Installing the Nova Compute Service

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OpenStack Operating System

Nova Compute Service

The Nova Compute Service is another central IaaS, Infrastructure as a Service element.

The Service acts as an API communicating with the Image and Network Services to Provision and Manage Virtual Machines or *Instances*. On the compute node it will work with the Hypervisor to control the state of the instances.

Nova consists of several services some will run on the controller and some on the compute node.

Create the Database

MYSQL_ROOT_PW=Password1

```
cat > create-novadb.sql << END
CREATE DATABASE nova;
GRANT ALL PRIVILEGES ON nova.* TO   'nova'@'localhost' IDENTIFIED BY
'Password1';
GRANT ALL PRIVILEGES ON nova.* TO 'nova'@'%'   IDENTIFIED BY 'Password1';
SHOW GRANTS FOR 'nova'@'%'
END

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

Create Identities for nova

source /root/adminrc.sh

openstack user create --domain default --password-prompt nova

openstack role add --project service --user nova admin

openstack service create --name nova --description "OpenStack Compute" compute

openstack endpoint create --region RegionOne nova public
http://controller:8774/v2/%\(tenant_id\)s

openstack endpoint create --region RegionOne nova internal
http://controller:8774/v2/%\(tenant_id\)s

openstack endpoint create --region RegionOne nova admin
http://controller:8774/v2/%\(tenant_id\)

```
# apt-get install -y \
    nova-api nova-cert \
    nova-conductor nova-consoleauth \
    nova-novncproxy nova-scheduler \
    python-novaclient
```

Install nova on the Controller Node

Create Database, Identities and Install Nova

/etc/nova/nova.conf

my_ip = 192.168.56.6

Configuration Files

We need to edit the nova.conf, adding in several new sections and lines. Ensure the my_ip variable is set to your controller IP.

su -s /bin/sh -c "nova-manage db sync" nova

Populate the Database

Notice that this does not have the underscore between db and sync unlike in keystone and glance.

```
# service nova-api restart
# service nova-cert restart
# service nova-consoleauth restart
# service nova-scheduler restart
# service nova-conductor restart
# service nova-novncproxy restart
```

Restart the Services

rm -f /var/lib/nova/nova.sqlite

Delete the SQLlite DB

Configure nova

```
# apt-get install -y python-openstackclient

# openstack --version

# apt-get install -y nova-compute sysfsutils
```

Install Nova on the Compute Node

First we will add the openstack client and check the version. This ensures we are using the correct repo if we have version 1.7.0 or later

Install Nova on Compute Node

/etc/nova/nova.conf

my_ip = 192.168.56.7

Configuration Files

Make sure that the my_ip variable is set to your COMPUTE IP.

```
KVM=$( grep -Ec '(vmx|svm)' /proc/cpuinfo )

if (( $KVM < 1 )); then
  echo "Setting QEMU Support"
  sed -i "s/^virt_type\s*=\s*kvm/virt_type=qemu/" \
    /etc/nova/nova-compute.conf

else
  echo "You have KVM Support"
fi
```

Check for KVM Support

This is automated in the script and will add qemu support if required. This is similar to the setting that we made on the PackStack system except they defaulted to qemu whereas this defaults to kvm

service nova-compute restart

Restart the Service

rm -f /var/lib/nova/nova.sqlite

Delete the SQLlite DB

```
# source adminrc.sh

# openstack compute service list
```
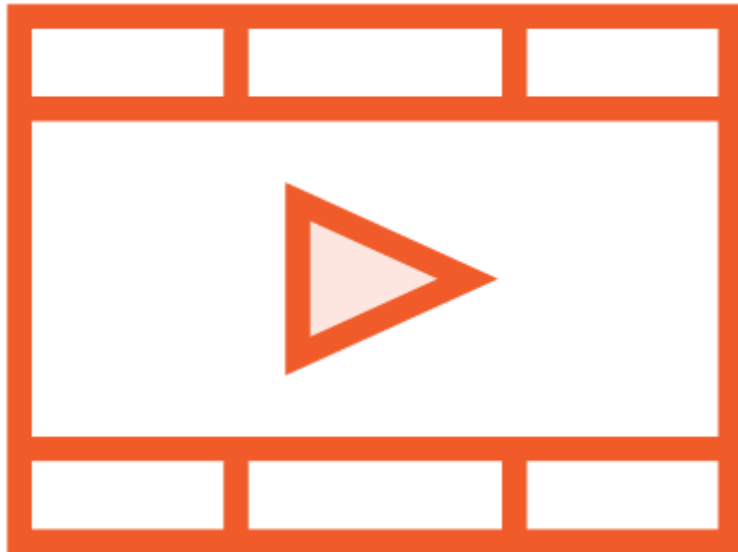
Verify Services

From the Controller we can see the services running on both systems

Configure Compute Node

Created nova Database

Created nova Identity in Service Project

Installed nova and Edited nova.conf on the Controller Node

Populated Database and Restarted Services

Port 8774

Installed nova and Edited the nova.conf nova-compute.conf on the Compute node

openstack compute service list

Next up: Installing Neutron on the Compute Node