CKA MOCK EXAM 3.0

time:2 hour

submission :output in form of screenshoots or in a file ..(choice is yours)

Question 1

create a new clusterrole named deployment-clusterrole, which only allows to create the following resource types:  
✑ deployments  
✑ pods  
✑ services  
create a new serviceaccount named cicd-token in the existing namespace app-team1.  
bind the new clusterrole deployment-clusterrole to the new serviceaccount cicd-token, limited to the namespace app-team1.  
  
2.there are existing namespaces ns1 and ns2 .  
create serviceaccount  in both namespaces.

Question 2

1. There are various Pods in all namespaces. Write a command into **/opt/course/6/find\_pods.sh** which lists all Pods sorted by their **AGE** .

2. Write a second command into **/opt/course/6/find\_pods\_uid.sh** which lists all Pods sorted by field **metadata.uid** .

Use kubectl sorting for both commands

Question 3

Set the node named ek8s-node-0 as unavailable and reschedule all the pods running on it

Question 4

1. Create a deployment of nginx with the image of nginx of version **nginx:1.18**.
2. Upgrade the version to **nginx:1.19** and confirm the upgrade.
3. Now rollback the deployment to the previous version

Question 5

Scale the deployment presentation to 3 pods

Question 6

1. Upgrade the Cluster (Master node) latest version
2. Make sure to first drain a Node and make it available after upgrade.
3. Note: You may upgrade the cluster to any version you choose.

Question 7

Create a new service account with the name **pv2.0** Grant this Service account access to list all PersistentVolumes in the cluster by creating an appropriate cluster role called **pv2.0-role** and ClusterRoleBinding called **pv2.0-role-binding.**

Question 8

1. Create a YAML file to define a pod named test-cpu that uses the **alpine:latest** image.
2. Use **nodeSelector** to ensure the pod is scheduled only on nodes with the label **type=cpu**.

Question 9

1. Create a YAML file defining a Persistent Volume (PV) named **user-data-pv** Pvc named **user-data-pvc** with the following characteristics:
2. Capacity: 2Gi
3. Access Modes: ReadWriteOnce
4. Storage Class: Default
5. Uses the hostPath storage type with the path **/mnt/ssd**
6. Create mount the volume at /usr/share/nginx/html.
7. Verify that the Pod is running and using the Persistent Volume.

Question 10

Schedule a pod as follows:  
✑ Name: nginx-kusc00401  
✑ Image: nginx  
✑ Node selector: disk=ssd

Question 11

create a new persistentvolumeclaim:  
✑ name: pv-volume  
✑ class: csi-hostpath-sc  
✑ capacity: 10mi  
create a new pod which mounts the persistentvolumeclaim as a volume:  
✑ name: web-server  
✑ image: nginx  
✑ mount path: /usr/share/nginx/html  
configure the new pod to have readwriteonce access on the volume.

Question 12

make a backup of etcd running on controlplane and save it on the controlplane node at /tmp/etcd-backup.db.

then create any kind of pod in the cluster.

finally restore the backup, confirm the cluster is still working and that the created pod is no longer with us.

Question 13

create a pod with one container that will log to show currentdate and time and wait for one sec and run again.

use kubectl to view the logs from this container within the pod named "pod-logging"

Question 14

check to see how many nodes are ready (not including nodes tainted noschedule) and write the number to /opt/kusc00402/kusc00402.txt.

Question 15

create a nginx pod called dns-mock using image nginx expose it internally with a service called dns-mock-service

check if pod and service name are resolvable from within the cluster

use the image: busybox:1.28 for dns lookup

save the result in /root/nginx.svc

Question 16

create a new

user “manager". grant him access to the cluster.user

“yourname" should have permission to

1.create the pod

2. list the pod,

3. get the pod,

4. update and delete

pods.

the private key exists at location:/root/manager/.key and csr at

/root/manager.cr

Question 17

create a persistent volume with name app-data, of capacity 2gi and access mode readonlymany. the type of volume is hostpath and its location is /srv/app- data