**Install and Configure Neutron**

**Step 1: Create the neutron user**

# openstack user create --domain default --password service\_pass neutron

**Step 2: Add the admin role to the neutron user**

# openstack role add --project service --user neutron admin

**Step 3: Create the neutron service entity**

# openstack service create --name neutron --description "OpenStack Networking" network

**Step 4: Create the Networking service API endpoints**

# openstack endpoint create --region RegionOne network public <http://192.168.0.120:9696>

**Step 5: Create the Networking service API endpoints**

# openstack endpoint create --region RegionOne network internal <http://10.10.100.121:9696>

**Step 6: Create the Networking service API endpoints**

# openstack endpoint create --region RegionOne network admin <http://10.10.100.121:9696>

**Step 7:** **Install the Neutron components**

# yum install openstack-neutron openstack-neutron-ml2 python-neutronclient openstack-neutron-openvswitch -y

**Step 8:** **Login to Mysql database**

# mysql -u root -p

CREATE DATABASE neutron;

GRANT ALL ON neutron.\* TO 'neutronUser'@'%' IDENTIFIED BY 'neutronPass';

quit;

**Step 9:** **Edit the /etc/neutron/neutron.conf file**

# vim /etc/neutron/neutron.conf

**[DEFAULT]**

core\_plugin = ml2

service\_plugins = router

allow\_overlapping\_ips = true

verbose = true

auth\_strategy = keystone

transport\_url = rabbit://openstack:rabbit@10.10.100.121

notify\_nova\_on\_port\_status\_changes = True

notify\_nova\_on\_port\_data\_changes = True

**[database]**

connection = mysql+pymysql://neutronUser:neutronPass@10.10.100.121/neutron

**[keystone\_authtoken]**

auth\_uri = http://10.10.100.121:5000

auth\_url = <http://10.10.100.121:5000>

memcached\_servers = 10.10.100.121:11211

auth\_type = password

project\_domain\_name = default

user\_domain\_name = default

project\_name = service

username = neutron

password = service\_pass

**[nova]**

auth\_url = http://10.10.100.121:5000

auth\_type = password

project\_domain\_name = default

user\_domain\_name = default

region\_name = RegionOne

project\_name = service

username = nova

password = service\_pass

**[oslo\_concurrency]**

lock\_path = /var/lib/neutron/tmp

**Step 10:** **Edit the /etc/neutron/plugins/ml2/ml2\_conf.ini file**

# vim /etc/neutron/plugins/ml2/ml2\_conf.ini

**[Default]**

verbose = True

**[ml2]**

type\_drivers = vxlan

tenant\_network\_types = vxlan

mechanism\_drivers = openvswitch

extension\_drivers = port\_security

**[ml2\_type\_vxlan]**

vni\_ranges = 1:2000

vxlan\_group = 239.1.1.1

**[securitygroup]**

enable\_ipset = true

**Step 11**: **Edit the /etc/neutron/l3\_agent.ini file**

# vim /etc/neutron/l3\_agent.ini

**[DEFAULT]**

interface\_driver = neutron.agent.linux.interface.OVSInterfaceDriver

external\_network\_bridge = br-ex

router\_delete\_namespaces = True

verbose = True

**Step 12:** **Edit the /etc/neutron/dhcp\_agent.ini file**

# vim /etc/neutron/dhcp\_agent.ini

**[DEFAULT]**

interface\_driver = neutron.agent.linux.interface.OVSInterfaceDriver

dhcp\_driver = neutron.agent.linux.dhcp.Dnsmasq

verbose = True

enable\_isolated\_metadata = True

**Step 13:** **Edit the /etc/neutron/metadata\_agent.ini file**

# vim /etc/neutron/metadata\_agent.ini

**[DEFAULT]**

# The Neutron user information for accessing the Neutron API.

auth\_uri = [http://10.10.100.121:5000](http://10.10.100.41:5000)

auth\_url = http://10.10.100.121:5000

memcached\_servers = 10.10.100.121:11211

auth\_type = password

project\_domain\_name = default

user\_domain\_name = default

project\_name = service

username = neutron

password = service\_pass

nova\_metadata\_ip = 10.10.100.121

metadata\_proxy\_shared\_secret = mystack

verbose = True

**Step 14:** **Edit the /etc/neutron/plugins/ml2/openvswitch\_agent.ini file**

# vim /etc/neutron/plugins/ml2/openvswitch\_agent.ini

**[Default]**

verbose = True

**[agent]**

tunnel\_types = vxlan

**[ovs]**

local\_ip = 10.10.100.121

bridge\_mappings = external:br-ex

enable\_tunneling = True

vxlan\_udp\_port = 4789

tunnel\_types = vxlan

tunnel\_id\_ranges = 1:2000

tunnel\_network\_types = vxlan

**[securitygroup]**

firewall\_driver = neutron.agent.linux.iptables\_firewall.OVSHybridIptablesFirewallDriver

enable\_security\_group = True

**The Networking service initialization scripts expect a symbolic link /etc/neutron/plugin.ini pointing to the ML2 plug-in configuration file, /etc/neutron/plugins/ml2/ml2\_conf.ini. If this symbolic link does not exist, create it using the command.**

**Step 15:** **Creating symbolic link**

# ln -s /etc/neutron/plugins/ml2/ml2\_conf.ini /etc/neutron/plugin.ini

**Step 16:** **Synchronize the Database**

# su -s /bin/sh -c "neutron-db-manage --config-file /etc/neutron/neutron.conf \

--config-file /etc/neutron/plugins/ml2/ml2\_conf.ini upgrade head" neutron

**Step 17:** **Start the neutron-server and configure it to start when the system boots**

# systemctl enable neutron-server.service

systemctl enable neutron-metadata-agent.service

systemctl enable neutron-dhcp-agent.service

systemctl enable neutron-l3-agent.service

systemctl enable neutron-openvswitch-agent.service

# systemctl start neutron-server.service

systemctl start neutron-openvswitch-agent.service

systemctl start neutron-metadata-agent.service

systemctl start neutron-dhcp-agent.service

systemctl start neutron-l3-agent.service

**Step 18: Check openstack network agent list on CONTROLLER NODE**

# openstack network agent list