

# 通过发送REST API请求

## 获取token信息

```
http://172.24.9.198:5000/v3/auth/tokens
```

```
1 {
2     "auth": {
3         "identity": {
4             "methods": [
5                 "password"
6             ],
7             "password": {
8                 "user": {
9                     "id": "1a236a63e6864cf5a5b26d4b816f719b",
10                    "password": "ruijie123"
11                }
12            }
13        },
14        "scope": {
15            "project": {
16                "id": "406cd353135e44f0ade98f53d92d5d8b"
17            }
18        }
19    }
20 }
```

我们需要的Token信息包含header中，为X-Subject-Token字段，当需要发送请求时在请求的header中加入X-Auth-Token字段。同时请注意x-openstack-request-id字段为投递的Rest API的唯一标识。

```
1 Content-Length →6634
2 Content-Type →application/json
3 Date →Thu, 27 Apr 2017 01:34:17 GMT
4 Server →Apache/2.4.6 (CentOS) mod_wsgi/3.4 Python/2.7.5
```

```
5 Vary →X-Auth-Token
6 X-Subject-Token →34012b6ce00c4781a714ca5bbdba08ca
7 x-openstack-request-id →req-1d56ec0e-bade-457d-8060-649ef7b9c3a9
```

返回的body包含以下信息，其中catalog中包含大量的endpoint信息。

```
1 {
2   "token": {
3     "is_domain": false,
4     "methods": [
5       "password"
6     ],
7     "roles": [
8       {
9         "id": "1394a9e321dd473db80b4b0f81b6193d",
10        "name": "admin"
11      }
12    ],
13    "expires_at": "2017-04-27T02:34:17.000000Z",
14    "project": {
15      "domain": {
16        "id": "default",
17        "name": "Default"
18      },
19      "id": "406cd353135e44f0ade98f53d92d5d8b",
20      "name": "admin"
21    },
22    "catalog": [
304  "user": {
305    "password_expires_at": null,
306    "domain": {
307      "id": "default",
308      "name": "Default"
309    },
310    "id": "1a236a63e6864cf5a5b26d4b816f719b",
311    "name": "admin"
312  },
313  "audit_ids": [
314    "SM_RXr14QWtCDXaONTZdA"
315  ],
316  "issued_at": "2017-04-27T01:34:17.000000Z"
317 }
318 }
```

```
{
  "endpoints": [
    {
      "region_id": "RegionOne",
      "url": "http://172.24.9.198:9696",
      "region": "RegionOne",
      "interface": "public",
      "id": "043f7d3c1af14dfeb430259b8c07656a"
    },
    {
      "region_id": "RegionOne",
      "url": "http://172.24.9.198:9696",
      "region": "RegionOne",
      "interface": "internal",
      "id": "7f9ab726a7ba47e48b66e91b9043d93f"
    },
    {
      "region_id": "RegionOne",
      "url": "http://172.24.9.198:9696",
      "region": "RegionOne",
      "interface": "admin",
      "id": "ea3314d0f9094f128b5d8a27a2972530"
    }
  ],
  "type": "network",
  "id": "5b73cd256d2f4a05b689934f04d8d83c",
  "name": "neutron"
},
```

## 发送Request

—获取volume信息为例，发送一个Request

```
1 GET /v2/406cd353135e44f0ade98f53d92d5d8b/volumes HTTP/1.1
2 Host: 172.24.9.198:8776
3 X-Auth-Token: 42599c4bbff645c8a98ebb574944b15b
4 Cache-Control: no-cache
5 Postman-Token: 11f110f4-4242-5ce4-2b74-b78a4f3e3f68
```

## API一览

<https://developer.openstack.org/api-ref/block-storage/>

## 通过不同模块的客户端

### 安装客户端

不同模块有不同客户端，软件包名字为python-PROJECTclient（如python-

cinderclient ) ,最长用的为openstack客户端 :

```
^C[linqing@localhost ~]$ pip freeze --local|grep python-openstackclient
python-openstackclient==3.8.1
```

安装客户端后 , 配置环境变量即可连接到OpenStack

```
1 ##安装
2 pip install python-openstackclient
3 ##配置如下环境变量
4 export OS_PROJECT_DOMAIN_NAME=default
5 export OS_USER_DOMAIN_NAME=default
6 export OS_PROJECT_NAME=admin
7 export OS_TENANT_NAME=admin
8 export OS_USERNAME=admin
9 export OS_PASSWORD=ruijie123
10 export OS_AUTH_URL=http://172.24.9.198:35357/v3
11 export OS_INTERFACE=internal
12 export OS_IDENTITY_API_VERSION=3
```