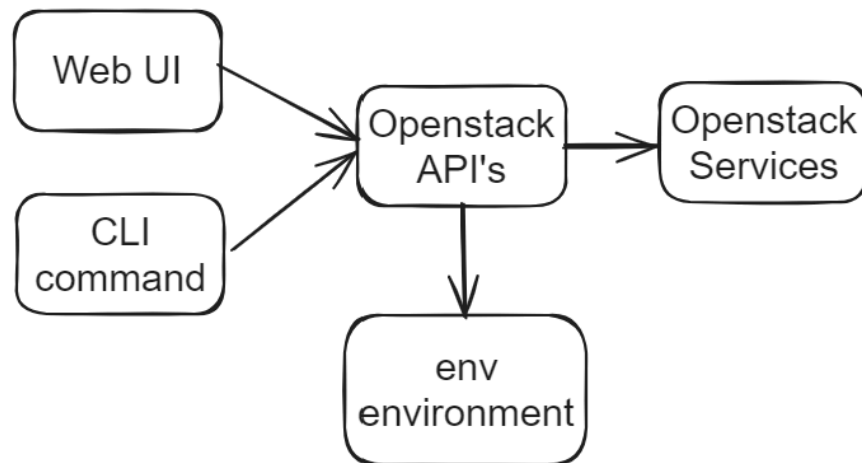


Understand how to OpenStack API and Command Line interface

All of the functionality that provided by the dashboard is also accessible through the OpenStack APIs.



Credentials

To use the APIs you need to have the correct OpenStack credentials loaded into your environment.

```
Activities Terminal Nov 23 22:50
stack@localhost:~/devstack

[stack@localhost devstack]$ source openrc admin demo
WARNING: setting legacy OS_TENANT_NAME to support cli tools.
[stack@localhost devstack]$ env | grep OS_
OS_REGION_NAME=RegionOne
OS_PROJECT_DOMAIN_ID=default
OS_CACERT=
OS_AUTH_URL=http://192.168.56.10/identity 1
OS_TENANT_NAME=demo
OS_USER_DOMAIN_ID=default
OS_USERNAME=admin 2
OS_VOLUME_API_VERSION=3
OS_AUTH_TYPE=password
OS_PROJECT_NAME=demo
OS_PASSWORD=secret 3
OS_IDENTITY_API_VERSION=3
[stack@localhost devstack]$
```

<https://docs.openstack.org/keystone/latest/admin/cli-manage-projects-users-and-roles.html>

Get your credentials

Each of Openstack have own endpoint Project > API Access

The screenshot shows the OpenStack API Access page in a Firefox browser. The address bar shows the URL `192.168.56.10/dashboard/project/api_access/`. The page header includes the OpenStack logo, a user menu for 'admin', and navigation links for Centos, Wiki, Documentation, and Forums. The left sidebar shows the 'Project' menu expanded, with 'API Access' selected. The main content area displays a table of service endpoints. A red box highlights the table, and a red label 'API endpoint of services' points to it. A red circle '1' is next to the user menu, and a red circle '2' is next to the 'project of user "admin, demo"' dropdown. A red circle '3' is next to the 'Project' menu, and a red circle '4' is next to the 'API Access' menu item. A red label 'login user "admin"' points to the user menu.

| Service | Service Endpoint |
|----------------|---|
| Block Storage | <code>http://192.168.56.10/volume/v3/1973784930e34536936b1cf110a90489</code> |
| Cloudformation | <code>http://192.168.56.10/heat-api-cfn/v1</code> |
| Compute | <code>http://192.168.56.10/compute/v2.1</code> |
| Compute_Legacy | <code>http://192.168.56.10/compute/v2/1973784930e34536936b1cf110a90489</code> |
| Identity | <code>http://192.168.56.10/identity</code> |

Get Openstack RC file by click menu from account menu and Download to your host machine

The screenshot shows the OpenStack API Access page in a Firefox browser. The address bar shows the URL `192.168.56.10/dashboard/project/api_access/`. The page header includes the OpenStack logo, a user menu for 'admin', and navigation links for Centos, Wiki, Documentation, and Forums. The left sidebar shows the 'Project' menu expanded, with 'API Access' selected. The main content area displays a table of service endpoints. A red box highlights the 'OpenStack RC File' option in the user menu. A red circle '1' is next to the user menu, and a red circle '2' is next to the 'OpenStack RC File' option. A red label 'login user "admin"' points to the user menu.

| Service | Service Endpoint |
|----------------|---|
| Block Storage | <code>http://192.168.56.10/volume/v3/1973784930e34536936b1cf110a90489</code> |
| Cloudformation | <code>http://192.168.56.10/heat-api-cfn/v1</code> |
| Compute | <code>http://192.168.56.10/compute/v2.1</code> |
| Compute_Legacy | <code>http://192.168.56.10/compute/v2/1973784930e34536936b1cf110a90489</code> |
| Identity | <code>http://192.168.56.10/identity</code> |
| Image | <code>http://192.168.56.10/image</code> |

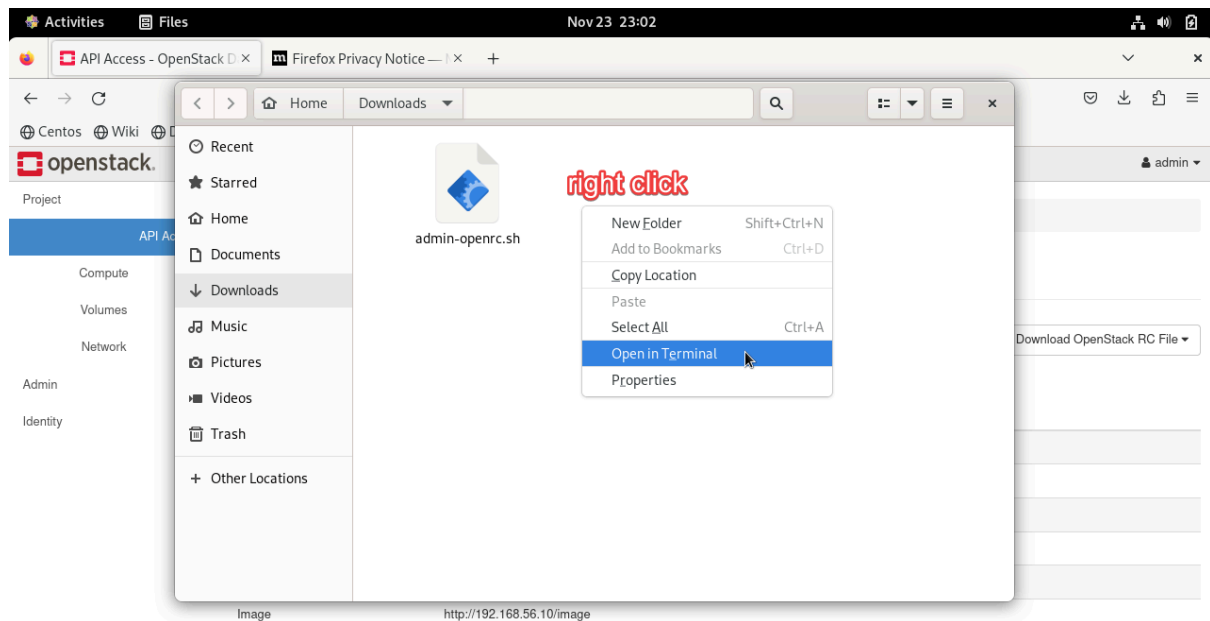
download openstack rc file “admin-openrc.sh” to download folder

The first screenshot shows the OpenStack API Access dashboard in a Firefox browser. The address bar shows the URL `192.168.56.10/dashboard/project/api_access/`. A download notification for `admin-openrc.sh` (1.9 KB) is visible. The dashboard displays a table of service endpoints:

| Service | Service Endpoint |
|----------------|---|
| Block Storage | <code>http://192.168.56.10/volume/v3/1973784930e34536936b1cf110a90489</code> |
| Cloudformation | <code>http://192.168.56.10/heat-api-cfn/v1</code> |
| Compute | <code>http://192.168.56.10/compute/v2.1</code> |
| Compute_Legacy | <code>http://192.168.56.10/compute/v2/1973784930e34536936b1cf110a90489</code> |
| Identity | <code>http://192.168.56.10/identity</code> |
| Image | <code>http://192.168.56.10/image</code> |

The second screenshot shows a file browser window with the `admin-openrc.sh` file selected in the Downloads folder. The status bar at the bottom indicates `"admin-openrc.sh" selected (1.9 kB)`.

Open in terminal right click on file browser



Check version of python-openstackclient

```

sysadmin@localhost:~/Downloads

[sysadmin@localhost Downloads]$
[sysadmin@localhost Downloads]$ pip list | grep python-openstackclient
python-openstackclient 6.3.0
[sysadmin@localhost Downloads]$

```

```

$ source admin-openrc.sh
$ openstack user list

```

```

sysadmin@localhost:~/Downloads

[sysadmin@localhost Downloads]$ pwd
/home/sysadmin/Downloads
[sysadmin@localhost Downloads]$ ls -l
total 4
-rw-r--r--. 1 sysadmin sysadmin 1940 Nov 23 22:55 admin-openrc.sh
[sysadmin@localhost Downloads]$ source admin-openrc.sh
Please enter your OpenStack Password for project_admin as user admin:
[sysadmin@localhost Downloads]$ openstack user list

```

| ID | Name |
|----------------------------------|-------------------|
| bc515e373d254561bdf0396864ef26e | admin |
| c324139031ec43f992d88a9ac5ec8799 | demo |
| 9dea03e4993048ecb723363d024db079 | demo_reader |
| 069bce864b8f401b87809a2faa689456 | alt_demo |
| 02b8cfb407834b54b990fa927b7d36b4 | alt_demo_member |
| ba5ee138927e425898b715f52e16bea | alt_demo_reader |
| d069c80ca79d401cb2ac9a2252547495 | system_member |
| edd6346f52494409acf5ec3c7e43d432 | system_reader |
| 57063ea3f62b48e6a9d513bdf5cc9485 | nova |
| d19d58be371a4263bdc52aa815886d1e | glance |
| 74e4e71ada184ae1993450d16345c171 | cinder |
| 5fbb948b5d0848b7a409d444aff991dc | neutron |
| 6651fb3c317f4200842f043a69758031 | placement |
| 4314ff67f4c44242ae96c510ed7a4784 | heat |
| 6c42a2277a0d4ceea0c5081035074012 | heat_domain_admin |

Run openstack command and get result

```
$ openstack hypervisor list
```

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack hypervisor list
+-----+-----+-----+-----+-----+
| ID | Hypervisor Hostname | Hypervisor Type | Host IP | State |
+-----+-----+-----+-----+-----+
| d105687b-6c4e-44b1-ac8b-26a1fddc2bdb | localhost.localdomain | QEMU | 192.168.56.10 | up |
+-----+-----+-----+-----+-----+
[sysadmin@localhost Downloads]$
```

```
$ openstack hypervisor stats show
```

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack hypervisor stats show
This command is deprecated.
+-----+-----+
| Field | Value |
+-----+-----+
| count | 1 |
| current_workload | 0 |
| disk_available_least | 45 |
| free_disk_gb | 54 |
| free_ram_mb | 3131 |
| local_gb | 54 |
| local_gb_used | 0 |
| memory_mb | 3643 |
| memory_mb_used | 512 |
| running_vms | 0 |
| vcpus | 4 |
| vcpus_used | 0 |
+-----+-----+
[sysadmin@localhost Downloads]$
```

```
$ openstack compute service list
```

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack compute service list
+-----+-----+-----+-----+-----+-----+-----+
| ID | Binary | Host | Zone | Status | State | Updated At |
+-----+-----+-----+-----+-----+-----+-----+
| c3d15dc9-1586-4da1-b458-a62f8bad8f2e | nova-conductor | localhost.localdo | internal | enabled | up | 2023-11-24T04:09:50.000000 |
| b13279ff-5d70-4eb4-82ca-bc0bf0f66ed9 | nova-compute | localhost.localdo | nova | enabled | up | 2023-11-24T04:09:35.000000 |
| 75c39d2b-1e45-488f-a415-73ffcdb27b73 | nova-scheduler | localhost.localdo | internal | enabled | up | 2023-11-24T04:09:21.000000 |
| 3123f68f-d7d3-4b2a-9caa-2d1df43861e6 | nova-conductor | localhost.localdo | internal | enabled | up | 2023-11-24T04:09:28.000000 |
+-----+-----+-----+-----+-----+-----+-----+
[sysadmin@localhost Downloads]$
```

```
$ openstack volume service list
```

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack volume service list
+-----+-----+-----+-----+-----+-----+
| Binary | Host | Zone | Status | State | Updated At |
+-----+-----+-----+-----+-----+-----+
| cinder-scheduler | localhost.localdomain | nova | enabled | up | 2023-11-24T04:09:49.000000 |
| cinder-volume | localhost.localdomain@lvmdriver-1 | nova | enabled | up | 2023-11-24T04:09:49.000000 |
+-----+-----+-----+-----+-----+-----+
[sysadmin@localhost Downloads]$
```

\$ openstack network agent list

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack network agent list
+-----+-----+-----+-----+-----+-----+-----+
| ID | Agent Type | Host | Availability Zone | Alive | State | Binary |
+-----+-----+-----+-----+-----+-----+-----+
| 2e17d2ce-b458-5 | OVN Metadata | localhost.local | | :- ) | UP | neutron-ovn- |
| b51-8f71-26d81e | agent | domain | | | | metadata-agent |
| d88f7a | | | | | | |
| cf5a96f9-fb85-4 | OVN Controller | localhost.local | | :- ) | UP | ovn-controller |
| e71-9a76-aa9305 | Gateway agent | domain | | | | |
| a95a26 | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
[sysadmin@localhost Downloads]$
```

\$ openstack image list

```
sysadmin@localhost:~/Downloads
[sysadmin@localhost Downloads]$ openstack image list
+-----+-----+-----+
| ID | Name | Status |
+-----+-----+-----+
| 6eca3511-2741-4e56-9bb1-8fe65e0eacdc | Fedora-Cloud-Base-37-1.7.x86_64 | active |
| baa0fd8f-cf2b-4025-bc67-368206f938be | cirros-0.6.2-x86_64-disk | active |
+-----+-----+-----+
[sysadmin@localhost Downloads]$
```

Reset Password

Goto Admin > Settings

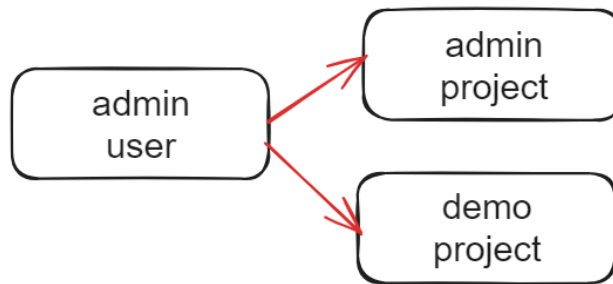
The screenshot shows the OpenStack Admin interface in a Firefox browser. The address bar shows the URL `192.168.56.10/dashboard/identity/users/`. The page title is "Users". On the left sidebar, the "Users" link is highlighted. A dropdown menu is open from the top right, showing options: "Settings" (highlighted with a red box and a red circle with the number 2), "Help", "OpenStack RC File", "Themes: Default", "Material", and "Sign Out". The main content area displays a table of users. The table has columns: "User Name", "Description", "Email", "User ID", "Enabled", "Domain Name", and "Actions". One user is listed: "admin" with a User ID of "bc515e373d254561bdbf0396864ef26e" and is enabled. The table indicates "Displaying 15 items".

| User Name | Description | Email | User ID | Enabled | Domain Name | Actions |
|-----------|-------------|-------|----------------------------------|---------|-------------|---------|
| admin | - | | bc515e373d254561bdbf0396864ef26e | Yes | Default | Edit |

Setting > Change Password

The screenshot shows the OpenStack Admin "Change Password" page. The address bar shows the URL `192.168.56.10/dashboard/settings/password/`. The page title is "Change Password". On the left sidebar, the "Change Password" link is highlighted. The main content area has a form with three input fields: "Current password *", "New password *", and "Confirm new password *". Each field has an eye icon for toggling visibility. To the right of the form, there is a "Description:" section with the text: "Change your password. We highly recommend you create a strong one." At the bottom right of the page, there is a blue "Change" button.

User admin and project



Network of Admin project

The screenshot shows the OpenStack dashboard interface in a Firefox browser window. The address bar displays the URL `192.168.56.10/dashboard/project/network_topology/`. The user is logged in as 'admin'.

- 1** The 'admin' dropdown menu in the top navigation bar is highlighted.
- 2** The 'Project' dropdown menu is highlighted.
- 3** The 'Network Topology' link in the left sidebar is highlighted.
- 4** The 'public' network, with IP range `192.168.1.0/24`, is highlighted.

The main content area displays two vertical bars representing networks: a blue bar for 'public' (IP range `192.168.1.0/24`) and an orange bar for 'shared' (IP range `192.168.233.0/24`). The left sidebar contains a navigation menu with categories like API Access, Compute, Volumes, Network, Networks, Routers, Security Groups, Floating IPs, Admin, and Identity.

Network of Demo project

