

# Practice Exam Questions



CKAD

Certified Kubernetes  
Application Developer



**EXAMKILLER**

Help Pass Your Exam At First Try

# **Cloud Native Computing Foundation**

## **Exam CKAD**

**Certified Kubernetes Application Developer (CKAD) Program**

**Version: 5.2**

**[ Total Questions: 33 ]**

**Question No : 1 CORRECT TEXT**

Set configuration context:

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

**Context**

Your application's namespace requires a specific service account to be used.

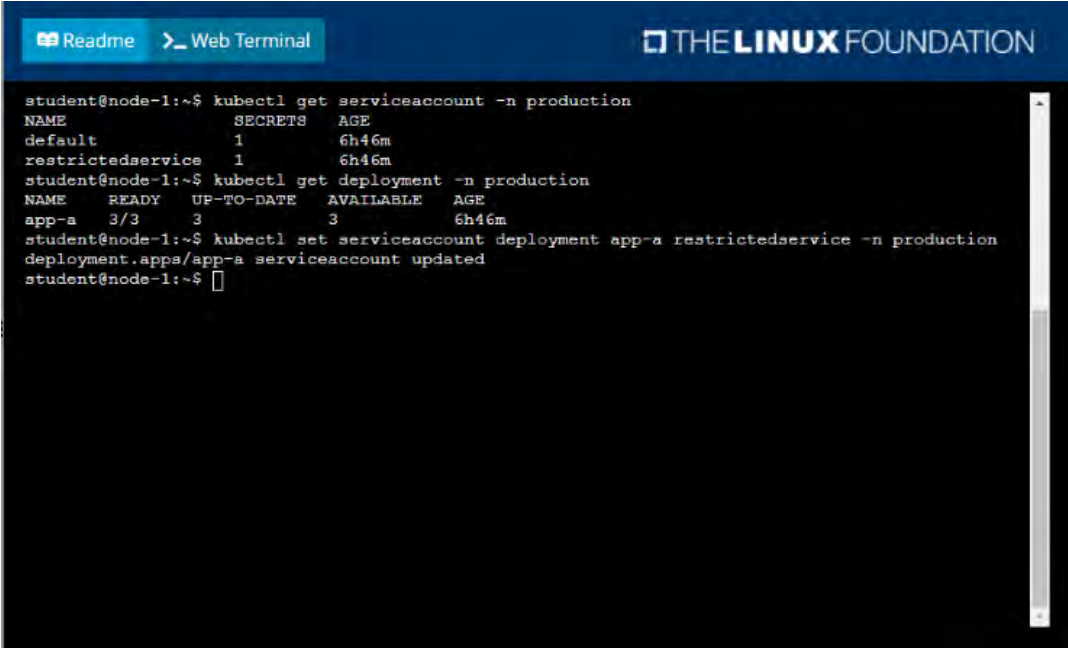
**Task**

Update the app-a deployment in the production namespace to run as the restrictedservice service account. The service account has already been created.

**Answer:** See the solution below.

**Explanation:**

Solution:



The screenshot shows a web terminal interface with a dark background. At the top, there are tabs for 'Readme' and 'Web Terminal', and the 'THE LINUX FOUNDATION' logo on the right. The terminal displays the following commands and output:

```
student@node-1:~$ kubectl get serviceaccount -n production
NAME          SECRETS  AGE
default       1        6h46m
restrictedservice 1        6h46m
student@node-1:~$ kubectl get deployment -n production
NAME    READY  UP-TO-DATE  AVAILABLE  AGE
app-a   3/3    3           3          6h46m
student@node-1:~$ kubectl set serviceaccount deployment app-a restrictedservice -n production
deployment.apps/app-a serviceaccount updated
student@node-1:~$
```

**Question No : 2 CORRECT TEXT**

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-context sk8s
```

Task:

1) Create a secret named app-secret in the default namespace containing the following single key-value pair:

**Key3: value1**

2) Create a Pod named nginx secret in the default namespace. Specify a single container using the nginx:stable image.

Add an environment variable named BEST\_VARIABLE consuming the value of the secret key3.

**Answer:** See the solution below.

**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
```

```
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:~$
```

Text

Description automatically generated

**Question No : 3 CORRECT TEXT**

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-context sk8s
```

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.

**Answer:** See the solution below.

**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
```

```
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 with medium confidence

## CNCF CKAD : Practice Test

```
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   20s   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 lfccnfc/nginx:1.13.7 --dry-run=client -o yaml >
```

Text

Description automatically generated

### Question No : 4 CORRECT TEXT

Set configuration context:

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

Context



As a Kubernetes application developer you will often find yourself needing to update a running application.

### Task

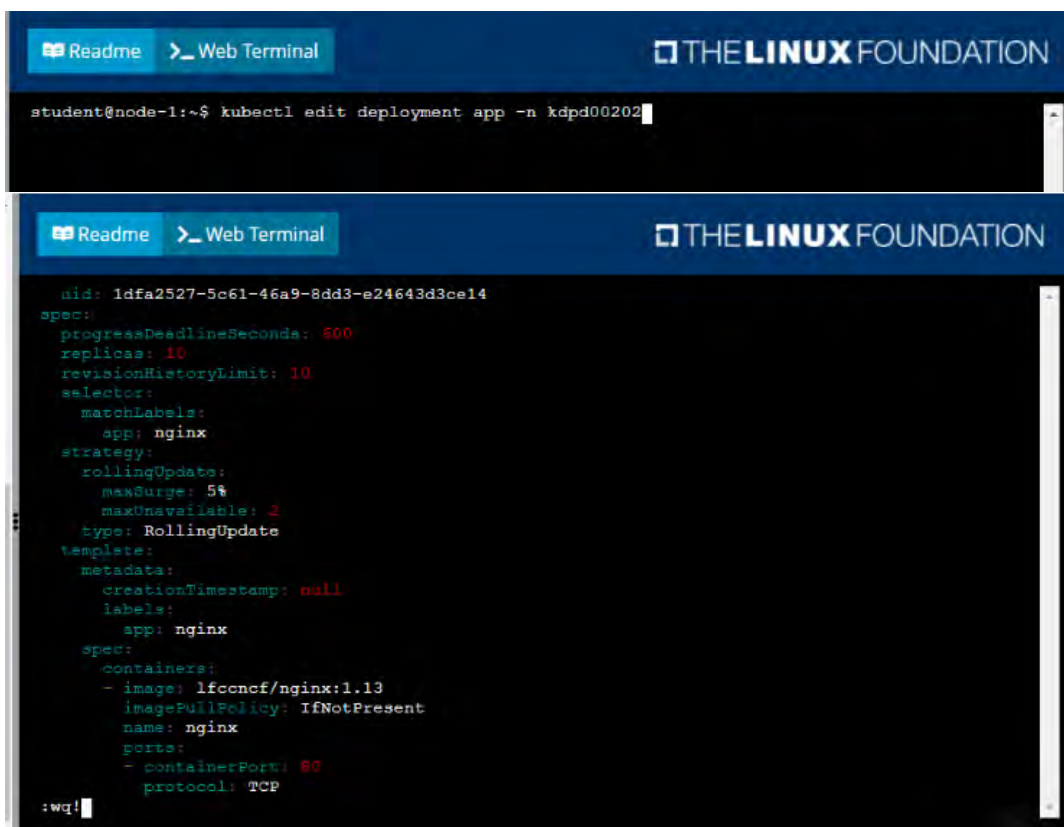
Please complete the following:

- 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/nginx image version to 1.13
- Roll back the app deployment to the previous version

**Answer:** See the solution below.

### Explanation:

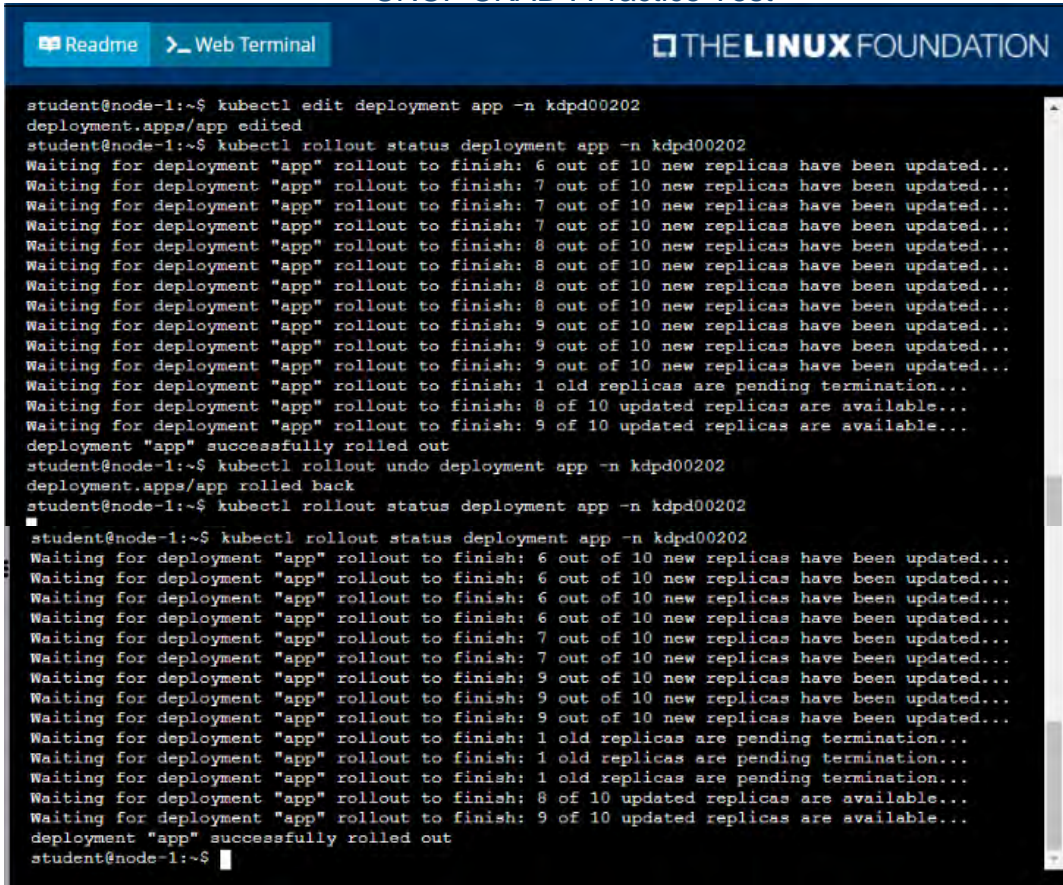
Solution:



```
student@node-1:~$ kubectl edit deployment app -n kdpd00202

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
:wg!
```





```

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: 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: 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: 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:~$

```

### Question No : 5 CORRECT TEXT

No configuration context change is required for this task.

Task:

A Dockerfile has been prepared at `-/human-stork/build/Dockerfile`

1) Using the prepared Dockerfile, build a container image with the name `macque` and tag `3.0`. You may install and use the tool of your choice.

Multiple image builders and tools have been pre-installed in the base system including: docker, skopeo, buildah, img, and podman.

Please do not push the built image to a registry, run a container, or otherwise consume it.

2) Using the tool of your choice export the built container image in OC-format and store it a t-/human stork/macque 3.0 tar

**Answer:** See the solution below.

**Explanation:**

**Solution:**

```
candidate@node-1:~$ cd humane-stork/build/
candidate@node-1:~/humane-stork/build$ ls -l
total 16
-rw-r--r-- 1 candidate candidate 201 Sep 24 04:21 Dockerfile
-rw-r--r-- 1 candidate candidate 644 Sep 24 04:21 text1.html
-rw-r--r-- 1 candidate candidate 813 Sep 24 04:21 text2.html
-rw-r--r-- 1 candidate candidate 383 Sep 24 04:21 text3.html
candidate@node-1:~/humane-stork/build$ sudo docker build -t macaque:3.0 .
Sending build context to Docker daemon 6.144kB
Step 1/5 : FROM docker.io/lfccncf/nginx:mainline
--> ea335ee17ab
Step 2/5 : ADD text1.html /usr/share/nginx/html/
--> 8967ee9ee5d0
Step 3/5 : ADD text2.html /usr/share/nginx/html/
--> cb0554422f26
Step 4/5 : ADD text3.html /usr/share/nginx/html/
--> 62e879ab821e
Step 5/5 : COPY text2.html /usr/share/nginx/html/index.html
--> 331c8a94372c
Successfully built 331c8a94372c
Successfully tagged macaque:3.0
candidate@node-1:~/humane-stork/build$ sudo docker save macaque:3.0 > ~/humane-stork/macaque-3.0.tar
candidate@node-1:~/humane-stork/build$ cd ..
candidate@node-1:~/humane-stork$ ls -l
total 142532
drwxr-xr-x 2 candidate candidate 4096 Sep 24 04:21 build
-rw-rw-r-- 1 candidate candidate 145948672 Sep 24 11:39 macaque-3.0.tar
candidate@node-1:~/humane-stork$
```

```
File Edit View Terminal Tabs Help
pod/ckad00018-newpod labeled
candidate@node-1:~$ kubectl label pod ckad00018-newpod -n ckad00018 db-access=true
pod/ckad00018-newpod labeled
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ vim ~/chief-cardinal/nosql.yaml
candidate@node-1:~$ vim ~/chief-cardinal/nosql.yaml
candidate@node-1:~$ kubectl apply -f ~/chief-cardinal/nosql.yaml
deployment.apps/nosql configured
candidate@node-1:~$ kubectl get pods -n crayfish
NAME READY STATUS RESTARTS AGE
nosql-74ccc7d64-1kqlg 1/1 Running 0 3m2s
candidate@node-1:~$ kubectl get deploy -n crayfish
NAME READY UP-TO-DATE AVAILABLE AGE
nosql 1/1 1 1 7h16m
candidate@node-1:~$ cd humane-stork/build/
candidate@node-1:~/humane-stork/build$ ls -l
total 16
-rw-r--r-- 1 candidate candidate 201 Sep 24 04:21 Dockerfile
-rw-r--r-- 1 candidate candidate 644 Sep 24 04:21 text1.html
-rw-r--r-- 1 candidate candidate 813 Sep 24 04:21 text2.html
-rw-r--r-- 1 candidate candidate 383 Sep 24 04:21 text3.html
candidate@node-1:~/humane-stork/build$ sudo docker build -t macaque:3.0 .
Sending build context to Docker daemon 6.144kB
Step 1/5 : FROM docker.io/lfccncf/nginx:mainline
--> ea335ee17ab
Step 2/5 : ADD text1.html /usr/share/nginx/html/
--> 8967ee9ee5d0
Step 3/5 : ADD text2.html /usr/share/nginx/html/
--> cb0554422f26
Step 4/5 : ADD text3.html /usr/share/nginx/html/
```

```

File Edit View Terminal Tabs Help
candidate@node-1:~$ vim ~/chief-cardinal/nosql.yaml
candidate@node-1:~$ kubectl apply -f ~/chief-cardinal/nosql.yaml
deployment.apps/nosql configured
candidate@node-1:~$ kubectl get pods -n crayfish
NAME                                READY   STATUS    RESTARTS   AGE
nosql-74cccf7d64-lkqlg             1/1     Running   0           3m2s
candidate@node-1:~$ kubectl get deploy -n crayfish
NAME    READY   UP-TO-DATE   AVAILABLE   AGE
nosql   1/1     1            1           7h16m
candidate@node-1:~$ cd humane-stork/build/
candidate@node-1:~/humane-stork/build$ ls -l
total 16
-rw-r--r-- 1 candidate candidate 261 Sep 24 04:21 Dockerfile
-rw-r--r-- 1 candidate candidate 644 Sep 24 04:21 text1.html
-rw-r--r-- 1 candidate candidate 813 Sep 24 04:21 text2.html
-rw-r--r-- 1 candidate candidate 383 Sep 24 04:21 text3.html
candidate@node-1:~/humane-stork/build$ sudo docker build -t macaque:1.0
Sending build context to Docker daemon 6.144kB
Step 1/5 : FROM docker.io/lfcccncf/nginx:mainline
--> ea335eeai7ab
Step 2/5 : ADD text1.html /usr/share/nginx/html/
--> 8967ee9ee50b
Step 3/5 : ADD text2.html /usr/share/nginx/html/
--> cb0534422f26
Step 4/5 : ADD text3.html /usr/share/nginx/html/
--> 62e879ab821e
Step 5/5 : COPY text2.html /usr/share/nginx/html/index.html
--> 331c8a94372c
Successfully built 331c8a94372c
Successfully tagged macaque:1.0
candidate@node-1:~/humane-stork/build$ sudo docker save macaque:1.0 > ~/humane-stork/macaque-1.0.tar

```

### Question No : 6 CORRECT TEXT

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 sk8s
```

Task:

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

Add an environment variable named NGINX\_PORT with the value 8001 to the container then expose port 8001



Answer: See the solution below.

## 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:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
```

```
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:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
candidate@node-1:~$
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-fld7j             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:~$
```

Text

Description automatically generated

**Question No : 7 CORRECT TEXT**

Set configuration context:

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

**Context**

You are tasked to create a secret and consume the secret in a pod using environment variables as follow:

**Task**

- Create a secret named another-secret with a key/value pair; key1/value4
- Start an nginx pod named nginx-secret using container image nginx, and add an environment variable exposing the value of the secret key key 1, using COOL\_VARIABLE as the name for the environment variable inside the pod

**Answer:** See the solution below.

**Explanation:**

Solution:

```
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  
.yaml  
student@node-1:~$ vim nginx_secret.yaml
```

Readme
Web Terminal
THE **LINUX** FOUNDATION

```

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 1,1 All

Readme
Web Terminal
THE **LINUX** FOUNDATION

```

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 -- 16,20 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 No : 8 CORRECT TEXT**

Set configuration context:

```
[student@node-1] $ | kubectl config  
use-context sk8s
```

Context

A project that you are working on has a requirement for persistent data to be available.

Task


To facilitate this, perform the following tasks:

- Create a file on node sk8s-node-0 at /opt/KDSP00101/data/index.html with the content Acct=Finance
- Create a PersistentVolume named task-pv-volume using hostPath and allocate 1Gi to it, specifying that the volume is at /opt/KDSP00101/data on the cluster's node. The configuration should specify the access mode of ReadWriteOnce . It should define the StorageClass name exam for the PersistentVolume , which will be used to bind PersistentVolumeClaim requests to this PersistentVolume.
- Create a PersistentVolumeClaim named task-pv-claim that requests a volume of at least 100Mi and specifies an access mode of ReadWriteOnce
- Create a pod that uses the PersistentVolumeClaim as a volume with a label app: my-storage-app mounting the resulting volume to a mountPath /usr/share/nginx/html inside the pod



You can access `sk8s-node-0` by issuing the following command:

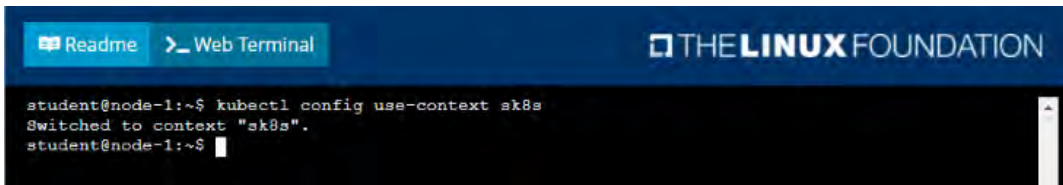
```
[student@node-1] $ | ssh sk8s-node-0
```

Ensure that you return to the base node (with hostname `node-1`) once you have completed your work on `sk8s-node-0`  copy

**Answer:** See the solution below.

**Explanation:**

Solution:



```
student@node-1:~$ kubectl config use-context sk8s
Switched to context "sk8s".
student@sk8s:~$
```

```
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* Documentation: https://help.ubuntu.com
* Management:   https://landscape.canonical.com
* Support:      https://ubuntu.com/advantage

System information as of Fri Oct  9 08:52:09 UTC 2020

System load:  2.02      Users logged in:  0
Usage of /:   10.3% of 242.29GB  IP address for eth0: 10.250.3.115
Memory usage: 2%      IP address for docker0: 172.17.0.1
Swap usage:  0%       IP address for cni0:  10.244.1.1
Processes:   38

* Kubernetes 1.19 is out! Get it in one command with:

    sudo snap install microk8s --channel=1.19 --classic

https://microk8s.io/ has docs and details.

7 packages can be updated.
1 update is a security update.

New release '20.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

student@sk8s-node-0:~$
```

```
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student@sk8s-node-0:~$ echo 'Acct=Finance' > /opt/KDSP00101/data/index.html
student@sk8s-node-0:~$ vim pv.yml
```

```
THE LINUX FOUNDATION

-- INSERT --                                0,1      All
```

```
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apiVersion: v1
kind: PersistentVolume
metadata:
  name: task-pv-volume
spec:
  capacity:
    storage: 1Gi
  accessModes:
    - ReadWriteOnce
  storageClassName: storage
  hostPath:
    path: /opt/KDSP00101/data
    type: Directory
```

Readme Web Terminal THE LINUX FOUNDATION

```

apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: task-pv-claim
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 100Mi
  storageClassName: storage
~

student@sk8s-node-0:~$ kubectl create -f pv.yml
persistentvolume/task-pv-volume created
student@sk8s-node-0:~$ kubectl create -f pvc.yml
persistentvolumeclaim/task-pv-claim created
student@sk8s-node-0:~$ kubectl get pv
NAME                CAPACITY  ACCESS MODES  RECLAIM POLICY  STATUS  CLAIM                STORAGECLASS  AGE
task-pv-volume      1Gi       RWO           Retain          Bound   default/task-pv-claim  storage       11s
student@sk8s-node-0:~$ kubectl get pvc
NAME                STATUS  VOLUME          CAPACITY  ACCESS MODES  STORAGECLASS  AGE
task-pv-claim      Bound   task-pv-volume  1Gi       RWO           storage       9s
student@sk8s-node-0:~$ vim pod.yml

```

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```

apiVersion: v1
kind: Pod
metadata:
  name: mypod
  labels:
    app: my-storage-app
spec:
  containers:
    - name: myfrontend
      image: nginx
      volumeMounts:
        - mountPath: "/usr/share/nginx/html"
          name: mypod
  volumes:
    - name: mypod
      persistentVolumeClaim:
        claimName: task-pv-claim
~
~
~
~
~
~
~
~
17,32 All

```

```

student@sk8s-node-0:~$ kubectl create -f pod.yml
pod/mypod created
student@sk8s-node-0:~$ kubectl get

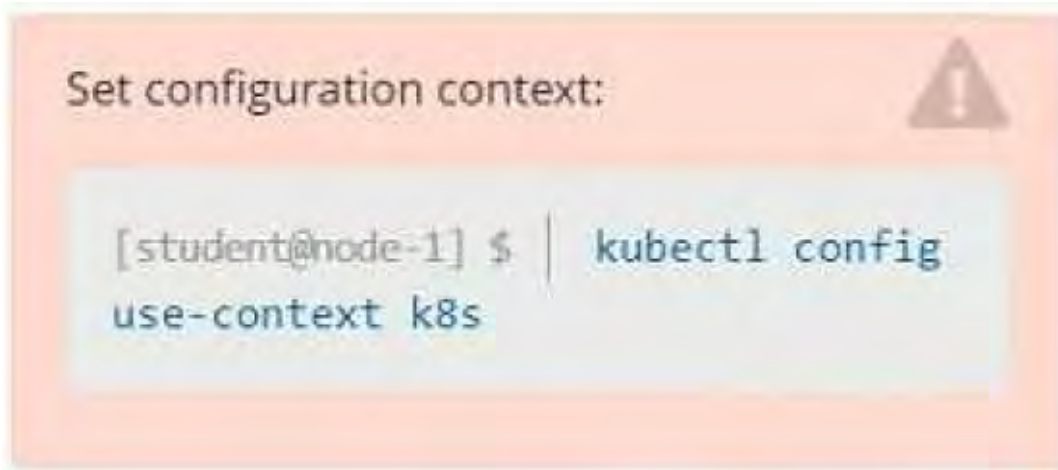
```

Readme Web Terminal THE LINUX FOUNDATION

```

student@sk8s-node-0:~$ kubectl get pods
NAME    READY  STATUS      RESTARTS  AGE
mypod   0/1    ContainerCreating  0         4s
student@sk8s-node-0:~$ kubectl get pods
NAME    READY  STATUS      RESTARTS  AGE
mypod   0/1    ContainerCreating  0         8s
student@sk8s-node-0:~$ kubectl get pods
NAME    READY  STATUS      RESTARTS  AGE
mypod   1/1    Running      0         10s
student@sk8s-node-0:~$ logout
Connection to 10.250.3.115 closed.
student@node-1:~$

```

**Question No : 9 CORRECT TEXT****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

**Answer:** See the solution below.

**Explanation:**

Solution:

```

Readme Web Terminal THE LINUX FOUNDATION

student@node-1:~$ kubectl create cronjob hello --image=busybox --schedule "*" * * * * --dry-run=
client -o yaml > /opt/KDPD00301/periodic.yaml
error: unable to match a printer suitable for the output format "yaml", allowed formats are: go-t
emplate, 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

```

```

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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: 23
          concurrencyPolicy: Allow

```

```

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student@node-1:~$ kubectl create cronjob hello --image=busybox --schedule "*" * * * * --dry-run=
client -o yaml > /opt/KDPD00301/periodic.yaml
error: unable to match a printer suitable for the output format "yaml", allowed formats are: go-t
emplate, 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     */1 * * * *   False    0        <none>           6s
student@node-1:~$

```

Question No : 10 CORRECT TEXT