Installing Cinder the Volume Service

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Objectives

- Cinder Block Storage Service
- Deploy Storage Node
- Install Cinder on Controller Node
- Install Cinder on Storage Node
- Manage Cinder Volumes

OpenStack Operating System

Cinder

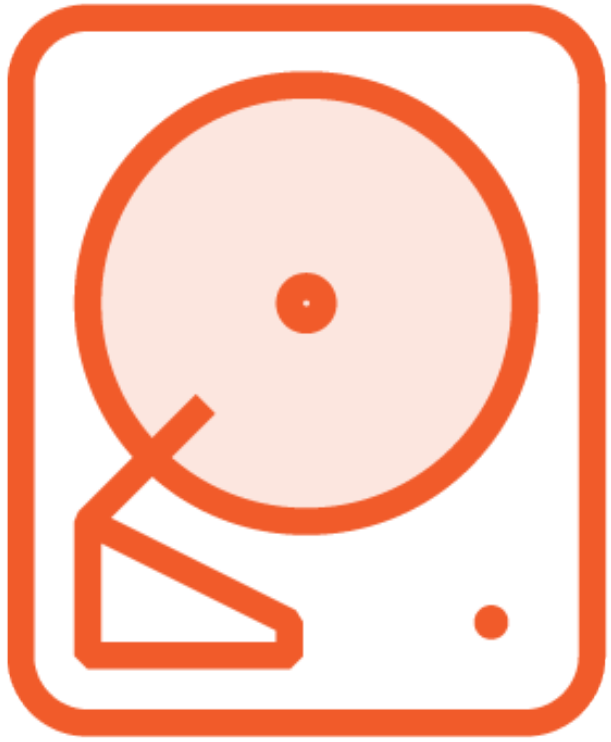
Block Storage Service

Cinder allows for Software Defined Storage to be created in OpenStack. Using Cinder we can define volumes to be added as storage devices to instances.

In the simplest form, the underlying storage comes from an LVM Volume Group defined on the storage node. Logical Volumes are created in that Volume Group as Operators define volumes within OpenStack

We need to deploy another clone of our master VM to become the Storage Node. Assign it with the address of 192.168.56.8

Clone Storage Node



Controller:

Create Database

Create Identities

Install cinder-api cinder-scheduler

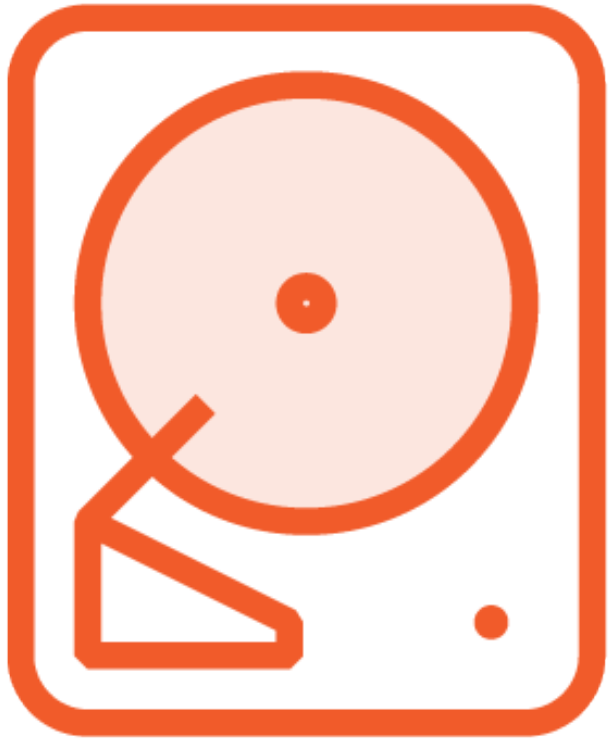
Configure /etc/cinder/cinder.conf

Populate Database

Add to /etc/nova/nova.conf

Restart nova-api cender-scheduler cinder-api

Configure Controller Node



Storage Node:

Install package lvm2 if required

Add extra disk /dev/sdb

Create cinder-volumes volume group

Edit /etc/lvm/lvm.conf filters

Install package cinder-volumes

Edit /etc/cinder/cinder.conf

Restart tgt and cinder-volumes services

```
filter [  “a/sda/”, “a/sdb/”, “r/.*/” ] # Storage Node

filter [  “a/sda/”, “r/.*/” ] # Compute Node
```

lvm.conf

On the storage node we must set a filter to control LVM management. We only want to manage the device we set and the OS drive if that used LVMs. We don’t want to use LVMs that clients may create on our devices. On the compute node we ensure that LVM only manages the system drive

Configure Storage Node

```
# source .adminrc

# cinder service-list
```

Verify

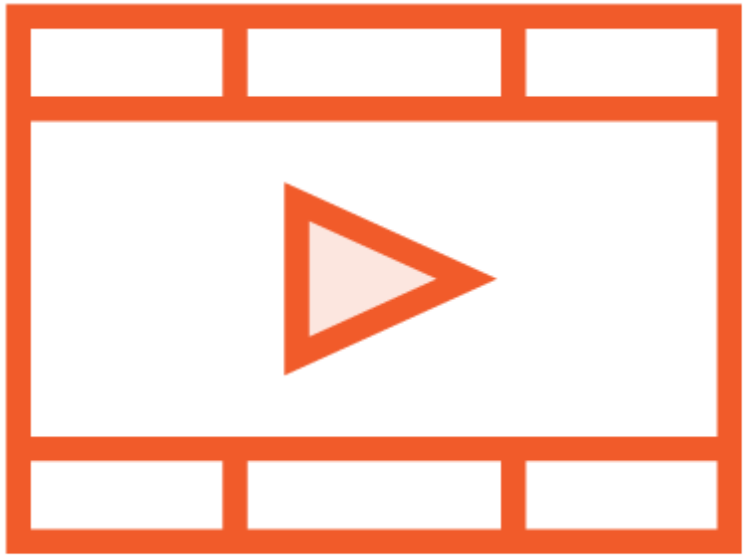
On the controller node we can source the adminrc.sh and check the services are running.

```
controller# source .adminrc

controller# openstack volume create --size 1 volume1

controller# openstack volume list

storage# lsblk
```

Create Volume

On the controller node we can source the adminrc.sh and create a volume. Running the lsblk command on the storage node will show that the 1GB LVM has been created. This is a storage device that can be added to running or new Instances.

Verify Cinder



Created a method to define block devices to be added to Instances.

Cinder provides Software Defined Storage for OpenStack clouds

Installed on Cinder on the Controller Node

Installed Cinder on the Storage Node to use LVM backends

Created Storage Volume in the Cloud

Next up: Using OpenStack