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LINUX FOUNDATION

CKAD

QUESTIONS AND ANSWERS

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Exam Code: CKAD

Exam Name: Certified Kubernetes Application Developer

Certification Provider: Linux Foundation

Related Certification: Kubernetes Application Developer

QUESTION: 1

Exhibit:

Context

A web application requires a specific version of redis to be used as a cache.

Task

Create a pod with the following characteristics, and leave it running when complete:

? The pod must run in the web namespace.

The namespace has already been created

? The name of the pod should be cache

? Use the lfcncf/redis image with the 3.2 tag

? Expose port 6379

Solution:

A. See explanation below for complete answer.

Answer(s): A

Explanation:

QUESTION: 1

Exhibit:

Context

A web application requires a specific version of redis to be used as a cache.

Task

Create a pod with the following characteristics, and leave it running when complete:

? The pod must run in the web namespace.

The namespace has already been created

? The name of the pod should be cache

? Use the lfcncf/redis image with the 3.2 tag

? Expose port 6379

Solution:

A. See explanation below for complete answer.

Answer(s): A

Explanation:

□

```
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx-secret
    name: nginx-secret
spec:
  containers:
  - image: nginx
    name: nginx-secret
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
```

"nginx_secret.yml" 15L, 253C

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All

```
apiVersion: v1
kind: Pod
metadata:
  labels:
    run: nginx-secret
    name: nginx-secret
spec:
  containers:
  - image: nginx
    name: nginx-secret
    env:
    - name: COOL_VARIABLE
      valueFrom:
        secretKeyRef:
          name: some-secret
          key: key1
```

-- INSERT --

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All

Readme > Web Terminal THE LINUX FOUNDATION

```

student@node-1:~$ kubectl get pods -n web
NAME      READY   STATUS    RESTARTS   AGE
cache     1/1     Running   0           9s
student@node-1:~$ kubectl create secret generic some-secret --from-literal=key1=value4
secret/some-secret created
student@node-1:~$ kubectl get secret
NAME                TYPE          DATA   AGE
default-token-4kvr5  kubernetes.io/service-account-token  3       2d11h
some-secret         Opaque        1       5s
student@node-1:~$ kubectl run nginx-secret --image=nginx --dry-run=client -o yaml > nginx_secret.yml
student@node-1:~$ vim nginx_secret.yml
student@node-1:~$ kubectl create -f nginx_secret.yml
pod/nginx-secret created
student@node-1:~$ kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
liveness-http 1/1     Running   0           6h38m
nginx-101     1/1     Running   0           6h39m
nginx-secret  0/1     ContainerCreating  0           4s
poller        1/1     Running   0           6h39m
student@node-1:~$ kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
liveness-http 1/1     Running   0           6h38m
nginx-101     1/1     Running   0           6h39m
nginx-secret  1/1     Running   0           8s
poller        1/1     Running   0           6h39m
student@node-1:~$

```

QUESTION: 3

Exhibit:

Task

You are required to create a pod that requests a certain amount of CPU and memory, so it gets scheduled to a node that has those resources available. ? Create a pod named nginx-resources in the pod-resources namespace that requests a minimum of 200m CPU and 1Gi memory for its container
 ? The pod should use the nginx image
 ? The pod-resources namespace has already been created

Solution:

A. See explanation below for complete answer.

QUESTION: 3

Exhibit:

Task

You are required to create a pod that requests a certain amount of CPU and memory, so it gets scheduled to a node that has those resources available. ? Create a pod named nginx-resources in the pod-resources namespace that requests a minimum of 200m CPU and 1Gi memory for its container
? The pod should use the nginx image
? The pod-resources namespace has already been created

Solution:

A. See explanation below for complete answer.

```
Readme Web Terminal THE LINUX FOUNDATION
apiVersion: v1
kind: Pod
metadata:
  labels:
    run: nginx-resources
  name: nginx-resources
  namespace: pod-resources
spec:
  containers:
  - image: nginx
    name: nginx-resources
    resources:
      requests:
        cpu: 200m
        memory: "1Gi"
-- INSERT -- 15,22 All
```

```
Readme Web Terminal THE LINUX FOUNDATION
student@node-1:~$ kubectl run nginx-resources -n pod-resources --image=nginx --dry-run=client -o
yaml > nginx_resources.yaml
student@node-1:~$ vim nginx_resources.yaml
student@node-1:~$ kubectl create -g nginx_resources.yaml
Error: unknown shorthand flag: 'g' in -g
See 'kubectl create --help' for usage.
student@node-1:~$ kubectl create -f nginx_resources.yaml
pod/nginx-resources created
student@node-1:~$ kubectl get pods -n pod-re
```

```
Readme Web Terminal THE LINUX FOUNDATION
student@node-1:~$ kubectl get pods -n pod-resources
NAME          READY   STATUS    RESTARTS   AGE
nginx-resources 1/1     Running   0           8s
student@node-1:~$
```

QUESTION: 4

Exhibit:

```
student@node-1:~$ kubectl create configmap another-config --from-literal=key4=value3
configmap/another-config created
student@node-1:~$ kubectl get configmap
NAME          DATA   AGE
another-config 1       5s
student@node-1:~$ kubectl run nginx-configmap --image=nginx --dry-run=client -o yaml > nginx_configmap.yaml
student@node-1:~$ vim nginx_configmap.yaml ^C
student@node-1:~$ mv nginx_configmap.yaml nginx_configmap.yaml
student@node-1:~$ vim nginx_co
```

Context

You are tasked to create a ConfigMap and consume the ConfigMap in a pod using a volume mount.

Task

Please complete the following:

? Create a ConfigMap named another-config containing the key/value pair: key4/value3 ? start a pod named nginx-configmap containing a single container using the nginx image, and mount the key you just created into the pod under directory /also/a/path

Solution:

A. See explanation below for complete answer.

Answer(s): A

Explanation:


```
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx-configmap
  name: nginx-configmap
spec:
  containers:
  - image: nginx
    name: nginx-configmap
    resources: {}
    dnsPolicy: ClusterFirst
    restartPolicy: Always
  status: {}
```

"nginx_configmap.yml" 15L, 262C

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All

```
apiVersion: v1
kind: Pod
metadata:
  labels:
    run: nginx-configmap
  name: nginx-configmap
spec:
  containers:
  - image: nginx
    name: nginx-configmap
    volumeMounts:
    - name: myvol
      mountPath: /also/a/path
  volumes:
  - name: myvol
    configMap:
      name: another-config
```

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All

```

student@node-1:~$ kubectl create configmap another-config --from-literal=key4=value3
configmap/another-config created
student@node-1:~$ kubectl get configmap
NAME          DATA      AGE
another-config 1          5s
student@node-1:~$ kubectl run nginx-configmap --image=nginx --dry-run=client -o yaml > nginx_conf
igmap.yaml
student@node-1:~$ vim nginx_configmap.yaml ^C
student@node-1:~$ mv nginx_configmap.yaml nginx_configmap.yaml
student@node-1:~$ vim nginx_configmap.yaml
student@node-1:~$

```

```

student@node-1:~$ kubectl run nginx-configmap --image=nginx --dry-run=client -o yaml > nginx_conf
igmap.yaml
student@node-1:~$ vim nginx_configmap.yaml ^C
student@node-1:~$ mv nginx_configmap.yaml nginx_configmap.yaml
student@node-1:~$ vim nginx_configmap.yaml
student@node-1:~$ kubectl create f nginx_configmap.yaml
Error: must specify one of -f and -k

error: unknown command "f nginx_configmap.yaml"
See 'kubectl create -h' for help and examples
student@node-1:~$ kubectl create -f nginx_configmap.yaml
error: error validating "nginx_configmap.yaml": error validating data: ValidationError(Pod.spec.c
ontainers[1]): unknown field "mountPath" in io.k8s.api.core.v1.Container; if you choose to ignor
e these errors, turn validation off with --validate=false
student@node-1:~$ vim nginx_configmap.yaml

```

Readme Web Terminal THE LINUX FOUNDATION

```

student@node-1:~$ kubectl create f nginx_configmap.yaml
Error: must specify one of -f and -k

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See 'kubectl create -h' for help and examples
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ontainers[1]): unknown field "mountPath" in io.k8s.api.core.v1.Container; if you choose to ignor
e these errors, turn validation off with --validate=false
student@node-1:~$ vim nginx_configmap.yaml
student@node-1:~$ kubectl create -f nginx_configmap.yaml
pod/nginx-configmap created
student@node-1:~$ kubectl get pods
NAME          READY   STATUS             RESTARTS   AGE
liveness-http 1/1     Running            0           6h44m
nginx-101     1/1     Running            0           6h45m
nginx-configmap 0/1     ContainerCreating  0           5s
nginx-secret  1/1     Running            0           5m39s
poller        1/1     Running            0           6h44m
student@node-1:~$ kubectl get pods
NAME          READY   STATUS             RESTARTS   AGE
liveness-http 1/1     Running            0           6h44m
nginx-101     1/1     Running            0           6h45m
nginx-configmap 1/1     Running            0           8s
nginx-secret  1/1     Running            0           5m42s
poller        1/1     Running            0           6h45m
student@node-1:~$ l

```

QUESTION: 5

Exhibit: