[CKA 실전 모의고사 17개문제 2025년4월13일(일)]

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[1.나온문제] Retrieve Error Messages from a Container Log

Cluster: kubectl config use-context k8s

In the default namespace, check the log for the app container in the custom-app Pod. Save the lines which contain the text "error" to the file /var/CKA2022/errors.txt

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[2.나온문제] Node Troubleshooting

Cluster: kubectl config use-context hk8s

A Kubernetes worker node, named hk8s-woker2 is in state NotReady.

Investigate why this is the case, and perform any appropriate steps to bring the node to a Ready state,

ensuring that any changes are made permanent.

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[3.나온문제] Count the Number of Nodes That Are Ready to Run Normal Workloads

Cluster: kubectl config use-context hk8s

Determine how many nodes in the cluster are ready to run normal workloads (i.e., workloads that do not have any special tolerations).

Output this number to the file /var/CKA2023/count.txt

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[4.나온문제] ETCD backup & restore

Cluster : kubectl config use-context k8s

First, create a snapshot of the existing etcd instance running at https://127.0.0.1:2379 ,

saving the snapshot to /data/etcdsnapshot.db

Next, restore an default location, previous snapshot located at /data/etcd-snapshot-previous.db

The following TLS certificates/key are supplied for connecting to the server with etcdctl:

CA certificate: /etc/kubernetes/pki/etcd/ca.crt

Client certificate: /etc/kubernetes/pki/etcd/server.crt

Client key: /etc/kubernetes/pki/etcd/server.key

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[5.나온문제] Authentication and Authorization

Cluster : k8s

Context You have been asked to create a new ClusterRole for a deployment pipeline and bind it to a specific ServiceAccount

scoped to a specific namespace.

Task:

- Create a new ClusterRole named deployment-clusterrole , which only allows to create the following resource types:

Deployment StatefulSet DaemonSet

- Create a new ServiceAccount named cicd-token in the Create a new namespace app-team1

- Bind the new ClusterRole deployment-clusterrole to the new ServiceAccount cicd-token , limited to the namespace app-team1

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[6.나온문제] Pod 생성하기

Cluster : kubectl config use-context k8s

Create a new namespace and create a pod in the namespace TASK:

namespace name: cka-exam

pod Name: pod-01

image: busybox

environment Variable: CERT = "CKA-cert"

command: /bin/sh

args: -c "while true; do echo $(CERT); sleep 10;done"

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[7.나온문제] multi-container Pod 생성

cluster : kubectl config use-context hk8s

Create a pod with 3 containers running : nginx, redis, memcached

pod name: eshop-frontend

image: nginx

image: redis

image: memcached

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[8.나온문제] Side-car Container Pod 실행

Cluster : kubectl config use-context k8s

An existing Pod needs to be integrated into the Kubernetes built-in logging architecture (e.g. kubectl logs).

Adding a streaming sidecar container is a good and common way to accomplish this requirement.

- Add a sidecar container named sidecar, using busybox image, to existing Pod eshop-cart-app

- The new sidecar container has to run the following command: /bin/sh, -c, "tail -n+1 -F /var/log/cart-app.log

- Use a volume, mounted at /var/log, to make the log file cart-app.log available to the sidecar container.

- Don't modify the cart-app

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[9.나온문제] Pod Scale-out

Cluster: kubectl config use-contex k8s

Expand the number of running Pods in "eshop-order" to 5. namespace: devops

deployment: eshop-order

replicas: 5

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[10.나온문제] Rolling Update

Cluster: kubectl config use-context k8s

Create a deployment as follows: TASK:

name: nginx-app

Using container nginx with version 1.11.10-alpine The deployment should contain 3 replicas

Next, deploy the application with new version 1.11.13-alpine, by performing a rolling update

Finally, rollback that update to the previous version 1.11.10-alpine

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[11.나온문제] Network Policy with Namespace

Cluster : kubectl config use-context k8s

Create a new NetworkPolicy named allow-port-from-namespace in the existing namespace devops.

Ensure that the new NetworkPolicy allows Pods in namespace migops(using label team=migops) to connect to port 80 of Pods in namespace devops.

Further ensure that the new NetworkPolicy: does not allow access to Pods, which don't listen on port 80 does not allow access from Pods, which are not in namespace migops

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[12.나온문제] Create a persistent volume

Cluster: kubectl config use-context k8s

Create a persistent volume with name app-config, of capacity 1Gi and access mode ReadWriteMany.

The type of volume is hostPath and its location is /var/CKA2022/app-config.

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[13.나온문제] Deploy and Service

Cluster : kubectl config use-context k8s

Reconfigure the existing deployment front-end and add a port specification http exposing port 80/tcp of the existing container nginx.

Create a new service named front-end-svc exposing the container port http.

configure the new service to also expose the individual pods via a Nodeport on the nodes on which they the are scheduled

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[14.나온문제] DNS Lookup

Cluster : kubectl config use-context k8s

Create a nginx pod called nginx-resolver using image nginx, expose it internally with a service called nginx-resolver-service.

Test that you are able to look up the service and pod names from within the cluster. Use the image: busybox:1.28 for dns

lookup.

- Record results in /var/CKA2022/nginx.svc and /var/CKA2022/nginx.pod

- Pod: nginx-resolver created

- Service DNS Resolution recorded correctly

- Pod DNS resolution recorded correctly

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[15.나온문제] Application with PVC

Cluster: kubectl config use-context k8s

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.

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[16.나온문제] Cluster Upgrade - only Master

Cluster : kubectl config use-context k8s

upgrade system : k8s-master

Given an existing Kubernetes cluster running version 1.30.0

upgrade all of the Kubernetes control plane and node components on the master node only to version 1.31.7

Be sure to drain the master node before upgrading it and uncordon it after the upgrade.

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[17.나온문제] Management Node

Cluster: kubectl config use-context k8s

Set the node named k8s-worker1 as unavailable and reschedule all the pods running on it.

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