Linux Foundation

CKAD
Certified Kubernetes Application Developer (CKAD) Program

Questions And Answers PDF Format:

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Version = **Product**

Latest Version: 8.2

Question: 1

Refer to 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 lfccncf/redis image with the 3.2 tag
• Expose port 6379

Answer: See the solution below.

Solution:

Question: 2

Refer to Exhibit:

Context

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

Task

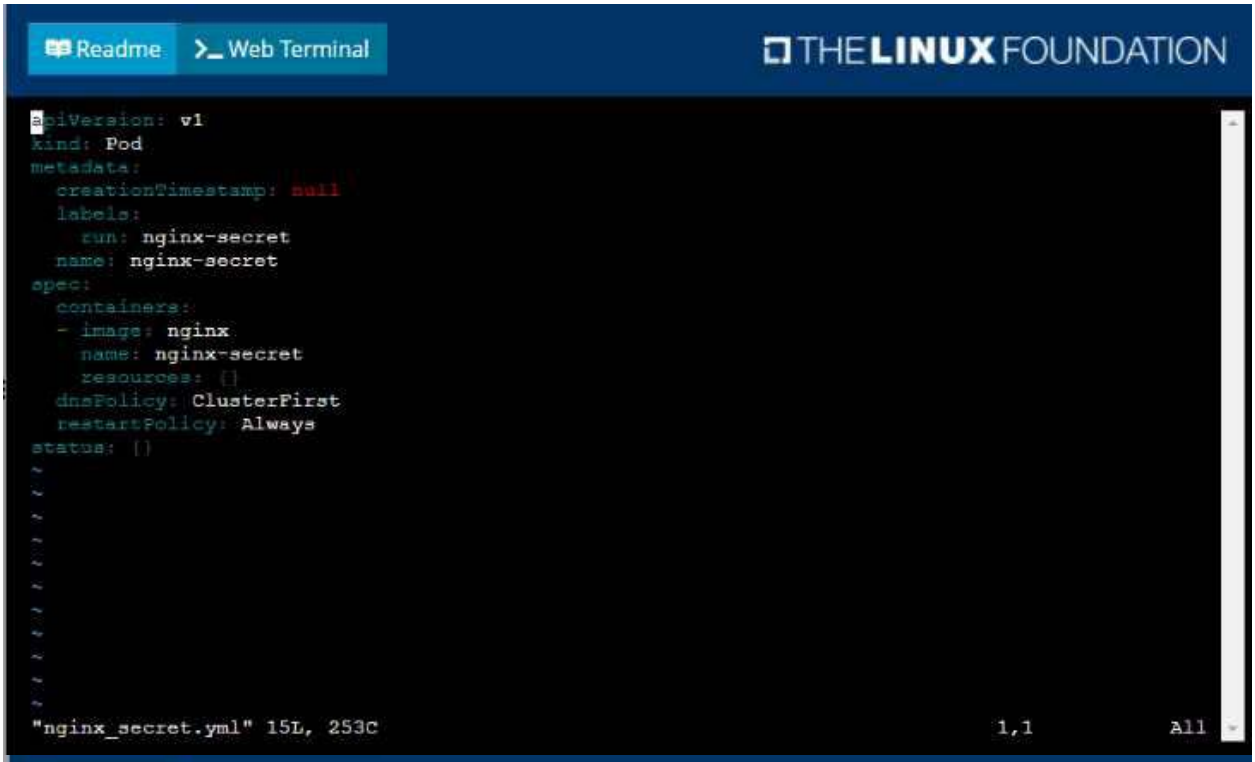
• Create a secret named another-secret with a key/value pair; key1/value4

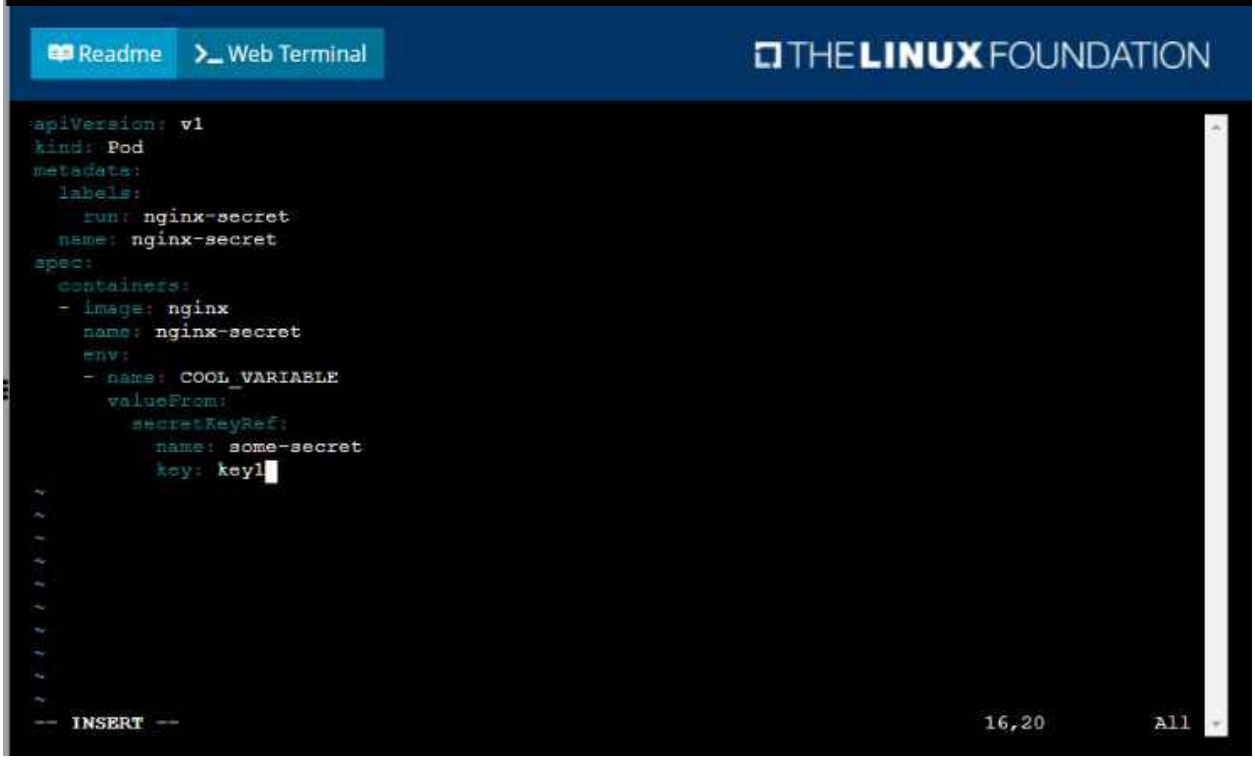
• Start an nginx pod named nginx-secret using container image nginx, and add an environment variable exposing the value of the secret key key 1, using COOL_VARIABLE as the name for the environment variable inside the pod

Answer: See the solution below.

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


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: 3

Refer to Exhibit:

Task

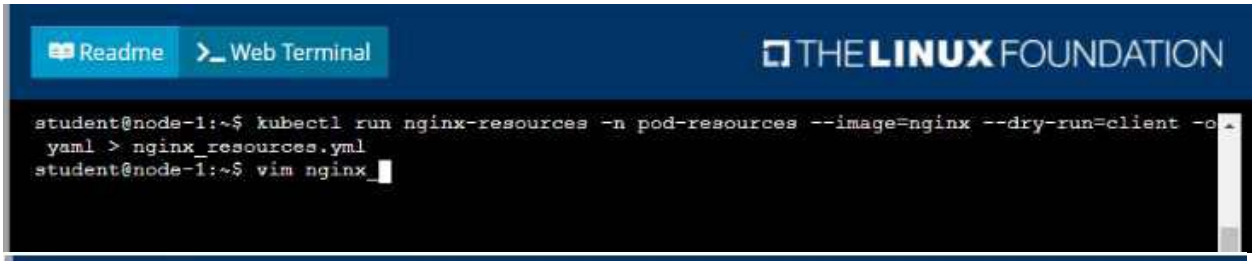
You are required to create a pod that requests a certain amount of CPU and memory, so it gets scheduled

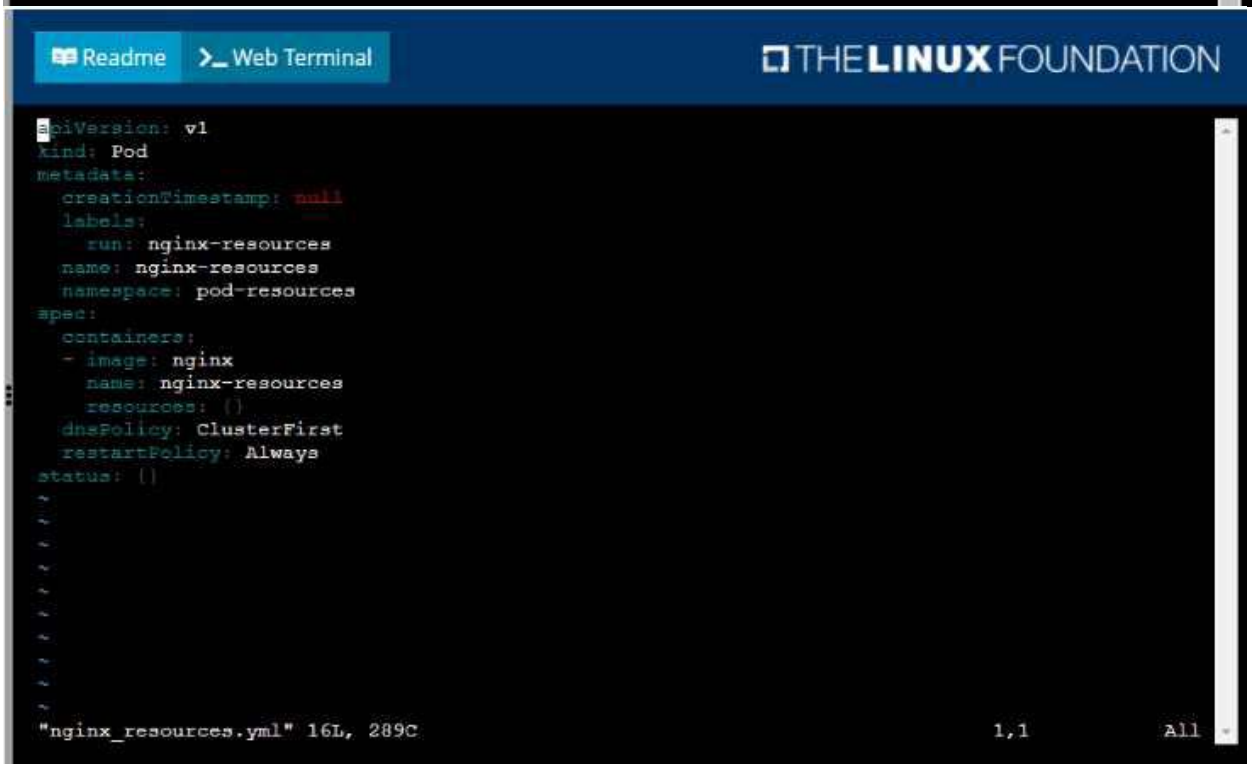
to-a node that has those resources available.

- Create a pod named nginx-resources in the pod-resources namespace that requests a minimum of 200m CPU and 1Gi memory for its container
- The pod should use the nginx image
- The pod-resources namespace has already been created

Answer: See the solution below.

Solution:





Question: 4

Refer to Exhibit:

Set configuration context:

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

Context

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

Task

Please complete the following:

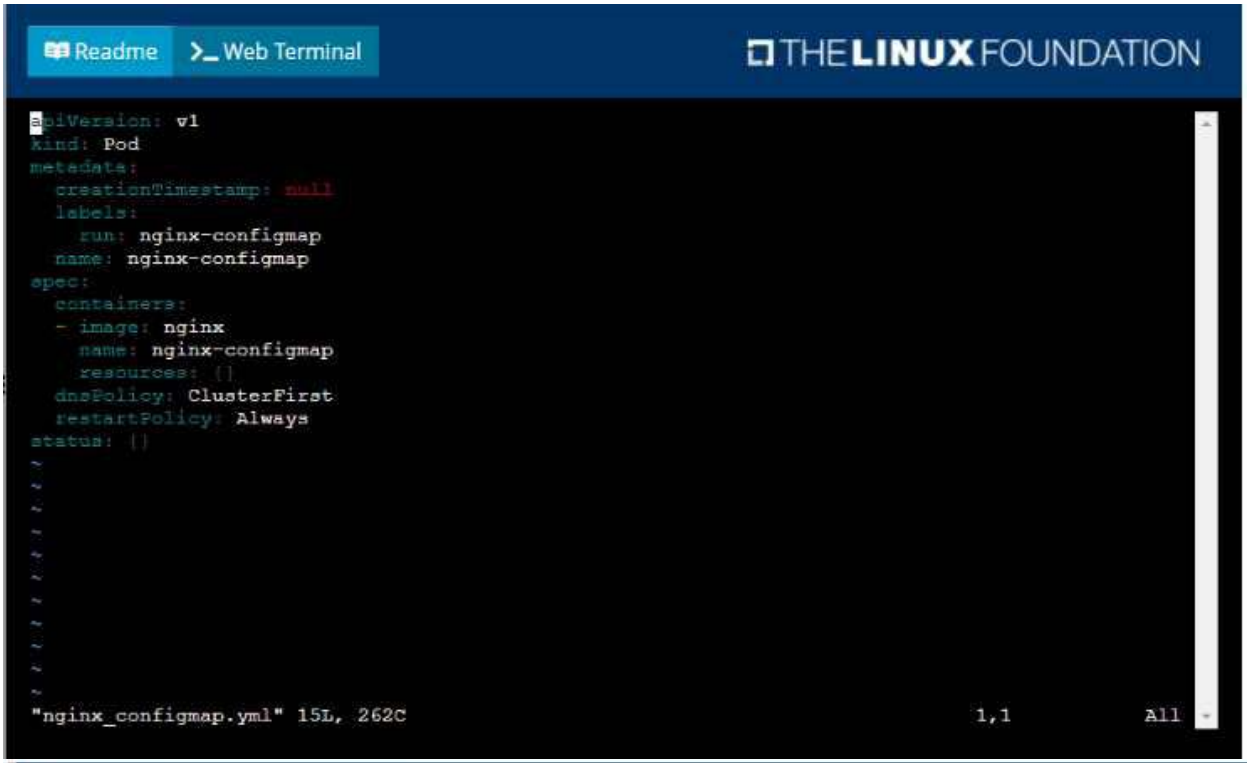
• Create a ConfigMap named another-config containing the key/value pair: key4/value3

• 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

Answer: See the solution below.

Solution:

```
student@node-1:~$ kubectl create configmap another-config --from-literal=key4=value3
configmap/another-config created
student@node-1:~$ kubectl get configmap
NAME             DATA   AGE
another-config   1      5s
student@node-1:~$ kubectl run nginx-configmap --image=nginx --dry-run=client -o yaml > ngin_conf
igmap.yml
student@node-1:~$ vim ngin_configmap.yml ^C
student@node-1:~$ mv ngin_configmap.yml nginx_configmap.yml
student@node-1:~$ vim nginx_co
```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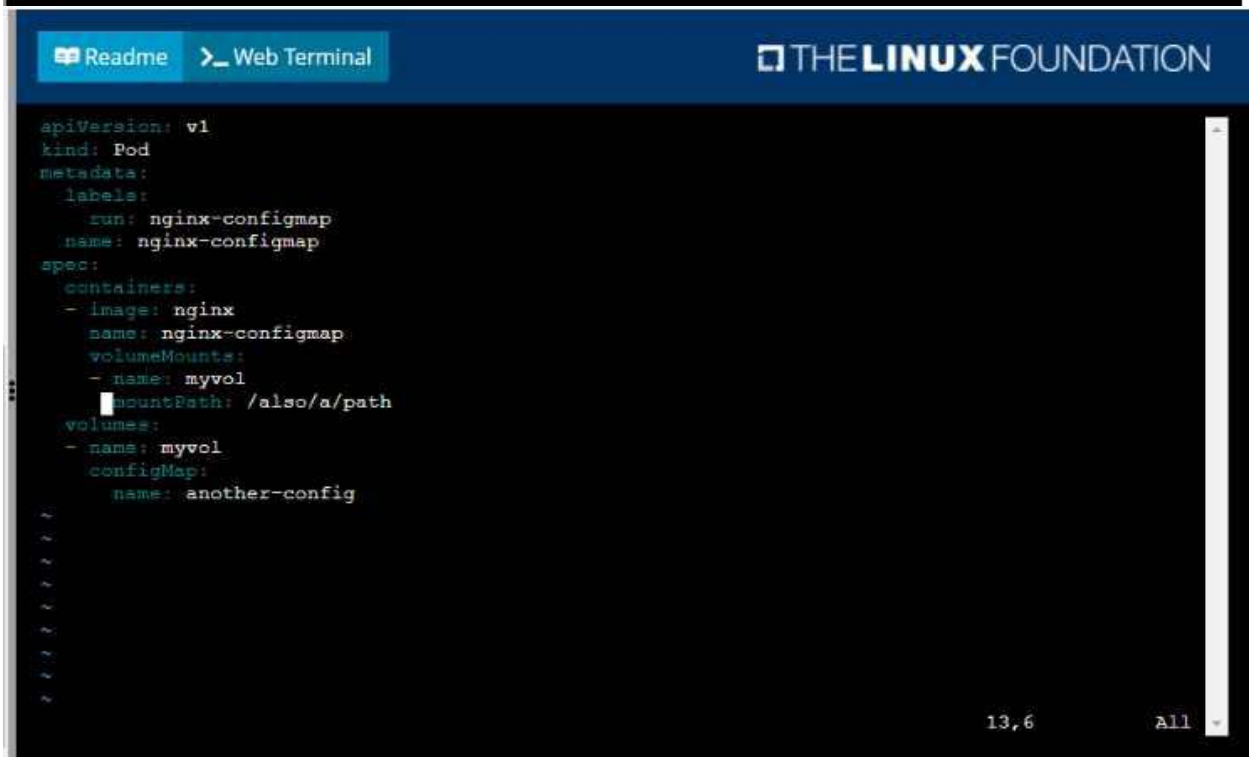
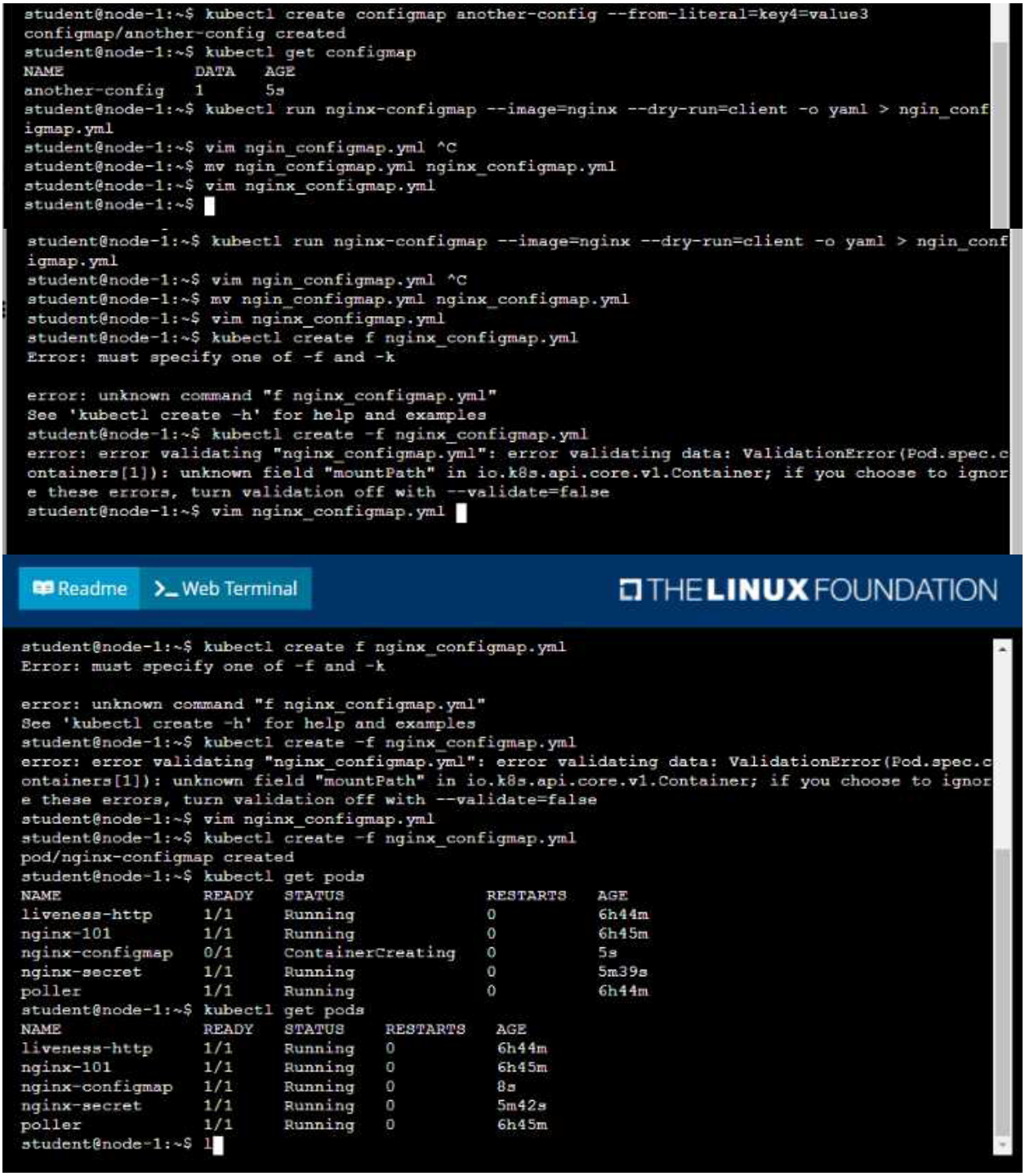
name: nginx-configmap
spec:
containers:
- image: nginx
name: nginx-configmap
resources: {}
dnsPolicy: ClusterFirst
restartPolicy: Always
status: {}
"nginx_configmap.yml" 15L, 262C
1,1
All


Readme
Web Terminal
THE LINUX FOUNDATION
apiVersion: v1
kind: Pod
metadata:
labels:
run: nginx-configmap
name: nginx-configmap
spec:
containers:
- image: nginx
name: nginx-configmap
volumeMounts:
- name: myvol
mountPath: /also/a/path
volumes:
- name: myvol
configMap:
name: another-config
13,6
All



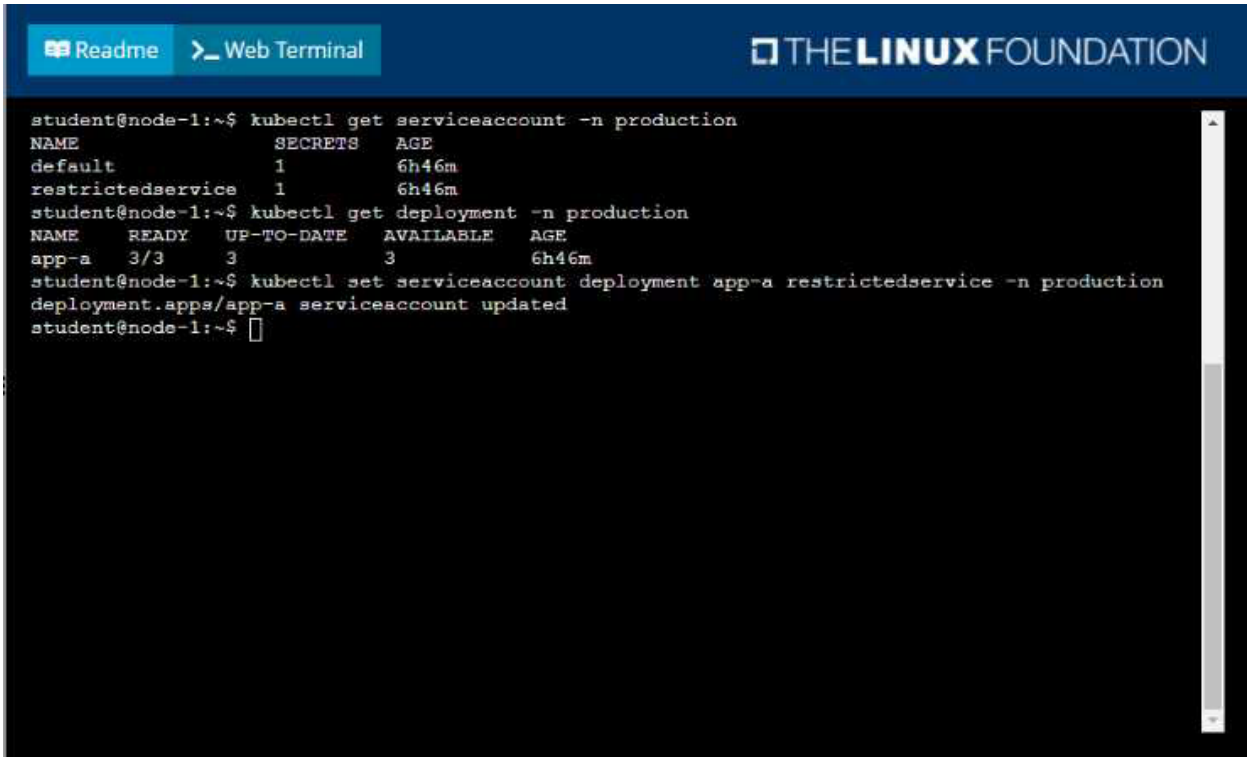
Question: 5

Refer to Exhibit:

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.

Solution:



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