

# Installing Neutron the Network Service

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**Andrew Mallett**

LINUX AUTHOR AND TRAINER

@theurbanpenguin [www.theurbanpenguin.com](http://www.theurbanpenguin.com)



# Objectives



**Neutron Network Service**

**Create Neutron Database**

**Create Neutron Identities**

**Install and Configure Neutron on  
Controller Node**

**Install and Configure Neutron on  
Compute Node**

**Launch an Instance**



# OpenStack Operating System

## Neutron Network Service

The Neutron Network Service provides “Network Connectivity as a Service”

Allowing users to create and manage networks and connectivity via the Dashboard or CLI

Like Nova we will need to add services to both the Controller and Compute Nodes



# Create the Database

MYSQL\_ROOT\_PW=Password1

```
cat > create-neutroldb.sql << END
```

```
CREATE DATABASE neutron;
```

```
GRANT ALL PRIVILEGES ON neutron.* TO 'neutron'@'localhost' IDENTIFIED BY  
'Password1';
```

```
GRANT ALL PRIVILEGES ON neutron.* TO 'neutron'@'%' IDENTIFIED BY  
'Password1';
```

```
SHOW GRANTS FOR 'neutron'@'%'
```

```
END
```

```
mysql -u root -p$MYSQL_ROOT_PW < create-neutron.sql
```



# Create Identities for Neutron

```
source /root/adminrc.sh
```

```
openstack user create --domain default --password-prompt neutron
```

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

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

```
openstack endpoint create --region RegionOne network public http://controller:9696
```

```
openstack endpoint create --region RegionOne network internal http://controller:9696
```

```
openstack endpoint create --region RegionOne network admin http://controller:9696
```



```
# apt-get install -y \  
neutron-server \  
neutron-plugin-ml2 \  
neutron-plugin-linuxbridge-agent \  
neutron-dhcp-agent \  
neutron-metadata-agent \  
python-neutronclient conntrack
```

## Install Neutron on the Controller Node



# Create Database, Identities and Install Neutron

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# Controller Configuration Files

/etc/neutron/neutron.conf

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

/etc/neutron/plugins/ml2/linuxbridge\_agent.ini

/etc/neutron/dhcp\_agent.ini

/etc/neutron/metadata\_agent.ini

/etc/nova/nova.conf





ml2-conf.ini

```
[ml2_type_flat]
```

```
flat_networks = provider
```

linuxbridge\_agent.ini

```
[linux_bridge]
```

```
physical_interface_mappings = provider:eth0
```

## Relationship in Files

The flat network we create is named by us as: *provider*. This could be any name. We map this network name to our physical interface that we want to use in the linuxbridge\_agent.ini



```
# 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
```

## Populate the Database

**Here we have to pass the configuration file paths through to the command when populating the database**



```
# service nova-api restart  
# service neutron-server restart  
# service neutron-plugin-linuxbridge-agent restart  
# service neutron-dhcp-agent restart  
# service neutron-metadata-agent restart
```

## Restart the Services



```
# rm -f /var/lib/neutron/neutron.sqlite
```

Delete the SQLite DB



# Configure Neutron on the Controller Node

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```
# apt-get install -y neutron-plugin-linuxbridge-agent \
  conntrack
```

```
/etc/neutron/neutron.conf
```

```
/etc/neutron/plugins/ml2/linuxbridge_agent.ini
```

```
/etc/nova/nova.conf
```

```
# service nova-compute restart
```

```
# service neutron-plugin-linuxbridge-agent restart
```

## Install Neutron on the Compute Node

**We just have a couple of packages to add, 3 files to edit and two services to restart**



# Install Neutron on Compute Node

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```
source /root/adminrc.sh  
neutron net-create provider --shared \  
  --provider:physical_network provider \  
  --provider:network_type flat
```

## Create Provider Network

**We need to define a Network on the physical provider network we defined before.**





```
neutron subnet-create provider 10.10.10.0/24 \  
  --name provider-subnet --gateway 10.10.10.1
```

## Create Subnet

**The subnet defines the IP Range**



```
# source /root/demorc.sh

# openstack server create \
  --flavor m1.tiny \
  --image cirros \
  provider-instance
```

## Create Virtual Machine

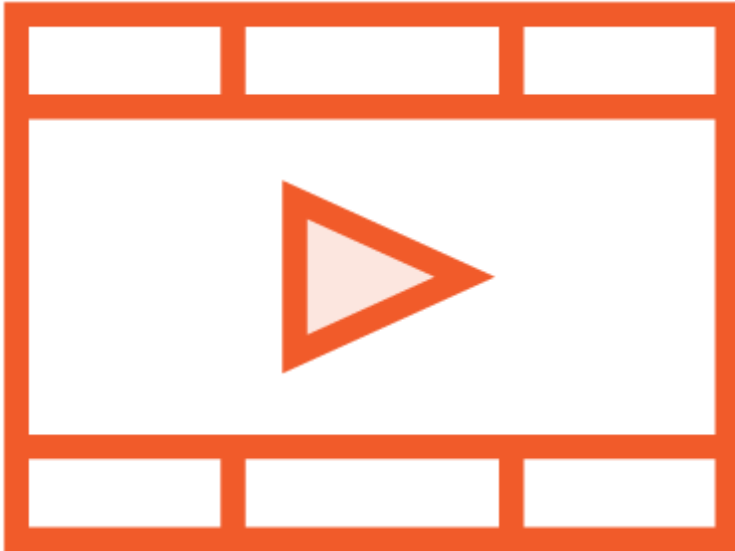
**We will work as the demo user and create a new VM from the cirros image. The VM is called provider-instance**



# Launch and Instance

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**Created neutron Database**

**Created neutron Identity in Service Project**

**Installed neutron and Edited files on the Controller Node**

**Populated Database and Restarted Services**

**Port 9696**

**Installed neutron and Edited the files on the Compute node**

**Created an VM**



Next up: Installing the  
Horizon Dashboard

