

```

student@ubuntu:~$ sudo -u stack -l
[sudo] password for student:
Sorry, try again.
[sudo] password for student:
student@ubuntu:~$ id
uid=1001(stack) gid=1001(stack) groups=1001(stack),118(libvirt)
student@ubuntu:~$ cd devstack/
student@ubuntu:~/devstack$ ls
clean.sh  doc  functions  gate  lib  Makefile  README.rst  samples  tests  unstack.sh
CONTRIBUTING.rst  extras.d  functions-common  HACKING.rst  LICENSE  openrc  roles  stackrc  tools
data  files  FUTURE.rst  inc  local.conf  playbooks  run_tests.sh  stack.sh  tox.ini
student@ubuntu:~/devstack$ env | wc -l
21
student@ubuntu:~/devstack$ source openrc admin admin
student@ubuntu:~/devstack$ env | wc -l
41
student@ubuntu:~/devstack$ env | grep OS
OS_REGION_NAME=RegionOne
OS_PROJECT_DOMAIN_ID=default
OS_CACERT=
OS_AUTH_URL=http://192.168.56.102/identity
OS_USER_DOMAIN_ID=default
LESSCLOSE=/usr/bin/lesspipe %s %s
OS_USERNAME=admin
OS_AUTH_TYPE=password
OS_PROJECT_NAME=admin
OS_PASSWORD=secret
student@ubuntu:~/devstack$

```

```

ubuntu2404 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
-rw-r--r-- 1 root root 381 Nov 3 18:08 devstack@c-vol.service
-rw-r--r-- 1 root root 431 Nov 3 17:59 devstack@dstat.service
-rw-r--r-- 1 root root 855 Nov 3 17:59 devstack@etcd.service
-rw-r--r-- 1 root root 583 Nov 3 18:08 devstack@g-api.service
-rw-r--r-- 1 root root 598 Nov 3 17:59 devstack@keystone.service
-rw-r--r-- 1 root root 626 Nov 3 18:08 devstack@n-api-meta.service
-rw-r--r-- 1 root root 606 Nov 3 18:06 devstack@n-api.service
-rw-r--r-- 1 root root 467 Nov 3 18:08 devstack@n-cond-cells.service
-rw-r--r-- 1 root root 497 Nov 3 18:08 devstack@n-cpu.service
-rw-r--r-- 1 root root 602 Nov 3 18:07 devstack@neutron-api.service
-rw-r--r-- 1 root root 553 Nov 3 18:07 devstack@neutron-ovn-maintenance-worker.service
-rw-r--r-- 1 root root 541 Nov 3 18:07 devstack@neutron-periodic-workers.service
-rw-r--r-- 1 root root 529 Nov 3 18:07 devstack@neutron-rpc-server.service
-rw-r--r-- 1 root root 517 Nov 3 18:08 devstack@n-novnc-cells.service
-rw-r--r-- 1 root root 479 Nov 3 18:08 devstack@n-sch.service
-rw-r--r-- 1 root root 461 Nov 3 18:08 devstack@n-super-cond.service
-rw-r--r-- 1 root root 604 Nov 3 18:07 devstack@placement-api.service
-rw-r--r-- 1 root root 482 Nov 3 18:06 devstack@q-ovn-agent.service
drwxr-xr-x 2 root root 4096 Aug 5 17:02 display-manager.service.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 emergency.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:02 final.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:02 getty.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:14 graphical.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 hibernate.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 hybrid-sleep.target.wants
lrwxrwxrwx 1 root root 42 Aug 5 17:02 iscsi.service -> /usr/lib/systemd/system/open-iscsi.service
drwxr-xr-x 2 root root 4096 Nov 3 18:03 local-fs.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:02 mdmonitor.service.wants
drwxr-xr-x 2 root root 4096 Nov 3 18:08 multi-user.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:02 network-online.target.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:02 oem-config.service.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:14 open-vm-tools.service.requires
drwxr-xr-x 2 root root 4096 Nov 3 17:55 openvswitch-switch.service.requires
lrwxrwxrwx 1 root root 51 Nov 3 17:55 ovn-nb-ovsdb.service -> /usr/lib/systemd/system/ovn-ovsdb-server-nb.service
lrwxrwxrwx 1 root root 51 Nov 3 17:55 ovn-sb-ovsdb.service -> /usr/lib/systemd/system/ovn-ovsdb-server-sb.service
drwxr-xr-x 2 root root 4096 Aug 5 17:14 paths.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 rescue.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 sleep.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:55 sockets.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:36 ssh.service.requires
-rw-r--r-- 1 root root 585 Nov 3 18:03 stack-volumes-lvm-driver-1-backing-file.service
drwxr-xr-x 2 root root 4096 Nov 3 17:35 suspend.target.wants
drwxr-xr-x 2 root root 4096 Nov 3 17:35 suspend-then-hibernate.target.wants
lrwxrwxrwx 1 root root 42 Nov 3 17:47 sysfs.service -> /usr/lib/systemd/system/sysfsutils.service
drwxr-xr-x 2 root root 4096 Aug 5 17:02 sysinit.target.wants
lrwxrwxrwx 1 root root 39 Aug 5 17:14 syslog.service -> /usr/lib/systemd/system/rsyslog.service
drwxr-xr-x 2 root root 4096 Aug 5 17:14 sysstat.service.wants
drwxr-xr-x 2 root root 4096 Aug 5 17:14 timers.target.wants
lrwxrwxrwx 1 root root 45 Aug 5 17:14 vmtotalsd.service -> /usr/lib/systemd/system/open-vm-tools.service
stack@ubuntu:/etc/systemd/system$

```

Config ของ service อยู่ที่นี่ nova

```
ubuntu2404 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
[oslo_concurrency]
lock_path = /opt/stack/data/nova

[upgrade_levels]
compute = auto

[oslo_messaging_notifications]
transport_url = rabbit://stackrabbit:secret@192.168.56.102:5672/
driver = messagingv2

[notifications]
notification_format = unversioned

[conductor]
workers = 2

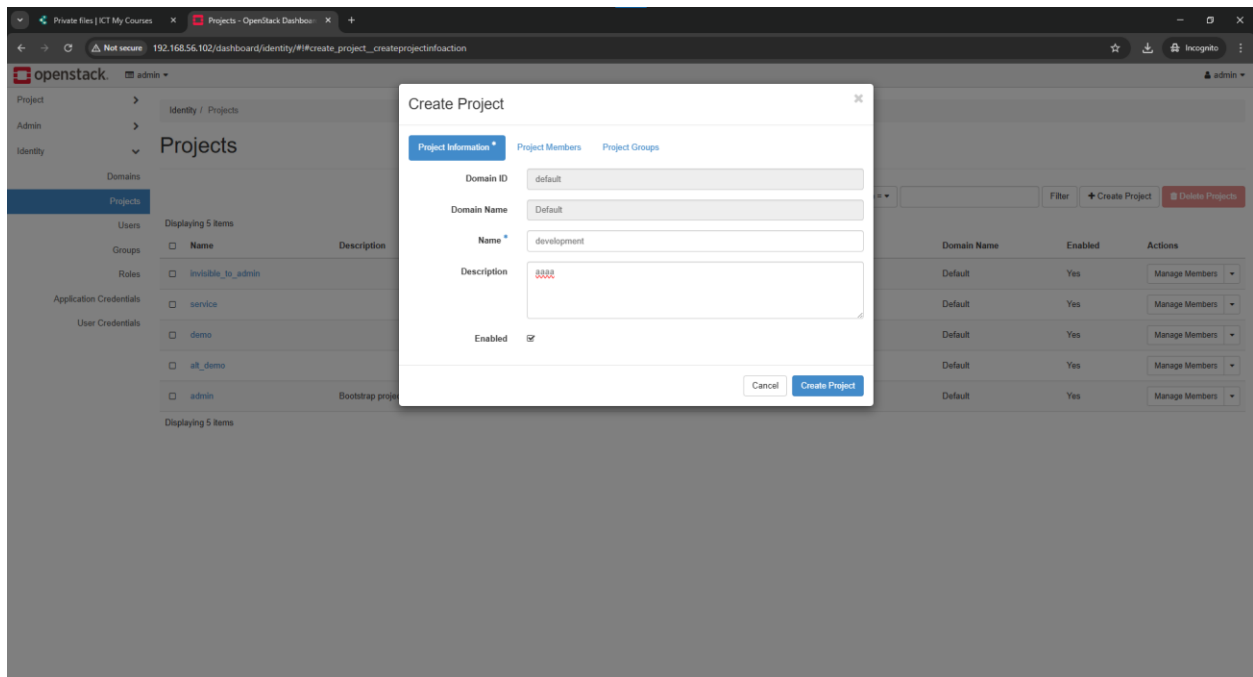
[service_user]
project_domain_name = Default
project_name = service
user_domain_name = Default
password = secret
username = nova
auth_url = http://192.168.56.102/identity
auth_type = password
send_service_user_token = True

[[libvirt]]
live_migration_uri = qemu+ssh://stack@%s/system
cpu_model = Nehalem
cpu_mode = custom
virt_type = qemu

[placement]
region_name = RegionOne
project_domain_name = Default
project_name = service
user_domain_name = Default
password = secret
username = nova
auth_url = http://192.168.56.102/identity
auth_type = password

[os_brick]
lock_path = /opt/stack/data/os_brick

[os_vif_ovs]
isolate_vif = False
stack@ubuntu:/etc/nova$ ls
api-paste.ini  nova-api-uwsgi.ini  nova_cell1.conf  nova.conf  nova-cpu.conf  nova-metadata-uwsgi.ini  rootwrap.conf  rootwrap.d
stack@ubuntu:/etc/nova$
```



openstack. admin

Project

Admin

Identity

Domains

Projects

Users

Groups

Roles

Application Credentials

User Credentials

Displaying 13 items

User Name	Description
alt_demo	-
demo	-
alt_demo_member	-
demo_reader	-
neutron	-
glance	-
cinder	-
placement	-
nova	-
alt_demo_reader	-
system_reader	-
system_member	-
admin	-

Displaying 13 items

Create User

Domain ID
default

Domain Name
Default

User Name *
dev1

Description

Email

Password *

Confirm Password *

Primary Project
development

Role
admin

☒ Enabled

☐ Lock password

Description:
Create a new user and set related properties including the Primary Project and Role.
Lock Password
Disables the ability for a user to change their password through self-service APIs.

Cancel Create User

openstack. admin

Project

Admin

Identity

Domains

Projects

Users

Groups

Roles

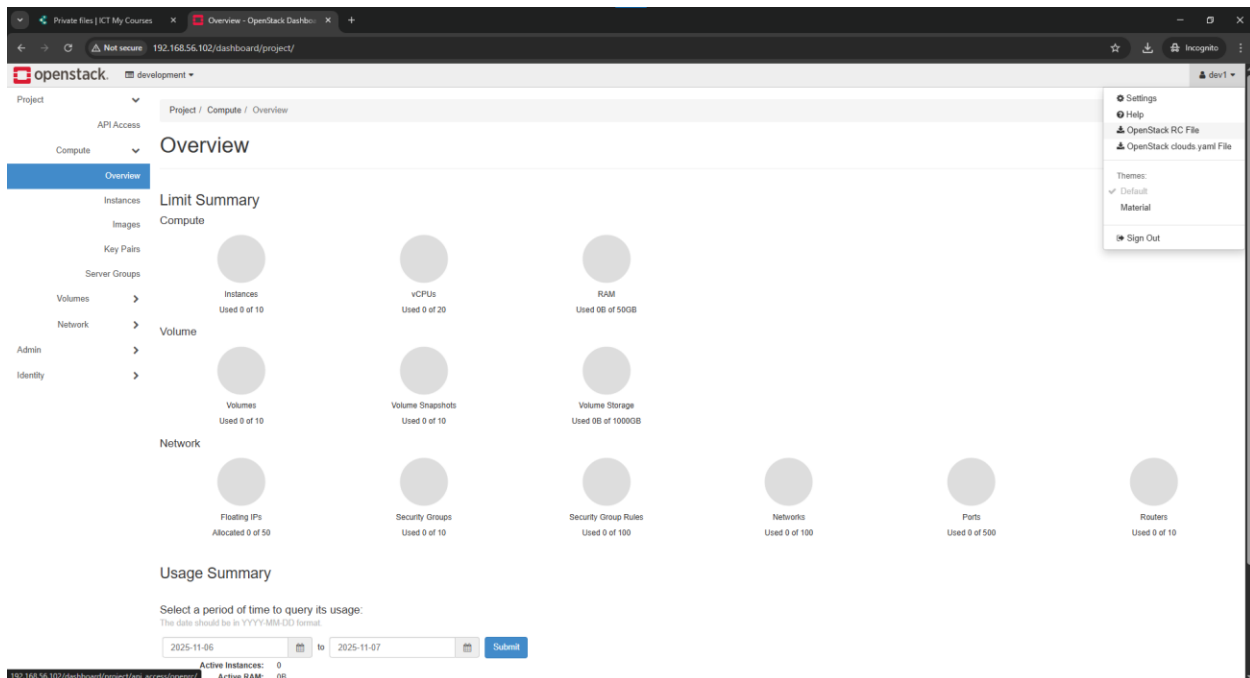
Application Credentials

User Credentials

Displaying 14 items

User Name	Description	Email	User ID	Enabled	Domain Name	Actions
alt_demo	-	alt_demo@example.com	1037490471548a1b452292601893014	Yes	Default	Edit
demo	-	demo@example.com	270f370476644276abc560351cc5532	Yes	Default	Edit
alt_demo_member	-	alt_demo_member@example.com	321ab82086c34110a76e0770ca03324	Yes	Default	Edit
demo_reader	-	demo_reader@example.com	49a011a7c72845c7bc3090408613c43	Yes	Default	Edit
neutron	-		4d90239345c9407d8e8f673c94da3a	Yes	Default	Edit
glance	-		60b50b51f51432fa2b6b76b9249a9e4	Yes	Default	Edit
cinder	-		6861c18d0a2a49f9a7b492b1eaca9e54	Yes	Default	Edit
placement	-		9407369e4019432db4cdc3bd55224f8	Yes	Default	Edit
dev1	-		9524dc584ee544eca6211094ce437bae	Yes	Default	Edit
nova	-		d32aa2bcb7441f78d9be1469205680	Yes	Default	Edit
alt_demo_reader	-	alt_demo_reader@example.com	043d103533a649c1b7fab8075650202	Yes	Default	Edit
system_reader	-	system_reader@example.com	dc488cc73ce499a92c84276bc8efc68	Yes	Default	Edit
system_member	-	system_member@example.com	e18de8b3031249ac877a26aa18b3df7	Yes	Default	Edit
	-		e85a00e3ef674394b59926b40e490d1c	Yes	Default	Edit

192.168.56.102/dashboard/identity/users/9524dc584ee544eca6211094ce437bae/detail



```
ubuntu2404 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

development-openrc - Notepad
File Edit Format View Help

# OpenStack API is version 3. For example, your cloud provider may implement
# Image API v1.1, Block Storage API v2, and Compute API v2.0. OS_AUTH_URL is
# only for the Identity API served through keystone.
export OS_AUTH_URL=http://192.168.56.102/identity
# With the addition of Keystone we have standardized on the term **project**
# as the entity that owns the resources.
export OS_PROJECT_ID=555e717ed69b436ebccc36cdf1d37930
export OS_PROJECT_NAME="development"
export OS_USER_DOMAIN_NAME="Default"
if [ -z "$OS_USER_DOMAIN_NAME" ]; then unset OS_USER_DOMAIN_NAME; fi
export OS_PROJECT_DOMAIN_ID="default"
if [ -z "$OS_PROJECT_DOMAIN_ID" ]; then unset OS_PROJECT_DOMAIN_ID; fi
# unset v2.0 items in case set
unset OS_TENANT_ID
unset OS_TENANT_NAME
# In addition to the owning entity (tenant), OpenStack stores the entity
# performing the action as the **user**.
export OS_USERNAME="dev1"
# With Keystone you pass the keystone password.
echo "Please enter your OpenStack Password for project $OS_PROJECT_NAME as user $OS_USERNAME: "
read -sr OS_PASSWORD_INPUT
export OS_PASSWORD=$OS_PASSWORD_INPUT
# If your configuration has multiple regions, we set that information here.
# OS_REGION_NAME is optional and only valid in certain environments.
export OS_REGION_NAME="RegionOne"
# Don't leave a blank variable, unset it if it was empty
if [ -z "$OS_REGION_NAME" ]; then unset OS_REGION_NAME; fi
export OS_INTERFACE=public
export OS_IDENTITY_API_VERSION=3
```

```
stack@ubuntu: ~/devstack
See https://ubuntu.com/esm or run: sudo pro status

Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Last login: Tue Nov  4 04:51:56 2025 from 192.168.56.1
student@ubuntu:~$ sudo -u stack -i
[sudo] password for student:
stack@ubuntu:~$ cd devstack/
stack@ubuntu:~/devstack$ nano development-dev1.sh
stack@ubuntu:~/devstack$ stack@ubuntu:~/devstack$ source development-dev1.sh
Please enter your OpenStack Password for project development as user dev1:
stack@ubuntu:~/devstack$ env | grep OS_
OS_REGION_NAME=RegionOne
OS_PROJECT_DOMAIN_ID=default
OS_INTERFACE=public
OS_AUTH_URL=http://192.168.56.102/identity
OS_USERNAME=dev1
OS_PROJECT_ID=555e717ed69b436ebccc36cdf1d37930
OS_USER_DOMAIN_NAME=Default
OS_PROJECT_NAME=development
OS_PASSWORD=secret
OS_IDENTITY_API_VERSION=3
stack@ubuntu:~/devstack$ openstack image list
+-----+-----+-----+
| ID | Name | Status |
+-----+-----+-----+
| 830606f7-84f8-4073-81f5-901e48372f87 | cirros-0.6.3-x86_64-disk | active |
+-----+-----+-----+
stack@ubuntu:~/devstack$
```