conta é insuficiente.	Verifique se o saldo da conta é insuficiente ou se a sua conta foi congelada.
Público	403	VPC.0010	Rules on xx by ** disallowed by policy	Permissões insuficientes para fazer chamadas para o sistema subjacente.	Obtenha as permissões necessárias.
	403	VPC.2201	Policy doesn't allow <x:x:x> to be performed	Insuficientes permissões refinadas.	Obtenha as permissões necessárias.
Público	400	VPC.0014	This enterpriseProject status is disable.	O projeto empresarial não está disponível.	Use o ID de outro projeto empresarial disponível.
	400	VPC.0011	EnterpriseProjectId is invalid	ID do projeto corporativo inválido.	Insira um ID de projeto corporativo válido.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	500 409	VPC.0304	createBandwidth error. NO QUOTAS for shareBandwidthIP! Roteadores de consulta falham.	Um erro interno ocorre quando as operações estão sendo executadas na largura de banda.	Entre em contato com o suporte técnico para lidar com o erro com base na mensagem de erro exibida.
Atribuir um EIP	400	VPC.0301	Bandwidth name or share_type is invalid.	O parâmetro de largura de banda especificado para atribuir um EIP é inválido.	Verifique se o parâmetro de largura de banda especificado é válido.
	400	VPC.0501	Bandwidth share_type is invalid.	Parâmetros do EIP inválidos.	Verifique se os valores dos parâmetros são válidos com base na mensagem de erro retornada e no documento de referência da API.
	403	VPC.0502	Tenant status is op_restricted.	Você não tem permissão para atribuir o EIP.	Verifique se o saldo da conta é insuficiente ou se a sua conta foi congelada.
	500	VPC.0503	Creating publicIp failed.	Falha ao atribuir o EIP.	Entre em contato com o suporte técnico.
	500	VPC.0504	FloatIp is null.	Falha ao atribuir o EIP porque nenhum endereço IP foi encontrado.	Entre em contato com o suporte técnico.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	500	VPC.0508	Port is invalid.	Não foi possível encontrar recursos relacionados ao porto.	Entre em contato com o suporte técnico.
	409	VPC.0510	Floatingip has already associated with port.	O EIP já foi vinculado a outro ECS.	Desvincule o EIP do ECS.
	409	VPC.0511	Port has already associated with floatingip.	O porto já foi vinculado com um EIP.	Desassocie a porta do EIP.
	409	VPC.0521	Quota exceeded for resources: ['floatingip'].	Cota EIP insuficiente.	Libere os EIPs não vinculados ou solicite o aumento da cota de EIP.
	409	VPC.0522	The IP address is in use.	O endereço IP é inválido ou está em uso.	Verifique se o formato do endereço IP é válido ou substitua-o por outro endereço IP.
	409	VPC.0532	No more IP addresses available on network.	Falha ao atribuir o endereço IP porque não há endereços IP disponíveis.	Libere os EIPs não vinculados ou tente novamente mais tarde.
Consulta de um EIP	400	VPC.0501	Invalid floatingip_id.	Parâmetros do EIP inválidos.	Verifique se o EIP ID é válido.
	404	VPC.0504	Floating IP could not be found.	O EIP não pôde ser encontrado.	Verifique se o ID EIP especificado é válido.
	500	VPC.0514	Neutron Error.	Uma exceção ocorre no sistema de OpenStack do IaaS.	Verifique se o serviço Neutron está normal ou entre em contato com o suporte técnico.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
Consulta dos EIPs	400	VPC.0501	Invalid limit.	Parâmetros do EIP inválidos.	Verifique se os valores dos parâmetros são válidos com base na mensagem de erro retornada e no documento de referência da API.
Liberação de um EIP	400	VPC.0501	Invalid param.	Parâmetros do EIP inválidos.	Entre em contato com o suporte técnico.
	404	VPC.0504	Floating IP could not be found.	O EIP não foi encontrado.	Verifique se o ID EIP especificado é válido.
	409	VPC.0512	Resource status is busy, try it again later.	O status do EIP é anormal.	Tente novamente mais tarde ou entre em contato com o suporte técnico.
	500	VPC.0513	getElementByKey error.	Os recursos de rede não podem ser encontrados.	Entre em contato com o suporte técnico.
	500	VPC.0516	Publicip is in used by ELB.	Falha ao liberar o EIP porque ele está sendo usado por um balanceador de carga.	Desvincule o EIP do balanceador de carga.
	409	VPC.0517	Floatingip has associated with port, please disassociate it firstly.	Falha ao liberar o EIP porque ele está vinculado a um ECS.	Desvincule o EIP do ECS.
	500	VPC.0518	Public IP has firewall rules.	Falha ao liberar o EIP porque ele está sendo usado por um ACL de rede.	Entre em contato com o suporte técnico.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	409	VPC.0525	The FloatingIp is billing, can not delete.	Um EIP cujo modo de cobrança é anual/mensal não pode ser excluído diretamente.	Executar operações de reversão.
Atualização de um EIP	400	VPC.0501	Port id is invalid.	Parâmetros do EIP inválidos.	Verifique se o ID da porta é válido.
	404	VPC.0504	Floating IP could not be found.	O EIP não pôde ser encontrado.	Verifique se o ID EIP especificado é válido.
	500	VPC.0509	Floating ip double status is invalid.	A porta já foi associada a um EIP.	Desassocie a porta do EIP.
	409	VPC.0510	Floatingip has already associated with port.	O EIP já foi vinculado a outro ECS.	Desvincule o EIP do ECS.
	409	VPC.0511	Port has already associated with floatingip.	Falha ao vincular o EIP ao ECS porque outro EIP já foi vinculado ao ECS.	Desvincule o EIP do ECS.
	409	VPC.0512	Resource status is busy, try it again later.	O status do EIP é anormal.	Tente novamente mais tarde ou entre em contato com o suporte técnico.
	404/500	VPC.0514	Neutron Error.	Uma exceção ocorre no sistema de OpenStack IaaS.	Verifique se o serviço Neutron está normal ou entre em contato com o suporte técnico.
Consulta de uma largura de banda	400	VPC.0301	getBandwidth error bandwidthId is invalid.	Os parâmetros de largura de banda estão incorretos.	Verifique se o ID da largura de banda é válido.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	404	VPC.0306	No Eip bandwidth exist with id.	O objeto de largura de banda não existe.	O objeto de largura de banda a ser consultado não existe.
	500	VPC.0302	Neutron Error.	Uma exceção ocorre no sistema de OpenStack IaaS.	Verifique se o serviço Neutron está normal ou entre em contato com o suporte técnico.
Consulta de larguras de banda	400	VPC.0301	Get bandwidths error limit is invalid.	Os parâmetros de largura de banda estão incorretos.	Verifique se os valores dos parâmetros são válidos com base na mensagem de erro retornada e no documento de referência da API.
	404	VPC.0306	No Eip bandwidth exist with id.	O objeto de largura de banda não existe.	O objeto de largura de banda a ser consultado não existe.
	500	VPC.0302	Neutron Error.	Uma exceção ocorre no sistema de OpenStack IaaS.	Verifique se o serviço Neutron está normal ou entre em contato com o suporte técnico.
Atualização de uma largura de banda	400	VPC.0301	updateBandwidth input param is invalid.	Os parâmetros de largura de banda estão incorretos.	Verifique se os valores dos parâmetros são válidos com base na mensagem de erro retornada e no documento de referência da API.
	500	VPC.0302	Neutron Error.	Falha ao obter recursos subjacentes.	Verifique se o serviço Neutron está normal ou entre em contato com o suporte técnico.

Módulo	Códigos de status	Código de erro	Mensagem	Descrição	Medida de manuseio
	500	VPC.0305	updateBandwidth error.	Ocorre um erro interno durante a atualização da largura de banda.	Entre em contato com o suporte técnico.
Atribuição de uma largura de banda compartilhada	400	VPC.0310	NO QUOTAS for shareBandwidth!	Quota de largura de banda compartilhada insuficiente.	Exclua a largura de banda compartilhada que não é mais necessária ou entre em contato com o suporte técnico.
Adição de um EIP a ou remoção de um EIP de uma largura de banda compartilhada	400	VPC.0301	Invalid publicip_id	EIP inválido.	Verifique se o valor de **publicip_id** em **publicip_info** é válido.
	400	VPC.0323	publicIp can not be operate with this bandwidth	Falha ao adicionar ou remover um EIP de uma largura de banda compartilhada.	Verifique se a largura de banda compartilhada ou EIP é normal.
Consulta da cota	400	VPC.1207	resource type is invalid.	O tipo de recurso especificado não existe.	Use um tipo de recurso existente.

