

## **EX280-Red Hat Certified Specialist in OpenShift Administration Exam-Version 4.6**

Duration: 3 Hrs

Max.Mark:300

PassMark: 210

### **Initial Setup**

<b>S.N O</b>	<b><u>DOMAIN NAME</u></b>	<b><u>IP ADDRESS</u></b>
1	Workbench.lab.example.com	172.25.250.11
2	Master01.lab.example.com	172.25.250.12
3	Master02.lab.example.com	172.25.250.13
4	Master03.lab.example.com	172.25.250.14
5	Node1.lab.example.com	172.25.250.15
6	Node2.lab.example.com	172.25.250.16
7	Utility.lab.example.com	172.25.250.17
8	API Server URL	https://api.ocp4.example.com:6443

1. Wild-card domain for the cluster: apps.ocp4.example.com
2. Documentation about openshift can be accessed at the following url:  
[https://access.redhat.com/documentation/en-us/openshift\\_container\\_platform/4.6/](https://access.redhat.com/documentation/en-us/openshift_container_platform/4.6/)
3. Kubeadmin password will be available in the location as  
/usr/local/etc/ocp4.config in the workbench VM itself
4. Root password for login in to workbench VM will be provided in the exam itself

### **Question Outline**

1. Configure the Identity Provider for the Openshift
2. Configure Cluster permissions
3. Configure Project permissions
4. Create Groups and configure permissions
5. Configure Quotas for the Project
6. Configure Limits for the Project

7. Deploy an Application
8. Configure and Deploy an secure route
9. Scale the Application manually
10. Configure Auto-scaling for an Application
11. Configure an Secret
12. Use the Secret value for Application Deployment
13. Configure an Service Account
14. Deploy an Application
15. Deploy an Application
16. Deploy an Application

### **Detailed Questions**

1. Configure the Identity Provider for the Openshift
  - Create an Htpass Identity Provider with the name: htpass-ex280
  - Create the secret for Identity provider users: htpass-idp-ex280
  - Create the user account jobs with password deluges
  - Create the user account wozniak with password grannies
  - Create the user account collins with password culverins
  - Create the user account adlerin with password artiste
  - Create the user account armstrong with password spacesuits
2. Configure Cluster permissions
  - User jobs is able to modify the cluster
  - Wozniak is able to create project
  - Amstrong cannot create projects
  - Wozniak cannot modify the cluster
  - Remove the kubeadmin user from the cluster
3. Configure Project permissions
  - a. Create following projects
    - i. apollo
    - ii. titan
    - iii. gemini
    - iv. bluebook
    - v. apache

- b. User armstrong is admin for the apollo and titan project
  - c. User Collins is able to view the apollo project
4. Create Groups and configure permissions
- a. Create a group called commander and user wozniak is the member of this group
  - b. Create a group called pilot and user adlerin is the member of this group
  - c. The commander group members are able to edit the apache and gemini project
  - d. The pilot group members are able to view apache project but not edit it.
5. Configure Quotas for the Project

Create ResourceQuota in manhattan project named ex280-quota

- a. The amount of memory consumed across all containers may not exceed 1Gi
  - b. The amount of CPU across all containers may not exceed 2 full cores.
  - c. The maximum number of replication controllers does not exceed 3
  - d. The maximum number of pods does not exceed 3
  - e. The maximum number of services does not exceed 6
6. Configure Limits for the Project

Create a Limit Range in the bluebook project name ex280-limits

- a. The amount of memory consumed by a single pod is between 100Mi and 300Mi
- b. The amount of cpu consumed by a single pod is between 10m and 500m
- c. The amount of cpu consumed by a single container is between 10m and 500m with a default request value of 100m
- d. The amount of memory consumed by a single container is between 100Mi and 300Mi with a default request value of 100Mi

## 7. Deploy an Application

Deploy an application called rocky in bluewills project

- a. The application should be reachable from the following url:

<http://rocky.apps.ocp4.example.com>

- b. You should get valid Output

## 8. Configure and Deploy an secure route

Deploy an application called oxcart securely in the project called area51

- a. The application has self-signed certificate available at

"/C=US/ST=NC/L=Raleigh/O=RedHat/OU=RHT/CN=oxcart.apps.ocp4.example.com"

- b. The application should be reachable at the following url

<https://oxcart.apps.ocp4.example.com>

- c. Application produces a valid Output

## 9. Scale the Application manually

Scale an application called hydra in the project called lerna

The hydra application should be scaled to five times

## 10. Configure Autoscaling for an Application

Configure an autoscaling for the scala application in the project gru with following specification

- a. Minimum number of replicas: 6
- b. Maximum number of replicas: 40
- c. Threshold CPU-Percentage: 60

- d. Application resource of CPU Request: 25m
- e. Application limits of CPU Limits: 100m

#### 11. Configure an Secret

Configure a secret in the math project and the name of secret should be magic.

The secret should have following key value pairs

Decoder\_Ring: ASDA142hfh-gfrhhueo-erfdk345v

#### 12. Use the Secret value for Application Deployment

Configure the environmental variable for the application called qed in the math project so that it use the secret “magic”

After configuring the environmental value for the application it should stop producing the following output

“App is not configured properly”

#### 13. Configure an Service Account

Create a service account called ex-280-sa in the project called apples  
This service account should able to run application with any user id.

#### 14. Deploy an Application

Deploy an application called oranges in the project called apples

- a. This application should use the service account ex-280-sa
- b. The Application should produce a valid output

#### 15. Deploy an Application

Deploy an application called voyager in the project path-finder

- a. Don't add any new configuration
- b. Application should produce an valid output

## 16. Deploy an Application

Deploy an application called mercury in the project atlas

- a. Don't add any new configuration
- b. Application should produce an valid output