OpenStack Setup using Horizon - 3

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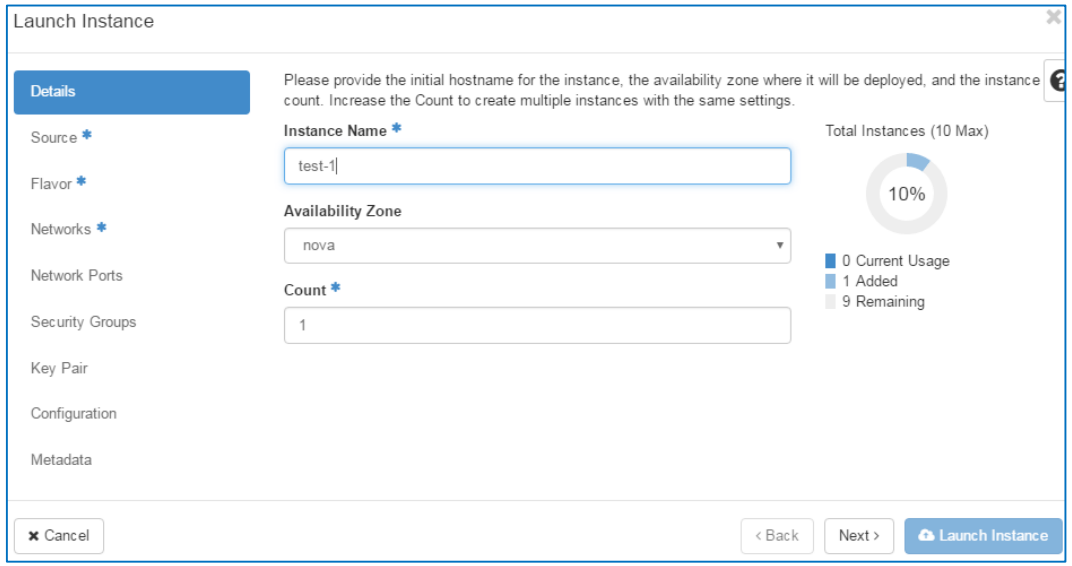
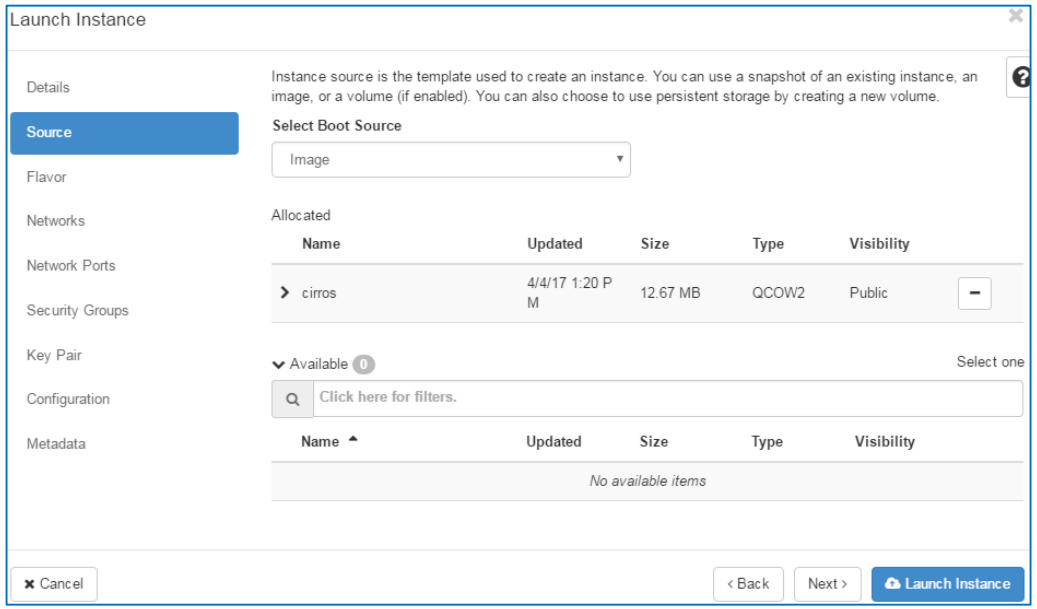
OpenStack Setup using Horizon

❖ VM Instance (Demo)

- Create and launch two VMs in the “Demo” tenant
- The VM instances will be deployed on the given compute node
- Compute → Instances → Launch Instance
- ① Details: type the instance name; “test-#”
- ② Source: select the cirros image previously uploaded
- ③ Flavor: select “flavor1” flavor
- ④ Networks: select “tenant1” network

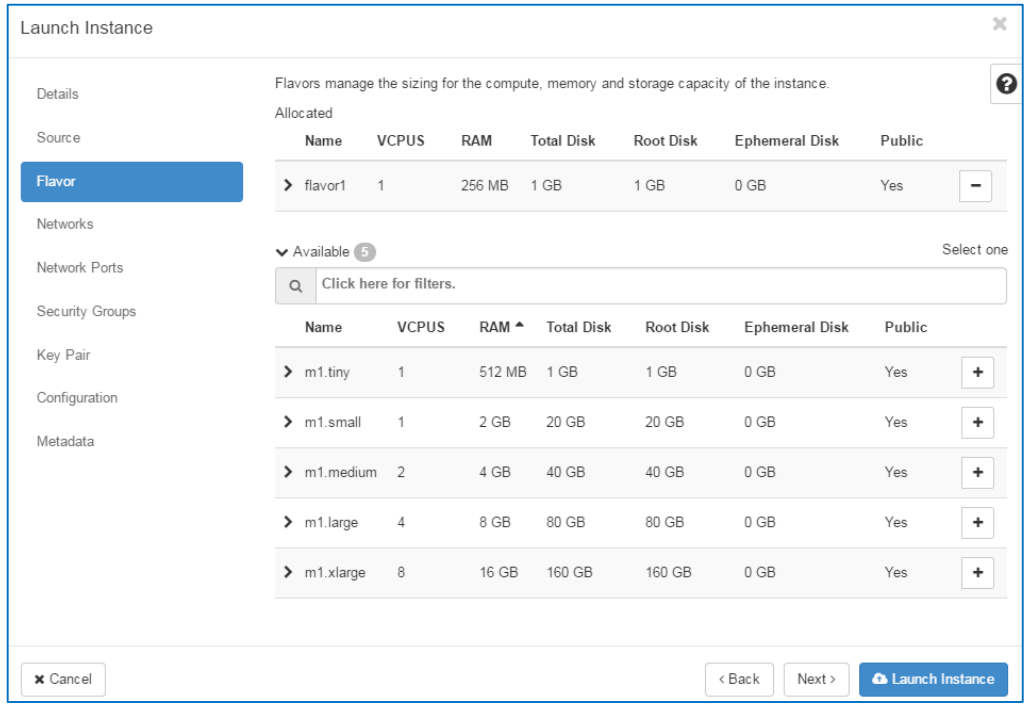


<① Instance Details Setup>

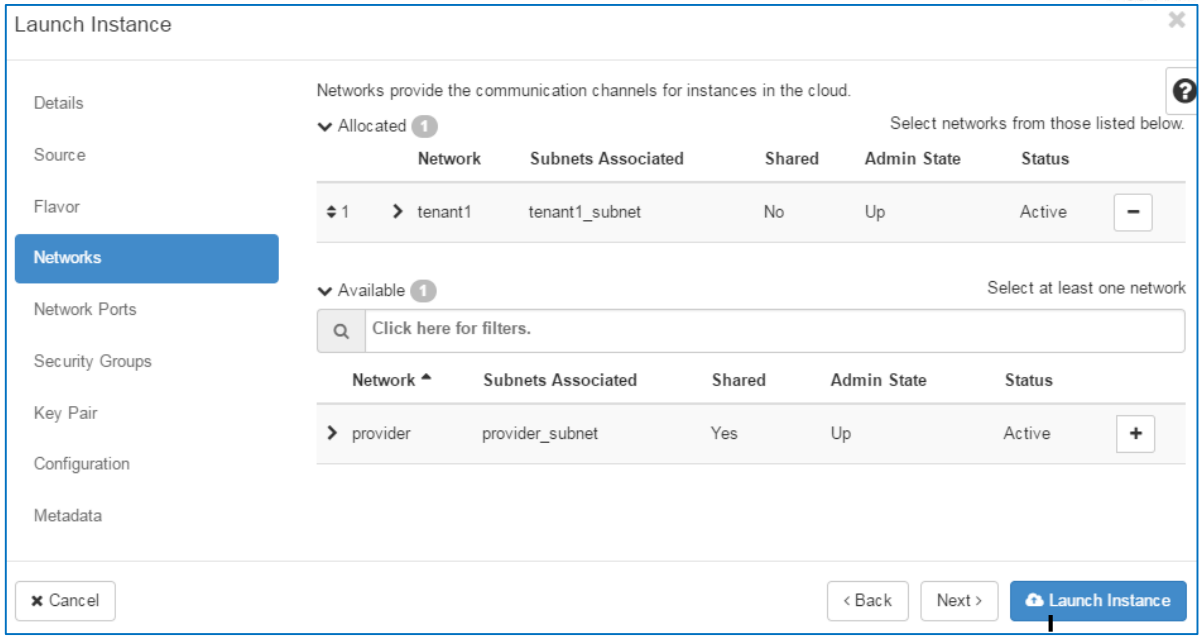


<② Instance Source Image Setup>

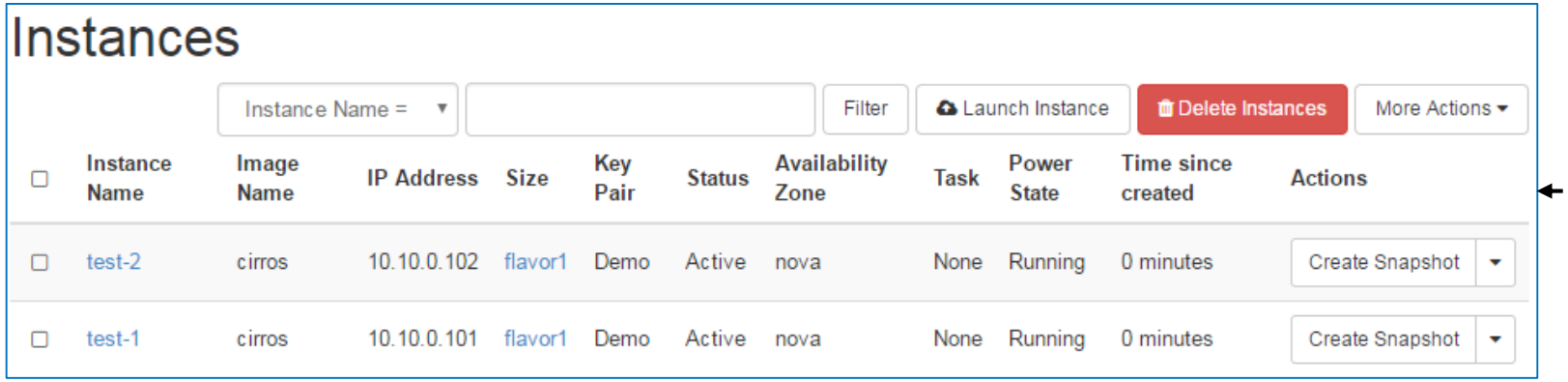
OpenStack Setup using Horizon



<③ Instance Flavor Setup>



<④ Instance Network Setup>

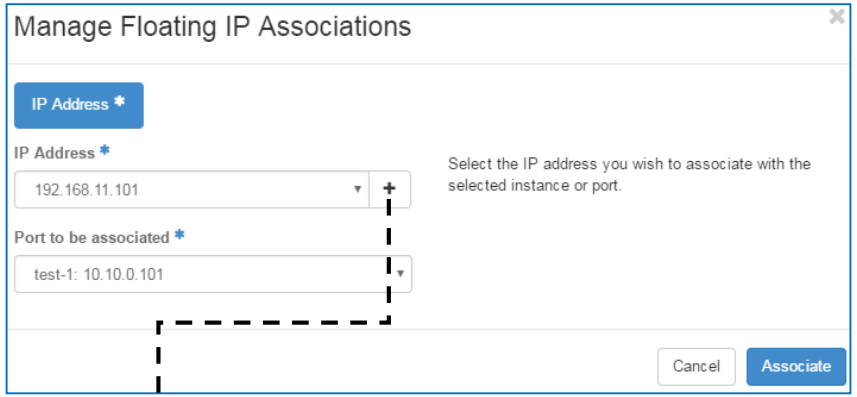


<⑤ Instances Panel>

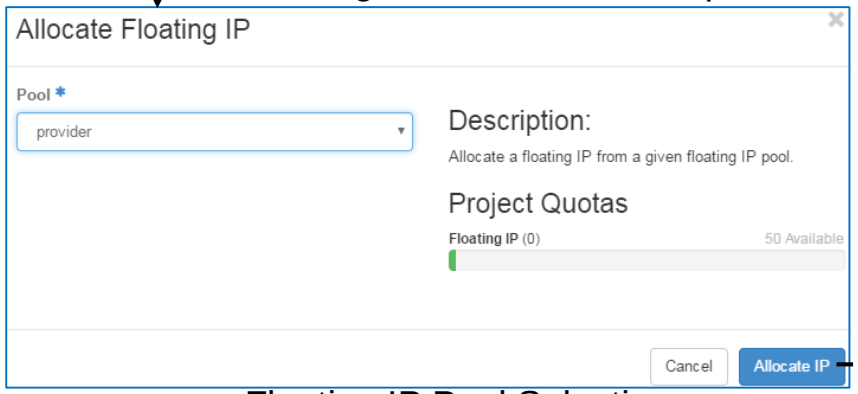
OpenStack Setup using Horizon

❖ Floating IP Allocation (Demo)

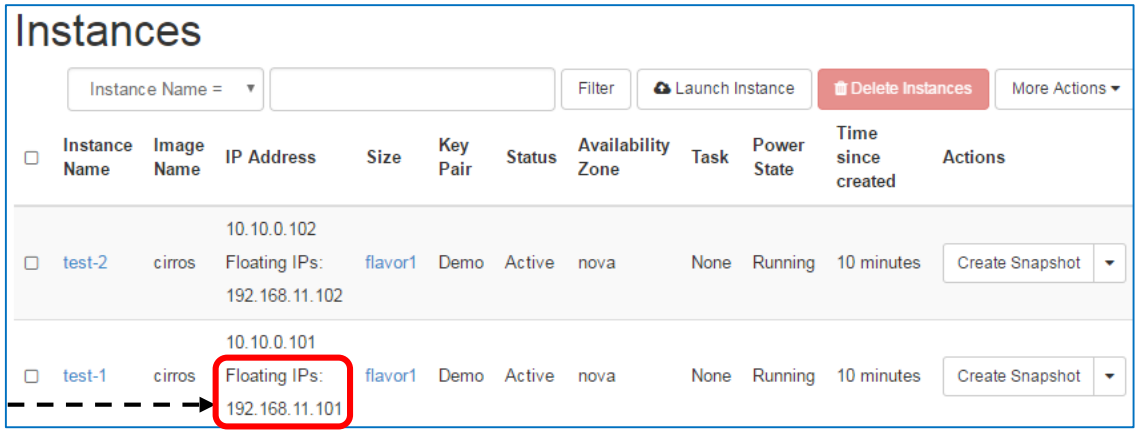
- Assign floating IPs to the created instances to enable external connectivity
- Compute → Instances → Drop down the “Actions” tap → Associate Floating IP → Push “+” button in IP Address
- “Port to be associated” : Choose a network interface of the VM to be associated with the floating IP



<Floating IP Association Setup>



<Floating IP Pool Selection>

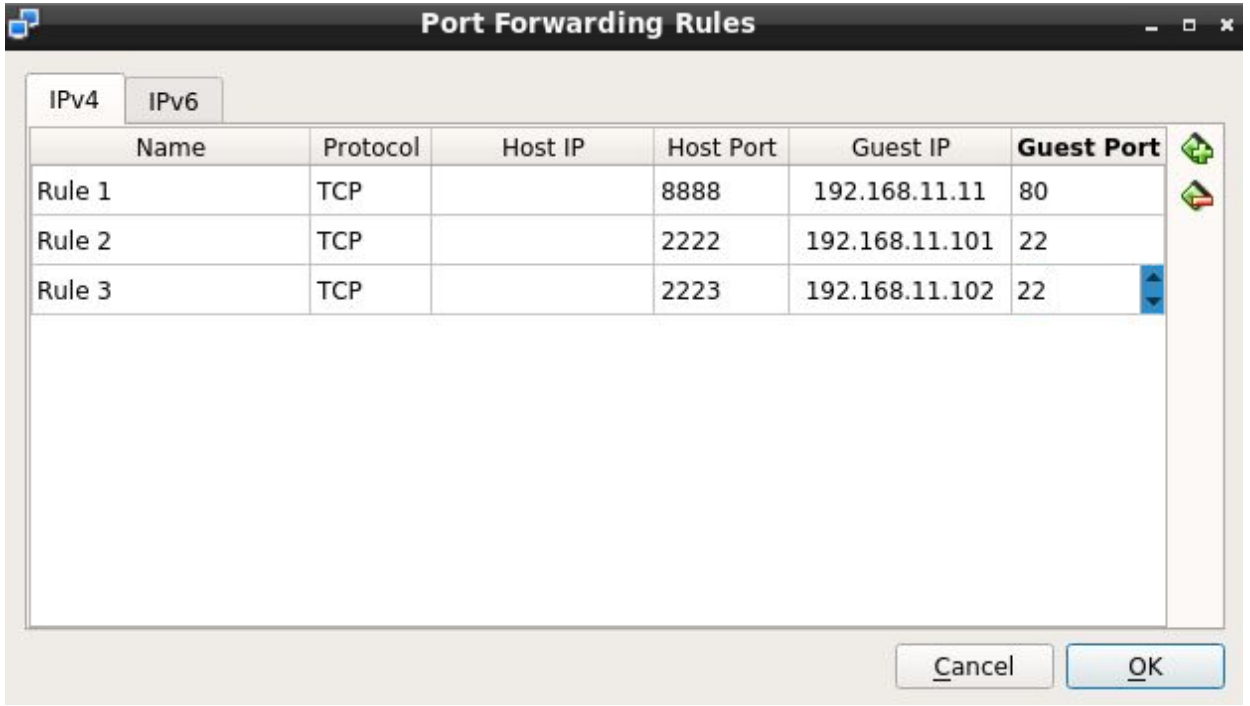


<Instances Panel>

OpenStack Setup using Horizon

❖ Port Forwarding Rules for Remote Access to VMs

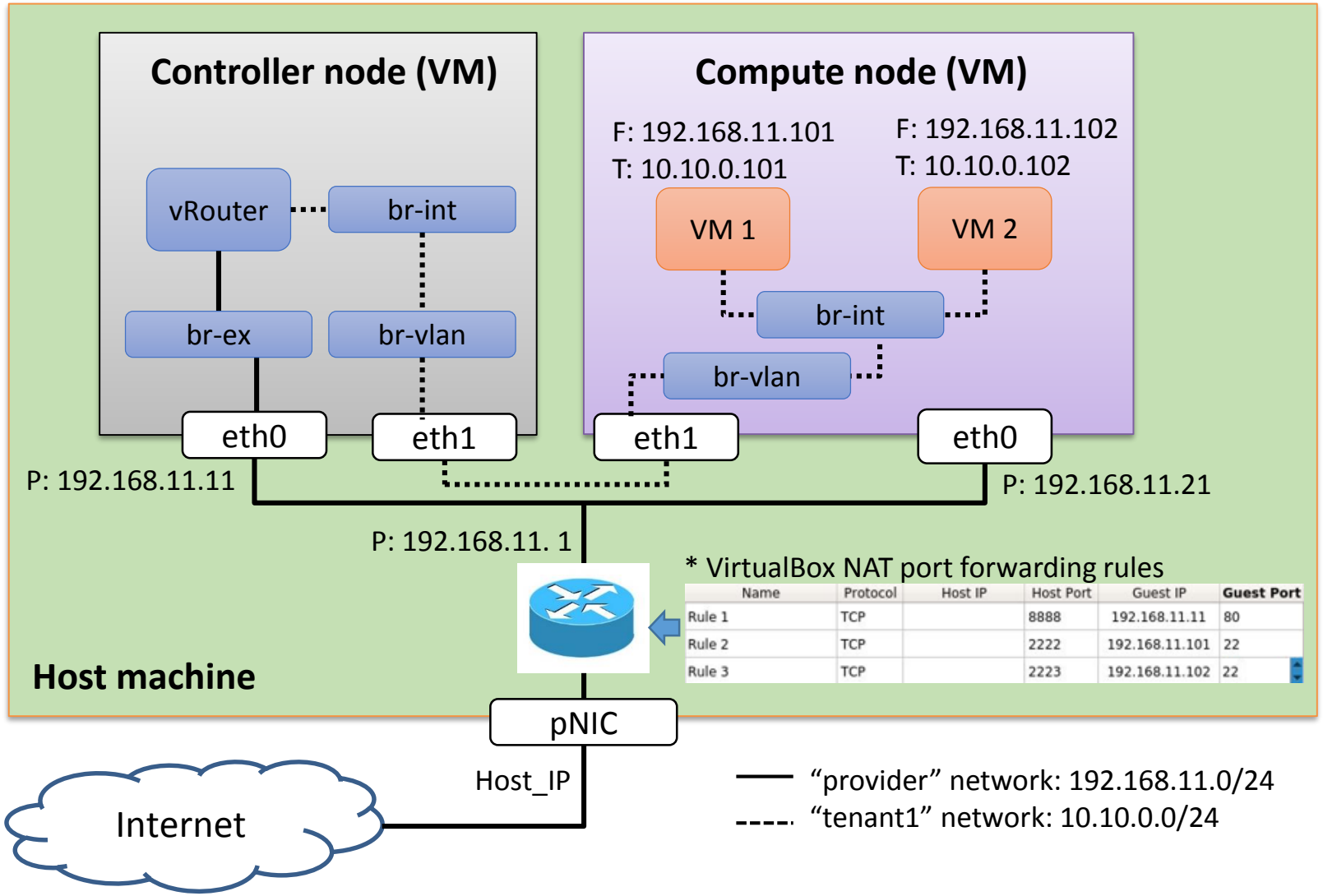
- Add rules for SSH connection from external to the VM instances using the assigned floating IPs
  - “test-1” VM: 192.168.11.101:22
  - “test-2” VM: 192.168.11.102:22



<VirtualBox PortFowarding Setup>

❖ OpenStack Setup using Horizon

F: Floating IP
T: “tenant1” network IP



OpenStack Setup using Horizon

❖ SSH Connection to VM Instances

- Assume that an external client machine has the private key of the VM
  - “demo.pem”: includes authentication for VMs in “Demo” tenant, and was downloaded automatically in p. 6, W11-2

```
root@external:~$ sudo chmod 600 demo.pem
root@external:~$ sudo ssh -i demo.pem -p 2222 cirros@{HOST_IP}

## connection established
$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1450 qdisc pfifo_fast qlen 1000
    link/ether fa:16:3e:1d:06:62 brd ff:ff:ff:ff:ff:ff
    inet 10.10.0.101/24 brd 10.10.0.255 scope global eth0
    inet6 fe80::f816:3eff:fe1d:662/64 scope link
       valid_lft forever preferred_lft forever
$
$ exit
Connection to 141.223.82.54 closed.

root@external:~$ sudo ssh -i demo.pem -p 2223 cirros@{HOST_IP}

## connection established
$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1450 qdisc pfifo_fast qlen 1000
    link/ether fa:16:3e:bd:39:7f brd ff:ff:ff:ff:ff:ff
    inet 10.10.0.102/24 brd 10.10.0.255 scope global eth0
    inet6 fe80::f816:3eff:febd:397f/64 scope link
       valid_lft forever preferred_lft forever
```

Name	Protocol	Host IP	Host Port	Guest IP	Guest Port
Rule 1	TCP		8888	192.168.11.11	80
Rule 2	TCP		2222	192.168.11.101	22
Rule 3	TCP		2223	192.168.11.102	22

OpenStack Setup using Horizon

❖ Networking test on VM instance

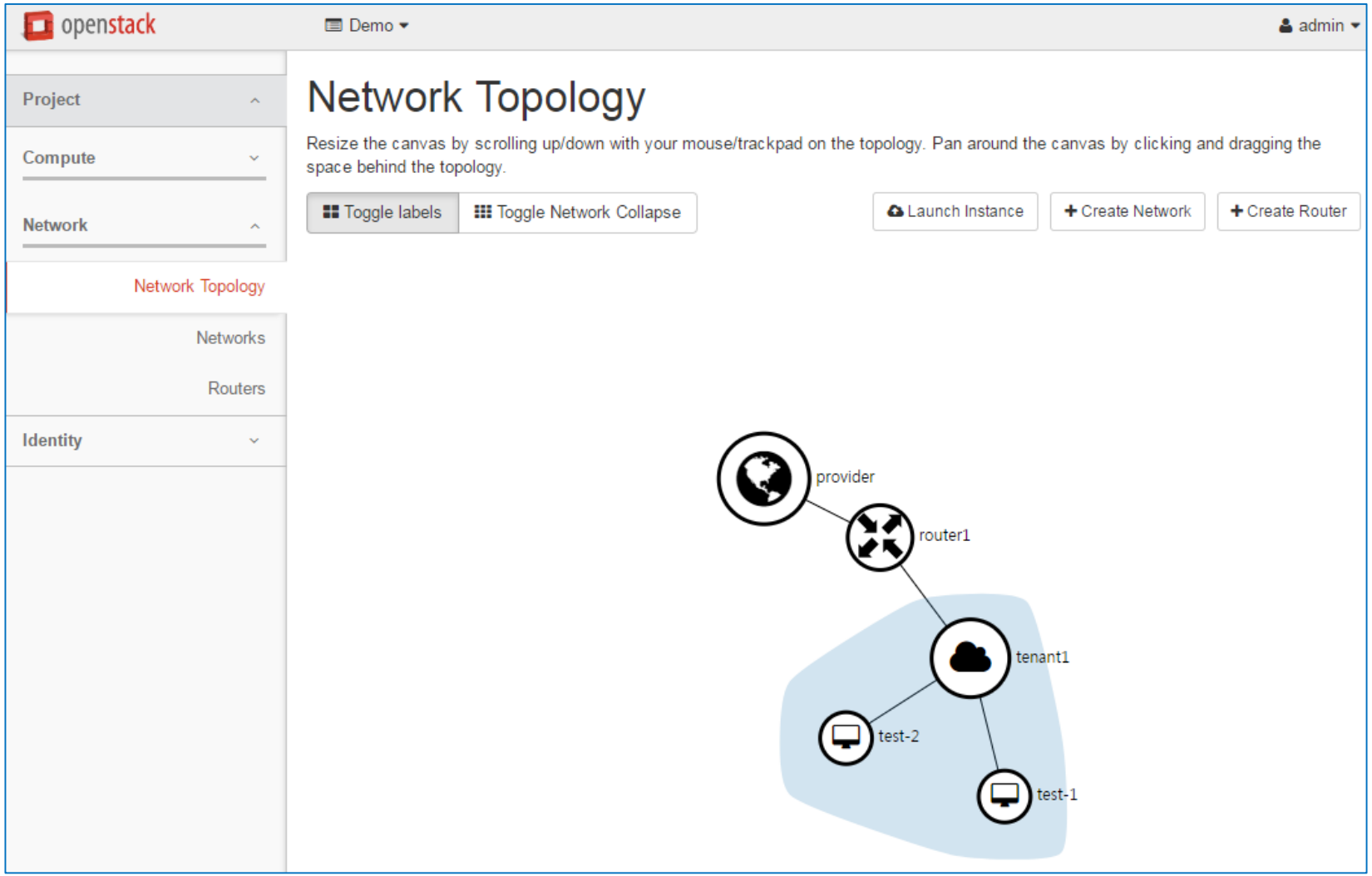
```
$ ping 10.10.0.102
 PING 10.10.0.102 (10.10.0.102): 56 data bytes
 64 bytes from 10.10.0.102: seq=0 ttl=64 time=6.614 ms
 64 bytes from 10.10.0.102: seq=1 ttl=64 time=1.391 ms
 64 bytes from 10.10.0.102: seq=2 ttl=64 time=1.206 ms
 ^C
 --- 10.10.0.102 ping statistics ---
 3 packets transmitted, 3 packets received, 0% packet loss
 round-trip min/avg/max = 1.206/3.070/6.614 ms
 $
```

Tenant network (10.10.0.0/24) ping test

```
$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8): 56 data bytes
64 bytes from 8.8.8.8: seq=0 ttl=40 time=58.719 ms
64 bytes from 8.8.8.8: seq=1 ttl=40 time=59.274 ms
64 bytes from 8.8.8.8: seq=2 ttl=40 time=59.185 ms
64 bytes from 8.8.8.8: seq=3 ttl=40 time=58.486 ms
64 bytes from 8.8.8.8: seq=4 ttl=40 time=59.654 ms
^C
--- 8.8.8.8 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 58.486/59.063/59.654 ms
$
```

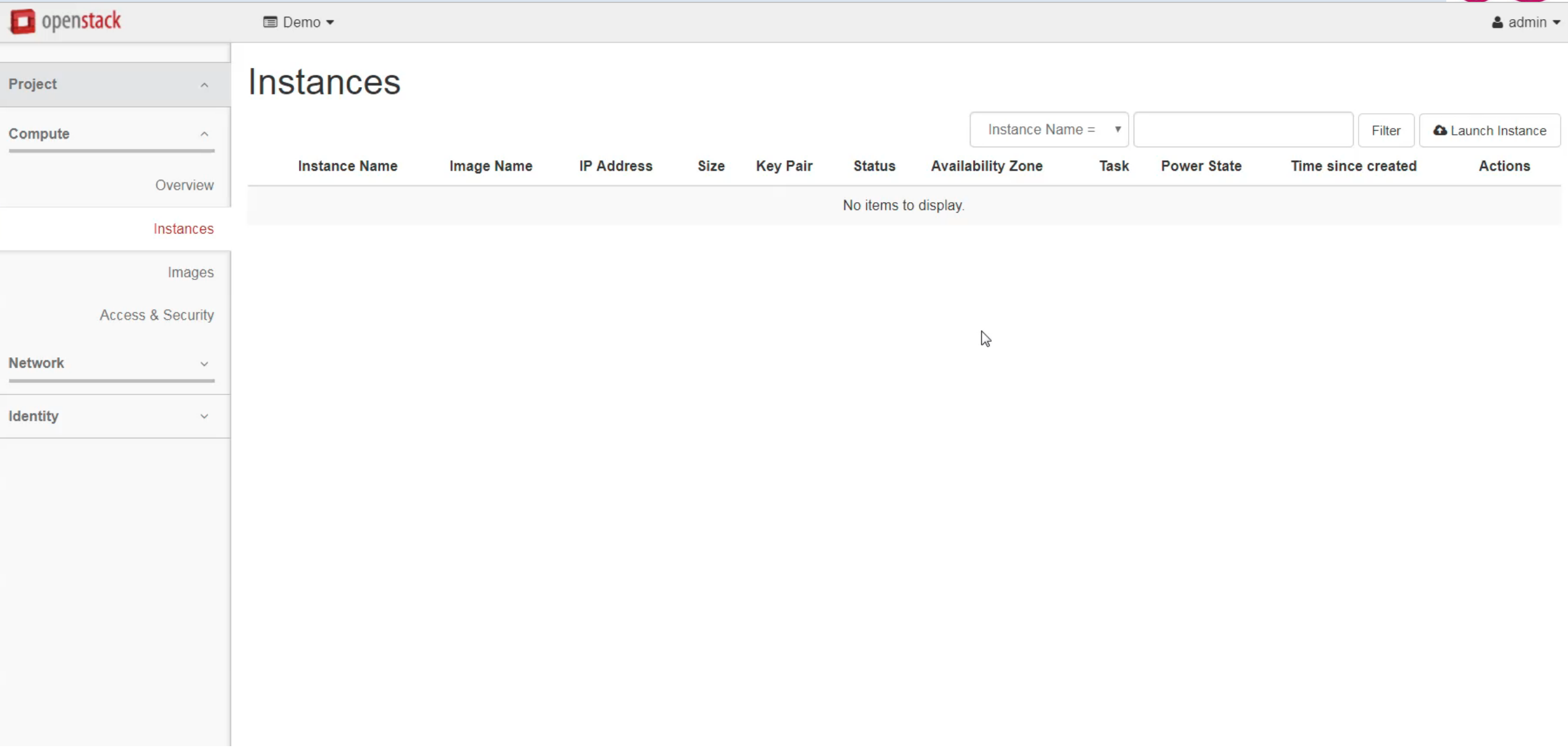
Internet (Google DNS) ping test

OpenStack Setup using Horizon

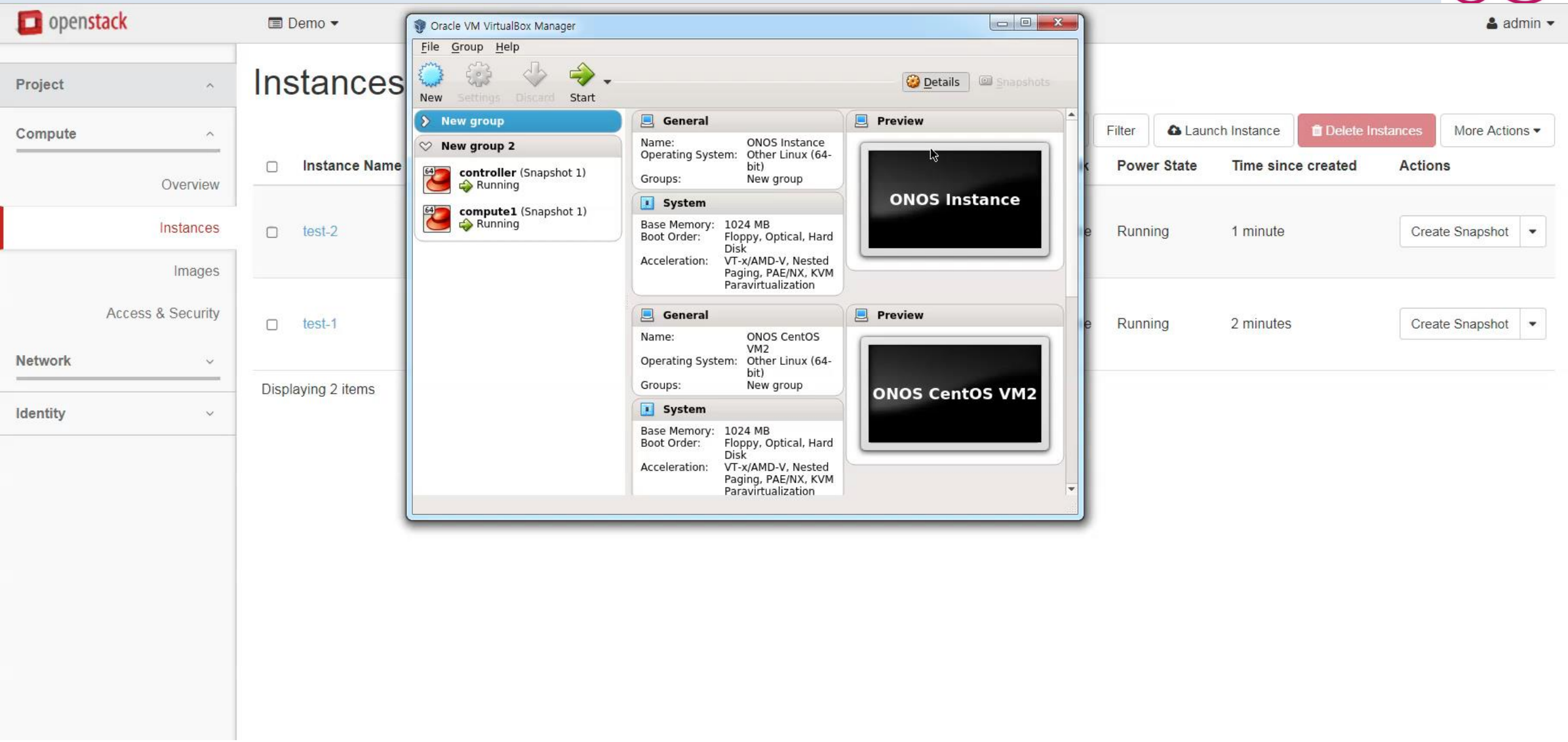


<Network Topology Panel>

Demo


openstack
Demo
admin
Project
Compute
Overview
Instances
Images
Access & Security
Network
Identity
Instances
Instance Name =
Filter
Launch Instance
Instance Name
Image Name
IP Address
Size
Key Pair
Status
Availability Zone
Task
Power State
Time since created
Actions
No items to display.

Demo


openstack
Demo
admin
Project
Compute
Overview
Instances
Images
Access & Security
Network
Identity
Instances
Filter
Launch Instance
Delete Instances
More Actions
Instance Name
Power State
Time since created
Actions
test-2
Running
1 minute
Create Snapshot
test-1
Running
2 minutes
Create Snapshot
Displaying 2 items
Oracle VM VirtualBox Manager
File Group Help
New
Settings
Discard
Start
Details
Snapshots
New group
New group 2
controller (Snapshot 1)
Running
compute1 (Snapshot 1)
Running
General
Name: ONOS Instance
Operating System: Other Linux (64-bit)
Groups: New group
System
Base Memory: 1024 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, PAE/NX, KVM Paravirtualization
Preview
ONOS Instance
General
Name: ONOS CentOS VM2
Operating System: Other Linux (64-bit)
Groups: New group
System
Base Memory: 1024 MB
Boot Order: Floppy, Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, PAE/NX, KVM Paravirtualization
Preview
ONOS CentOS VM2


THANK
YOU

References

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- **http://www.netsarang.co.kr/tutorial/xshell/2609/X11_%ED%8F%AC%EC%9B%8C%EB%94%A9_%EC%84%A4%EC%A0%95%ED%95%98%EA%B8%B0**