

Linux-Foundation

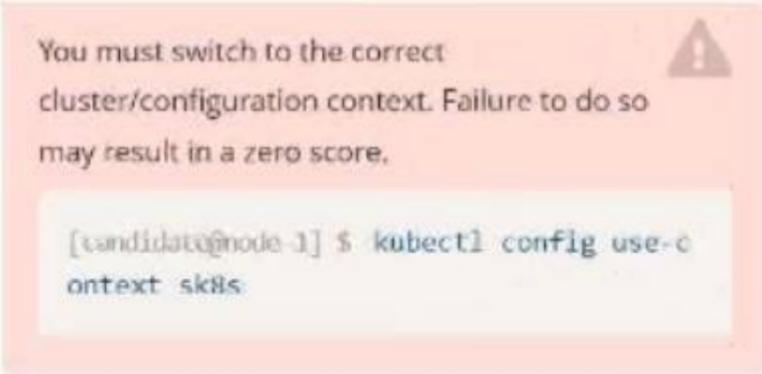
Exam Questions CKAD

Certified Kubernetes Application Developer (CKAD) Program



NEW QUESTION 1

Exhibit:

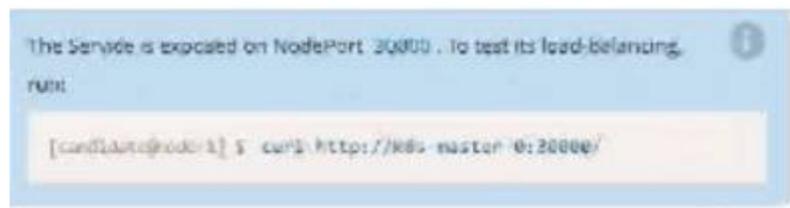
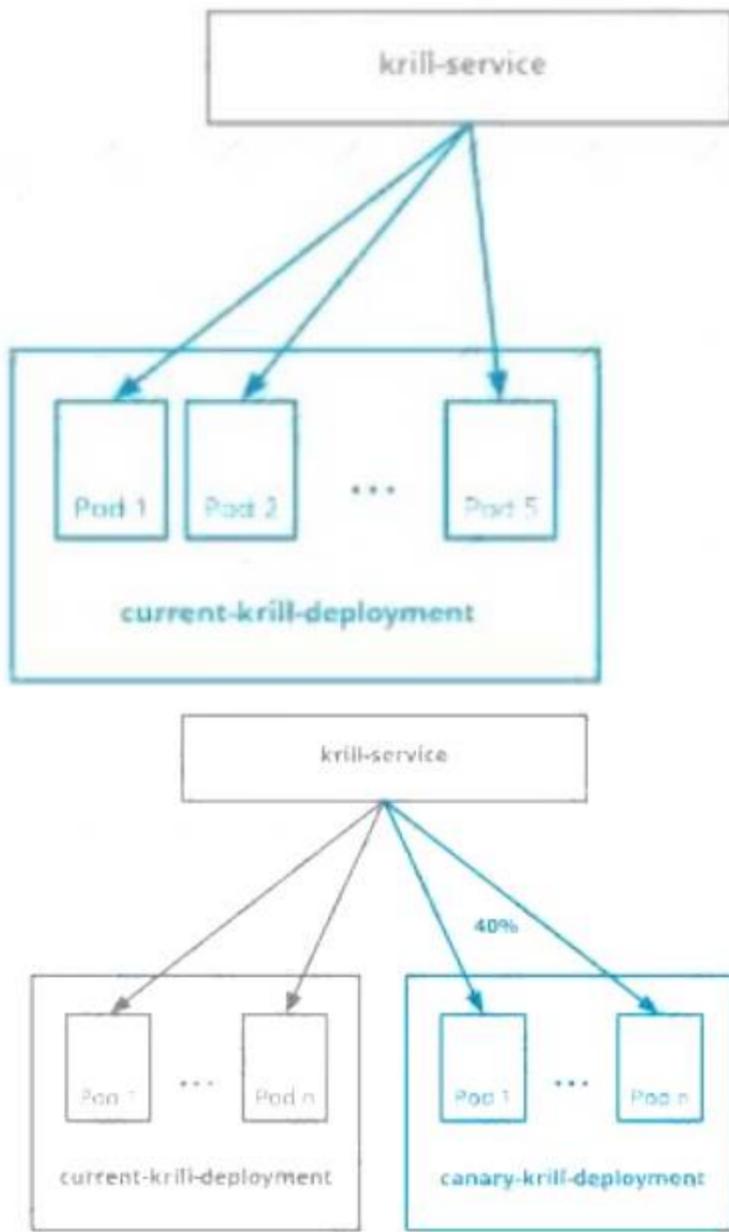


Context

You are asked to prepare a Canary deployment for testing a new application release.

Task:

A Service named krill-Service in the goshawk namespace points to 5 pod created by the Deployment named current-krill-deployment



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```
candidate@node-1:~/humane-stork$ kubectl scale deploy canary-krill-deployment --replicas 4 -n goshawk
deployment.apps/canary-krill-deployment scaled
candidate@node-1:~/humane-stork$ kubectl get deploy -n goshawk
NAME                    READY   UP-TO-DATE   AVAILABLE   AGE
canary-krill-deployment 4/4     4            4           46s
current-krill-deployment 5/5     5            5           7h22m
candidate@node-1:~/humane-stork$ wget https://k8s.io/examples/
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
candidate@node-1:~/humane-storks$ wget https://k8s.io/examples/admin/resource/quota-pod.yaml
--2022-09-24 11:43:51-- https://k8s.io/examples/admin/resource/quota-pod.yaml
Resolving k8s.io (k8s.io)... 34.107.204.206, 2600:1901:0:26f3::
Connecting to k8s.io (k8s.io)[34.107.204.206]:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://kubernetes.io/examples/admin/resource/quota-pod.yaml [following]
--2022-09-24 11:43:52-- https://kubernetes.io/examples/admin/resource/quota-pod.yaml
Resolving kubernetes.io (kubernetes.io)... 147.75.40.148
Connecting to kubernetes.io (kubernetes.io)[147.75.40.148]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 90 [application/x-yaml]
Saving to: 'quota-pod.yaml'

quota-pod.yaml      100%[=====>]          90  --.-KB/s   in 0s

2022-09-24 11:43:52 (15.0 MB/s) - 'quota-pod.yaml' saved [90/90]

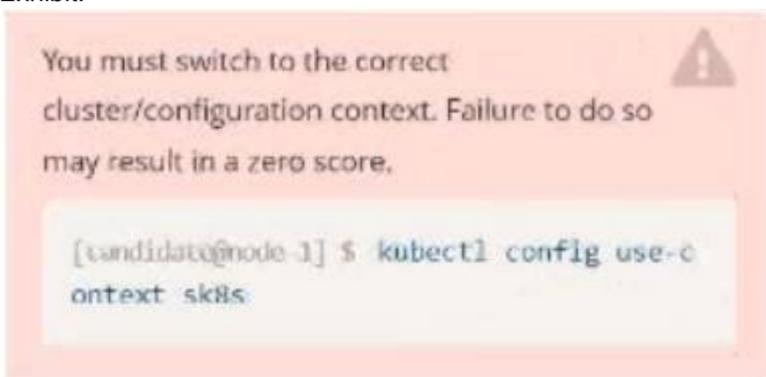
candidate@node-1:~/humane-storks$ vim quota-pod.yaml
```

```
File Edit View Terminal Tabs Help
2022-09-24 11:43:52 (15.0 MB/s) - 'quota-pod.yaml' saved [90/90]

candidate@node-1:~/humane-storks$ vim quota-pod.yaml
candidate@node-1:~/humane-storks$ kubectl create -f quota-pod.yaml
resourcequota/pod-demo created
candidate@node-1:~/humane-storks$ kubectl get quota -n go
No resources found in go namespace.
candidate@node-1:~/humane-storks$ kubectl get quota -n goshawk
NAME      AGE      REQUEST    LIMIT
pod-demo  19s     pods: 9/10
candidate@node-1:~/humane-storks$ curl http://k8s-master-0:30000/
current-krill-deployment-fb7c7995c-kvtjr
app.kubernetes.io/name="current"
app.kubernetes.io/part-of="krill"
pod-template-hash="fb7c7995c"candidate@node-1:~/humane-storks$ curl http://k8s-master-0:30000/
current-krill-deployment-fb7c7995c-4whfm
app.kubernetes.io/name="current"
app.kubernetes.io/part-of="krill"
pod-template-hash="fb7c7995c"candidate@node-1:~/humane-storks$ curl http://k8s-master-0:30000/
canary-krill-deployment-5f78fd4786-dfk7l
app.kubernetes.io/name="canary"
app.kubernetes.io/part-of="krill"
pod-template-hash="5f78fd4786"candidate@node-1:~/humane-storks$ curl http://k8s-master-0:30000/
canary-krill-deployment-5f78fd4786-z5zrt
app.kubernetes.io/name="canary"
app.kubernetes.io/part-of="krill"
pod-template-hash="5f78fd4786"candidate@node-1:~/humane-storks$ curl http://k8s-master-0:30000/
canary-krill-deployment-5f78fd4786-2774b
app.kubernetes.io/name="canary"
app.kubernetes.io/part-of="krill"
pod-template-hash="5f78fd4786"candidate@node-1:~/humane-storks$
```

NEW QUESTION 2

Exhibit:



Task:
 Key3: value1
 Add an environment variable named BEST_VARIABLE consuming the value of the secret key3.

- 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 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
```

Text Description automatically generated

```
File Edit View Terminal Tabs Help
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx-secret
    name: nginx-secret
    namespace: default
spec:
  containers:
  - image: nginx:stable
    name: nginx-secret
    env:
    - name: BEST_VARIABLE
      valueFrom:
        secretKeyRef:
          name: app-secret
          key: key3
```

Text Description automatically generated

```
candidate@node-1:~$ kubectl config use-context k8s
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:~$
```

NEW QUESTION 3

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

Readme Web Terminal THE LINUX FOUNDATION

```

apiVersion: v1
kind: Pod
metadata:
  labels:
    run: appl
  name: appl
spec:
  containers:
  - image: lfcncf/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
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
student@node-1:~$ kubectl create -f /opt/KDPD00101/pod1.yml
pod/appl created
student@node-1:~$ kubectl get pods
NAME          READY   STATUS              RESTARTS   AGE
appl          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 appl -o json >
  
```

Readme
Web Terminal
THE LINUX FOUNDATION

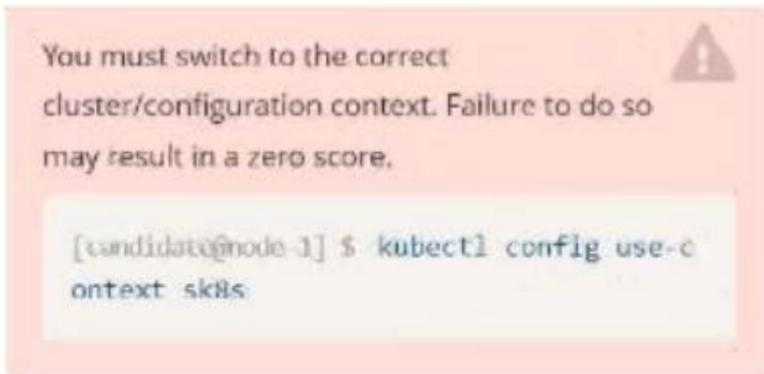
```

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:

- > To run 2 replicas of the pod
- > Add the following label on the pod:
Role userUI

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:
Text Description automatically generated

```
File Edit View Terminal Tabs Help
# reopened with the relevant failures.
#
apiVersion: apps/v1
kind: Deployment
metadata:
  annotations:
    deployment.kubernetes.io/revision: "1"
  creationTimestamp: "2022-09-24T04:27:03Z"
  generation: 1
  labels:
    app: nginx
  name: ckad00017-deployment
  namespace: ckad00017
  resourceVersion: "3349"
  uid: lcd67613-fade-46e9-b741-94298b9c6e7c
spec:
  progressDeadlineSeconds: 600
  replicas: 2
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
    rollingUpdate:
      maxSurge: 25%
      maxUnavailable: 25%
    type: RollingUpdate
  template:
    metadata:
      creationTimestamp: null
      labels:
-- INSERT --
```

33,14 5%

Text Description automatically generated

```
File Edit View Terminal Tabs Help
name: ckad00017-deployment
namespace: ckad00017
resourceVersion: "3349"
uid: lcd67613-fade-46e9-b741-94298b9c6e7c
spec:
  progressDeadlineSeconds: 600
  replicas: 2
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
    rollingUpdate:
      maxSurge: 25%
      maxUnavailable: 25%
    type: RollingUpdate
  template:
    metadata:
      creationTimestamp: null
      labels:
        app: nginx
        role: userUI
    spec:
      containers:
      - image: nginx:latest
        imagePullPolicy: Always
        name: nginx
        ports:
        - containerPort: 80
          protocol: TCP
        resources: {}
-- INSERT --
```

35,21 33%

Text Description automatically generated

```

File Edit View Terminal Tabs Help
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:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy ckad00017-deployment -n ckad00017
deployment.apps/ckad00017-deployment edited
candidate@node-1:~$

```

```

File Edit View Terminal Tabs Help
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:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy ckad00017-deployment -n ckad00017
deployment.apps/ckad00017-deployment edited
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose deploy ckad00017-deployment -n ckad0001
ckad00014 ckad00015 ckad00017
candidate@node-1:~$ kubectl expose service/cherry -n ckad00017 --name=cherry --port=8888 --type=NodePort
service/cherry exposed
candidate@node-1:~$

```

```

candidate@node-1:~$ kubectl get svc
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 77d
candidate@node-1:~$ kubectl get svc -n ckad00017
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
cherry NodePort 10.100.100.176 <none> 8888:30683/TCP 24s
candidate@node-1:~$ kubectl expose service deploy ckad00017-deployment -n ckad00017 --name=cherry --port=8888 --type=NodePort
Error from server (NotFound): services "deploy" not found
Error from server (NotFound): services "ckad00017-deployment" not found
candidate@node-1:~$ kubectl get svc -n ckad00017
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
cherry NodePort 10.100.100.176 <none> 8888:30683/TCP 46s
candidate@node-1:~$

```

```

File Edit View Terminal Tabs Help
candidate@node-1:~$ kubectl expose service deploy ckad00017-deployment -n ckad00017 --name=cherry --port=8888 --type=NodePort
Error from server (NotFound): services "deploy" not found
Error from server (NotFound): services "ckad00017-deployment" not found
candidate@node-1:~$ kubectl get svc -n ckad00017
NAME      TYPE      CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
cherry    NodePort  10.100.100.176 <none>        8888:30683/TCP  46s
candidate@node-1:~$ history
 1 vi ~/spicy-pikachu/backend-deployment.yaml
 2 kubectl config use-context sk8s
 3 vim .vimrc
 4 vim ~/spicy-pikachu/backend-deployment.yaml
 5 kubectl apply -f ~/spicy-pikachu/backend-deployment.yaml
 6 kubectl get pods -n staging
 7 kubectl get deploy -n staging
 8 vim ~/spicy-pikachu/backend-deployment.yaml
 9 kubectl config use-context k8s
10 kubectl set serviceaccount deploy app-1 app -n frontend
11 kubectl config use-context k8s
12 vim ~/prompt-escargot/buffalo-deployment.yaml
13 kubectl apply -f ~/prompt-escargot/buffalo-deployment.yaml
14 kubectl get pods -n gorilla
15 kubectl get deploy -n gorilla
16 kubectl config use-context k8s
17 kubectl edit deploy ckad00017-deployment -n ckad00017
18 kubectl expose deploy ckad00017-deployment -n ckad00017 --name=cherry --port=8888 --type=NodePort
19 kubectl get svc
20 kubectl get svc -n ckad00017
21 kubectl expose service deploy ckad00017-deployment -n ckad00017 --name=cherry --port=8888 --type=NodePort
22 kubectl get svc -n ckad00017
23 history
candidate@node-1:~$

```

NEW QUESTION 6

Exhibit:



Context

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

The desired behavior is to have Kubemetes 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 7

Exhibit:



Context

Developers occasionally need to submit pods that run periodically. Task

Follow the steps below to create a pod that will start at a predetermined time and which runs to completion only once each time it is started:

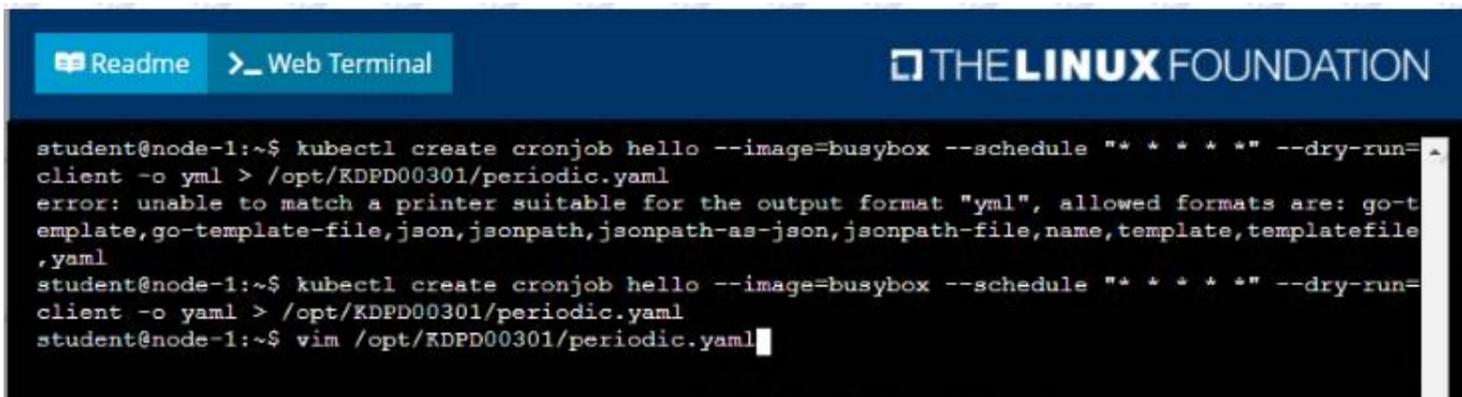
- Create a YAML formatted Kubernetes manifest `/opt/KDPD00301/periodic.yaml` that runs the following shell command: `date` in a single busybox container. The command should run every minute and must complete within 22 seconds or be terminated by Kubernetes. The Cronjob name and container name should both be `hello`
- Create the resource in the above manifest and verify that the job executes successfully at least once

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:



```

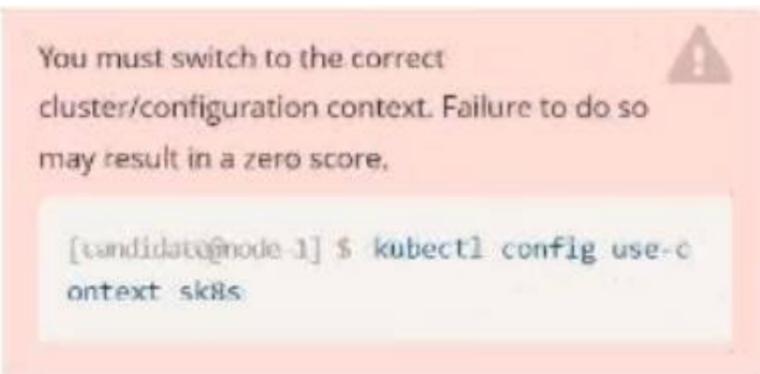
Readme Web Terminal THE LINUX FOUNDATION
apiVersion: batch/v1beta1
kind: CronJob
metadata:
  name: hello
spec:
  jobTemplate:
    metadata:
      name: hello
    spec:
      template:
        spec:
          containers:
            - image: busybox
              name: hello
              args: ["/bin/sh", "-c", "date"]
              restartPolicy: Never
  schedule: '*/* * * * *'
  startingDeadlineSeconds: 22
  concurrencyPolicy: Allow
  
```

```

Readme Web Terminal THE LINUX FOUNDATION
student@node-1:~$ kubectl create cronjob hello --image=busybox --schedule "* * * * *" --dry-run=client -o yml > /opt/KDPD00301/periodic.yaml
error: unable to match a printer suitable for the output format "yaml", allowed formats are: go-template, go-template-file, json, jsonpath, jsonpath-as-json, jsonpath-file, name, template, templatefile, yaml
student@node-1:~$ kubectl create cronjob hello --image=busybox --schedule "* * * * *" --dry-run=client -o yaml > /opt/KDPD00301/periodic.yaml
student@node-1:~$ vim /opt/KDPD00301/periodic.yaml
student@node-1:~$ kubectl create -f /opt/KDPD00301/periodic.yaml
cronjob.batch/hello created
student@node-1:~$ kubectl get cronjob
NAME          SCHEDULE          SUSPEND   ACTIVE   LAST SCHEDULE   AGE
hello        */* * * * *      False    0        <none>          6s
student@node-1:~$
  
```

NEW QUESTION 8

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 9

Exhibit:



Context

A user has reported an application is unteachable due to a failing livenessProbe . Task

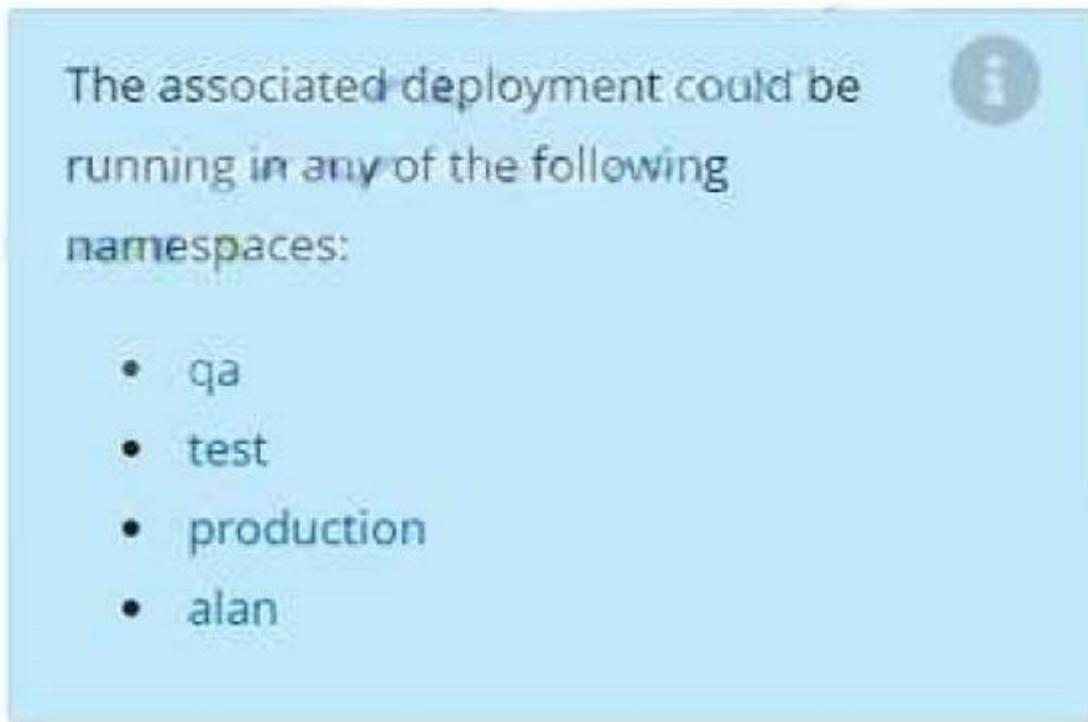
Perform the following tasks:

- Find the broken pod and store its name and namespace to /opt/KDOB00401/broken.txt in the format:



The output file has already been created

- Store the associated error events to a file /opt/KDOB00401/error.txt, The output file has already been created. You will need to use the -o wide output specifier with your command
- Fix the issue.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

Create the Pod: kubectl create

-f <http://k8s.io/docs/tasks/configure-pod-container/exec-liveness.yaml>

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 SubjectPath 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 "gcr.io/google_containers/busybox"
23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Pulled Successfully pulled image "gcr.io/google_containers/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 SubjectPath 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 "gcr.io/google_containers/busybox"
36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Pulled Successfully pulled image "gcr.io/google_containers/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 m

NEW QUESTION 10

Exhibit:



Task

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

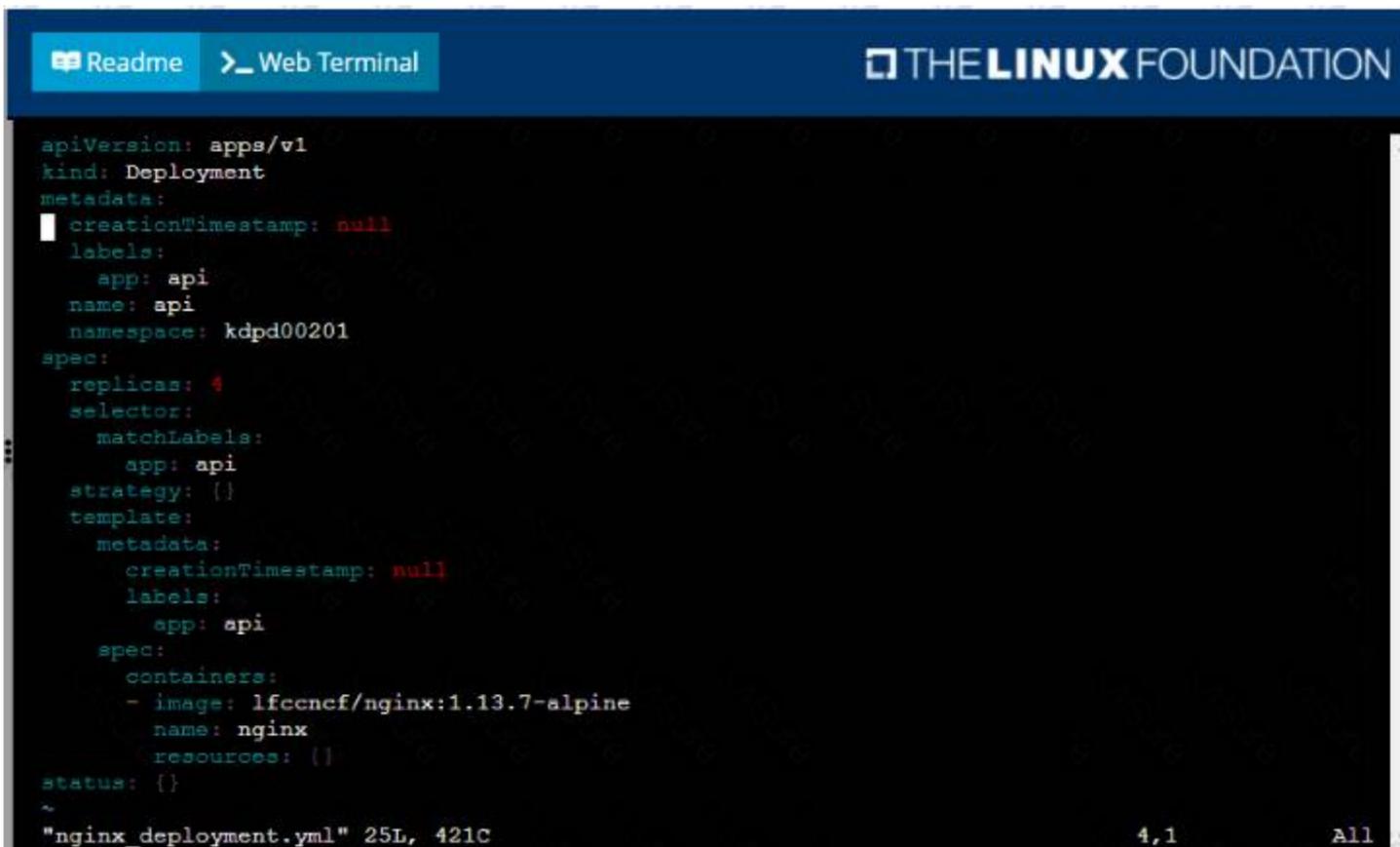
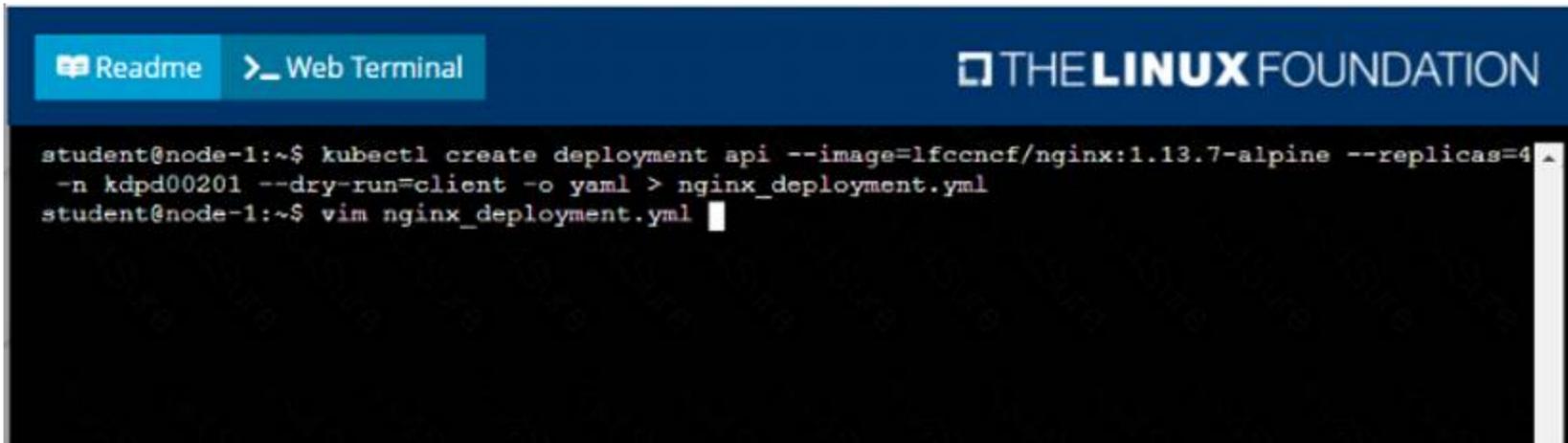
- Run the deployment in the kdpd00201 namespace. The namespace has already been created
- Name the deployment frontend and configure with 4 replicas
- Configure the pod with a container image of lfcncf/nginx:1.13.7
- Set an environment variable of NGINX_PORT=8080 and also expose that port for the container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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:



```

Readme Web Terminal THE LINUX FOUNDATION
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

```

```

Readme Web Terminal THE LINUX FOUNDATION
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-7hnmv 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 10

Exhibit:



Context

As a Kubernetes application developer you will often find yourself needing to update a running application. Task Please complete the following:

- Update the app deployment in the kdpd00202 namespace with a maxSurge of 5% and a maxUnavailable of 2%
- Perform a rolling update of the web1 deployment, changing the lfcncf/ngmx image version to 1.13
- Roll back the app deployment to the previous version

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Solution:

```

Readme Web Terminal THE LINUX FOUNDATION
student@node-1:~$ kubectl edit deployment app -n kdpd00202

```

```

Readme Web Terminal THE LINUX FOUNDATION
uid: 1dfa2527-5c61-46a9-8dd3-e24643d3ce14
spec:
  progressDeadlineSeconds: 600
  replicas: 10
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
    rollingUpdate:
      maxSurge: 5%
      maxUnavailable: 2
    type: RollingUpdate
  template:
    metadata:
      creationTimestamp: null
    labels:
      app: nginx
    spec:
      containers:
      - image: lfcncf/nginx:1.13
        imagePullPolicy: IfNotPresent
        name: nginx
        ports:
        - containerPort: 80
          protocol: TCP
:wq!

```

```

Readme Web Terminal THE LINUX FOUNDATION
student@node-1:~$ kubectl edit deployment app -n kdpd00202
deployment.apps/app edited
student@node-1:~$ kubectl rollout status deployment app -n kdpd00202
Waiting for deployment "app" rollout to finish: 6 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 7 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 7 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 7 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 8 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 8 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 8 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 8 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 1 old replicas are pending termination...
Waiting for deployment "app" rollout to finish: 8 of 10 updated replicas are available...
Waiting for deployment "app" rollout to finish: 9 of 10 updated replicas are available...
deployment "app" successfully rolled out
student@node-1:~$ kubectl rollout undo deployment app -n kdpd00202
deployment.apps/app rolled back
student@node-1:~$ kubectl rollout status deployment app -n kdpd00202

```

```

student@node-1:~$ kubectl rollout status deployment app -n kdpd00202
Waiting for deployment "app" rollout to finish: 6 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 6 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 6 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 6 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 7 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 9 out of 10 new replicas have been updated...
Waiting for deployment "app" rollout to finish: 1 old replicas are pending termination...
Waiting for deployment "app" rollout to finish: 1 old replicas are pending termination...
Waiting for deployment "app" rollout to finish: 1 old replicas are pending termination...
Waiting for deployment "app" rollout to finish: 8 of 10 updated replicas are available...
Waiting for deployment "app" rollout to finish: 9 of 10 updated replicas are available...
deployment "app" successfully rolled out
student@node-1:~$

```

NEW QUESTION 13

.....

Thank You for Trying Our Product

We offer two products:

1st - We have Practice Tests Software with Actual Exam Questions

2nd - Questions and Answers in PDF Format

CKAD Practice Exam Features:

- * CKAD Questions and Answers Updated Frequently
- * CKAD Practice Questions Verified by Expert Senior Certified Staff
- * CKAD Most Realistic Questions that Guarantee you a Pass on Your First Try
- * CKAD Practice Test Questions in Multiple Choice Formats and Updates for 1 Year

100% Actual & Verified — Instant Download, Please Click
[Order The CKAD Practice Test Here](#)