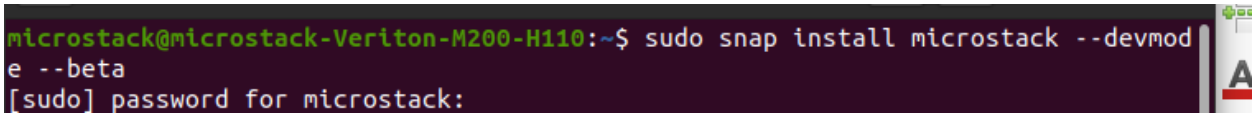
Procedure:

OpenStack is an open source software cloud computing platform.OpenStack is primarily used for deploying an infrastructure as a service(IaaS) solution like Amazon Web Service(AWS).

In other words,you can make your own AWS by using OpenStack.If you want to try out OpenStack,MicroStack is the easiest and free way to do it.

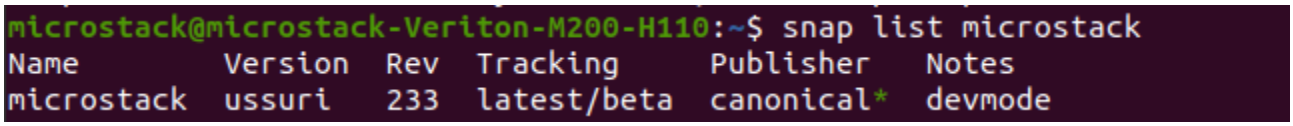
Step 1: To install use devmode and the beta channel

$ sudo snap install microstack --devmode –beta



Step 2: Information on the installed snap can be viewed like this:

$ snap list microstack



Here we see that OpenStack Ussuri has been deployed!

Step 3: Initialisation

The initialisation step automatically deploys, configures, and starts OpenStack services. In particular, it will create the database, networks, an image, several flavors, ICMP/SSH security groups, and an SSH keypair. This can all be done within 10 to 20 minutes depending on your machine:

sudo microstack init --auto –control

```
microstack@microstack-Veriton-M200-H110:~$ sudo microstack init --auto --control
2021-09-28 23:45:27,409 - microstack_init - INFO - Configuring clustering ...
2021-09-28 23:45:27,803 - microstack_init - INFO - Setting up as a control node.
2021-09-28 23:45:31,258 - microstack_init - INFO - Configuring networking ...
2021-09-28 23:45:40,993 - microstack_init - INFO - Opening horizon dashboard up
to *
2021-09-28 23:45:42,239 - microstack_init - INFO - Waiting for RabbitMQ to start
 ...
Waiting for 172.16.5.26:5672
2021-09-28 23:45:43,377 - microstack_init - INFO - RabbitMQ started!
2021-09-28 23:45:43,377 - microstack_init - INFO - Configuring RabbitMQ ...
2021-09-28 23:45:44,625 - microstack_init - INFO - RabbitMQ Configured!
2021-09-28 23:45:44,818 - microstack_init - INFO - Waiting for MySQL server to s
tart ...
Waiting for 172.16.5.26:3306
2021-09-28 23:45:46,096 - microstack_init - INFO - Mysql server started! Creatin
g databases ...
```

Step 4: Verification

The purpose of the verification step is to confirm that the cloud is in working order and to discover some of the defaults used by MicroStack. Verification will consist of the following actions:

- perform various OpenStack queries
- create an instance
- connect to the instance over SSH

access the cloud dashboard

Step 5: Query OpenStack

The standard openstack client comes pre-installed and is invoked like so:

microstack.openstack <command>

To list the default keypair:

$ microstack.openstack keypair list

```
microstack@microstack-Veriton-M200-H110:~$ microstack.openstack keypair list
+------------+-------------------------------------------------+
| Name       | Fingerprint                                     |
+------------+-------------------------------------------------+
| microstack | 05:11:ec:76:16:f5:74:37:57:4c:ae:42:b0:ab:70:00 |
+------------+-------------------------------------------------+
```

Step 6: To list the default image:

$ microstack.openstack image list

```
microstack@microstack-Veriton-M200-H110:~$ microstack.openstack image list
+--------------------------------------+--------+--------+
| ID                                   | Name   | Status |
+--------------------------------------+--------+--------+
| aa485679-df95-49b2-964c-741a7c7e3e8f | cirros | active |
+--------------------------------------+--------+--------+
```

Step 7: To get the default list of flavors:

$ microstack.openstack flavor list

```
microstack@microstack-Veriton-M200-H110:~$ microstack.openstack flavor list
+----+-----------+-------+------+-----------+-------+-----------+
| ID | Name      |   RAM | Disk | Ephemeral | VCPUs | Is Public |
+----+-----------+-------+------+-----------+-------+-----------+
| 1  | m1.tiny   |   512 |    1 |         0 |     1 | True      |
| 2  | m1.small  |  2048 |   20 |         0 |     1 | True      |
| 3  | m1.medium |  4096 |   20 |         0 |     2 | True      |
| 4  | m1.large  |  8192 |   20 |         0 |     4 | True      |
| 5  | m1.xlarge | 16384 |   20 |         0 |     8 | True      |
+----+-----------+-------+------+-----------+-------+-----------+
```

Step 8: Create an instance

MicroStack comes with a convenient instance creation command called microstack launch. It uses the following defaults for its instances:

- keypair ‘microstack’
- flavor ‘m1.tiny’
- floating IP address on subnet ‘10.20.20.0/24’

To create an instance named ‘test’ based on the ‘cirros’ image:

$ microstack launch cirros -n test

The microstack launch command also supports arguments --key, --flavor, --image, and --net-id, in which case you will need to create objects using the standard client if non-default values are desired.

Step 9: Connect to the instance

Output from the microstack launch command includes all the information needed to connect to the instance over SSH:

Launching server ...
Allocating floating ip ...

```
microstack@microstack-Veriton-M200-H110:~$ microstack launch cirros -n test
Launching server ...
Allocating floating ip ...
Server test launched! (status is BUILD)

Access it with `ssh -i /home/microstack/snap/microstack/common/.ssh/id_microstac
k cirros@10.20.20.31`
You can also visit the OpenStack dashboard at http://10.20.20.1:80
```

Step 10: Access the cloud dashboard

You can log in to the web UI by pointing your browser to the following URL:

http://10.20.20.1

The username is ‘admin’ and the password is obtained in this way:

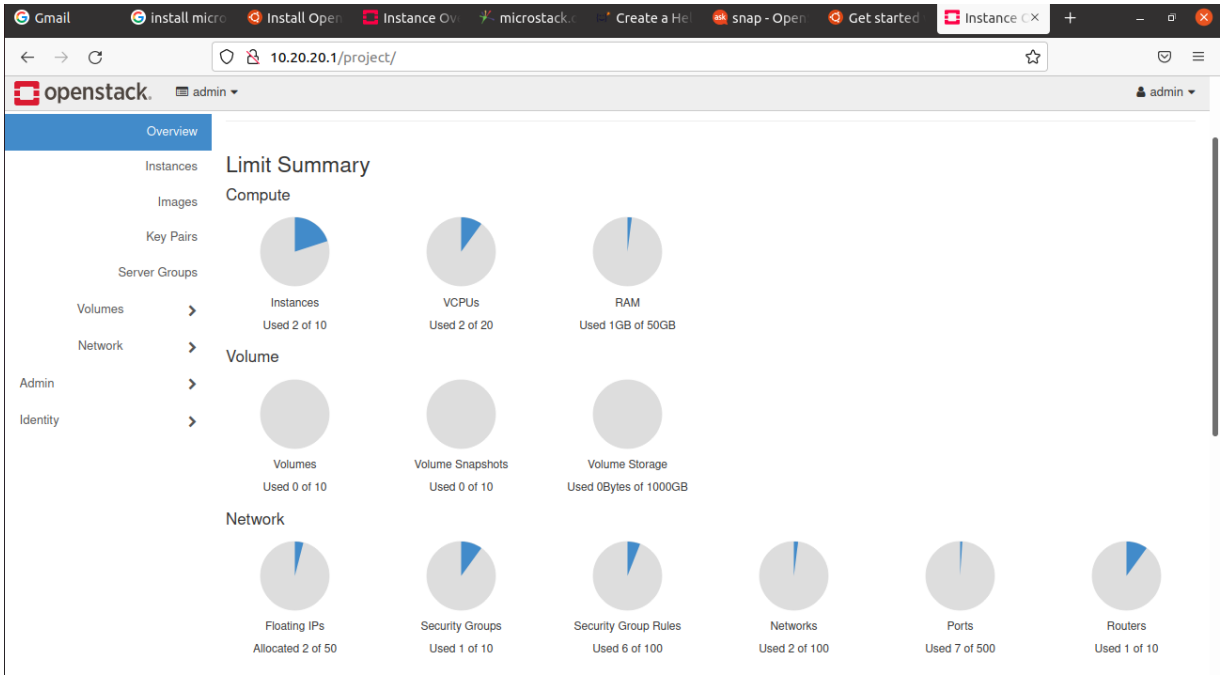
$ sudo snap get microstack config.credentials.keystone-password

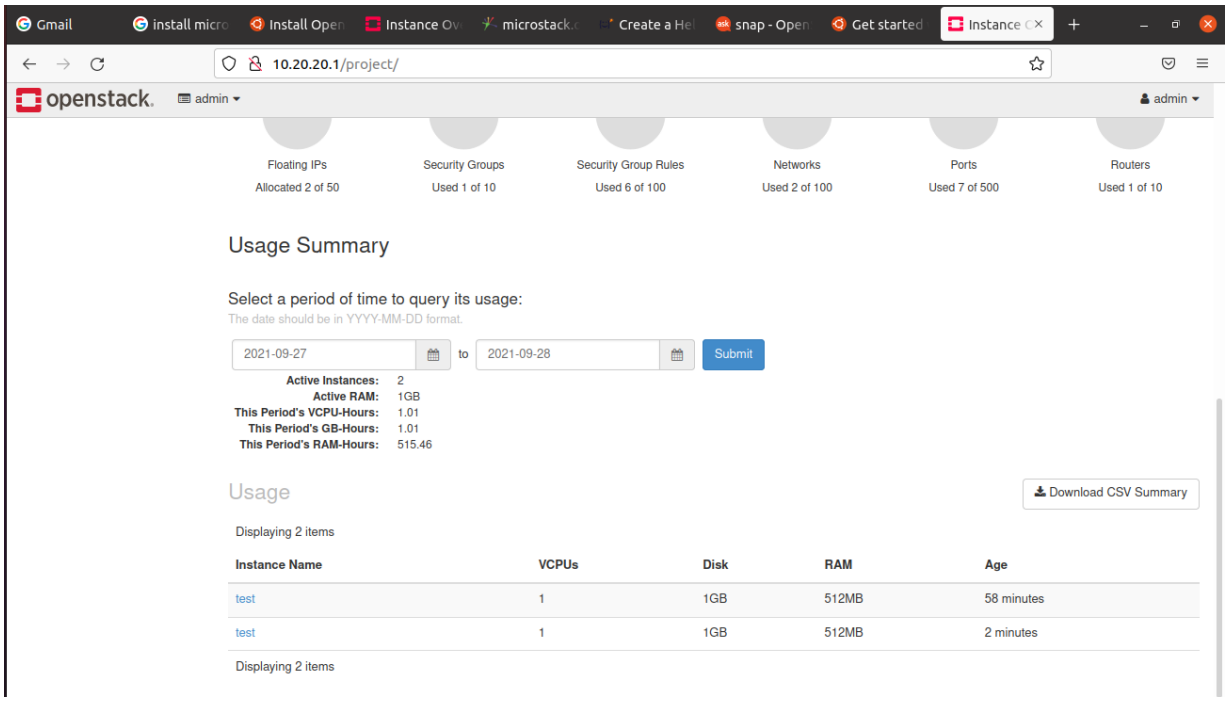
```
microstack@microstack-Veriton-M200-H110:~$ sudo snap get microstack config.crede
ntials.keystone-password
md6okE6GjgWDPS7AyibrkF8qg1lHJgsl
```

Step 11: Sample password:

OAEHxLgCBz7Wz4usvolAAt61TrDUz6zz

Upon logging in you should see the created instance:


Gmail
Instance
10.20.20.1/project/
openstack.
admin
admin
Overview
Instances
Images
Key Pairs
Server Groups
Volumes
Network
Admin
Identity
Limit Summary
Compute
Instances
Used 2 of 10
VCPUs
Used 2 of 20
RAM
Used 1GB of 50GB
Volume
Volumes
Used 0 of 10
Volume Snapshots
Used 0 of 10
Volume Storage
Used 0Bytes of 1000GB
Network
Floating IPs
Allocated 2 of 50
Security Groups
Used 1 of 10
Security Group Rules
Used 6 of 100
Networks
Used 2 of 100
Ports
Used 7 of 500
Routers
Used 1 of 10


Gmail
Instance
10.20.20.1/project/
openstack.
admin
admin
Floating IPs
Allocated 2 of 50
Security Groups
Used 1 of 10
Security Group Rules
Used 6 of 100
Networks
Used 2 of 100
Ports
Used 7 of 500
Routers
Used 1 of 10
Usage Summary
Select a period of time to query its usage:
The date should be in YYYY-MM-DD format.
2021-09-27
to
2021-09-28
Submit
Active Instances: 2
Active RAM: 1GB
This Period's VCPU-Hours: 1.01
This Period's GB-Hours: 1.01
This Period's RAM-Hours: 515.46
Usage
Download CSV Summary
Displaying 2 items
Instance Name
VCPUs
Disk
RAM
Age
test
1
1GB
512MB
58 minutes
test
1
1GB
512MB
2 minutes
Displaying 2 items