##### 云主机API/CLI接口

平台需要能够提供计算API和CLI命令行,具备创建虚拟服务器，查询所有虚拟服务器详细信息，更新某台服务器的信息，删除某台服务器的信息等调用接口。

###### 云主机API

|  |  |  |
| --- | --- | --- |
| **REST调度方式** | **URI** | **描述** |
| API版本信息接口 |
| GET | / | 列出所有API |
| GET | /V2 | 列出计算资源信息 |
| 租户配额信息接口 |
| GET | /v2/{tenant\_id}/limits | 列出租户的配额信息 |
| 服务器信息接口 |
| GET | /v2/{tenant\_id}/servers{?changessince,image,flavor,name,status, host,limit,marker} | 列出租户可见虚拟服务器的ID、名称和链接信息 |
| POST | /v2/{tenant\_id}/servers | 创建一台虚拟服务器 |
| GET | /v2/{tenant\_id}/servers/detail{? changes-since,image,flavor,name, status,host,limit,marker} | 查询所有虚拟服务器详细信息 |
| GET | /v2/{tenant\_id}/servers/ {server\_id} | 查询某台虚拟服务器详细信息 |
| PUT | /v2/{tenant\_id}/servers/ {server\_id} | 更新某台服务器的信息 |
| DELETE | /v2/{tenant\_id}/servers/ {server\_id} | 删除某台服务器的信息 |
| 服务器描述信息接口 |
| GET | /v2/{tenant\_id}/servers/ {server\_id}/metadata | 获取某台虚拟机服务器的描述文件 |
| PUT | /v2/{tenant\_id}/servers/ {server\_id}/metadata | 生成或者重置某台虚拟机服务器的描述文件 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/metadata | 更新某台虚拟机服务器的描述文件 |
| GET | /v2/{tenant\_id}/servers/{server\_id}/metadata/{key} | 通过密钥方式获取某台虚拟机服务器的描述文件 |
| PUT | /v2/{tenant\_id}/servers/{server\_id}/metadata/{key} | 通过密钥方式更新某台虚拟机服务器的描述文件 |
| DELETE | /v2/{tenant\_id}/servers/{server\_id}/metadata/{key} | 通过密钥方式删除某台虚拟机服务器的描述文件 |
| 服务器查看和操作接口 |
| GET | /v2/{tenant\_id}/servers/ {server\_id}/ips | 列出一个租户的某台服务器的所有网络和地址 |
| GET | /v2/{tenant\_id}/servers/{server\_id}/ips/{network\_label} | 列出一个租户的某服务器的某网络的地址 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数changePassword，更新服务器的密码 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数reboot，重启服务器 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数rebuild，重置服务器 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数resize，更新服务器的大小 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数confirm-Resize，确认更新服务器的请求 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数revert-Resize，撤销服务器的大小更新请求 |
| POST | /v2/{tenant\_id}/servers/ {server\_id}/action | 请求里加入参数creatImage，新增服务器的镜像 |
| 虚拟服务器类型操作接口 |
| GET | /v2/{tenant\_id}/flavors{?minDisk,minRam,limit,marker} | 获取类型的ID、名称和链接信息 |
| GET | /v2/{tenant\_id}/flavors/detail{?minDisk,minRam,limit,marker} | 获取所有类型的所有信息 |
| GET | /v2/{tenant\_id}/flavors/{flavor\_id} | 获取某一类型的所有信息 |
| 镜像操作接口 |
| GET | /v2/{tenant\_id}/images{?changessince,server,name,status,type,limit,marker} | 获取可见镜像的部分信息 |
| GET | /v2/{tenant\_id}/images/detail{?changes-since,server,name,status,type,limit,marker} | 获取可见镜像的所有信息 |
| GET | /v2/{tenant\_id}/images/{image\_id} | 获取制定镜像的信息 |
| DELETE | /v2/{tenant\_id}/images/{image\_id} | 删除制定镜像 |

###### 云主机CLI

nova-manger service list 检查nova服务是否正常

usage: nova-manage service list

nova boot 启动一个云主机

usage: nova boot [--flavor <flavor>] [--image <image>]

 [--image-with <key=value>] [--boot-volume <volume\_id>]

 [--snapshot <snapshot\_id>] [--min-count <number>]

 [--max-count <number>] [--meta <key=value>]

 [--file <dst-path=src-path>] [--key-name <key-name>]

 [--user-data <user-data>]

 [--availability-zone <availability-zone>]

 [--security-groups <security-groups>]

 [--block-device-mapping <dev-name=mapping>]

 [--block-device key1=value1[,key2=value2...]]

 [--swap <swap\_size>]

 [--ephemeral size=<size>[,format=<format>]]

 [--hint <key=value>]

 [--nic <net-id=net-uuid,v4-fixed-ip=ip-addr,

 v6-fixed-ip=ip-addr,port-id=port-uuid>]

 [--config-drive <value>] [--poll]

 <name>

nova clear-password 清除云主机admin的密码

usage: nova clear-password <server>

nova console-log 打印出云主机的console日志

usage: nova clear-password <server>

nova delete 删除云主机

usage: nova delete <server> [<server> ...]

nova flavor-create 创建一个云主机类型

usage: nova flavor-create [--ephemeral <ephemeral>] [--swap <swap>]

 [--rxtx-factor <factor>] [--is-public <is-public>]

 <name> <id> <ram> <disk> <vcpus>

nova flavor-delete 删除云主机类型

usage: nova flavor-delete <flavor>

nova flavor-list 列出系统中的云主机类型

usage: nova flavor-list

nova get-password 获取云主机的admin的密码

usage: nova get-password <server> [<private-key>]

nova image-create 给云主机创建快照

usage: nova image-create [--show] [--poll] <server> <name>

nova image-delete 删除镜像

usage: nova image-delete <image> [<image> ...]

nova keypair-add 创建一个新的keypair

usage: nova keypair-add [--pub-key <pub-key>] <name>

nova keypair-delete 删除keypair

usage: nova keypair-delete <name>

nova keypair-list 列出keypair

usage: nova keypair-list

nova list 列出云主机

usage: nova list [--reservation-id <reservation-id>] [--ip <ip-regexp>]

 [--ip6 <ip6-regexp>] [--name <name-regexp>]

 [--instance-name <name-regexp>]

 [--status <status>]

 [--flavor <flavor>] [--image <image>]

 [--host <hostname>]

 [--all-tenants [<0|1>]] [--tenant [<tenant>]]

 [--user [<user>]] [--deleted]

 [--fields <fields>] [--minimal]

 [--sort <key>[:<direction>]]

nova reboot 重启云主机

usage: nova reboot [--hard] [--poll] <server>

nova resize 变更云主机的类型

usage: nova resize [--poll] <server> <flavor>

nova resize-confirm 确认变更云主机类型

usage: nova resize-confirm <server>

nova resize-revert 取消变更云主机类型

usage: nova resize-revert <server>

nova root-password 更改云主机admin密码

usage: nova root-password <server>

nova service-delete 删除指定的nova服务

usage: nova service-delete <id>

nova service-disable 禁用指定的nova服务

usage: nova service-disable [--reason <reason>] <hostname> <binary>

nova service-enable 启用指定的nova服务

usage: nova service-enable <hostname> <binary>

nova show 查看指定的云主机的详细信息

usage: nova show [--minimal] <server>

##### 块存储API/CLI接口

平台需要能够提供存储API和CLI命令行,创建卷功能，获取卷信息，更新卷状态，删除指定卷等调用接口

###### 块存储API

|  |  |  |
| --- | --- | --- |
| **REST调度方式** | **URI** | **描述** |
| API 信息接口 |
| GET  | /  | 获取API描述信息 |
| GET  | /v2  | 获取API V2版本信息 |
| GET  | /v2/{tenant\_id}/extensions | 获取租户可以调用的API信息 |
| 卷信息接口 |
| POST  | /v2/{tenant\_id}/volumes | 创建一个卷 |
| GET  | /v2/{tenant\_id}/volumes{?sort,limit,marker} | 获取所有租户可见卷的概要信息 |
| GET  | /v2/{tenant\_id}/volumes/detail{?sort,limit,marker} | 获取所有租户可见卷的详细信息 |
| GET  | /v2/{tenant\_id}/vol-umes/{volume\_id} | 获取指定卷信息 |
| PUT  | /v2/{tenant\_id}/vol-umes/{volume\_id} | 更新指定卷信息 |
| DELETE  | /v2/{tenant\_id}/vol-umes/{volume\_id} | 删除指定卷 |
| POST  | /v2/{tenant\_id}/vol-umes/{volume\_id}/action | 扩展制定卷 |
| GET  | /v2/{tenant\_id}/types | 获取所有卷类型 |
| POST  | /v2/{tenant\_id}/types | 创建一个卷类型 |
| GET  | /v2/{tenant\_id}/types/{volume\_type\_id} | 获取指定卷类型信息 |
| DELETE  | /v2/{tenant\_id}/types/{volume\_type\_id} | 删除一个卷类型 |
| Snapshots |
| POST  | /v2/{tenant\_id}/snapshots{?snap-shot,volume\_id,force,name,descrip-tion} | 创建一个卷快照 |
| GET  | /v2/{tenant\_id}/snapshots | 获取卷快照的概要信息 |
| GET | /v2/{tenant\_id}/snapshots/detail GET /v2/{tenant\_id}/snapshots/{snapshot\_id} | 获取卷快照的详细信息 |
| PUT  | /v2/{tenant\_id}/snap- shots/{snapshot\_id} | 更新卷快照的详细信息 |
| DELETE  | /v2/{tenant\_id}/snap- shots/{snapshot\_id} | 删除指定卷快照 |
| GET  | /v2/{tenant\_id}/snap- shots/{snapshot\_id}/metadata | 获取卷快照的额外描述信息 |
| PUT  | /v2/{tenant\_id}/snap- shots/{snapshot\_id}/metadata | 更新指定获取卷快照的额外描述信息 |

###### 块存储CLI

Cinder使用

usage: cinder [--version] [--debug] [--os-auth-system <auth-system>]

[--service-type <service-type>]

[--service-name <service-name>]

 [--volume-service-name <volume-service-name>]

 [--endpoint-type <endpoint-type>]

 [--os-volume-api-version <volume-api-ver>] [--retries <retries>]

 [--os-auth-strategy <auth-strategy>]

[--os-username <auth-user-name>]

[--os-password <auth-password>]

 [--os-tenant-name <auth-tenant-name>]

 [--os-tenant-id <auth-tenant-id>] [--os-auth-url <auth-url>]

 [--os-user-id <auth-user-id>]

 [--os-user-domain-id <auth-user-domain-id>]

 [--os-user-domain-name <auth-user-domain-name>]

 [--os-project-id <auth-project-id>]

 [--os-project-name <auth-project-name>]

 [--os-project-domain-id <auth-project-domain-id>]

 [--os-project-domain-name <auth-project-domain-name>]

 [--os-cert <certificate>] [--os-key <key>]

 [--os-region-name <region-name>] [--os-token <token>]

 [--os-url <url>] [--os-cacert <ca-certificate>]

<subcommand> ...

cinder create 创建一个卷

usage: cinder create [--snapshot-id <snapshot-id>]

 [--source-volid <source-volid>] [--image-id <image-id>]

 [--display-name <display-name>]

 [--display-description <display-description>]

 [--volume-type <volume-type>]

 [--availability-zone <availability-zone>]

 [--metadata [<key=value> [<key=value> ...]]]

<size>

cinder delete 删除指定的卷

usage: cinder delete <volume> [<volume> ...]

cinder list 列出所有的卷

usage: cinder list

cinder service-disable 禁用cinder服务

usage: cinder service-disable [--reason <reason>] <hostname> <binary>

cinder service-enable 启动cinder服务

usage: cinder service-enable <hostname> <binary>

cinder service-list 列出cinder服务

usage: cinder service-list

##### 镜像API/CLI接口

平台需要能够提供镜像API和CLI命令行，具备创建虚拟镜像，获取所有镜像详细信息，更新指定镜像，删除指定镜像等调用接口

###### 镜像API

|  |  |  |
| --- | --- | --- |
| REST调度方式 | URI | 描述 |
| POST  | /v2/images  | 创建一个虚拟镜像 |
| GET  | /v2/images{?limit,marker,name,vis-ibility,member\_status,owner,sta-tus,size\_min,size\_max,sort\_key,sort\_dir,tag} | 获取所有公有镜像详细信息 |
| GET  | /v2/images/{image\_id} | 获取指定镜像详细信息 |
| PATCH  | /v2/images/{image\_id} | 更新指定镜像 |
| DELETE  | /v2/images/{image\_id} | 删除指定镜像 |

######  镜像CLI

glance使用

usage: glance [--version] [-d] [-v] [--get-schema] [--timeout TIMEOUT]

 [--no-ssl-compression] [-f] [--os-image-url OS\_IMAGE\_URL]

 [--os-image-api-version OS\_IMAGE\_API\_VERSION]

 [--profile HMAC\_KEY] [-k] [--os-cert OS\_CERT]

 [--cert-file OS\_CERT] [--os-key OS\_KEY] [--key-file OS\_KEY]

 [--os-cacert <ca-certificate-file>] [--ca-file OS\_CACERT]

 [--os-username OS\_USERNAME] [--os-user-id OS\_USER\_ID]

 [--os-user-domain-id OS\_USER\_DOMAIN\_ID]

 [--os-user-domain-name OS\_USER\_DOMAIN\_NAME]

 [--os-project-id OS\_PROJECT\_ID]

 [--os-project-name OS\_PROJECT\_NAME]

 [--os-project-domain-id OS\_PROJECT\_DOMAIN\_ID]

 [--os-project-domain-name OS\_PROJECT\_DOMAIN\_NAME]

 [--os-password OS\_PASSWORD] [--os-tenant-id OS\_TENANT\_ID]

[--os-tenant-name OS\_TENANT\_NAME]

 [--os-auth-url OS\_AUTH\_URL]

 [--os-region-name OS\_REGION\_NAME]

 [--os-auth-token OS\_AUTH\_TOKEN]

 [--os-service-type OS\_SERVICE\_TYPE]

 [--os-endpoint-type OS\_ENDPOINT\_TYPE]

<subcommand> ...

glance image-create 上传一个镜像

usage: glance image-create [--id <IMAGE\_ID>] [--name <NAME>]

 [--store <STORE>]

 [--disk-format <DISK\_FORMAT>]

 [--container-format <CONTAINER\_FORMAT>]

 [--owner <TENANT\_ID>] [--size <SIZE>]

 [--min-disk <DISK\_GB>] [--min-ram <DISK\_RAM>]

 [--location <IMAGE\_URL>] [--file <FILE>]

 [--checksum <CHECKSUM>]

 [--copy-from <IMAGE\_URL>]

 [--is-public {True,False}]

 [--is-protected {True,False}]

 [--property <key=value>] [--human-readable]

 [--progress]

glance image-delete 删除指定的镜像

usage: glance image-delete <IMAGE> [<IMAGE> ...]

glance image-list 列出镜像

usage: glance image-list

##### 网络API/CLI接口

平台需要能够提供网络API和CLI命令行，具备获取网络资源信息，创建网络，删除网络，创建虚拟路由器，申请浮动IP等调用接口

###### 网络API

|  |  |  |
| --- | --- | --- |
| REST调度方式 | URI | 描述 |
| GET  | /  | 获取所有网络API信息 |
| GET  | /v2.0  | 获取V2.0版本网络API信息 |
| GET  | /v2.0/extensions | 获取所有网络API信息的扩展信息 |
| GET  | /v2.0/extensions/{alias} | 根据扩展别名获取相应API信息 |
| GET  | /v2.0/networks | 获取租户可以访问的网络资源 |
| POST  | /v2.0/networks | 创建一个网络 |
| POST  | /v2.0/networks | 一次性创建多个网络 |
| GET  | /v2.0/networks/{network\_id} | 获取指定网络的信息 |
| PUT  | /v2.0/networks/{network\_id} | 更新指定网络 |
| DELETE  | /v2.0/networks/{network\_id} | 删除指定网络以及附属资源 |
| get  | /v2.0/floatingips | 获取浮动IP列表 |
| post | /v2.0/floatingips | 创建浮动IP |
| get  | /v2.0/floatingips/{floatingip\_id} | 获取浮动IP详情 |
| put  | /v2.0/floatingips/{floatingip\_id} | 更新浮动IP信息 |
| delete | /v2.0/floatingips/{floatingip\_id} | 删除浮动IP |
| get  | /v2.0/routers | 获取路由器列表 |
| post  | /v2.0/routers | 创建路由器 |
| get  | /v2.0/routers/{router\_id} | 获取路由器详情 |
| put  | /v2.0/routers/{router\_id} | 更新路由器 |
| delete  | /v2.0/routers/{router\_id} | 删除路由器 |
| put  | /v2.0/routers/{router\_id}/add\_router\_interface | 路由器添加网口 |
| put  | /v2.0/routers/{router\_id}/add\_router\_interface | 路由器删除网口 |

###### 网络CLI

neutron使用

usage: neutron [--version] [-v] [-q] [-h] [-r NUM]

 [--os-service-type <os-service-type>]

 [--os-endpoint-type <os-endpoint-type>]

 [--service-type <service-type>]

 [--endpoint-type <endpoint-type>]

 [--os-auth-strategy <auth-strategy>] [--os-auth-url <auth-url>]

 [--os-tenant-name <auth-tenant-name> | --os-project-name <auth-project-name>]

 [--os-tenant-id <auth-tenant-id> | --os-project-id <auth-project-id>]

 [--os-username <auth-username>] [--os-user-id <auth-user-id>]

 [--os-user-domain-id <auth-user-domain-id>]

 [--os-user-domain-name <auth-user-domain-name>]

 [--os-project-domain-id <auth-project-domain-id>]

 [--os-project-domain-name <auth-project-domain-name>]

 [--os-cert <certificate>] [--os-cacert <ca-certificate>]

 [--os-key <key>] [--os-password <auth-password>]

 [--os-region-name <auth-region-name>] [--os-token <token>]

[--http-timeout <seconds>] [--os-url <url>] [--insecure]

neutron agent-delete删除agent服务

usage: neutron agent-delete [-h] [--request-format {json,xml}] AGENT

neutron agent-list列出neutron agent的服务状态

usage: neutron agent-list

neutron agent-show列出agent的详细信息

usage: neutron agent-show [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}] [-D] [-F FIELD]

 AGENT

neutron floatingip-associate给云主机绑定浮动IP

usage: neutron floatingip-associate [-h] [--request-format {json,xml}]

 [--fixed-ip-address FIXED\_IP\_ADDRESS]

 FLOATINGIP\_ID PORT

neutron floatingip-create分配出一个浮动IP

usage: neutron floatingip-create [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}]

 [--tenant-id TENANT\_ID] [--port-id PORT\_ID]

 [--fixed-ip-address FIXED\_IP\_ADDRESS]

 [--floating-ip-address FLOATING\_IP\_ADDRESS]

 FLOATING\_NETWORK

neutron floatingip-delete删除一个浮动IP

usage: neutron floatingip-delete [-h] [--request-format {json,xml}] FLOATINGIP

neutron floatingip-disassociate释放云主机浮动IP

usage: neutron floatingip-disassociate [-h] [--request-format {json,xml}]

 FLOATINGIP\_ID

neutron floatingip-list列出浮动IP

usage: neutron floatingip-list

neutron net-create创建一个网络

usage: neutron net-create [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}]

 [--tenant-id TENANT\_ID] [--admin-state-down]

 [--shared] [--router:external]

 [--provider:network\_type <network\_type>]

 [--provider:physical\_network <physical\_network\_name>]

 [--provider:segmentation\_id <segmentation\_id>]

 NAME

neutron net-delete删除指定网络

usage: neutron net-delete [-h] [--request-format {json,xml}] NETWORK

neutron net-external-list列出外部网络

usage: neutron net-external-list

neutron net-list列出所有网络

usage: neutron net-list

neutron port-create创建一个端口

usage: neutron port-create [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}]

 [--tenant-id TENANT\_ID] [--name NAME]

 [--fixed-ip subnet\_id=SUBNET,ip\_address=IP\_ADDR]

 [--device-id DEVICE\_ID]

 [--device-owner DEVICE\_OWNER] [--admin-state-down]

 [--mac-address MAC\_ADDRESS]

 [--security-group SECURITY\_GROUP | --no-security-groups]

 [--extra-dhcp-opt EXTRA\_DHCP\_OPTS]

 NETWORK

neutron port-delete删除指定的端口

usage: neutron port-delete [-h] [--request-format {json,xml}] PORT

neutron port-list列出所有端口

usage: neutron port-list

neutron router-create创建一个路由

usage: neutron router-create [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}]

 [--tenant-id TENANT\_ID] [--admin-state-down]

 [--distributed {True,False}] [--ha {True,False}]

 NAME

neutron router-delete删除指定的路由

usage: neutron router-delete [-h] [--request-format {json,xml}] ROUTER

neutron router-gateway-clear清除路由网关

usage: neutron router-gateway-clear [-h] [--request-format {json,xml}] ROUTER

neutron router-gateway-set给路由设置网关

usage: neutron router-gateway-set [-h] [--request-format {json,xml}]

 [--disable-snat]

 ROUTER EXTERNAL-NETWORK

neutron router-interface-add给路由增加子网接口

usage: neutron router-interface-add [-h] [--request-format {json,xml}]

 ROUTER INTERFACE

neutron router-interface-delete删除路由的子网接口

usage: neutron router-interface-delete [-h] [--request-format {json,xml}]

 ROUTER INTERFACE

neutron router-list列出路由的列表

usage: neutron router-list

neutron subnet-create创建网络子网

usage: neutron subnet-create [-h] [-f {shell,table,value}] [-c COLUMN]

 [--max-width <integer>] [--prefix PREFIX]

 [--request-format {json,xml}]

 [--tenant-id TENANT\_ID] [--name NAME]

 [--gateway GATEWAY\_IP] [--no-gateway]

 [--allocation-pool start=IP\_ADDR,end=IP\_ADDR]

 [--host-route destination=CIDR,nexthop=IP\_ADDR]

 [--dns-nameserver DNS\_NAMESERVER]

 [--disable-dhcp] [--enable-dhcp]

 [--ip-version {4,6}]

 [--ipv6-ra-mode {dhcpv6-stateful,dhcpv6-stateless,slaac}]

 [--ipv6-address-mode {dhcpv6-stateful,dhcpv6-stateless,slaac}]

 NETWORK CIDR

neutron subnet-delete删除指定的子网

usage: neutron subnet-delete [-h] [--request-format {json,xml}] SUBNET

neutron subnet-list列出子网信息

usage: neutron subnet-list

##### 认证模块API/CLI接口

平台需要能够提供认证服务API和CLI 命令行，具备创建用户，更新用户信息，删除用户等调用接口

###### 认证API

|  |  |  |
| --- | --- | --- |
| REST调度方式 | URI | 描述 |
| GET  | /v2.0  | 获取API描述信息 |
| GET  | /v2.0/extensions | 获取API V2版本扩展信息 |
| GET  | /v2.0/extensions/{alias} | 根据别名获取API V2版本扩展信息 |
| POST  | /v2.0/tokens | 生成一个安全令牌 |
| GET  | /v2.0/tokens/{tokenId}{?belongsTo} | 验证一个令牌，确认它属于某个租户 |
| HEAD  | /v2.0/tokens/{tokenId}{?belongsTo} | 验证一个令牌，确认它属于某个租户，并返回性能信息 |
| POST  | /v2.0/users  | 增加一个用户 |
| GET  | /v2.0/users{?name} | 获取用户信息 |
| PUT  | /v2.0/users/{userId} | 更新用户 |
| DELETE  | /v2.0/users/{userId} | 删除用户 |
| GET  | /v2.0/users/{user\_id} | 根据指定ID获取用户信息 |
| GET  | /v2.0/users/{user\_id}/roles | 根据用户获取用户角色信息 |
| GET  | /v2.0/tenants{?limit,marker} | 获取所有租户 |
| GET  | /v2.0/tenants{?limit,marker,name} | 根据名字获取租户信息 |
| GET  | /v2.0/tenants/{tenantId} | 根据ID获取 租户信息 |
| GET  | /v2.0/tenants/{tenantId}/users/{userId}/roles | 获取租户的角色信息（公共角色除外） |

###### 认证CLI

Keystone使用

usage: keystone [--version] [--debug] [--os-username <auth-user-name>]

 [--os-password <auth-password>]

 [--os-tenant-name <auth-tenant-name>]

 [--os-tenant-id <tenant-id>] [--os-auth-url <auth-url>]

 [--os-region-name <region-name>]

 [--os-identity-api-version <identity-api-version>]

 [--os-token <service-token>]

 [--os-endpoint <service-endpoint>] [--os-cache]

 [--force-new-token] [--stale-duration <seconds>] [--insecure]

 [--os-cacert <ca-certificate>] [--os-cert <certificate>]

 [--os-key <key>] [--timeout <seconds>]

 <subcommand> ...

keystone endpoint-create 创建一个endpoint

usage: keystone endpoint-create [--region <endpoint-region>] --service

 <service> --publicurl <public-url>

 [--adminurl <admin-url>]

 [--internalurl <internal-url>]

keystone endpoint-delete 删除一个endpoint

usage: keystone endpoint-create [--region <endpoint-region>] --service

 <service> --publicurl <public-url>

 [--adminurl <admin-url>]

 [--internalurl <internal-url>]

keystone endpoint-list列出系统中的endpoint

usage: keystone endpoint-list

keystone password-update更新自己的密码

usage: keystone password-update [--current-password <current-password>]

 [--new-password <new-password>]

keystone role-create增加一个role

usage: keystone role-create --name <role-name>

keystone role-delete删除一个role

usage: keystone role-delete <role>

keystone role-list列出系统中的role

usage: keystone role-list

keystone service-create在service目录中增加一个service

usage: keystone service-create --type <type> [--name <name>]

[--description <service-description>]

keystone service-delete从service目录中删除service

usage: keystone service-delete <service>

keystone service-delete列出系统中所有service目录

usage: keystone service-list

keystone tenant-create创建一个新的租户

usage: keystone tenant-create --name <tenant-name>

[--description <tenant-description>]

[--enabled <true|false>]

keystone tenant-delete删除租户

usage: keystone tenant-delete <tenant>

keystone tenant-list列出所有的租户

usage: keystone tenant-list

keystone user-create创建一个新的用户

usage: keystone user-create --name <user-name> [--tenant <tenant>]

[--pass [<pass>]] [--email <email>]

[--enabled <true|false>]

keystone user-delete删除用户

usage: keystone user-delete <user>

keystone user-list列出所有user

usage: keystone user-list [--tenant <tenant>]

keystone user-password-update更新用户的密码

usage: keystone user-password-update [--pass <password>] <user>

keystone user-role-add将用户加到role里

usage: keystone user-role-add --user <user> --role <role> [--tenant <tenant>]

keystone user-role-list列出用户的role

usage: keystone user-role-list [--user <user>] [--tenant <tenant>]

keystone user-role-remove将用户从role中移除

usage: keystone user-role-remove --user <user> --role <role>

 [--tenant <tenant>]

keystone user-update更新用户的信息

usage: keystone user-update [--name <user-name>] [--email <email>]

[--enabled <true|false>]

<user>

##### 对象存储API/CLI接口

平台需要能够提供对象存储服务API和CLI命令行，对象存储接口需要兼容并符合S3接口规范，能够和交大现有的云盘系统对接

###### 对象存储API

|  |  |  |
| --- | --- | --- |
| REST调度方式 | URI | 描述 |
| get | /info | 获取启用的特性 |
| get | /v1/{account} | 获取账号信息并列举容器 |
| post | /v1/{account} | 创建、更新、删除账号元数据 |
| head | /v1/{account} | 获取账号元数据 |
| get | /v1/{account}/{container} | 获取容器详细信息并列出对象 |
| put | /v1/{account}/{container} | 创建容器 |
| post | /v1/{account}/{container} | 创建、更新、删除容器 |
| head | /v1/{account}/{container} | 获取容器元数据 |
| delete | /v1/{account}/{container} | 删除容器 |
| get | /v1/{account}/{container}/{object} | 获取对象信息与元数据 |
| put | /v1/{account}/{container}/{object} | 创建或替换对象 |
| copy | /v1/{account}/{container}/{object} | 复制对象 |
| delete | /v1/{account}/{container}/{object} | 删除对象 |
| head | /v1/{account}/{container}/{object} | 列出对象元数据 |
| post | /v1/{account}/{container}/{object} | 创建、更新对象元数据 |

###### 对象存储CLI

Swift使用

Usage: swift [--version] [--help] [--os-help] [--snet] [--verbose]

 [--debug] [--info] [--quiet] [--auth <auth\_url>]

 [--auth-version <auth\_version> |

 --os-identity-api-version <auth\_version> ]

 [--user <username>]

 [--key <api\_key>] [--retries <num\_retries>]

 [--os-username <auth-user-name>] [--os-password <auth-password>]

 [--os-user-id <auth-user-id>]

 [--os-user-domain-id <auth-user-domain-id>]

 [--os-user-domain-name <auth-user-domain-name>]

 [--os-tenant-id <auth-tenant-id>]

 [--os-tenant-name <auth-tenant-name>]

 [--os-project-id <auth-project-id>]

 [--os-project-name <auth-project-name>]

 [--os-project-domain-id <auth-project-domain-id>]

 [--os-project-domain-name <auth-project-domain-name>]

 [--os-auth-url <auth-url>] [--os-auth-token <auth-token>]

 [--os-storage-url <storage-url>] [--os-region-name <region-name>]

 [--os-service-type <service-type>]

 [--os-endpoint-type <endpoint-type>]

 [--os-cacert <ca-certificate>] [--insecure]

 [--os-cert <client-certificate-file>]

 [--os-key <client-certificate-key-file>]

 [--no-ssl-compression]

 <subcommand> [--help] [<subcommand options>]

Auth 认证

Usage: swift auth

swift stat swift状态

Usage: swift stat [--lh] [--header <header:value>]

 [<container> [<object>]]

swift list 列出容器或对象

Usage: swift list [--long] [--lh] [--totals] [--prefix <prefix>]

 [--delimiter <delimiter>] [--header <header:value>]

 [<container>]

Swift upload Swift上传

Usage: swift upload [--changed] [--skip-identical] [--segment-size <size>]

 [--segment-container <container>] [--leave-segments]

 [--object-threads <thread>] [--segment-threads <threads>]

 [--header <header>] [--use-slo] [--ignore-checksum]

 [--object-name <object-name>]

 <container> <file\_or\_directory> [<file\_or\_directory>] [...]

Swift POST Swift内容更新

Usage: swift post [--read-acl <acl>] [--write-acl <acl>] [--sync-to]

 [--sync-key <sync-key>] [--meta <name:value>]

 [--header <header>]

 [<container> [<object>]]

swift download swift下载

Usage: swift download [--all] [--marker <marker>] [--prefix <prefix>]

 [--output <out\_file>] [--output-dir <out\_directory>]

 [--object-threads <threads>] [--ignore-checksum]

 [--container-threads <threads>] [--no-download]

 [--skip-identical] [--remove-prefix]

 [--header <header:value>] [--no-shuffle]

 [<container> [<object>] [...]]

Swift delete Swift删除

Usage: swift delete [--all] [--leave-segments]

 [--object-threads <threads>]

 [--container-threads <threads>]

 [--header <header:value>]

 [<container> [<object>] [...]]

Swift copy Swift拷贝

Usage: swift copy [--destination </container/object>] [--fresh-metadata]

 [--meta <name:value>] [--header <header>] <container>

 <object> [<object>] [...]

##### 计费计量API/CLI接口

平台需要能够提供计费计量相关API和CLI命令行，具备根据时间、项目、资源类型等多种维度查询租户对资源使用情况的能力

###### 计量计费API

|  |  |  |  |
| --- | --- | --- | --- |
| REST调度方式 | URI | 描述 |  |
| GET  | /v2/resource | 获取资源的信息 |  |
| GET | /v2/resources/{resource\_id} | 列出所有资源的定义 |  |
| GET | /v2/meters | 到目前为止的计量数据列表 |  |
| get | /v2/meters/{meter\_id} | 获取指定ID的计量信息 |  |
| POST   | /v2/meters/{meter\_id} | 更新指定ID的计量信息列表 |  |
| GET | /v2/meters/{meter\_id}/statistics | 计算在指定的时间范围内的样本的统计信息 |  |
| GET | /v2/alarms | 根据指定查询，列出警报 |  |
| GET   | /v2/alarms/{alarm\_id} | 获取指定ID的报警信息 |  |
| PUT | /v2/alarms/{alarm\_id} | 更新指定ID的报警 |  |
| PUT | /v2/alarms/{alarm\_id}/state | 设置一个指定ID的报警状态 |  |
| GET  | /v2/alarms/{alarm\_id}/state | 获取指定ID的报警状态 |  |
| GET  | /v2/alarms/{alarm\_id}/history | 获取指定ID报警历史记录 |  |