

OpenStack: Getting to Know OpenStack and the COA

THE CERTIFIED OPENSTACK ADMINISTRATOR EXAM



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Objectives



The Certified OpenStack Administrator Exam

The Exam Requirements

The Lab Machine

Verify PackStack After Reboot

Access Services





<https://www.openstack.org/coa/>

A Certified OpenStack Administrator will typically have at least 6 months experience in OpenStack

Has the skills needed to provide every day support and management of the OpenStack cloud

Practical exam based on the Liberty release
2.5 hours and 76% passing score

Cost \$300



Exam Requirements



Getting to know OpenStack

Identity Management

Dashboard

Compute

Object Storage

Block Storage

Networking

Heat

Troubleshooting

Image Management





Getting to know OpenStack (3%)

Understand the components that make up the cloud

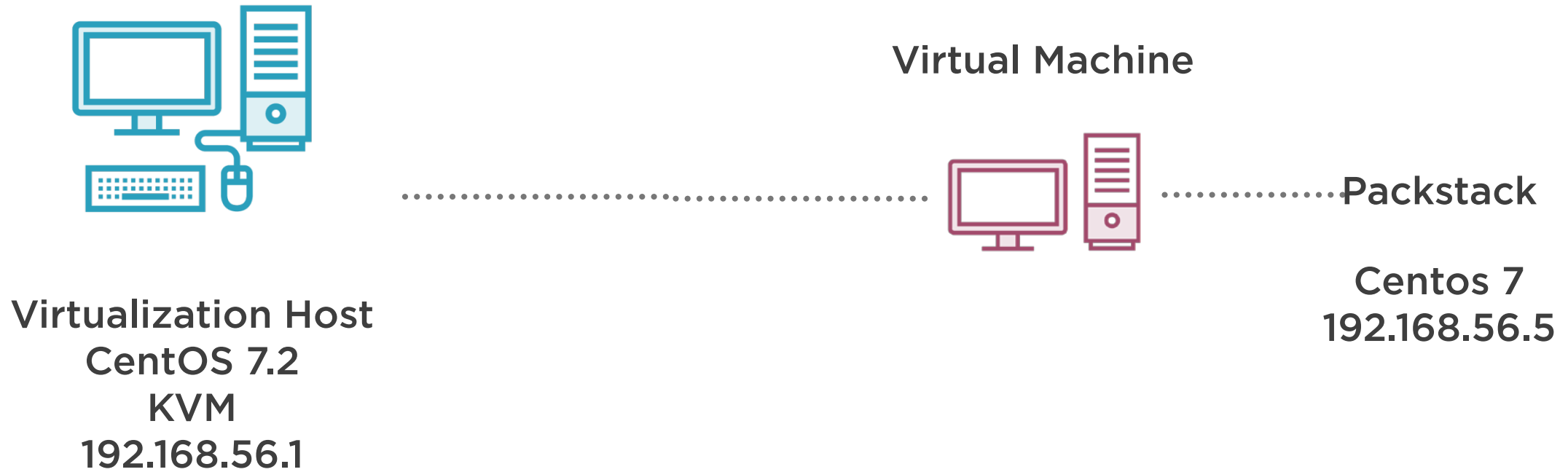
Use the OpenStack API/CLI

Dashboard (3%)

Verify operation of the Dashboard



Lab Environment (Single Node)



Single Node - PackStack

PackStack is available for Red Hat based systems and is easy to install on CentOS 7. [The PackStack installer is developed by the rdoproject.org - Red Hat Deployment of OpenStack] This machine was configured in the Pluralsight **OpenStack: Install the Lab Environment** Course



```
grep CONFIG_MARIADB_PW /root/answers.txt  
mysql -u root -p$(grep MARIADB_PW answers.txt | cut -f2 -d=)  
> show databases;
```

OpenStack Backend Services

We have the MariaDB Database Server and RabbitMQ Message Queue Server installed. As we did not set the password in the answer file the system will have generated a MariaDB root password




```
# rabbitmqctl list_users
```

```
Listing users ...
```

```
guest    [administrator]
```

```
# grep '^rabbit_password' /etc/nova/nova.conf
```

For RabbitMQ

We can list Rabbit users. In PackStack, we only have the guest account. The password will be listed in one of the configuration files for services that use it. PackStack uses the default credentials of **guest** and **guest**



Create Python Script to Test Rabbit Credentials

```
#!/usr/bin/env python
import socket
from kombu import Connection
url = 'amqp://guest:guest@localhost:5672//'
with Connection(url) as c:
    try:
        c.connect()
    except socket.error:
        raise ValueError("rabbitmq server isn't running")
    except IOError:
        raise ValueError("bad credentials")
    else:
        print "Credentials are valid"
```



Verify Back-End Services



OpenStack Operating System

Keystone
Identity Service

Glance
Image Service

Nova
Compute Service

Neutron
Networking

Cinder
Volume Storage

Horizon
Dashboard



```
# openstack-status
```

```
# source keystone_admin && openstack-status
```

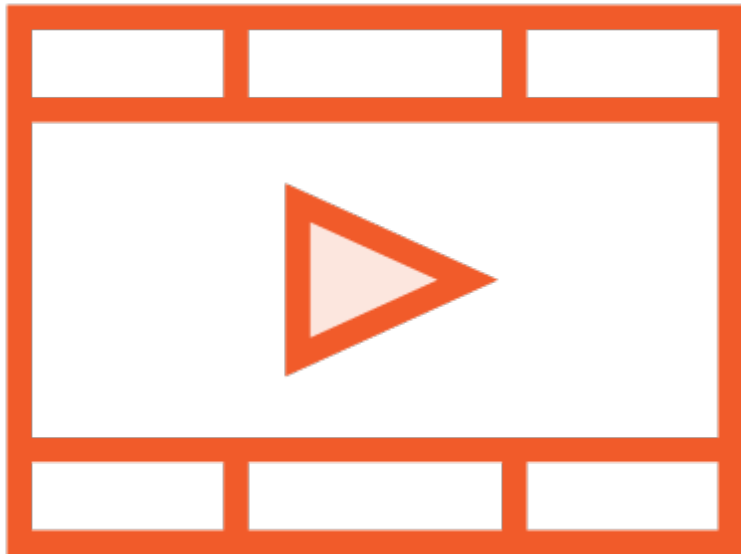
OpenStack-Status

This is a great utility that ships with PackStack. We can easily list services and their status. To be honest, we need it on PackStack as we often need to restart services after a reboot. For a full listing source an authentication file



Verify OpenStack after a Reboot





COA: Certified OpenStack Administrator

PackStack: Installer for Red Hat Based Systems

AnswerFile: The answer file you used for the PackStack install will have passwords for your systems

openstack-status: Check the status of services after a restart



```
# openstack complete >> /root/keystonerc_admin  
# openstack complete >> /root/keystonerc_demo
```

Append Completion to Authentication Files

For tab completion at the command line with the openstack command we need to add the functionality to the authentication scripts



Next up: Using the
PackStack Install of
OpenStack

