EX-210 RedHat certified Specialist in cloud infrastructure exam V16.1

Exam duration: 4 hrs. 210/300→ passing score

AdvantagePro Lab Setup

Step-1: [sample@foundationX ~]:$ rht-vmctl reset all -q

Step-2: Once everything is completely reset

[sample@foundationX ~]: $ ssh student@workstation (Password: student)
[student@workstation ~]: $ ssh stack@director

Step-3: In director VM, source overcloudrc, then wget the initial script and execute

(overcloud) [stack@director~]:$ source overcloudrc
(overcloud) [stack@director ~]$ wget http://content/ex-scripts/exam-init
(overcloud) [stack@director ~]$ sh exam-init

Exam Initial Setup Info

S.NO	***DOMAIN NAME***	***IP ADDRESS (dummy)***
1	Workbench.lab.example.com	172.25.250.11
2	director.overcloud.example.com	172.25.250.12
3	compute0.overcloud.example.com	172.25.250.13
4	computehci0.overcloud.example.com	172.25.250.14
5	ceph0.overcloud.example.com	172.25.250.15
6	controller.overcloud.example.com	172.25.250.16
7	Utility.lab.example.com	172.25.250.17

1. General Password all authentication: redhat
2. Documentation about openstack can be accessed at the following url: http://content/rhosp16.1/x86_64/dvd/docs/
3. Password for idm admin access: RedHat123^

Pre-Request:
Verify the all VM status and (Start the all VM's)only for practice
Take SSH from base machine to director VM and switch to stack user

[kiosk@foundation0 ~]$ ssh root@director
[root@director ~]# su – stack

1. **Initial Configuration (only Verify)**

Director:

Director: IP Address

Controller:

Controller: IP Address

Compute:

Compute0: IP Address
Computehci: IP Address

Project information:

Domain: ex210

Username	Password	Role	Email	Project
robert	redhat	admin	robert@example.com	engineering
george	redhat	admin	george@example.com	engineering
william	redhat	member	william@example.com	engineering

External Network:

Name: public
Provider Network Type: flat
Provider Physical Network: provider-datacentre
Share: yes
External: yes
Subnet-name: external
Subnet-range: 172.25.250.0/24
DHCP: no

Internal Network: as follow:

Name: engnet
Subnet-name: eng-subnet
Subnet-range: 192.168.10.0/24
DHCP: yes

Router:

Name: ex210-router
Gateway: public
Interface: engnet

Key-Pair:

Key-name: webkey
PEM Location: /home/stack/webkey.pem
Project: Engineering

Security-Group:

Name: ssh
Project: Engineering

Rules:

Protocol allowed: ICMP, TCP
Port Allowed: 22

Name: web
Project: Engineering
Rules:

Protocol allowed: TCP
Port Allowed: 80

Flavor:

Name: m1.petite
Disk: 10 GB
RAM: 2048 MB
VCPU: 1
Project: engineering

Image:

Name: web
Source: http://materials.example.com/osp-small.qcow2
Disk Format: qcow2
Public: yes

2. **Find the value of initial Octet, last octet and prefix value for management network which is already create on director (undercloud)**

3. **Find out the interface name connected to "br-int" bridge which is created on controller node with particular ip (in exam ip will be provided).**

4. **Create Network topology as follow. Use the engineering project.**

   Create a Network "storagenet" as follow:

   Provider Network Type: vlan
   Provider Physical Network: provider-storage
   Share: yes
   Subnet-name: storage-subnet
   Subnet-range: 172.24.250.0/24
   DHCP: yes
   Allocation-pool: 172.24.250.101-172.24.250.109

5. **Rotate Fernet key:**

   Rotate the fernet key for the cloud using mistral workflow execution.

6. **Backup the controller node**

7. **Workload Rebalance**

   Migrate the rbserver from computehci to compute0

8. **Launch a Webserver instance as follow. Use engineering project.**

Name: webserver
Network: engnet
Security-group: ssh,web
Key-name: webkey
Image: web
Flavor: m1.petite
User-data Script: webserver.sh (wget: http://content/ex-scripts/webserver.sh)

Assign a float ip to this instance from public network and browse float IP with some content.

9. **Create a volume as follow. Use engineering project.**

   Volume name: eng-vol1
   Size: 2GB
   Attach a volume to instance.
   Server Name: webserver

10. **Rebalance Swift**

    Use object store ring builder files to add a device and then use Ansible to rebalance the Swift rings. Set the weight of the new device to 100. Set the replica count to 2.

11. **Create a container and upload an object to this container.**

Project	**Engineering**
Container	**Warehouse**
File name	**file1.tar.gz**

Location of file1.tar.gz will be home directory.

12. **Customize the image as follow and launch the instance by using customized image. (engineering project)**

Service:

Name: httpd
Document root Content: Hello apache server

User name: **User: shyam**

Flavor:

Name: m1.web

Image:

Name: custom-image1
File: /var/tmp or /tmp in this location given the qcow2 image on global examination
During practice: http://materials.example.com/osp-small.qcow2
Disk Format: qcow2
Public: yes
Min-Disk: 10 GB
Min-RAM: 2048 MB

Key-name: **CL210**
PEM Location: **/home/stack/CL210.pem**

Instance:

Name: custom-web-server
Network: engnet
Security-group: ssh, web
Key-name: CL210
Image: custom-image1
Flavor: m1.web

Assign a float ip to this instance from public network and browse float IP with some content.

13. **Configure Host Aggregates**

create a new aggregate called hci-aggregate. Add the computehci0 node to the hci-aggregate aggregate. Set the metadata for the hci-aggregate aggregate to be true. Create a new flavor default-hci **and configure the computehci property.**

14. **Enable a RabbitMQ trace as follows on controller Node.**

User: ash
Password: redhat
Permission: ".*" ".*" ".*"

15. **IPA Setup**
    - **Integrate the OpenStack Identity service with IdM.**
    - **Use the certificate provided at the following link. (in exam link will be provided)**
    - **Create Example domain to map to IdM.**
    - **Verify that IdM users can authenticate to OpenStack and access resources.**

16. **Create ceph storage volume as follow. use engineering project.**

    Share type: cephfstype
    driver_handles_share_servers : False
    Storage Name: storage-network
    Size: 2GB
    Permission: assign the allow permission using cloud-user

17. **Mount the ceph storage volume inside an instance. Launch the instance with the following parameters.**

    Instance Name: storage
    Flavor: m1.petite
    Image: web
    Security-group: ssh
    SSH Keypair: CL210
    Network for first NIC: engnet
    Network for second NIC: provider-storage

Mount Point: /mnt/ceph
User data file: user-data.file (wget: http://content/ex-scripts/user-data.file)
Attach a floating IP to instance.
Note: Allow user cloud-user at the time mounting.

18. **Create a Heat Stack using following details**

Stack name: HeatStack
Group name: strgroup10
url: http://materials.example.com/heat/labserver-with-floatingip.yaml
(in exam /home/stack/templates/labserver-with-floatingip.yaml location have template)
image name: web
keyname: webkey
instance flavor: m1.petite
public net: public
private net: engnet
subnet: eng-subnet

19. **Role Customization**
    Create a custom role called 'vaggregate', so that the user with that role can able to list the aggregate node

20. **Customize Host Aggregates**
    a. **Update the metadata of the hci-aggregate to 'aggregate: true'**
    b. **Update the flavor to be 'hci: flavor'**

21. **Customized role assignment**
    1. As the admin user, create a project called consulting in the Example domain.
    2. Create a new subproject named development in the consulting project.
    3. Assign the consulting-members group in the Example domain the member role in the consulting project in the Example domain.
    4. Assign the consulting-members group in the Example domain the admin role for all the subprojects of the consulting project in the Example domain.

22. **Find the metadata proxy name on compute0 that is connected to engnet.**

23. **Load Balancer Setup**

Use orchestration template available at /home/student/heat **to launch a load-balanced web server stack in OpenStack.**

Use Ansible Playbook to configure and launch load-balanced web servers in OpenStack.
Run Ansible ad hoc commands to configure an OpenStack load balancer.

[do the lab on chapter 10 page 440]