

Exam Questions CKAD

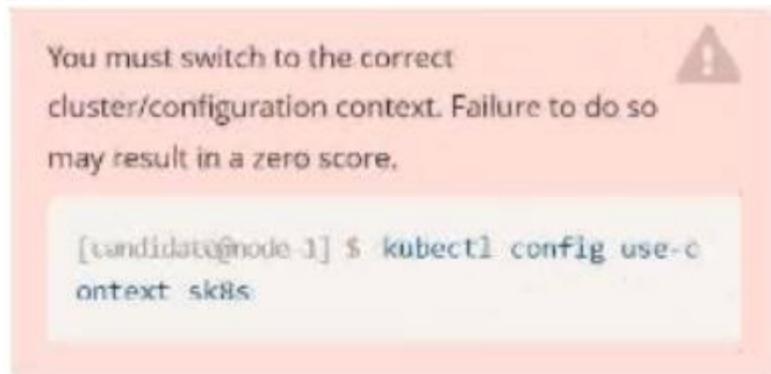
Certified Kubernetes Application Developer (CKAD) Program

<https://www.2passeasy.com/dumps/CKAD/>



NEW QUESTION 1

Exhibit:



Task:

Update the Deployment app-1 in the frontend namespace to use the existing ServiceAccount app.

- A. Mastered
- B. Not Mastered

Answer: A**Explanation:**

Solution:

Text Description automatically generated

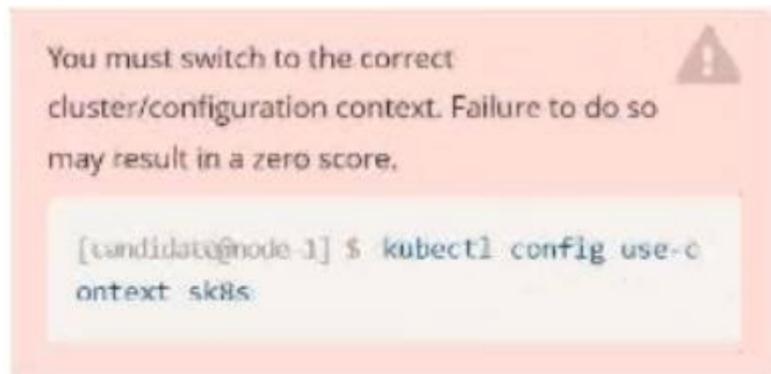
```
File Edit View Terminal Tabs Help
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

candidate@node-1:~$ vi ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context sk8s
Switched to context "sk8s".
candidate@node-1:~$ vim .vimrc
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl apply -f ~/spicy-pikachu/backend-deployment.yaml
deployment.apps/backend-deployment configured
candidate@node-1:~$ kubectl get pods -n staging
NAME                                READY   STATUS    RESTARTS   AGE
backend-deployment-59d449b99d-cxct6  1/1     Running   0           20s
backend-deployment-59d449b99d-h2zjq  0/1     Running   0           9s
backend-deployment-78976f74f5-b8c85  1/1     Running   0           6h40m
backend-deployment-78976f74f5-flfsj  1/1     Running   0           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment  3/3     3             3           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment  3/3     3             3           6h41m
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl set serviceaccount deploy app-1 app -n frontend
deployment.apps/app-1 serviceaccount updated
candidate@node-1:~$
```

NEW QUESTION 2

Exhibit:



Task:

Create a Deployment named expose in the existing ckad00014 namespace running 6 replicas of a Pod. Specify a single container using the ifcnf/nginx: 1.13.7 image

Add an environment variable named NGINX_PORT with the value 8001 to the container then expose port 8001

- A. Mastered
- B. Not Mastered

Answer: A**Explanation:**

Solution:

```
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl create deploy expose -n ckad00014 --image lfccncf/nginx:1.13.7 --dry-run=client -o yaml > dep.yaml
candidate@node-1:~$
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
apiVersion: apps/v1
kind: Deployment
metadata:
  creationTimestamp: null
  labels:
    app: expose
  name: expose
  namespace: ckad00014
spec:
  replicas: 6
  selector:
    matchLabels:
      app: expose
  strategy: {}
  template:
    metadata:
      creationTimestamp: null
      labels:
        app: expose
    spec:
      containers:
      - image: lfccncf/nginx:1.13.7
        name: nginx
        ports:
        - containerPort: 8001
        env:
        - name: NGINX_PORT
          value: "8001"
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl create deploy expose -n ckad00014 --image lfccncf/nginx:1.13.7 --dry-run=client -o yaml > dep.yaml
candidate@node-1:~$
candidate@node-1:~$ vim dep.yaml
candidate@node-1:~$ kubectl create -f dep.yaml
deployment.apps/expose created
candidate@node-1:~$ kubectl get pods -n ckad00014
NAME                                READY   STATUS    RESTARTS   AGE
expose-85dd99d4d9-25675             0/1     ContainerCreating   0           6s
expose-85dd99d4d9-4fhcc             0/1     ContainerCreating   0           6s
expose-85dd99d4d9-fl7j              0/1     ContainerCreating   0           6s
expose-85dd99d4d9-tt6rm             0/1     ContainerCreating   0           6s
expose-85dd99d4d9-vjd8b            0/1     ContainerCreating   0           6s
expose-85dd99d4d9-vtzpq            0/1     ContainerCreating   0           6s
candidate@node-1:~$ kubectl get deploy -n ckad00014
NAME    READY   UP-TO-DATE   AVAILABLE   AGE
expose  6/6     6            6           15s
candidate@node-1:~$
```

NEW QUESTION 3

Exhibit:

You must switch to the correct cluster/configuration context. Failure to do so may result in a zero score.

```
[candidate@node-1] $ kubectl config use-c  
ontext k8s
```

Task:

The application was developed for Kubernetes v1.15.
The cluster k8s runs Kubernetes v1.24.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
candidate@node-1:~$ kubectl config use-context k8s  
Switched to context "k8s".  
candidate@node-1:~$ vim ~/credible-mite/www.yaml
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help  
apiVersion: apps/v1  
kind: Deployment  
metadata:  
  name: www-deployment  
  namespace: cobra  
spec:  
  replicas: 3  
  selector:  
    matchLabels:  
      app: nginx  
  template:  
    metadata:  
      labels:  
        app: nginx  
    spec:  
      containers:  
        - name: nginx  
          image: "nginx:stable"  
          ports:  
            - containerPort: 80  
          volumeMounts:  
            - mountPath: /var/log/nginx  
              name: logs  
          env:  
            - name: NGINX_ENTRYPOINT_QUIET_LOGS  
              value: "1"  
      volumes:  
        - name: logs  
          emptyDir: {}
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
deployment.apps/expose created
candidate@node-1:~$ kubectl get pods -n ckad00014
NAME                                READY   STATUS              RESTARTS   AGE
expose-85dd99d4d9-25675             0/1    ContainerCreating   0           6s
expose-85dd99d4d9-4fhcc             0/1    ContainerCreating   0           6s
expose-85dd99d4d9-fl7j              0/1    ContainerCreating   0           6s
expose-85dd99d4d9-tt6rm             0/1    ContainerCreating   0           6s
expose-85dd99d4d9-vjd8b             0/1    ContainerCreating   0           6s
expose-85dd99d4d9-vtzpq             0/1    ContainerCreating   0           6s
candidate@node-1:~$ kubectl get deploy -n ckad00014
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
expose   6/6     6             6           15s
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ vim ~/credible-mite/www.yaml
candidate@node-1:~$ vim ~/credible-mite/www.yaml
candidate@node-1:~$ kubectl apply -f ~/credible-mite/www.yaml
deployment.apps/www-deployment created
candidate@node-1:~$ kubectl get pods -n cobra
NAME                                READY   STATUS              RESTARTS   AGE
www-deployment-d899c6b49-d6ccg      1/1    Running             0           6s
www-deployment-d899c6b49-f796l      0/1    ContainerCreating   0           6s
www-deployment-d899c6b49-ztfcw      0/1    ContainerCreating   0           6s
candidate@node-1:~$ kubectl get deploy -n cobra
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
www-deployment  3/3     3             3           11s
candidate@node-1:~$ kubectl get pods -n cobra
NAME                                READY   STATUS              RESTARTS   AGE
www-deployment-d899c6b49-d6ccg      1/1    Running             0           14s
www-deployment-d899c6b49-f796l      1/1    Running             0           14s
www-deployment-d899c6b49-ztfcw      1/1    Running             0           14s
candidate@node-1:~$
```

NEW QUESTION 4

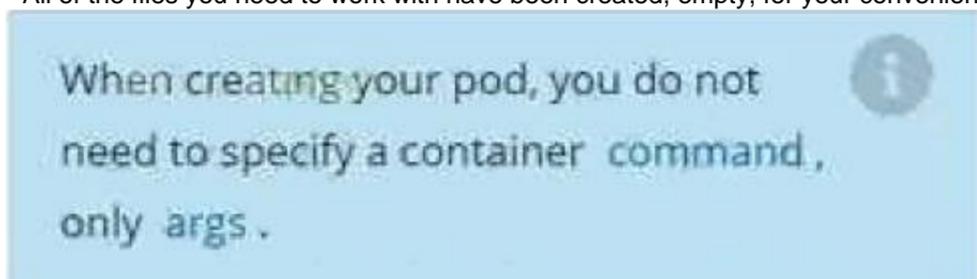
Context

Anytime a team needs to run a container on Kubernetes they will need to define a pod within which to run the container.

Task

Please complete the following:

- Create a YAML formatted pod manifest /opt/KDPD00101/pod1.yml to create a pod named app1 that runs a container named app1cont using image lfcncf/arg-output with these command line arguments: -lines 56 -F
- Create the pod with the kubectl command using the YAML file created in the previous step
- When the pod is running display summary data about the pod in JSON format using the kubectl command and redirect the output to a file named /opt/KDPD00101/out1.json
- All of the files you need to work with have been created, empty, for your convenience



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
student@node-1:~$ kubectl run app1 --image=lfcncf/arg-output --dry-run=client -o yaml > /opt/KD
PD00101/pod1.yml
student@node-1:~$ vim /opt/KDPD00101/pod1.yml
```

Readme Web Terminal THE LINUX FOUNDATION

```

apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: appl
    name: appl
spec:
  containers:
  - image: lfccncf/arg-output
    name: appl
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
~
~
~
~
~
~
~
~
~
~
~/opt/KDPD00101/pod1.yml" 15L, 242C 3,1 All

```

Readme Web Terminal THE LINUX FOUNDATION

```

apiVersion: v1
kind: Pod
metadata:
  labels:
    run: appl
    name: appl
spec:
  containers:
  - image: lfccncf/arg-output
    name: appl
    args: ["--lines", "56", "--f"]
~
~
~
~
~
~
~
~
~
~
~
11,30 All

```

```

pod/appl created
student@node-1:~$ kubectl get pods
NAME          READY   STATUS             RESTARTS   AGE
appl          0/1     ContainerCreating  0           5s
counter       1/1     Running            0           4m44s
liveness-http 1/1     Running            0           6h50m
nginx-101     1/1     Running            0           6h51m
nginx-configmap 1/1     Running            0           6m21s
nginx-secret  1/1     Running            0           11m
poller        1/1     Running            0           6h51m
student@node-1:~$ kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
appl          1/1     Running  0           26s
counter       1/1     Running  0           5m5s
liveness-http 1/1     Running  0           6h50m
nginx-101     1/1     Running  0           6h51m
nginx-configmap 1/1     Running  0           6m42s
nginx-secret  1/1     Running  0           12m
poller        1/1     Running  0           6h51m
student@node-1:~$ kubectl delete pod appl
pod "appl" deleted
student@node-1:~$ vim /opt/KDPD00101/pod1.yml

```

```

Readme Web Terminal
nginx-configmap 1/1 Running 0 6m2
nginx-secret 1/1 Running 0 11m
poller 1/1 Running 0 6h5
student@node-1:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
app1 1/1 Running 0 26s
counter 1/1 Running 0 5m5s
liveness-http 1/1 Running 0 6h50m
nginx-101 1/1 Running 0 6h51m
nginx-configmap 1/1 Running 0 6m42s
nginx-secret 1/1 Running 0 12m
poller 1/1 Running 0 6h51m
student@node-1:~$ kubectl delete pod app1
pod "app1" deleted
student@node-1:~$ vim /opt/KDPD00101/pod1.yml
student@node-1:~$ kubectl create -f /opt/KDPD00101/pod1.yml
pod/app1 created
student@node-1:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
app1 1/1 Running 0 20s
counter 1/1 Running 0 6m57s
liveness-http 1/1 Running 0 6h52m
nginx-101 1/1 Running 0 6h53m
nginx-configmap 1/1 Running 0 8m34s
nginx-secret 1/1 Running 0 14m
poller 1/1 Running 0 6h53m
student@node-1:~$ kubectl get pod app1 -o json >

```

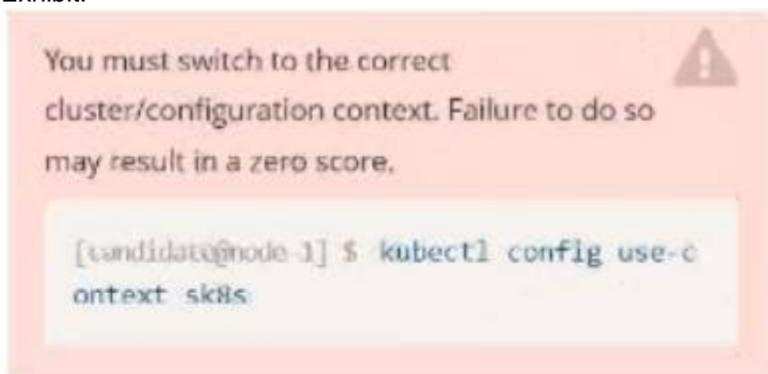
```

Readme Web Terminal THE LINUX FOUNDATION
poller 1/1 Running 0 6h51m
student@node-1:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
app1 1/1 Running 0 26s
counter 1/1 Running 0 5m5s
liveness-http 1/1 Running 0 6h50m
nginx-101 1/1 Running 0 6h51m
nginx-configmap 1/1 Running 0 6m42s
nginx-secret 1/1 Running 0 12m
poller 1/1 Running 0 6h51m
student@node-1:~$ kubectl delete pod app1
pod "app1" deleted
student@node-1:~$ vim /opt/KDPD00101/pod1.yml
student@node-1:~$ kubectl create -f /opt/KDPD00101/pod1.yml
pod/app1 created
student@node-1:~$ kubectl get pods
NAME READY STATUS RESTARTS AGE
app1 1/1 Running 0 20s
counter 1/1 Running 0 6m57s
liveness-http 1/1 Running 0 6h52m
nginx-101 1/1 Running 0 6h53m
nginx-configmap 1/1 Running 0 8m34s
nginx-secret 1/1 Running 0 14m
poller 1/1 Running 0 6h53m
student@node-1:~$ kubectl get pod app1 -o json > /opt/KDPD00101/out1.json
student@node-1:~$
student@node-1:~$

```

NEW QUESTION 5

Exhibit:



Task:

- 1- Update the Propertunel scaling configuration of the Deployment web1 in the ckad00015 namespace setting maxSurge to 2 and maxUnavailable to 59
- 2- Update the web1 Deployment to use version tag 1.13.7 for the lflconf/nginx container image.
- 3- Perform a rollback of the web1 Deployment to its previous version

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy web1 -n ckad00015
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
app: nginx
strategy:
  rollingUpdate:
    maxSurge: 2%
    maxUnavailable: 5%
  type: RollingUpdate
template:
  metadata:
    creationTimestamp: null
    labels:
      app: nginx
  spec:
    containers:
    - image: lfccncf/nginx:1.13.7
      imagePullPolicy: IfNotPresent
      name: nginx
      ports:
      - containerPort: 80
        protocol: TCP
      resources: {}
      terminationMessagePath: /dev/termination-log
      terminationMessagePolicy: File
    dnsPolicy: ClusterFirst
    restartPolicy: Always
    schedulerName: default-scheduler
    securityContext: {}
    terminationGracePeriodSeconds: 30
status:
  availableReplicas: 2
  conditions:
  - lastTransitionTime: "2022-09-24T04:26:41Z"
```

```
File Edit View Terminal Tabs Help
Switched to context "k8s".
candidate@node-1:~$ kubectl create secret generic app-secret -n default --from-literal=key3=value1
secret/app-secret created
candidate@node-1:~$ kubectl get secrets
NAME      TYPE      DATA      AGE
app-secret  Opaque    1          4s
candidate@node-1:~$ kubectl run nginx-secret -n default --image=nginx:stable --dry-run=client -o yaml > sec.yaml
candidate@node-1:~$ vim sec.yaml
candidate@node-1:~$ kubectl create -f sec.yaml
pod/nginx-secret created
candidate@node-1:~$ kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
nginx-secret 1/1     Running   0          7s
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy web1 -n ckad00015
deployment.apps/web1 edited
candidate@node-1:~$ kubectl rollout status deploy web1 -n ckad00015
deployment "web1" successfully rolled out
candidate@node-1:~$ kubectl rollout undo deploy web1 -n ckad00015
deployment.apps/web1 rolled back
candidate@node-1:~$ kubectl rollout history deploy web1 -n ckad00015
deployment.apps/web1
REVISION  CHANGE-CAUSE
2         <none>
3         <none>

candidate@node-1:~$ kubectl get rs -n ckad00015
NAME          DESIRED  CURRENT  READY  AGE
web1-56f98bcb79  0        0        0      63s
web1-85775b6b79  2        2        2      6h53m
candidate@node-1:~$
```

NEW QUESTION 6

Exhibit:



Context

It is always useful to look at the resources your applications are consuming in a cluster. Task

- From the pods running in namespace cpu-stress, write the name only of the pod that is consuming the most CPU to file /opt/KDOBG030/pod.txt, which has already been created.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```

student@node-1:~$ kubectl top pods -n cpu-stress
NAME                CPU (cores)  MEMORY (bytes)
max-load-98b9se     68m          6Mi
max-load-ab2d3s     21m          6Mi
max-load-kipb9a     45m          6Mi
student@node-1:~$ echo "max-load-98b9se" > /opt/KDOB00301/pod.txt
    
```

NEW QUESTION 7

Exhibit:

```

[student@node-1] $ | kubectl config
use-context k8s
    
```

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```

student@node-1:~$ kubectl run nginx-resources -n pod-resources --image=nginx --dry-run=client -o
yaml > nginx_resources.yml
student@node-1:~$ vim nginx_
    
```

```

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

```

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.yml
student@node-1:~$ vim nginx_resources.yml
student@node-1:~$ kubectl create -g nginx_resources.yml
Error: unknown shorthand flag: 'g' in -g
See 'kubectl create --help' for usage.
student@node-1:~$ kubectl create -f nginx_resources.yml
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:~$

```

NEW QUESTION 8

Exhibit:



Context

A pod is running on the cluster but it is not responding. Task

The desired behavior is to have Kubernetes restart the pod when an endpoint returns an HTTP 500 on the /healthz endpoint. The service, probe-pod, should never send traffic to the pod while it is failing. Please complete the following:

- The application has an endpoint, /started, that will indicate if it can accept traffic by returning an HTTP 200. If the endpoint returns an HTTP 500, the application has not yet finished initialization.
- The application has another endpoint /healthz that will indicate if the application is still working as expected by returning an HTTP 200. If the endpoint returns an HTTP 500 the application is no longer responsive.
- Configure the probe-pod pod provided to use these endpoints
- The probes should use port 8080

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

apiVersion: v1 kind: Pod metadata: labels:

test: liveness

name: liveness-exec

spec: containers:

- name: liveness

image: k8s.gcr.io/busybox

args:

- /bin/sh

- -c

- touch /tmp/healthy; sleep 30; rm -rf /tmp/healthy; sleep 600

livenessProbe: exec: command:

- cat

- /tmp/healthy

initialDelaySeconds: 5

periodSeconds: 5

In the configuration file, you can see that the Pod has a single Container. The periodSeconds field specifies that the kubelet should perform a liveness probe every 5 seconds. The initialDelaySeconds field tells the kubelet that it should wait 5 seconds before performing the first probe. To perform a probe, the kubelet executes the command cat /tmp/healthy in the target container. If the command succeeds, it returns 0, and the kubelet considers the container to be alive and healthy. If the command returns a non-zero value, the kubelet kills the container and restarts it.

When the container starts, it executes this command:

/bin/sh -c "touch /tmp/healthy; sleep 30; rm -rf /tmp/healthy; sleep 600"

For the first 30 seconds of the container's life, there is a /tmp/healthy file. So during the first 30 seconds, the command cat /tmp/healthy returns a success code.

After 30 seconds, cat /tmp/healthy returns a failure code

Create the Pod:

kubectl apply -f https://k8s.io/examples/pods/probe/exec-liveness.yaml Within 30 seconds, view the Pod events:

kubectl describe pod liveness-exec

The output indicates that no liveness probes have failed yet:

FirstSeen LastSeen Count From SubobjectPath Type Reason Message

24s 24s 1 {default-scheduler } Normal Scheduled Successfully assigned liveness-exec to worker0

23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Pulling pulling image "k8s.gcr.io/busybox" 23s 23s 1 {kubelet worker0} spec.containers{liveness}

Normal Pulled Successfully pulled image

"k8s.gcr.io/busybox"

23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Created Created container with docker id 86849c15382e; Security:[seccomp=unconfined]

23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Started Started container with docker id 86849c15382e

After 35 seconds, view the Pod events again: kubectl describe pod liveness-exec

At the bottom of the output, there are messages indicating that the liveness probes have failed, and the containers have been killed and recreated.

FirstSeen LastSeen Count From SubobjectPath Type Reason Message

37s 37s 1 {default-scheduler } Normal Scheduled Successfully assigned liveness-exec to worker0

36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Pulling pulling image "k8s.gcr.io/busybox" 36s 36s 1 {kubelet worker0} spec.containers{liveness}

Normal Pulled Successfully pulled image

"k8s.gcr.io/busybox"

36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Created Created container with docker id 86849c15382e; Security:[seccomp=unconfined]

36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Started Started container with docker id 86849c15382e

2s 2s 1 {kubelet worker0} spec.containers{liveness} Warning Unhealthy Liveness probe failed: cat: can't open '/tmp/healthy': No such file or directory

Wait another 30 seconds, and verify that the container has been restarted: kubectl get pod liveness-exec

The output shows that RESTARTS has been incremented: NAME READY STATUS RESTARTS AGE

liveness-exec 1/1 Running 1 1m

NEW QUESTION 9

Exhibit:



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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:


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

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

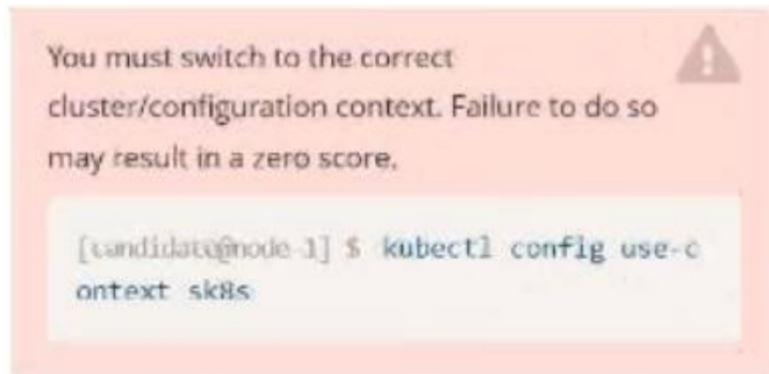
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```
student@node-1:~$ kubectl create f nginx_configmap.yml
Error: must specify one of -f and -k

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

NEW QUESTION 10

Exhibit:



Task

A Deployment named backend-deployment in namespace staging runs a web application on port 8081.

The Deployment's manifest files can be found at `~/spicy-pikachu/backend-deployment.yaml`.

Modify the Deployment specifying a readiness probe using path `/healthz`.

Set `initialDelaySeconds` to 8 and `periodSeconds` to 5.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
File Edit View Terminal Tabs Help
Warning: Permanently added '172.31.17.21' (ECDSA) to the list of known hosts.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

candidate@node-1:~$ vi ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context sk8s
Switched to context "sk8s".
candidate@node-1:~$ vim .vimrc
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
apiVersion: apps/v1
kind: Deployment
metadata:
  name: backend-deployment
  namespace: staging
spec:
  selector:
    matchLabels:
      app: nginx
  replicas: 3
  template:
    metadata:
      labels:
        app: nginx
    spec:
      containers:
      - name: nginx
        image: nginx:1.14.2
        ports:
        - containerPort: 8081
        readinessProbe:
          initialDelaySeconds: 8
          periodSeconds: 5
          httpGet:
            path: /healthz
            port: 8081
        volumeMounts:
        - mountPath: /etc/nginx/conf.d/
          name: config
        - mountPath: /usr/share/nginx/html/
          name: www
-- INSERT --
26.28 Top
```

```
File Edit View Terminal Tabs Help
Warning: Permanently added '172.31.17.21' (ECDSA) to the list of known hosts.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

candidate@node-1:~$ vi ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context sk8s
Switched to context "sk8s".
candidate@node-1:~$ vim .vimrc
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl apply -f ~/spicy-pikachu/backend-deployment.yaml
deployment.apps/backend-deployment configured
candidate@node-1:~$ kubectl get pods -n staging
NAME                                READY   STATUS    RESTARTS   AGE
backend-deployment-59d449b99d-cxct6 1/1     Running   0           20s
backend-deployment-59d449b99d-h2zjq 0/1     Running   0           9s
backend-deployment-78976f74f5-b8c85 1/1     Running   0           6h40m
backend-deployment-78976f74f5-flfsj 1/1     Running   0           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment                  3/3     3             3           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment                  3/3     3             3           6h41m
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
```

NEW QUESTION 10

Exhibit:

**Context**

A container within the poller pod is hard-coded to connect the nginxsvc service on port 90. As this port changes to 5050 an additional container needs to be added to the poller pod which adapts the container to connect to this new port. This should be realized as an ambassador container within the pod.

Task

- Update the nginxsvc service to serve on port 5050.
- Add an HAProxy container named haproxy bound to port 90 to the poller pod and deploy the enhanced pod. Use the image haproxy and inject the configuration located at /opt/KDMC00101/haproxy.cfg, with a ConfigMap named haproxy-config, mounted into the container so that haproxy.cfg is available at /usr/local/etc/haproxy/haproxy.cfg. Ensure that you update the args of the poller container to connect to localhost instead of nginxsvc so that the connection is correctly proxied to the new service endpoint. You must not modify the port of the endpoint in poller's args . The spec file used to create the initial poller pod is available in /opt/KDMC00101/poller.yaml

- A. Mastered
B. Not Mastered

Answer: A**Explanation:****Solution:**

```
apiVersion: apps/v1 kind: Deployment metadata:
```

```
name: my-nginx spec:
```

```
selector:
```

```
matchLabels: run: my-nginx replicas: 2 template: metadata: labels:
```

```
run: my-nginx spec: containers:
```

```
- name: my-nginx image: nginx ports:
```

```
- containerPort: 90
```

This makes it accessible from any node in your cluster. Check the nodes the Pod is running on: `kubectl apply -f ./run-my-nginx.yaml`

```
kubectl get pods -l run=my-nginx -o wide
```

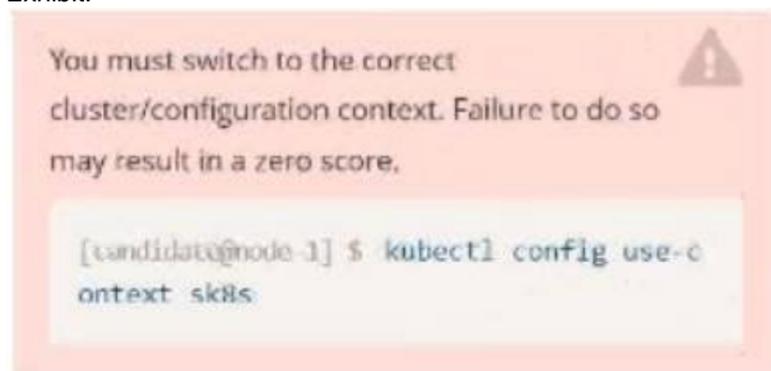
```
NAME READY STATUS RESTARTS AGE IP NODE
```

```
my-nginx-3800858182-jr4a2 1/1 Running 0 13s 10.244.3.4 kubernetes-minion-905m my-nginx-3800858182-kna2y 1/1 Running 0 13s 10.244.2.5 kubernetes-
```

```
minion-ljyd Check your pods' IPs:
```

```
kubectl get pods -l run=my-nginx -o yaml | grep podIP podIP: 10.244.3.4
```

```
podIP: 10.244.2.5
```

NEW QUESTION 15**Exhibit:****Task:**

A pod within the Deployment named buffale-deployment and in namespace gorilla is logging errors.

1) Look at the logs identify errors messages.

Find errors, including User "system:serviceaccount:gorilla:default" cannot list resource "deployment" [...] in the namespace "gorilla"

The buffalo-deployment 'S manifest can be found at `-/prompt/escargot/buffalo-deployment.yaml`

- A. Mastered
B. Not Mastered

Answer: A**Explanation:****Solution:**

Text Description automatically generated

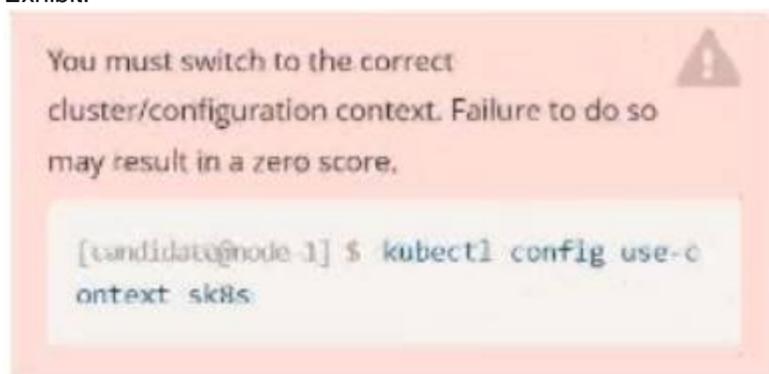
```

File Edit View Terminal Tabs Help
deployment.apps/backend-deployment configured
candidate@node-1:~$ kubectl get pods -n staging
NAME                                READY   STATUS    RESTARTS   AGE
backend-deployment-59d449b99d-cxct6 1/1     Running   0           20s
backend-deployment-59d449b99d-h2zjq 0/1     Running   0           9s
backend-deployment-78976f74f5-b8c85 1/1     Running   0           6h40m
backend-deployment-78976f74f5-flfsj 1/1     Running   0           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME            READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment 3/3     3             3           6h40m
candidate@node-1:~$ kubectl get deploy -n staging
NAME            READY   UP-TO-DATE   AVAILABLE   AGE
backend-deployment 3/3     3             3           6h41m
candidate@node-1:~$ vim ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl set serviceaccount deploy app-1 app -n frontend
deployment.apps/app-1 serviceaccount updated
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ vim ~/prompt-escargot/buffalo-deployment.yaml
candidate@node-1:~$ vim ~/prompt-escargot/buffalo-deployment.yaml
candidate@node-1:~$ kubectl apply -f ~/prompt-escargot/buffalo-deployment.yaml
deployment.apps/buffalo-deployment configured
candidate@node-1:~$ kubectl get pods -n gorilla
NAME                                READY   STATUS    RESTARTS   AGE
buffalo-deployment-776844df7f-r5fsb 1/1     Running   0           6h38m
buffalo-deployment-859898c6f5-zx5gj 0/1     ContainerCreating 0           8s
candidate@node-1:~$ kubectl get deploy -n gorilla
NAME            READY   UP-TO-DATE   AVAILABLE   AGE
buffalo-deployment 1/1     1             1           6h38m
candidate@node-1:~$

```

NEW QUESTION 19

Exhibit:



Task:

Create a Pod named nginx resources in the existing pod resources namespace. Specify a single container using nginx:stable image. Specify a resource request of 300m cpus and 1G1 of memory for the Pod's container.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```

candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl run nginx-resources -n pod-resources --image=nginx:stable --dry-run=client -o yaml > hw.yaml
candidate@node-1:~$ vim hw.yaml

```

Text Description automatically generated with medium confidence

```

File Edit View Terminal Tabs Help
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx-resources
  name: nginx-resources
  namespace: pod-resources
spec:
  containers:
  - image: nginx:stable
    name: nginx-resources
    resources:
      requests:
        cpu: 300m
        memory: "1Gi"

```

Text Description automatically generated

```

candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl run nginx-resources -n pod-resources --image=nginx:stable --dry-run=client -o yaml > hw.yaml
candidate@node-1:~$ vim hw.yaml
candidate@node-1:~$ kubectl create -f hw.yaml
pod/nginx-resources created
candidate@node-1:~$ kubectl get pods -n pod-resources
NAME          READY   STATUS    RESTARTS   AGE
nginx-resources 1/1     Running   0           13s
candidate@node-1:~$ kubectl describe pods -n pod-resources

```

Text Description automatically generated

```

File Edit View Terminal Tabs Help
memory: 1Gi
Environment: <none>
Mounts:
  /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-dmx9j (ro)
Conditions:
  Type             Status
  Initialized       True
  Ready             True
  ContainersReady  True
  PodScheduled     True
Volumes:
  kube-api-access-dmx9j:
    Type: Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName: kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI: true
QoS Class:           Burstable
Node-Selectors:      <none>
Tolerations:         node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
                     node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type    Reason      Age   From          Message
  ----    -
  Normal  Scheduled   28s   default-scheduler  Successfully assigned pod-resources/nginx-resources to k8s-node-0
  Normal  Pulling    19s   kubelet        Pulling image "nginx:stable"
  Normal  Pulled     13s   kubelet        Successfully pulled image "nginx:stable" in 6.55664052s
  Normal  Created    13s   kubelet        Created container nginx-resources
  Normal  Started    12s   kubelet        Started container nginx-resources
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl create deploy expose -n ckad00014 --image lfccncf/nginx:1.13.7 --dry-run=client -o yaml>

```

NEW QUESTION 20

Exhibit:



Context

You have been tasked with scaling an existing deployment for availability, and creating a service to expose the deployment within your infrastructure.

Task

Start with the deployment named kdsn00101-deployment which has already been deployed to the namespace kdsn00101 . Edit it to:

- Add the func=webFrontEnd key/value label to the pod template metadata to identify the pod for the service definition
- Have 4 replicas

Next, create a service in namespace kdsn00101 a service that accomplishes the following:

- Exposes the service on TCP port 8080
- is mapped to the pods defined by the specification of kdsn00101-deployment
- Is of type NodePort
- Has a name of cherry

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
student@node-1:~$ kubectl edit deployment kdsn00101-deployment -n kdsn00101
```

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```
Please edit the object below. Lines beginning with a '#' will be ignored,
and an empty file will abort the edit. If an error occurs while saving this file will be
reopened with the relevant failures.
#
apiVersion: apps/v1
kind: Deployment
metadata:
  annotations:
    deployment.kubernetes.io/revision: "1"
  creationTimestamp: "2020-10-09T08:50:39Z"
  generation: 1
  labels:
    app: nginx
  name: kdsn00101-deployment
  namespace: kdsn00101
  resourceVersion: "4786"
  selfLink: /apis/apps/v1/namespaces/kdsn00101/deployments/kdsn00101-deployment
  uid: 8d3ace00-7761-4189-ba10-fbc676c311bf
spec:
  progressDeadlineSeconds: 600
  replicas: 1
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
"/tmp/kubectl-edit-d4y5r.yaml" 70L, 1957C 1,1 Top
```

```

uid: 8d3ace00-7761-4189-ba10-fbc676c311bf
spec:
  progressDeadlineSeconds: 600
  replicas: 4
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
    rollingUpdate:
      maxSurge: 25%
      maxUnavailable: 25%
    type: RollingUpdate
  template:
    metadata:
      creationTimestamp: null
      labels:
        app: nginx
        func: webFrontEnd
    spec:
      containers:
      - image: nginx:latest
        imagePullPolicy: Always
        name: nginx
        ports:
        - containerPort: 80

```

```

student@node-1:~$ kubectl edit deployment kdsn00101-deployment -n kdsn00101
deployment.apps/kdsn00101-deployment edited
student@node-1:~$ kubectl get deployment kdsn00101-deployment -n kdsn00101
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
kdsn00101-deployment 4/4     4            4           7h17m
student@node-1:~$ kubectl expose deployment kdsn00101-deployment -n kdsn00101 --type NodePort --port 8080 --name cherry
service/cherry exposed

```

NEW QUESTION 21

Exhibit:



Task

Create a new deployment for running nginx with the following parameters;

- Run the deployment in the kdpd00201 namespace. The namespace has already been created
- Name the deployment frontend and configure with 4 replicas
- Configure the pod with a container image of lfcncf/nginx:1.13.7
- Set an environment variable of NGINX_PORT=8080 and also expose that port for the container above

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```

student@node-1:~$ kubectl create deployment api --image=lfcncf/nginx:1.13.7-alpine --replicas=4
-n kdpd00201 --dry-run=client -o yaml > nginx_deployment.yml
student@node-1:~$ vim nginx_deployment.yml

```

```
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apiVersion: apps/v1
kind: Deployment
metadata:
  creationTimestamp: null
  labels:
    app: api
  name: api
  namespace: kdpd00201
spec:
  replicas: 4
  selector:
    matchLabels:
      app: api
  strategy: {}
  template:
    metadata:
      creationTimestamp: null
      labels:
        app: api
    spec:
      containers:
      - image: lfcncf/nginx:1.13.7-alpine
        name: nginx
        resources: {}
status: {}

~
"nginx_deployment.yml" 25L, 421C 4,1 All
```

```
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apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    app: api
  name: api
  namespace: kdpd00201
spec:
  replicas: 4
  selector:
    matchLabels:
      app: api
  template:
    metadata:
      labels:
        app: api
    spec:
      containers:
      - image: lfcncf/nginx:1.13.7-alpine
        name: nginx
        ports:
        - containerPort: 8080
          env:
          - name: NGINX_PORT
            value: "8080"

~
23,8 All
```

```
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student@node-1:~$ kubectl create deployment api --image=lfcncf/nginx:1.13.7-alpine --replicas=4
-n kdpd00201 --dry-run=client -o yaml > nginx_deployment.yml
student@node-1:~$ vim nginx_deployment.yml
student@node-1:~$ kubectl create nginx_deployment.yml
Error: must specify one of -f and -k

error: unknown command "nginx_deployment.yml"
See 'kubectl create -h' for help and examples
student@node-1:~$ kubectl create -f nginx_deployment.yml
error: error validating "nginx_deployment.yml": error validating data: ValidationError(Deployment.spec.template.spec): unknown field "env" in io.k8s.api.core.v1.PodSpec; if you choose to ignore these errors, turn validation off with --validate=false
student@node-1:~$ vim nginx_deployment.yml
student@node-1:~$ kubectl create -f nginx_deployment.yml
deployment.apps/api created
student@node-1:~$ kubectl get pods -n kdpd00201
NAME                 READY   STATUS    RESTARTS   AGE
api-745677f7dc-7hnm  1/1     Running   0           13s
api-745677f7dc-9q5vp 1/1     Running   0           13s
api-745677f7dc-fd4gk 1/1     Running   0           13s
api-745677f7dc-mbnpc 1/1     Running   0           13s
student@node-1:~$
```

NEW QUESTION 23

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