

LAB – OpenStack Installation

OpenStack installation using microstack

References:

- <https://ubuntu.com/openstack/install>

VM Configuration

- 1 VM involved
- All the OpenStack modules will be installed on a single machine
- Installation automated using Microstack
- Some functionalities will be disabled
- Clean the VM before starting!

Installation

```
apt install snapd
```

```
snap install microstack --beta
```

```
root@cloud2023:~# snap install microstack --beta
2023-04-15T12:41:10Z INFO Waiting for automatic snapd restart...
microstack (beta) ussuri from Canonical✓ installed
root@cloud2023:~#
```

```
root@cloud2023:~# apt install snapd
Reading package lists... Done
Building dependency tree... Done
root@cloud2023:~# [#####]
The following additional packages will be installed:
  squashfs-tools
Suggested packages:
  zenity | kdialog
The following NEW packages will be installed:
  snapd squashfs-tools
0 upgraded, 2 newly installed, 0 to remove and 67 not upgraded.
Need to get 24.0 MB of archives.
After this operation, 103 MB of additional disk space will be used.
Do you want to continue? [Y/n]
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 squashfs-tools amd64 1:4.5-3build1 [159 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 snapd amd64 2.58+22.04 [23.8 MB]
Fetched 24.0 MB in 14s (1776 kB/s)
Selecting previously unselected package squashfs-tools.
(Reading database ... 115159 files and directories currently installed.)
Preparing to unpack .../squashfs-tools_1:4.5-3build1_amd64.deb ...
Unpacking squashfs-tools (1:4.5-3build1) ...
Selecting previously unselected package snapd.
Preparing to unpack .../snapd_2.58+22.04_amd64.deb ...
Unpacking snapd (2.58+22.04) ...
Setting up squashfs-tools (1:4.5-3build1) ...
Setting up snapd (2.58+22.04) ...
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.aa-prompt-listener.service → /lib/systemd/s
system/snapd.aa-prompt-listener.service.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.apparmor.service → /lib/systemd/system/sn
apd.apparmor.service.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.autoimport.service → /lib/systemd/system/
snapd.autoimport.service.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.core-fixup.service → /lib/systemd/system/
snapd.core-fixup.service.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.recovery-chooser-trigger.service → /lib/s
ystemd/system/snapd.recovery-chooser-trigger.service.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.seeded.service → /lib/systemd/system/snap
d.seeded.service.
Created symlink /etc/systemd/system/cloud-final.service.wants/snapd.seeded.service → /lib/systemd/system/sn
apd.seeded.service.
Unit /lib/systemd/system/snapd.seeded.service is added as a dependency to a non-existent unit cloud-final.s
ervice.
Created symlink /etc/systemd/system/multi-user.target.wants/snapd.service → /lib/systemd/system/snapd.servi
ce.
Created symlink /etc/systemd/system/timers.target.wants/snapd.snap-repair.timer → /lib/systemd/system/snapd
.snap-repair.timer.
Created symlink /etc/systemd/system/sockets.target.wants/snapd.socket → /lib/systemd/system/snapd.socket.
Created symlink /etc/systemd/system/final.target.wants/snapd.system-shutdown.service → /lib/systemd/system/
snapd.system-shutdown.service.
snapd.failure.service is a disabled or a static unit, not starting it.
snapd.mounts-pre.target is a disabled or a static unit, not starting it.
snapd.mounts.target is a disabled or a static unit, not starting it.
snapd.snap-repair.service is a disabled or a static unit, not starting it.
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning candidates...
Scanning linux images...

Restarting services...
Service restarts being deferred:
systemctl restart NetworkManager.service
/etc/needrestart/restart.d/dbus.service
systemctl restart libvirtd.service
systemctl restart networkd-dispatcher.service
systemctl restart systemd-logind.service
systemctl restart unattended-upgrades.service
systemctl restart virtlogd.service

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@cloud2023:~#
```

Initialization

- Check that everything went fine

```
snap list microstack
```

```
root@cloud2023:~# snap list microstack
Name          Version Rev Tracking    Publisher  Notes
microstack    ussuri  245   latest/beta  canonical✓ -
```

- Initialize the installation

```
microstack init --auto --control
```

In case of errors, re-run
the command

```
root@cloud2023:/var/log# microstack init --auto --control
2023-04-15 13:05:11,658 - microstack_init - INFO - Configuring clustering ...
2023-04-15 13:05:11,777 - microstack_init - INFO - Setting up as a control node.
2023-04-15 13:05:15,593 - microstack_init - INFO - Generating TLS Certificate and Key
2023-04-15 13:05:16,948 - microstack_init - INFO - Configuring networking ...
2023-04-15 13:05:24,134 - microstack_init - INFO - Opening horizon dashboard up to *
2023-04-15 13:05:25,350 - microstack_init - INFO - Waiting for RabbitMQ to start ...
Waiting for 10.1.1.31:5672
2023-04-15 13:05:25,853 - microstack_init - INFO - RabbitMQ started!
2023-04-15 13:05:25,853 - microstack_init - INFO - Configuring RabbitMQ ...
2023-04-15 13:05:28,520 - microstack_init - INFO - RabbitMQ Configured!
2023-04-15 13:05:28,551 - microstack_init - INFO - Waiting for MySQL server to start ...
Waiting for 10.1.1.31:3306
2023-04-15 13:05:29,067 - microstack_init - INFO - Mysql server started! Creating databases ...
2023-04-15 13:05:29,995 - microstack_init - INFO - Configuring Keystone Fernet Keys ...
2023-04-15 13:05:38,837 - microstack_init - INFO - Bootstrapping Keystone ...
2023-04-15 13:05:42,008 - microstack_init - INFO - Creating service project ...
2023-04-15 13:05:45,285 - microstack_init - INFO - Keystone configured!
2023-04-15 13:05:45,321 - microstack_init - INFO - Configuring the Placement service...
2023-04-15 13:05:51,695 - microstack_init - INFO - Running Placement DB migrations...
2023-04-15 13:05:55,407 - microstack_init - INFO - Configuring nova control plane services ...
2023-04-15 13:05:58,716 - microstack_init - INFO - Running Nova API DB migrations (this may take a lot of time)...
2023-04-15 13:06:15,628 - microstack_init - INFO - Running Nova DB migrations (this may take a lot of time)...
Waiting for 10.1.1.31:8774
2023-04-15 13:07:06,862 - microstack_init - INFO - Creating default flavors...
2023-04-15 13:07:22,608 - microstack_init - INFO - Configuring nova compute hypervisor ...
2023-04-15 13:07:22,608 - microstack_init - INFO - Checking virtualization extensions presence on the host
2023-04-15 13:07:22,625 - microstack_init - INFO - Hardware virtualization is supported - KVM will be used for Nova instances
2023-04-15 13:07:25,463 - microstack_init - INFO - Configuring the Spice HTML5 console service...
2023-04-15 13:07:26,000 - microstack_init - INFO - Configuring Neutron
Waiting for 10.1.1.31:9696
2023-04-15 13:08:35,090 - microstack_init - INFO - Configuring Glance ...
Waiting for 10.1.1.31:9292
2023-04-15 13:09:20,432 - microstack_init - INFO - Adding cirros image ...
2023-04-15 13:09:23,969 - microstack_init - INFO - Creating security group rules ...
2023-04-15 13:09:37,698 - microstack_init - INFO - Configuring the Cinder services...
2023-04-15 13:10:53,606 - microstack_init - INFO - Running Cinder DB migrations...
2023-04-15 13:11:07,166 - microstack_init - INFO - restarting libvirt and virtlogd ...
2023-04-15 13:11:23,542 - microstack_init - INFO - Complete. Marked microstack as initialized!
root@cloud2023:/var/log#
```

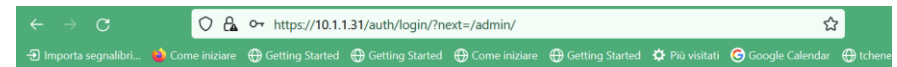
Access the platform

- Retrieve admin password


snap get microstack config.credentials.keystone-password

```
root@cloud2023:/var/log# snap get microstack config.credentials.keystone-password
LERC4iHEEDM7NCDlN9e9V9oaQhEnX99Q
root@cloud2023:/var/log#
```

- <https://10.1.1.X/admin/>

A screenshot of the OpenStack login form. At the top, there is the OpenStack logo (a red square with a white 'O' inside) and the text 'openstack.'. Below the logo, the text 'Log in' is displayed. There are two input fields: 'User Name' with the value 'admin' and 'Password' with a masked password (represented by dots). A 'Sign In' button is located at the bottom right of the form.

Main Dashboard

 admin

admin

Project

Admin

Overview

Compute

Volume

Network

System

Identity

Admin / Overview

Overview

Usage Summary

Select a period of time to query its usage:
The date should be in YYYY-MM-DD format.

2023-04-14

to

2023-04-15

Submit

Active Instances:

0

Active RAM:

0 Bytes

This Period's VCPU-Hours:

0

This Period's GB-Hours:

0

This Period's RAM-Hours:

0

Usage

Download CSV Summary

Project Name	VCPU	Disk	RAM	VCPU Hours ?	Disk GB Hours ?	Memory MB Hours ?
No items to display.						

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Clean up

- Delete all the VMs

```
snap remove --purge ministack
```