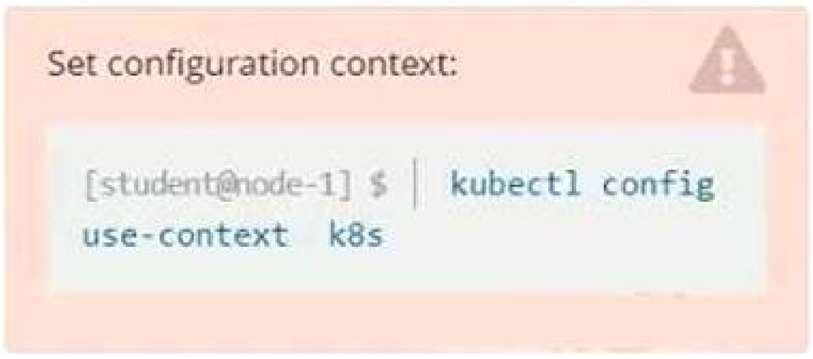
Linux-Foundation

Exam Questions CKAD

Certified Kubernetes Application Developer (CKAD) Program

NEW QUESTION 1
Exhibit:



Set configuration context:

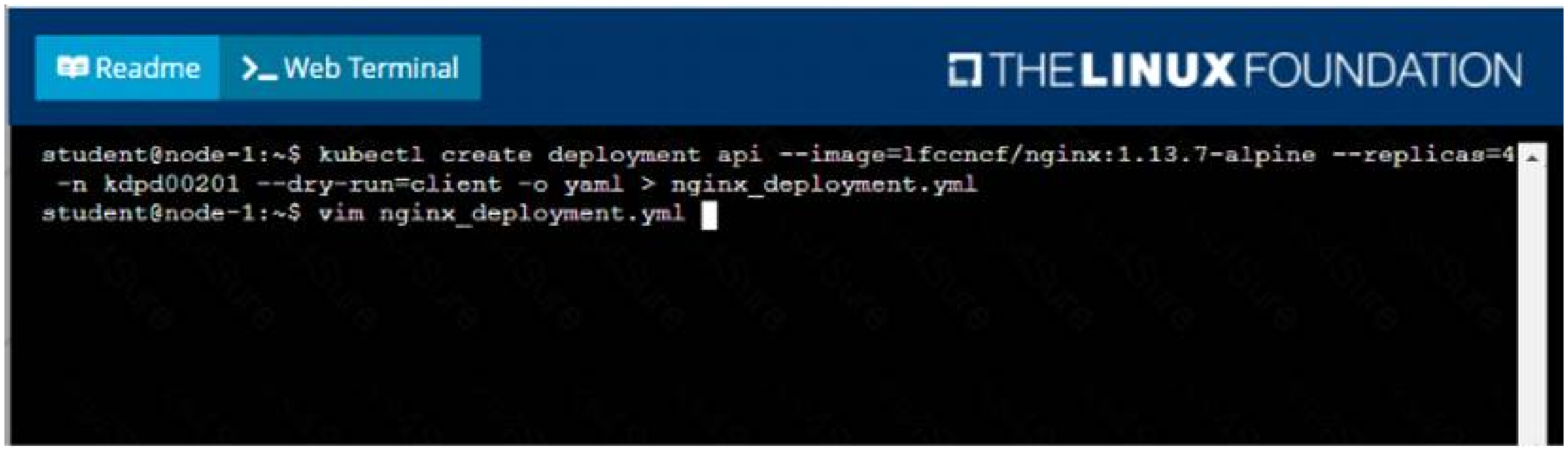
```
[student@node-1] $ | kubectl config
use-context k8s
```

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 with4replicas
• Configure the pod with a container image of lfccncf/nginx:1.13.7
• Set an environment variable of NGINX PORT=8080and also expose that port for the container above Answer:
See the solution below.

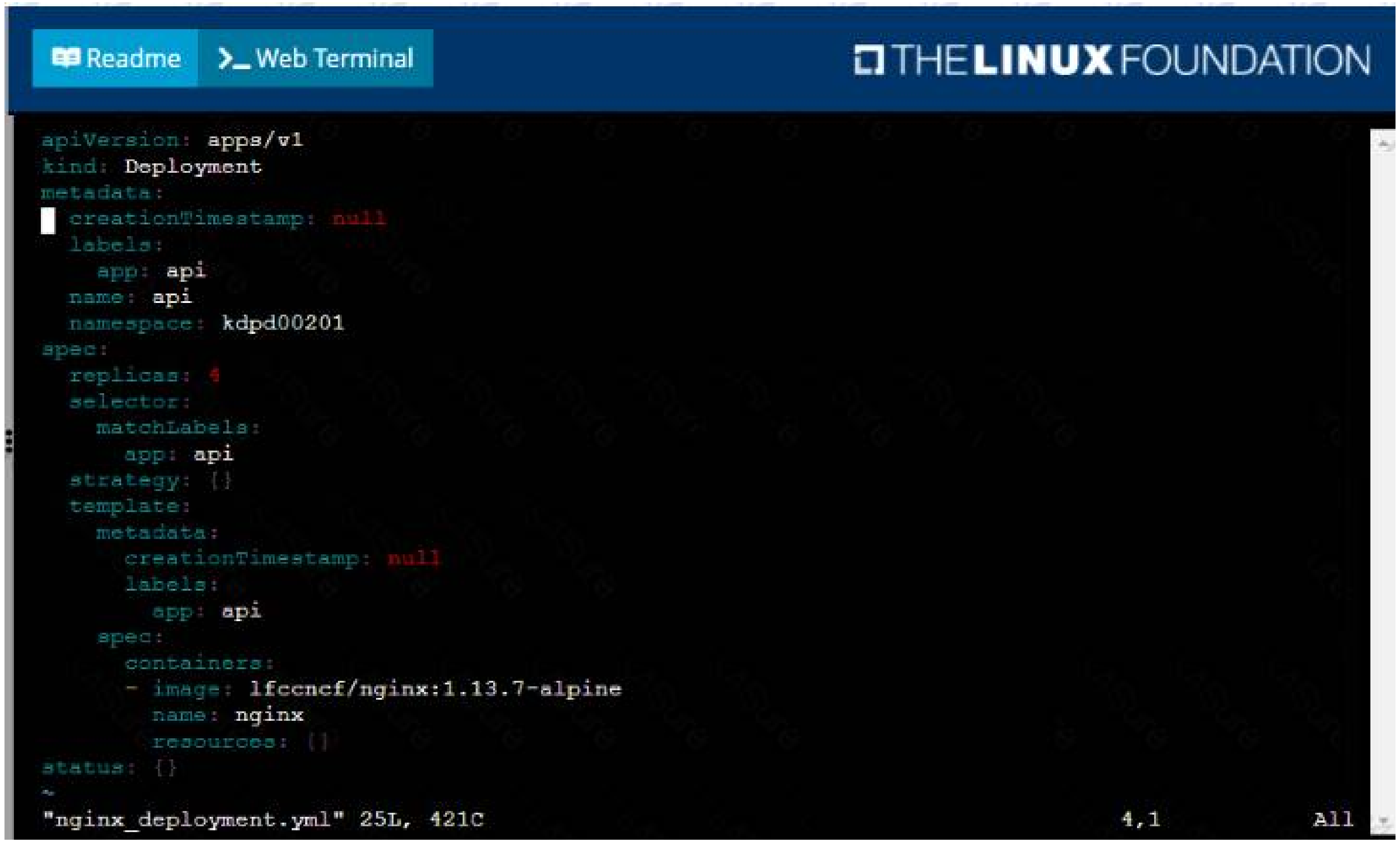
A. Mastered
B. Not Mastered

Answer: A

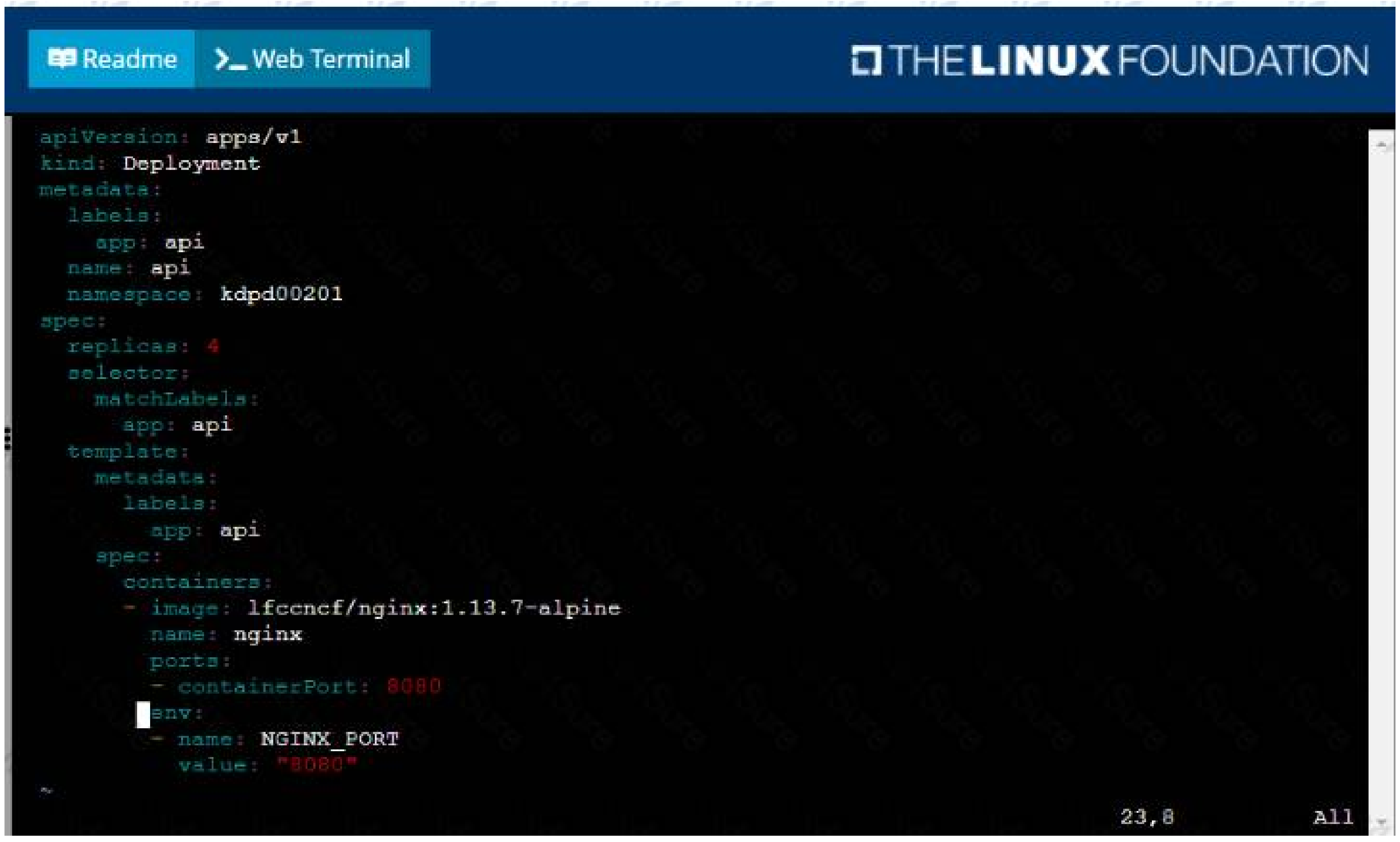
Explanation:
Solution:



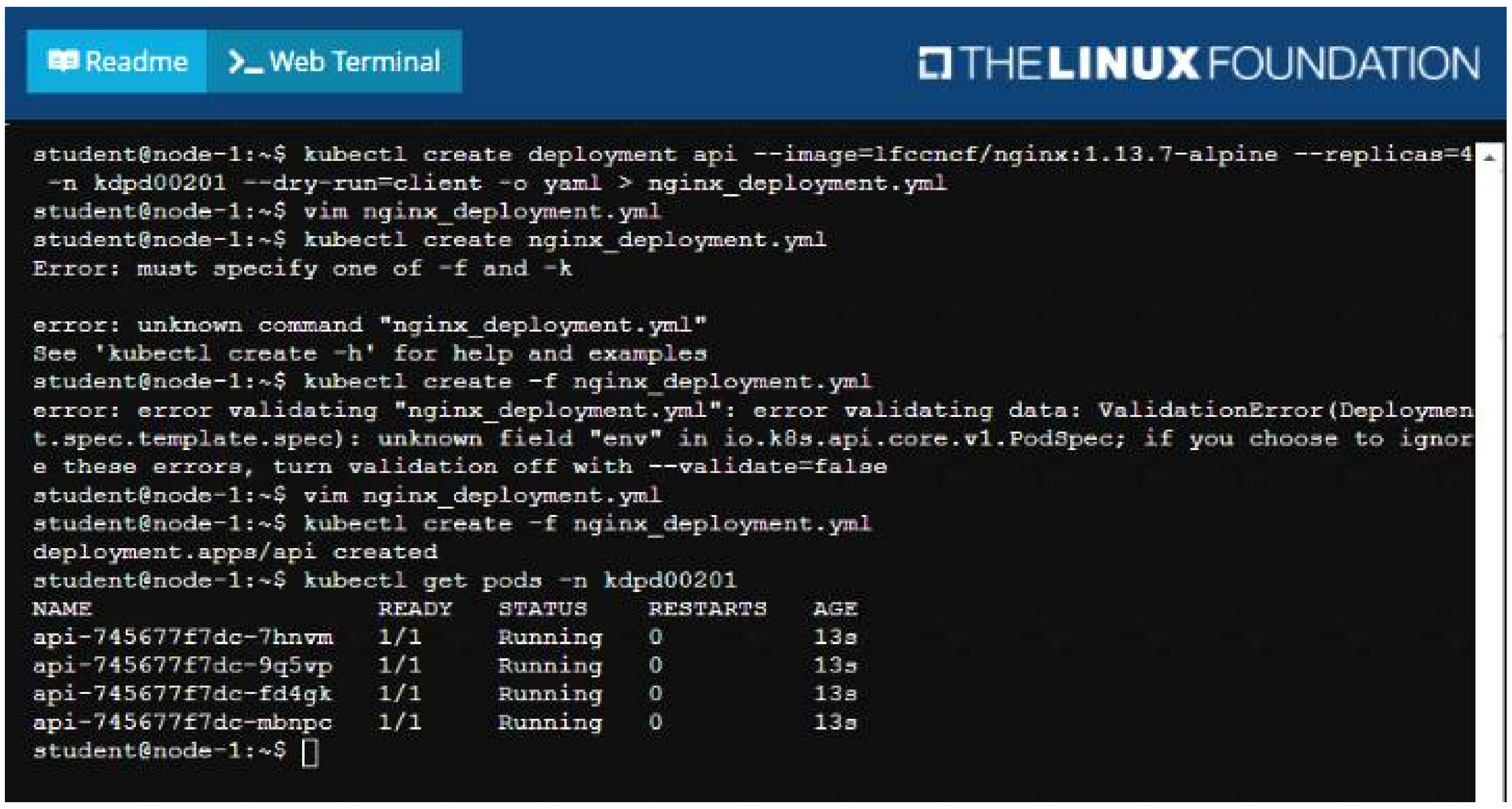
```
student@node-1:~$ kubectl create deployment api --image=lfccncf/nginx:1.13.7-alpine --replicas=4
 -n kdpd00201 --dry-run=client -o yaml > nginx_deployment.yml
student@node-1:~$ vim nginx_deployment.yml
```



```
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: lfccncf/nginx:1.13.7-alpine
        name: nginx
        resources: {}
status: {}
~
"nginx_deployment.yml" 25L, 421C                                    4,1            All
```

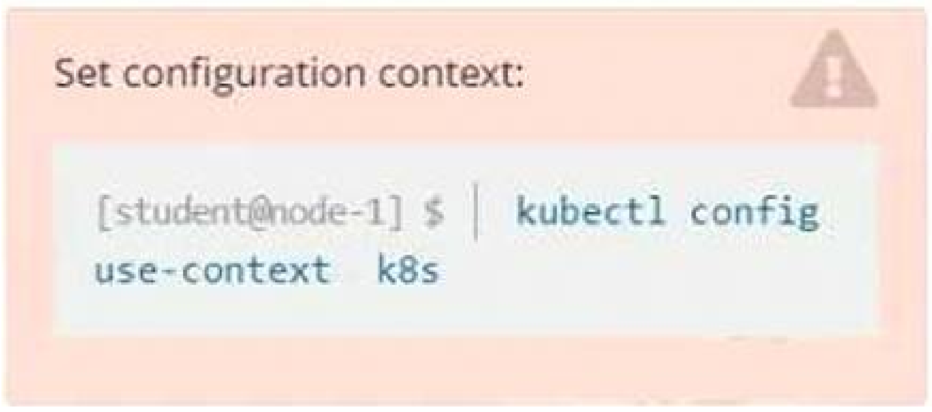


```
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    app: api
  name: api
  namespace: kdpd00201
spec:
  replicas: 4
  selector:
    matchLabels:
      app: api
  template:
    metadata:
      labels:
        app: api
    spec:
      containers:
      - image: lfccncf/nginx:1.13.7-alpine
        name: nginx
        ports:
        - containerPort: 8080
        env:
        - name: NGINX_PORT
          value: "8080"
~
                                                                23,8          All
```



```
student@node-1:~$ kubectl create deployment api --image=lfccncf/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(Deploymen
t.spec.template.spec): unknown field "env" in io.k8s.api.core.v1.PodSpec; if you choose to ignor
e 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-7hnvm   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 2
Exhibit:



Set configuration context:

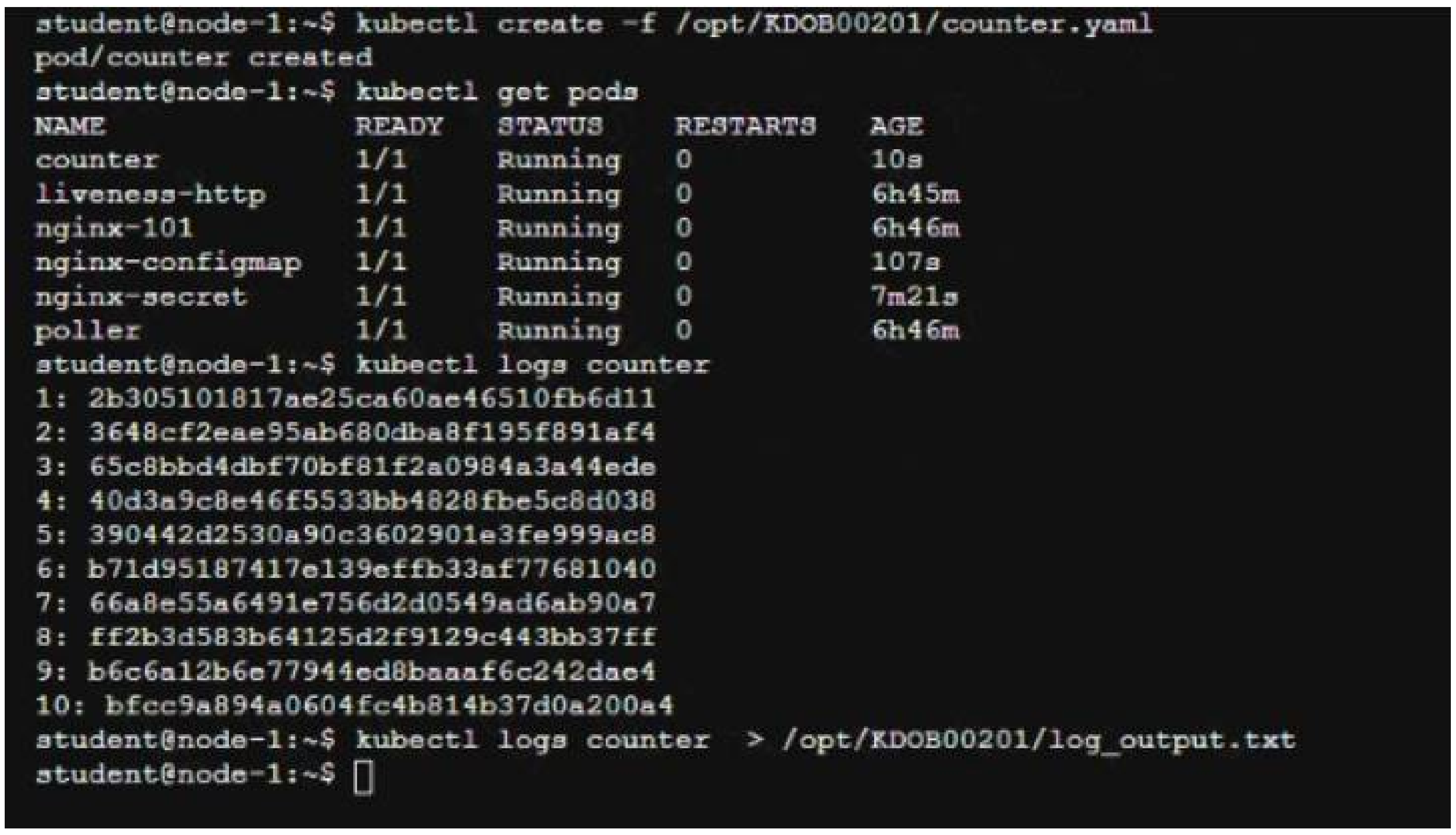
```
[student@node-1] $ | kubectl config use-context k8s
```

Context
You sometimes need to observe a pod's logs, and write those logs to a file for further analysis. Task
Please complete the following;
• Deploy the counter pod to the cluster using the provided YAMLspec file at /opt/KDOB00201/counter.yaml
• Retrieve all currently available application logs from the running pod and store them in the file /opt/KDOB0020l/log_Output.txt, which has already been created

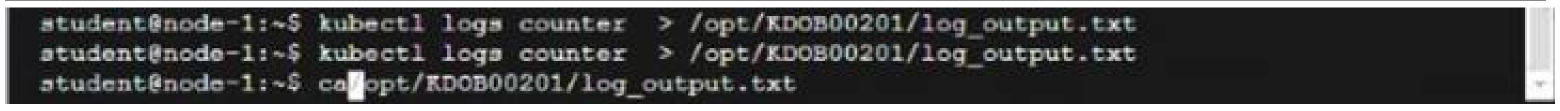
A. Mastered
B. Not Mastered

Answer: A

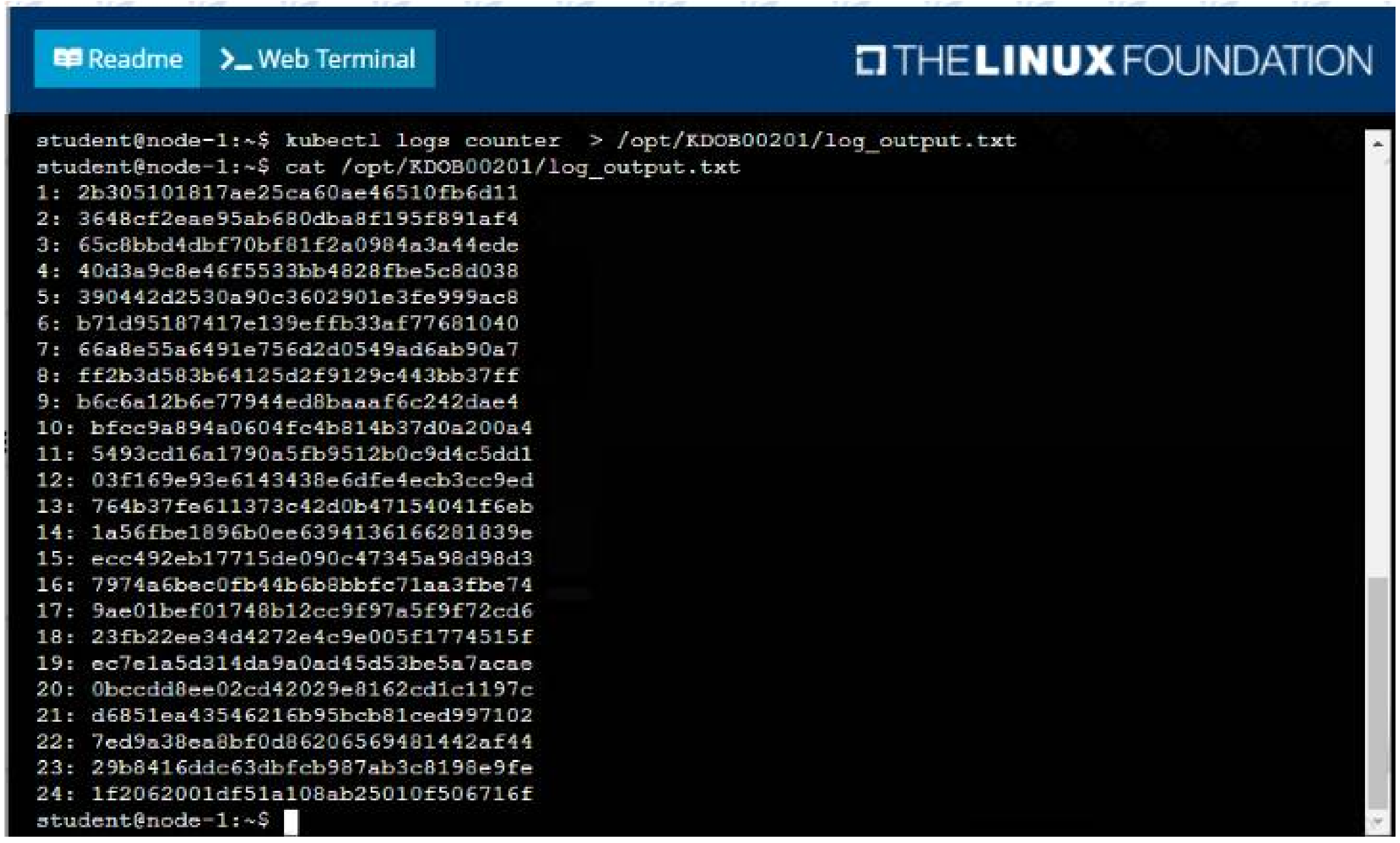
Explanation:
Solution:



```
student@node-1:~$ kubectl create -f /opt/KDOB00201/counter.yaml
pod/counter created
student@node-1:~$ kubectl get pods
NAME               READY   STATUS    RESTARTS   AGE
counter            1/1     Running   0          10s
liveness-http      1/1     Running   0          6h45m
nginx-101          1/1     Running   0          6h46m
nginx-configmap    1/1     Running   0          107s
nginx-secret       1/1     Running   0          7m21s
poller             1/1     Running   0          6h46m
student@node-1:~$ kubectl logs counter
1: 2b305101817ae25ca60ae46510fb6d11
2: 3648cf2eae95ab680dba8f195f891af4
3: 65c8bbd4dbf70bf81f2a0984a3a44ede
4: 40d3a9c8e46f5533bb4828fbe5c8d038
5: 390442d2530a90c3602901e3fe999ac8
6: b71d95187417e139effb33af77681040
7: 66a8e55a6491e756d2d0549ad6ab90a7
8: ff2b3d583b64125d2f9129c443bb37ff
9: b6c6a12b6e77944ed8baaaf6c242dae4
10: bfcc9a894a0604fc4b814b37d0a200a4
student@node-1:~$ kubectl logs counter  > /opt/KDOB00201/log_output.txt
student@node-1:~$ 
```

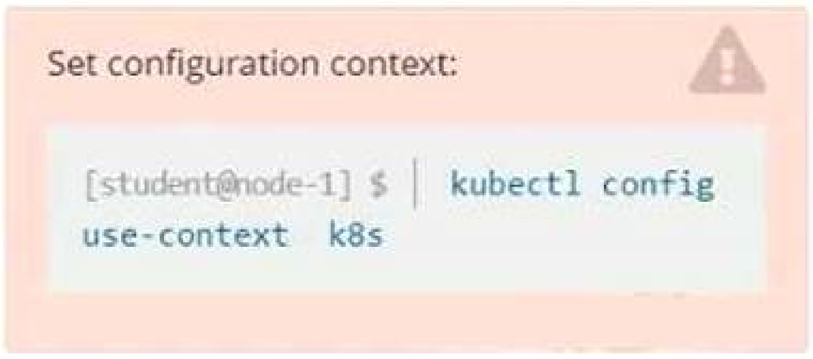


```
student@node-1:~$ kubectl logs counter  > /opt/KDOB00201/log_output.txt
student@node-1:~$ kubectl logs counter  > /opt/KDOB00201/log_output.txt
student@node-1:~$ ca opt/KDOB00201/log_output.txt
```



```
student@node-1:~$ kubectl logs counter  > /opt/KDOB00201/log_output.txt
student@node-1:~$ cat /opt/KDOB00201/log_output.txt
1: 2b305101817ae25ca60ae46510fb6d11
2: 3648cf2eae95ab680dba8f195f891af4
3: 65c8bbd4dbf70bf81f2a0984a3a44ede
4: 40d3a9c8e46f5533bb4828fbe5c8d038
5: 390442d2530a90c3602901e3fe999ac8
6: b71d95187417e139effb33af77681040
7: 66a8e55a6491e756d2d0549ad6ab90a7
8: ff2b3d583b64125d2f9129c443bb37ff
9: b6c6a12b6e77944ed8baaaf6c242dae4
10: bfcc9a894a0604fc4b814b37d0a200a4
11: 5493cd16a1790a5fb9512b0c9d4c5dd1
12: 03f169e93e6143438e6dfe4ecb3cc9ed
13: 764b37fe611373c42d0b47154041f6eb
14: 1a56fbe1896b0ee639413616628l839e
15: ecc492eb17715de090c47345a98d98d3
16: 7974a6bec0fb44b6b8bbfc71aa3fbe74
17: 9ae01bef01748b12cc9f97a5f9f72cd6
18: 23fb22ee34d4272e4c9e005f1774515f
19: ec7e1a5d314da9a0ad45d53be5a7acae
20: 0bccdd8ee02cd42029e8162cd1c1197c
21: d6851ea43546216b95bcb81ced997102
22: 7ed9a38ea8bf0d86206569481442af44
23: 29b8416ddc63dbfcb987ab3c8198e9fe
24: 1f2062001df51a108ab25010f506716f
student@node-1:~$ 
```

NEW QUESTION 3
Exhibit:



Set configuration context:

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

Context
A container within the poller pod is hard-coded to connect the nginxsvc service on port90 . As this port changes to5050 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 port5050.
• Add an HAproxy container named haproxy bound to port90 tothe 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

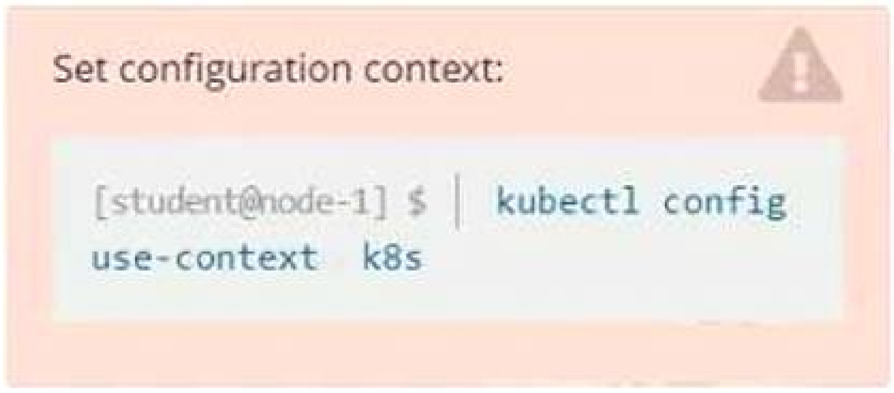
A. Mastered

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 -lrun=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 -lrun=my-nginx -o yaml | grep podIP podIP: 10.244.3.4
podIP: 10.244.2.5

NEW QUESTION 4
Exhibit:



Set configuration context:

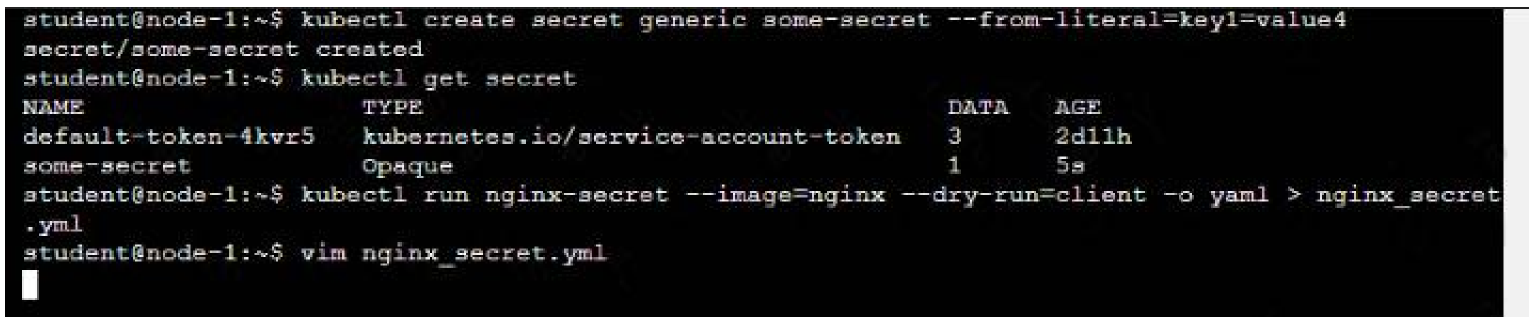
```
[student@node-1] $ | kubectl config
use-context k8s
```

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, usingCOOL_VARIABLE as the name for the environment variable inside the pod

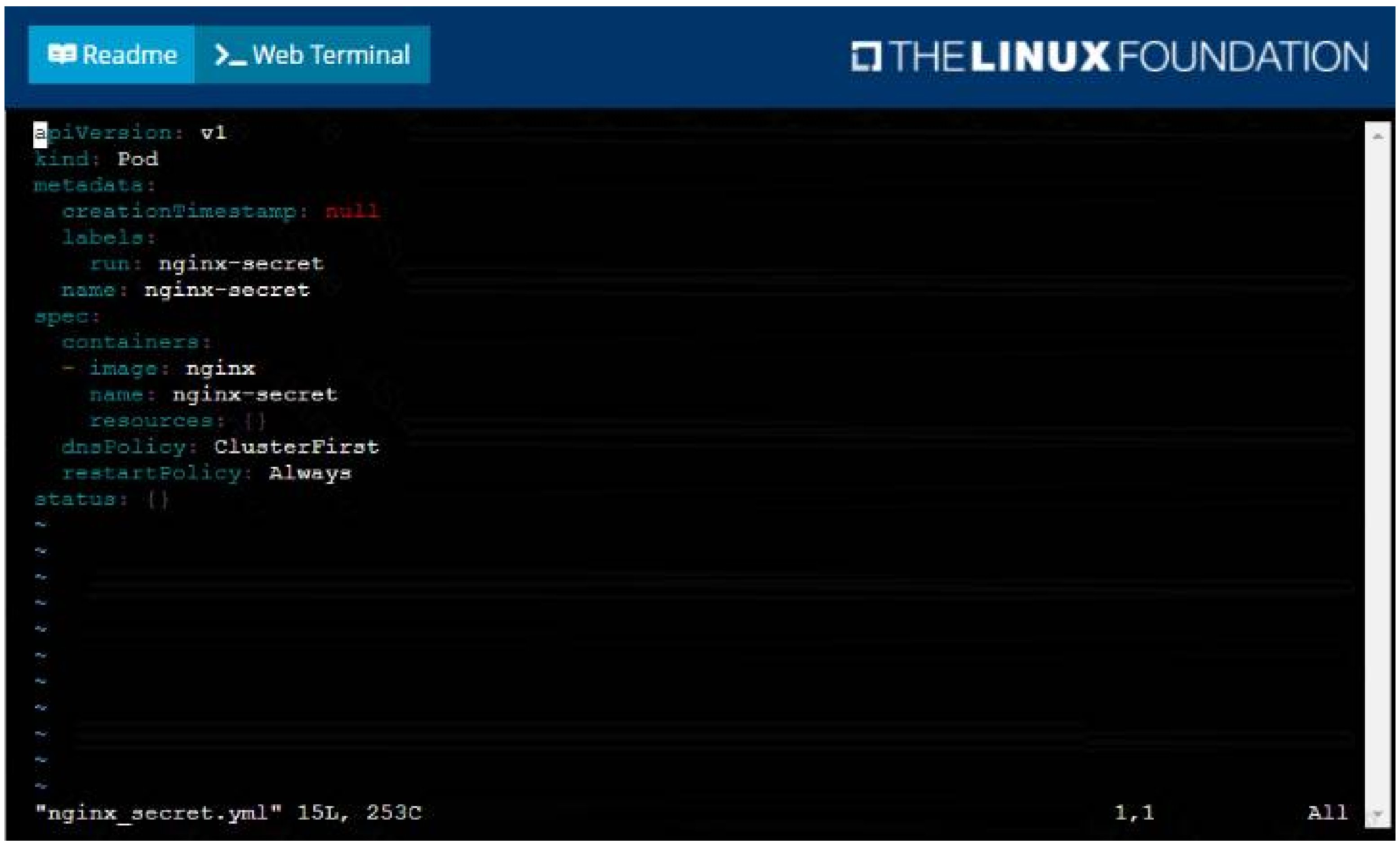
A. Mastered
B. Not Mastered

Answer: A

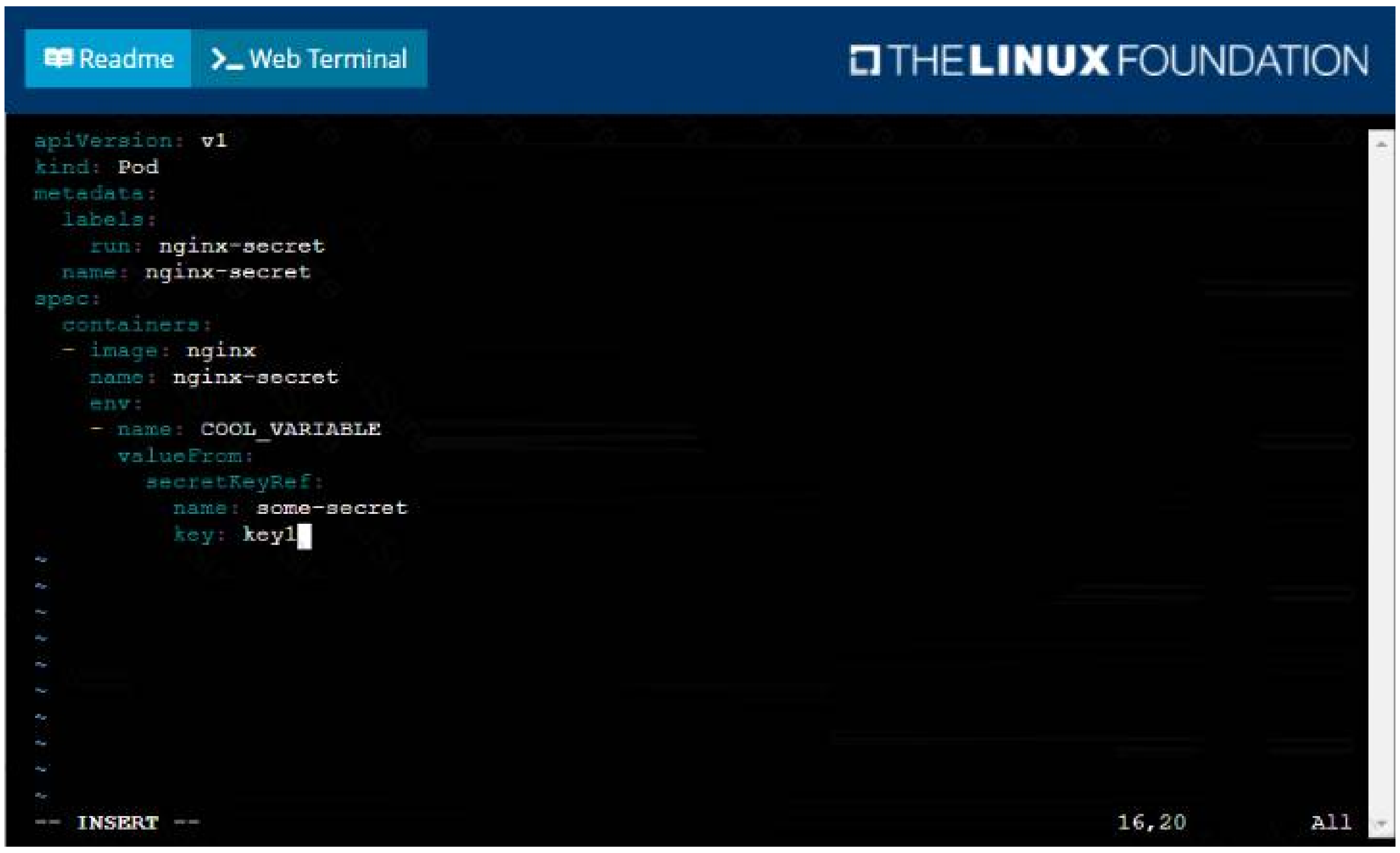
Explanation:
Solution:



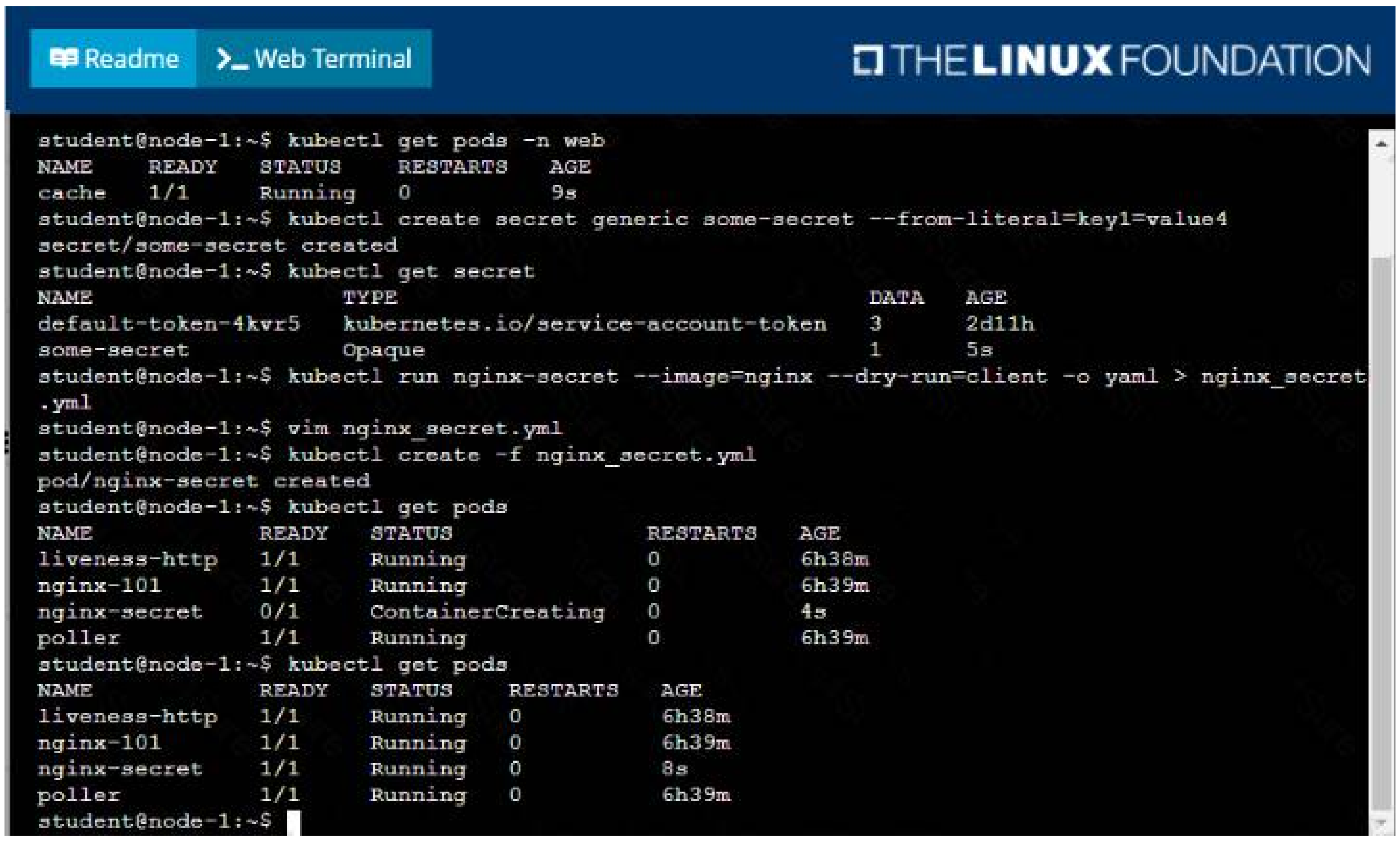
```
student@node-1:~$ kubectl create secret generic some-secret --from-literal=key1=value4
secret/some-secret created
student@node-1:~$ kubectl get secret
NAME                  TYPE                                  DATA   AGE
default-token-4kvr5   kubernetes.io/service-account-token   3      2d11h
some-secret           Opaque                                1      5s
student@node-1:~$ kubectl run nginx-secret --image=nginx --dry-run=client -o yaml > nginx_secret
.yml
student@node-1:~$ vim nginx_secret.yml
```



```
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
```

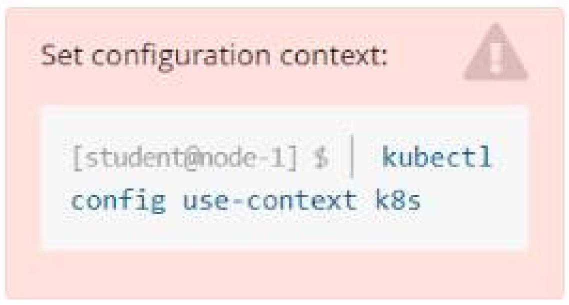


```
apiVersion: v1
kind: Pod
metadata:
  labels:
    run: nginx-secret
  name: nginx-secret
spec:
  containers:
  - image: nginx
    name: nginx-secret
    env:
    - name: COOL_VARIABLE
      valueFrom:
        secretKeyRef:
          name: some-secret
          key: key1
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                                          16,20         All
```



```
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:~$
```

NEW QUESTION 5
Exhibit:



Set configuration context:

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

Given a container that writes a log file in format A and a container that converts log files from format A to format B, create a deployment that runs both containers such that the log files from the first container are converted by the second container, emitting logs in format B.
Task:
• Create a deployment named deployment-xyz in the default namespace, that:
•Includes a primary
lfccncf/busybox:1 container, named logger-dev
•includes a sidecar Ifccncf/fluentd:v0.12 container, named adapter-zen
•Mounts a shared volume /tmp/log on both containers, which does not persist when the pod is deleted
•Instructs the logger-dev container to run the command

```
while true; do
echo "i luv cncf" >> /
tmp/log/input.log;
sleep 10;
done
```

which should output logs to /tmp/log/input.log in plain text format, with example values:

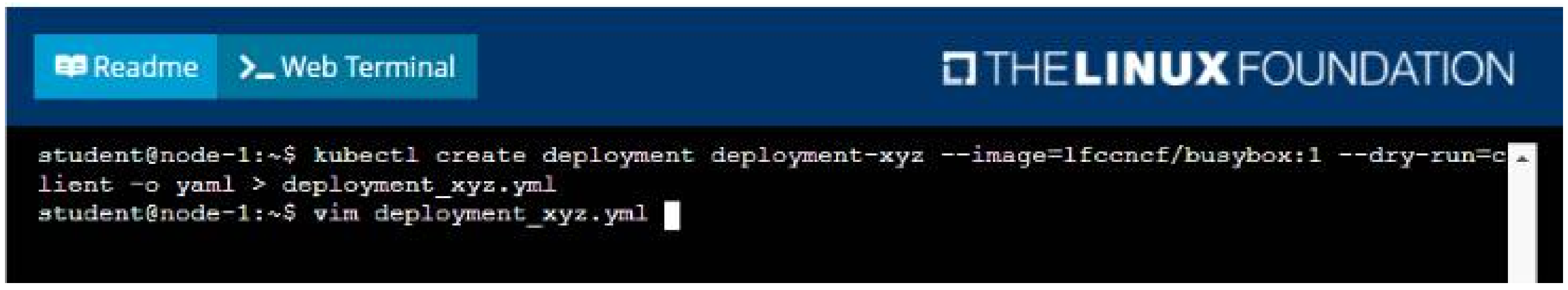
```
i luv cncf
i luv cncf
i luv cncf
```

• The adapter-zen sidecar container should read /tmp/log/input.log and output the data to /tmp/log/output.* in Fluentd JSON format. Note that no knowledge of Fluentd is required to complete this task: all you will need to achieve this is to create the ConfigMap from the spec file provided at /opt/KDMC00102/fluentd-configma p.yaml , and mount that ConfigMap to /fluentd/etc in the adapter-zen sidecar container

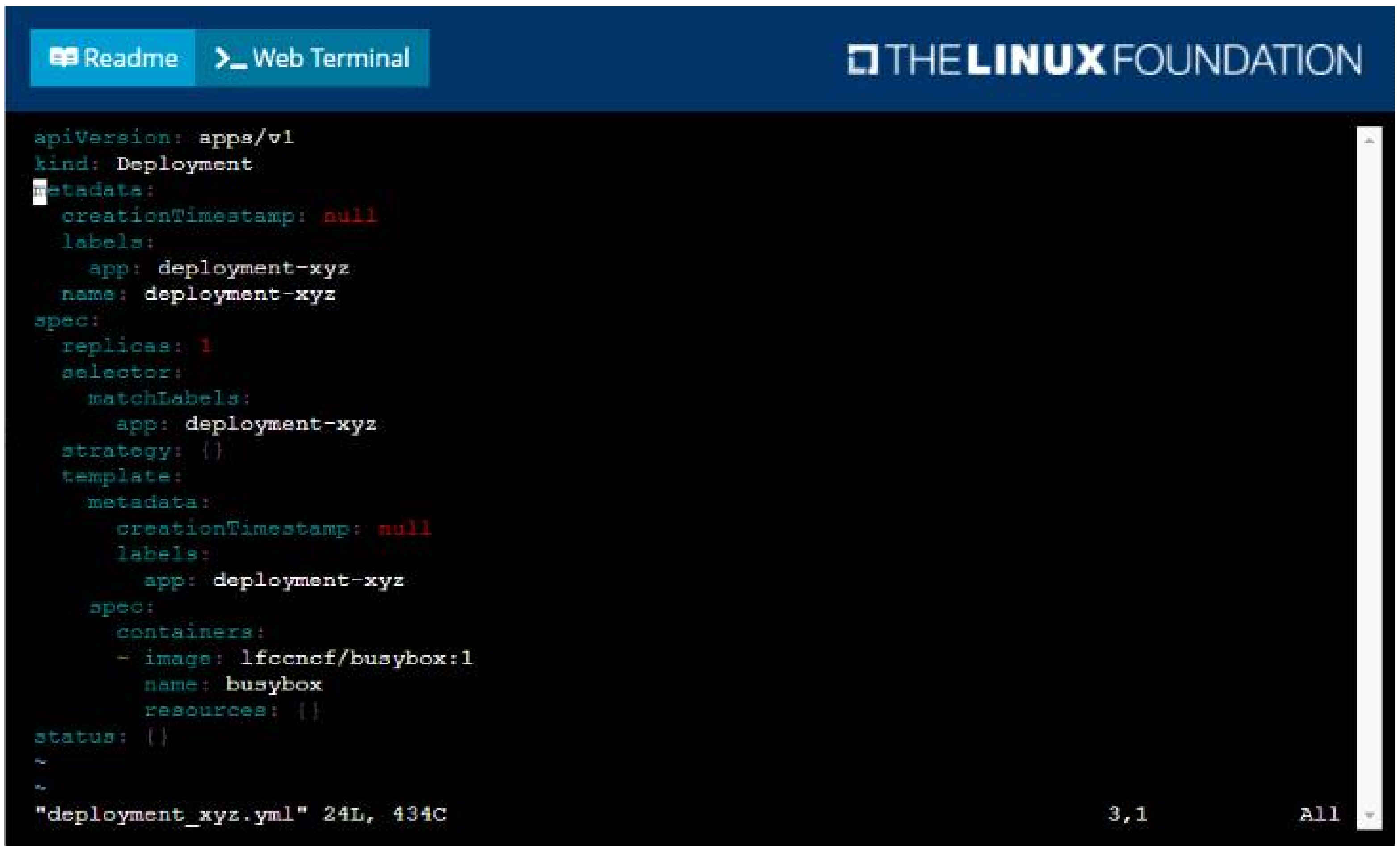
A. Mastered
B. Not Mastered

Answer: A

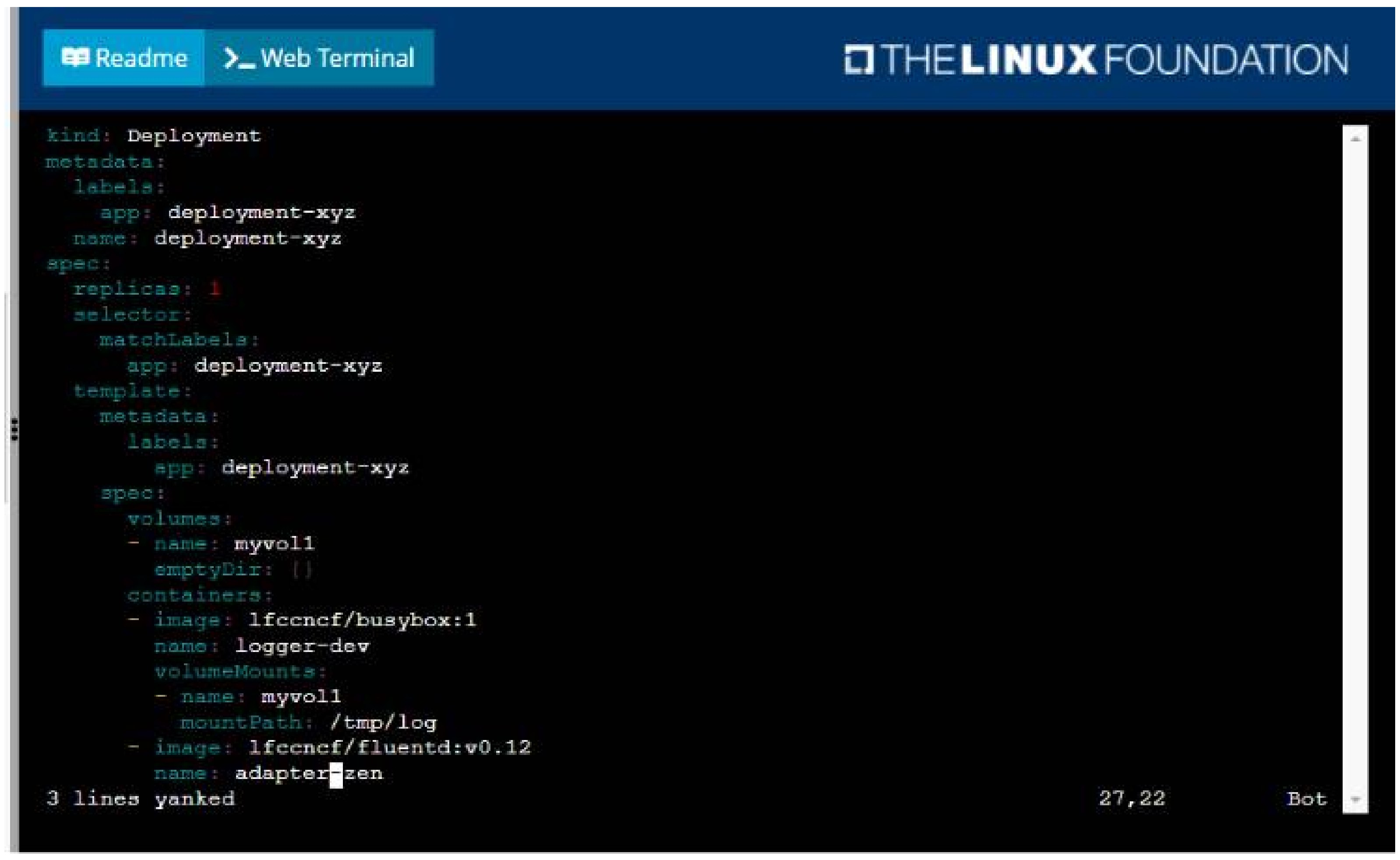
Explanation:
Solution:



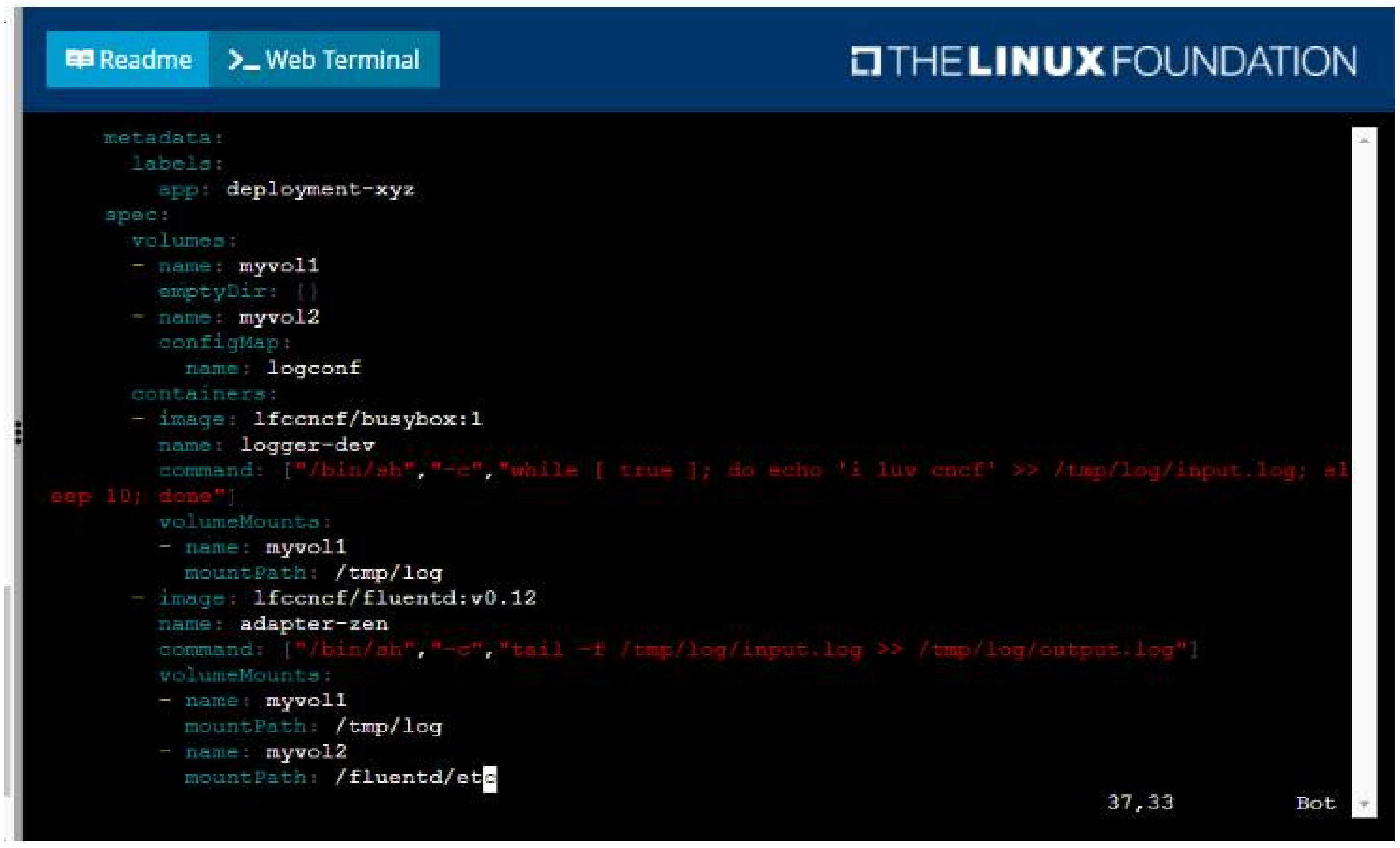
```
student@node-1:~$ kubectl create deployment deployment-xyz --image=lfccncf/busybox:1 --dry-run=c
lient -o yaml > deployment_xyz.yml
student@node-1:~$ vim deployment_xyz.yml
```



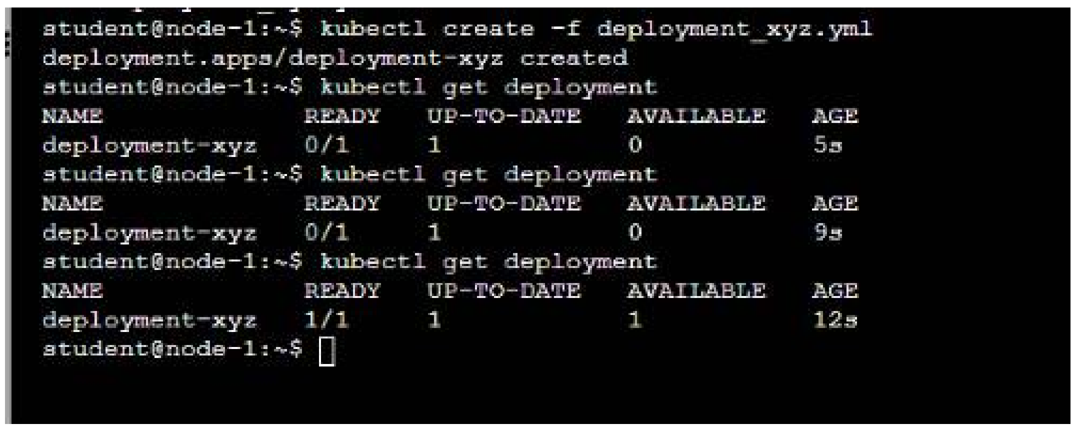
```
apiVersion: apps/v1
kind: Deployment
metadata:
  creationTimestamp: null
  labels:
    app: deployment-xyz
  name: deployment-xyz
spec:
  replicas: 1
  selector:
    matchLabels:
      app: deployment-xyz
  strategy: {}
  template:
    metadata:
      creationTimestamp: null
      labels:
        app: deployment-xyz
    spec:
      containers:
      - image: lfccncf/busybox:1
        name: busybox
        resources: {}
status: {}
~
~
"deployment_xyz.yml" 24L, 434C                                        3,1           All
```



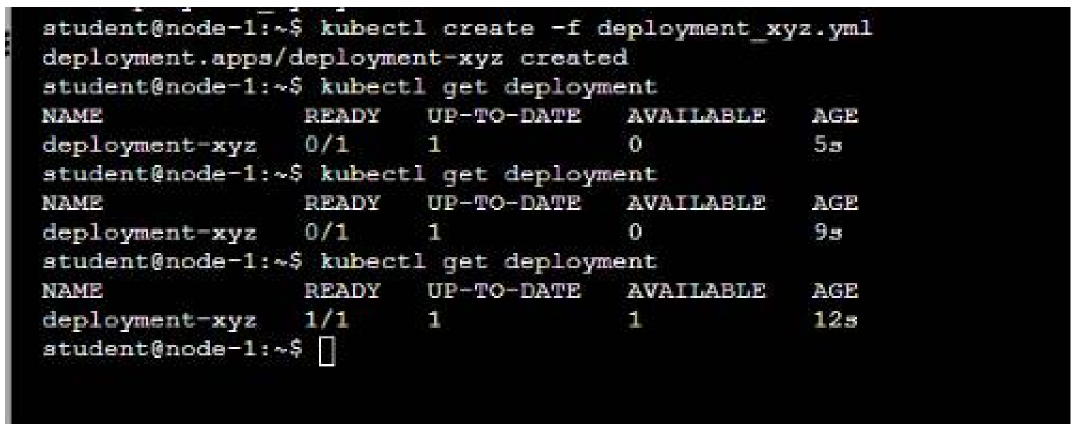
```
kind: Deployment
metadata:
  labels:
    app: deployment-xyz
  name: deployment-xyz
spec:
  replicas: 1
  selector:
    matchLabels:
      app: deployment-xyz
  template:
    metadata:
      labels:
        app: deployment-xyz
    spec:
      volumes:
      - name: myvol1
        emptyDir: {}
      containers:
      - image: lfccncf/busybox:1
        name: logger-dev
        volumeMounts:
        - name: myvol1
          mountPath: /tmp/log
      - image: lfccncf/fluentd:v0.12
        name: adapter-zen
3 lines yanked                                                         27,22         Bot
```



```
    metadata:
      labels:
        app: deployment-xyz
    spec:
      volumes:
      - name: myvol1
        emptyDir: {}
      - name: myvol2
        configMap:
          name: logconf
      containers:
      - image: lfccncf/busybox:1
        name: logger-dev
        command: ["/bin/sh","-c","while [ true ]; do echo 'i luv cncf' >> /tmp/log/input.log; sl
eep 10; done"]
        volumeMounts:
        - name: myvol1
          mountPath: /tmp/log
      - image: lfccncf/fluentd:v0.12
        name: adapter-zen
        command: ["/bin/sh","-c","tail -f /tmp/log/input.log >> /tmp/log/output.log"]
        volumeMounts:
        - name: myvol1
          mountPath: /tmp/log
        - name: myvol2
          mountPath: /fluentd/etc
                                                                       37,33         Bot
```

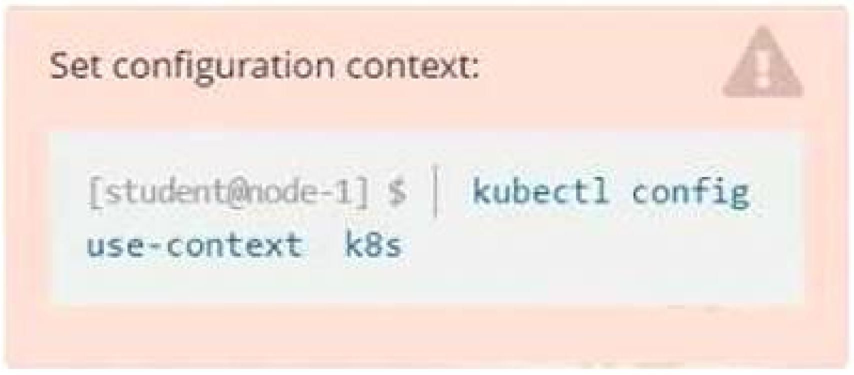


```
student@node-1:~$ kubectl create -f deployment_xyz.yml
deployment.apps/deployment-xyz created
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   0/1     1            0           5s
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   0/1     1            0           9s
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   1/1     1            1           12s
student@node-1:~$ 
```



```
student@node-1:~$ kubectl create -f deployment_xyz.yml
deployment.apps/deployment-xyz created
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   0/1     1            0           5s
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   0/1     1            0           9s
student@node-1:~$ kubectl get deployment
NAME             READY   UP-TO-DATE   AVAILABLE   AGE
deployment-xyz   1/1     1            1           12s
student@node-1:~$ 
```

NEW QUESTION 6
Exhibit:


Set configuration context:

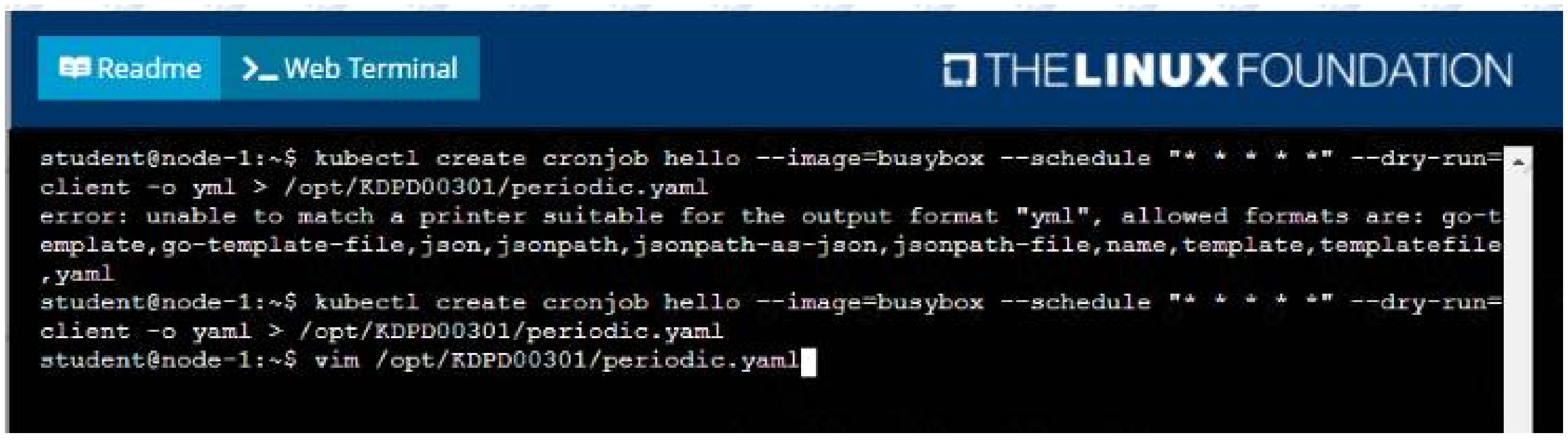
```
[student@node-1] $ | kubectl config
use-context  k8s
```

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 within22seconds or be terminated oy Kubernetes. The Cronjob namp and container name should both be hello
• Create the resource in the above manifest and verify that the job executes successfully at least once

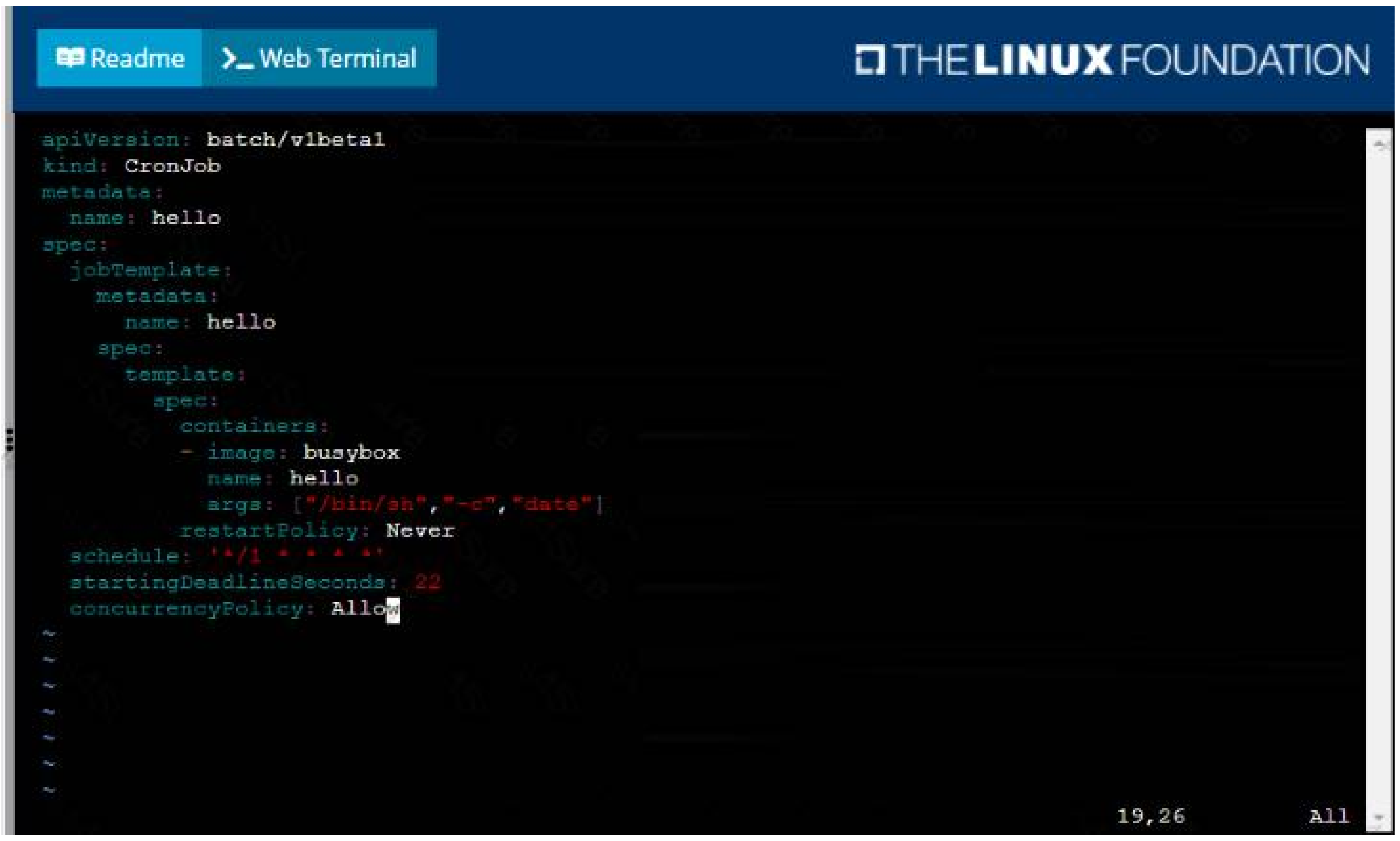
A. Mastered
B. Not Mastered

Answer: A

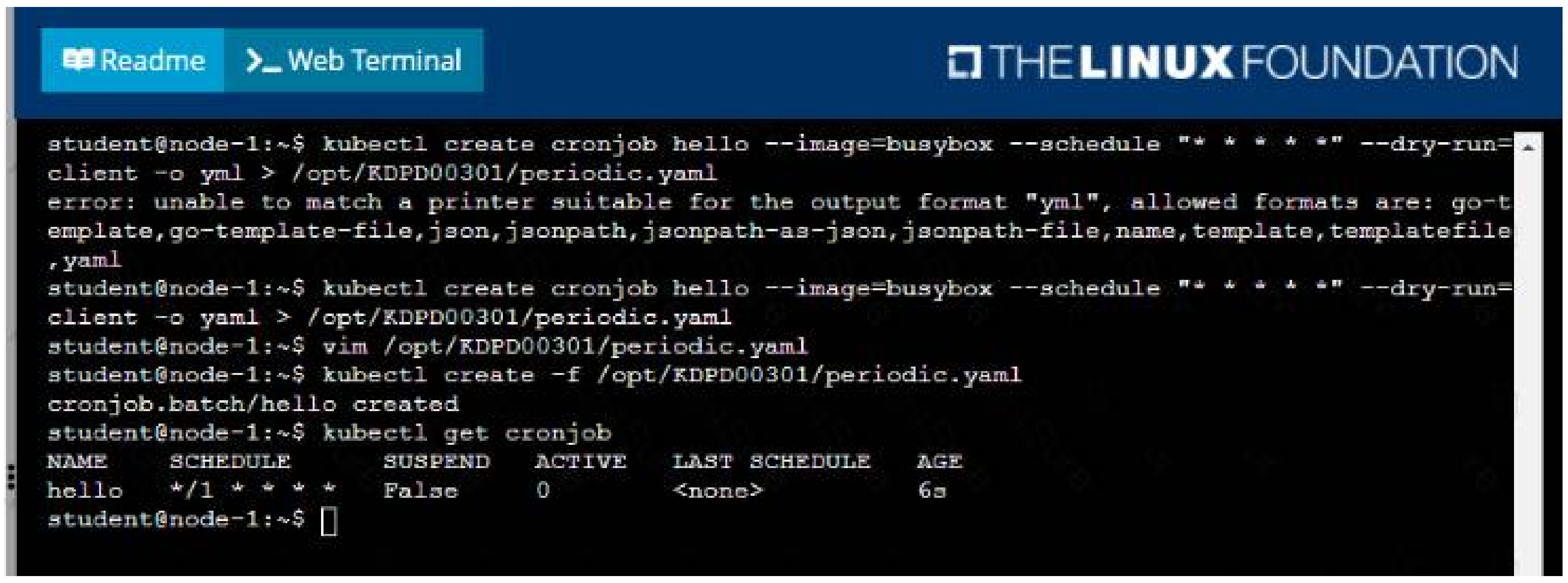
Explanation:
Solution:



```
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 "yml", 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
```

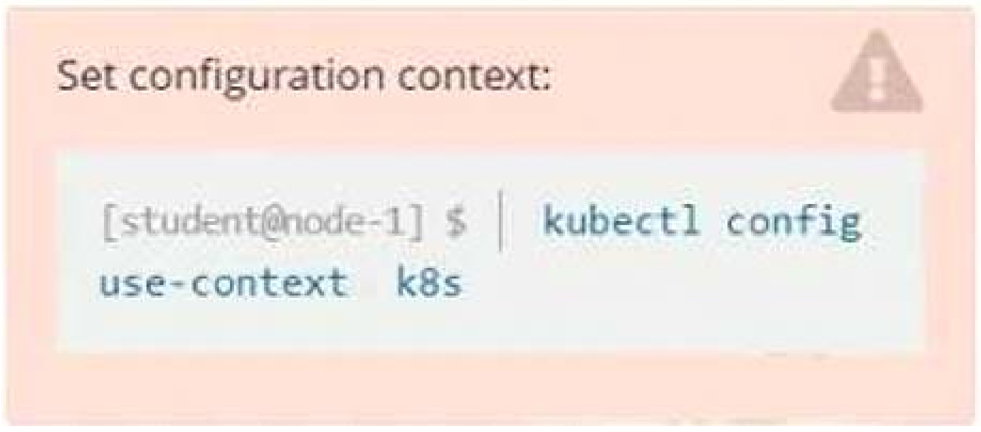


```
apiVersion: batch/v1beta1
kind: CronJob
metadata:
  name: hello
spec:
  jobTemplate:
    metadata:
      name: hello
    spec:
      template:
        spec:
          containers:
          - image: busybox
            name: hello
            args: ["/bin/sh","-c","date"]
          restartPolicy: Never
  schedule: '*/1 * * * *'
  startingDeadlineSeconds: 22
  concurrencyPolicy: Allow
~
~
~
~
~
~
~
                                                                    19,26          All
```



```
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 "yml", 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:~$
```

NEW QUESTION 7
Exhibit:



Set configuration context:

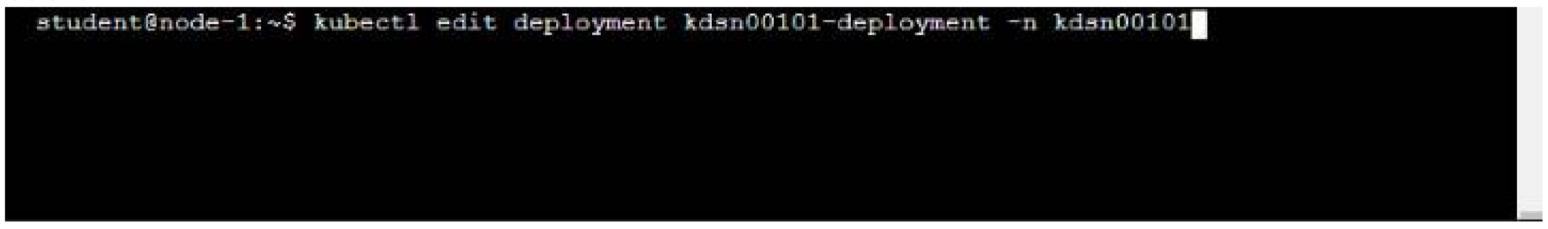
```
[student@node-1] $ | kubectl config
use-context k8s
```

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=webFrontEndkey/value label to the pod template metadata to identify the pod for the service definition
• Have 4 replicas
Next, create ana deploy in namespace kdsn00l01 a service that accomplishes the following:
• Exposes the service on TCP port 8080
• is mapped to me pods defined by the specification of kdsn00l01-deployment
• Is of type NodePort
• Has a name of cherry

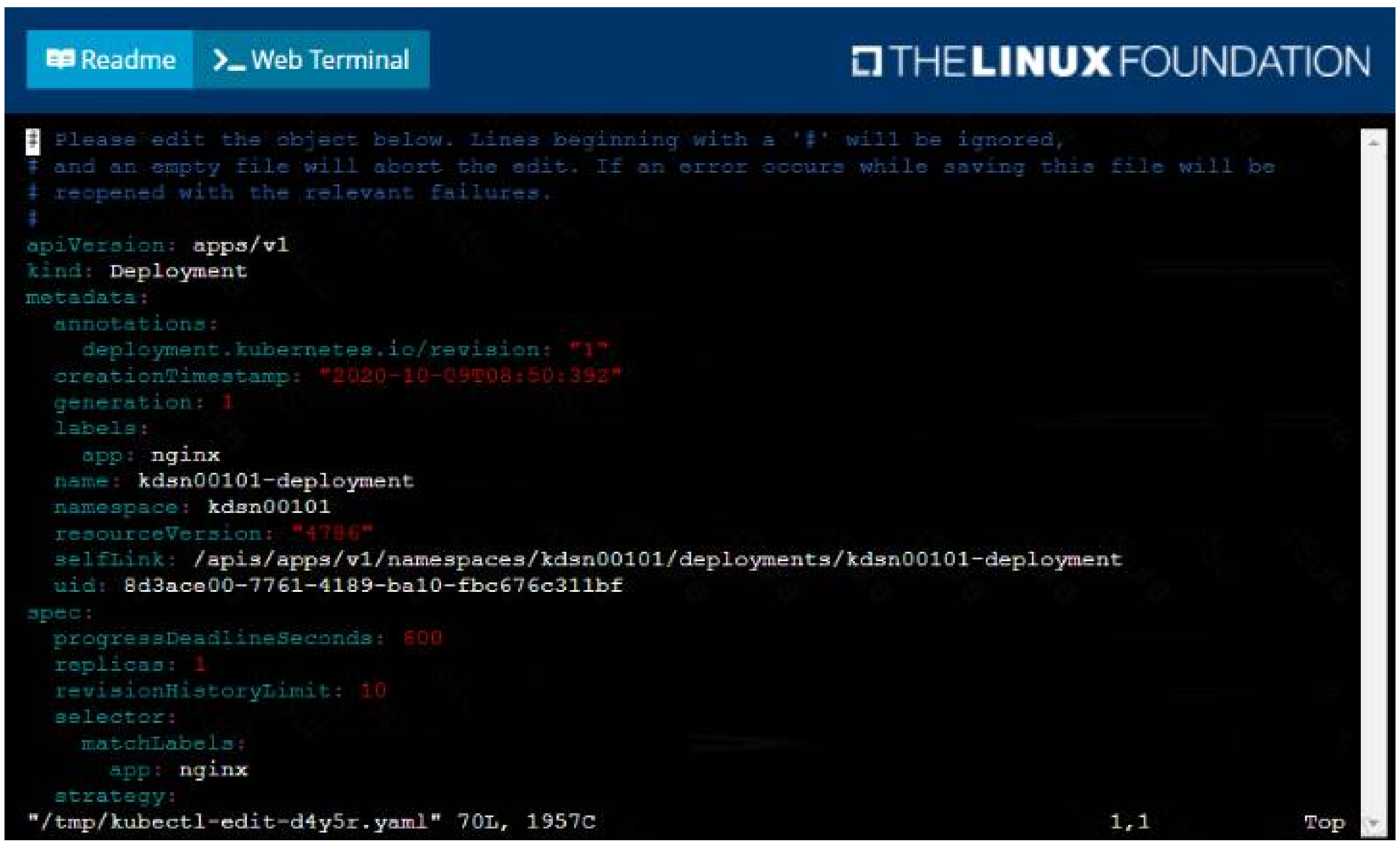
A. Mastered
B. Not Mastered

Answer: A

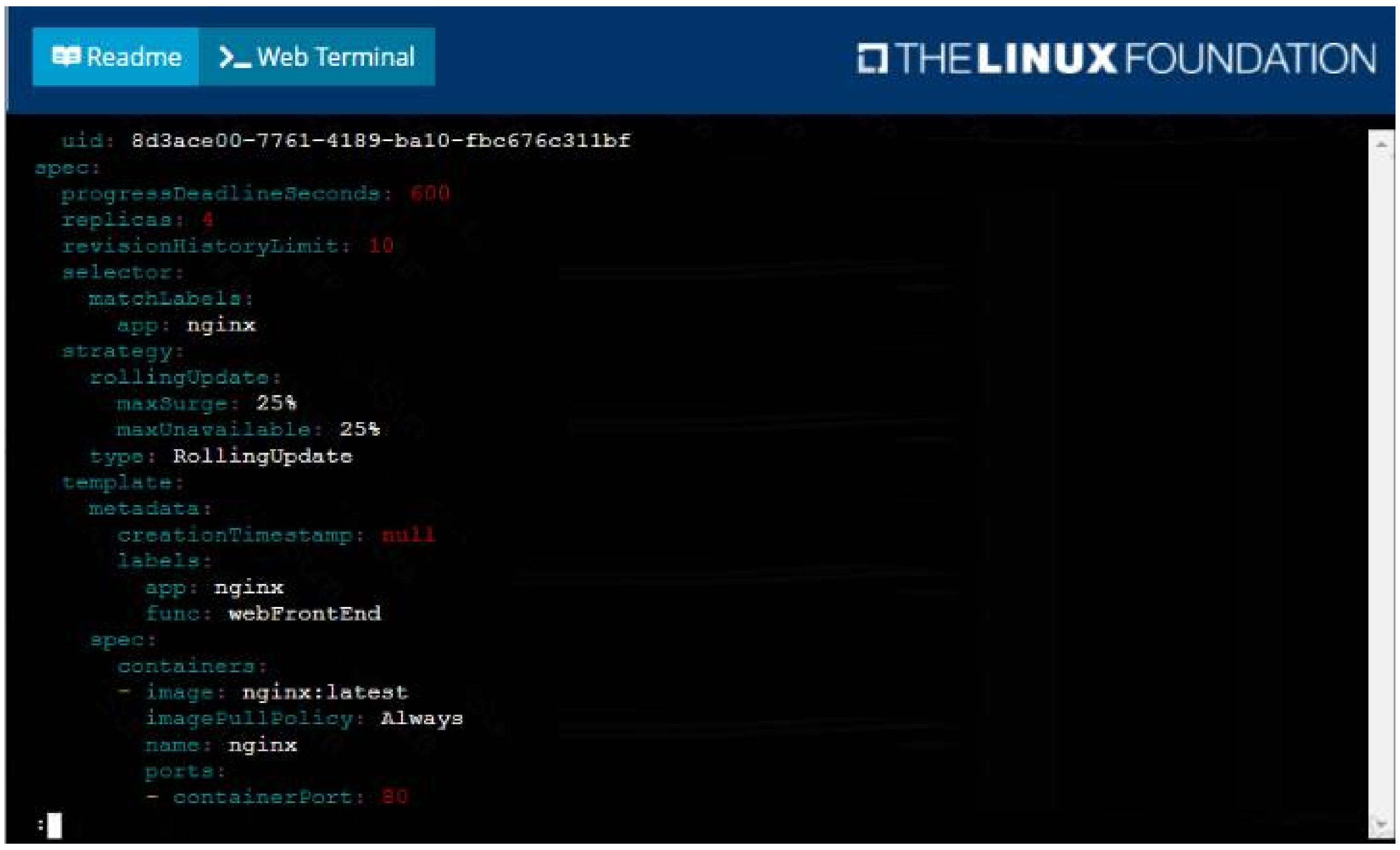
Explanation:
Solution:



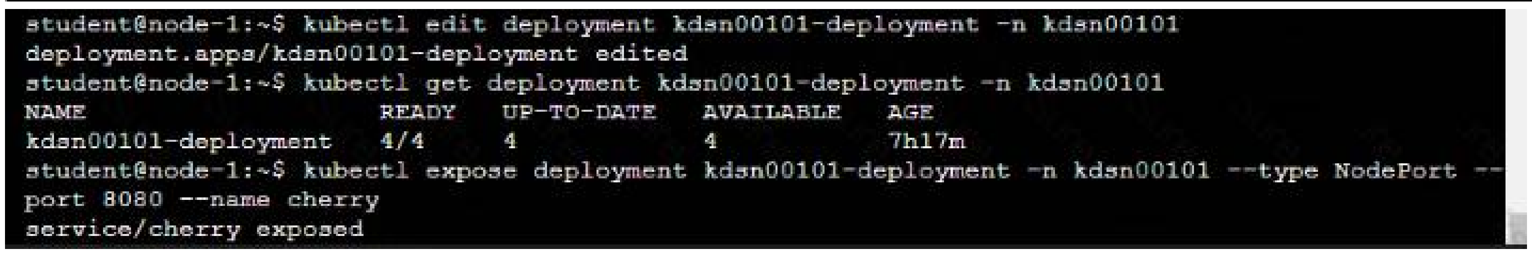
```
student@node-1:~$ kubectl edit deployment kdsn00101-deployment -n kdsn00101
```



```
# 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
```

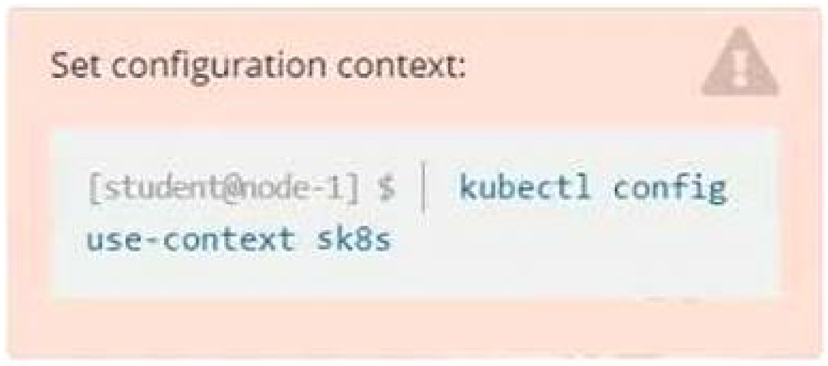


```
  uid: 8d3ace00-7761-4189-ba10-fbc676c311bf
spec:
  progressDeadlineSeconds: 600
  replicas: 4
  revisionHistoryLimit: 10
  selector:
    matchLabels:
      app: nginx
  strategy:
    rollingUpdate:
      maxSurge: 25%
      maxUnavailable: 25%
    type: RollingUpdate
  template:
    metadata:
      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 8
Exhibit:

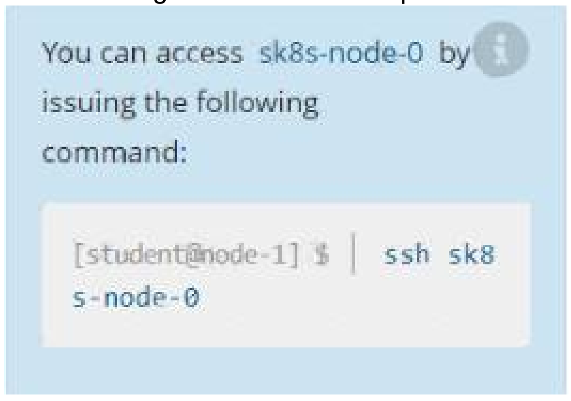


Set configuration context:

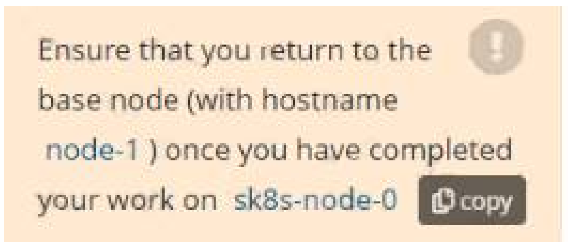
```
[student@node-1] $ | kubectl config
use-context sk8s
```

Context
A project that you are working on has a requirementfor 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 PersistenetVolume.

• Create a PefsissentVolumeClaim named task-pv-claim that requests a volume of at least100Mi and specifies an access mode of ReadWriteOnce
• Create a pod that uses the PersistentVolmeClaim 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:

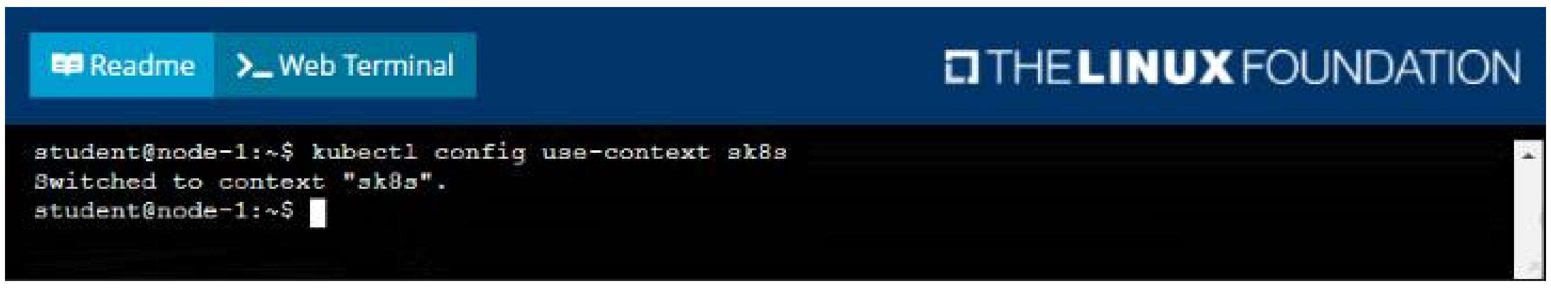
```
[student@node-1] $ | ssh sk8s-node-0
```

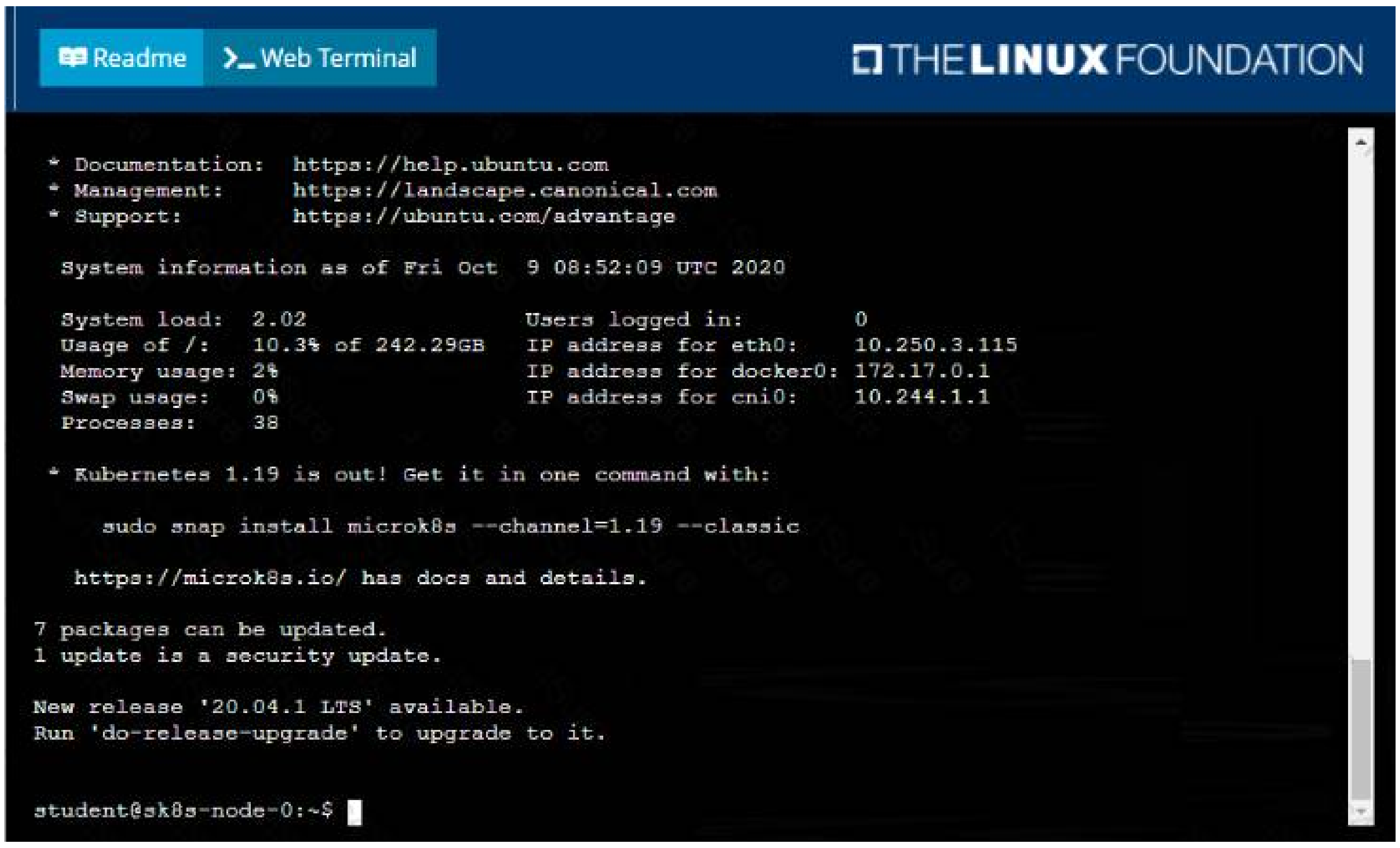

Ensure that you return to the base node (with hostname node-1) once you have completed your work on sk8s-node-0

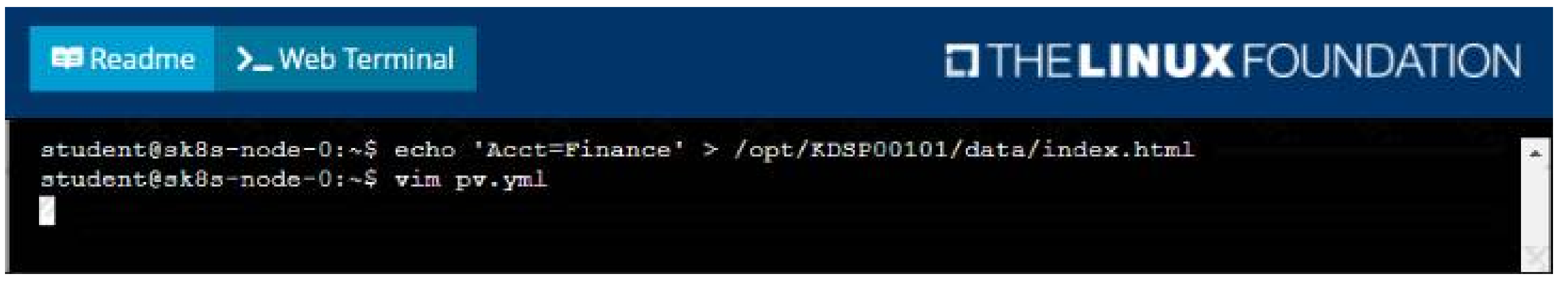
A. Mastered
B. Not Mastered

Answer: A

Explanation:
Solution:


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


```
 * 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:~$
```


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

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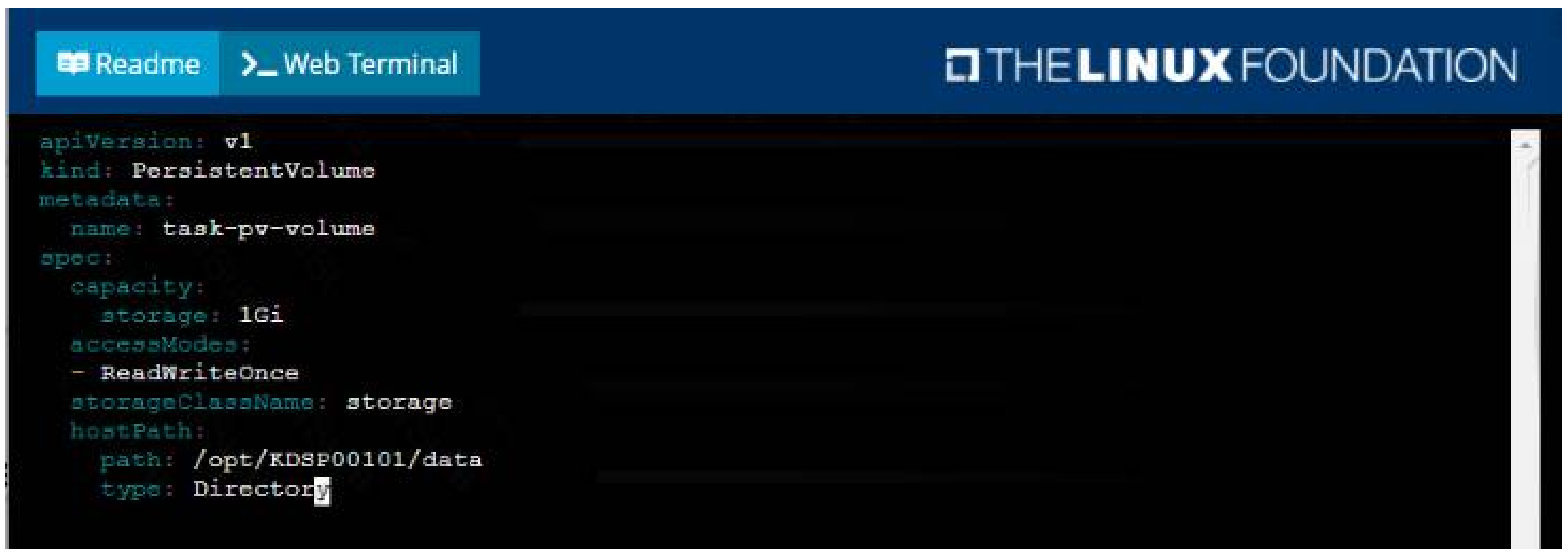
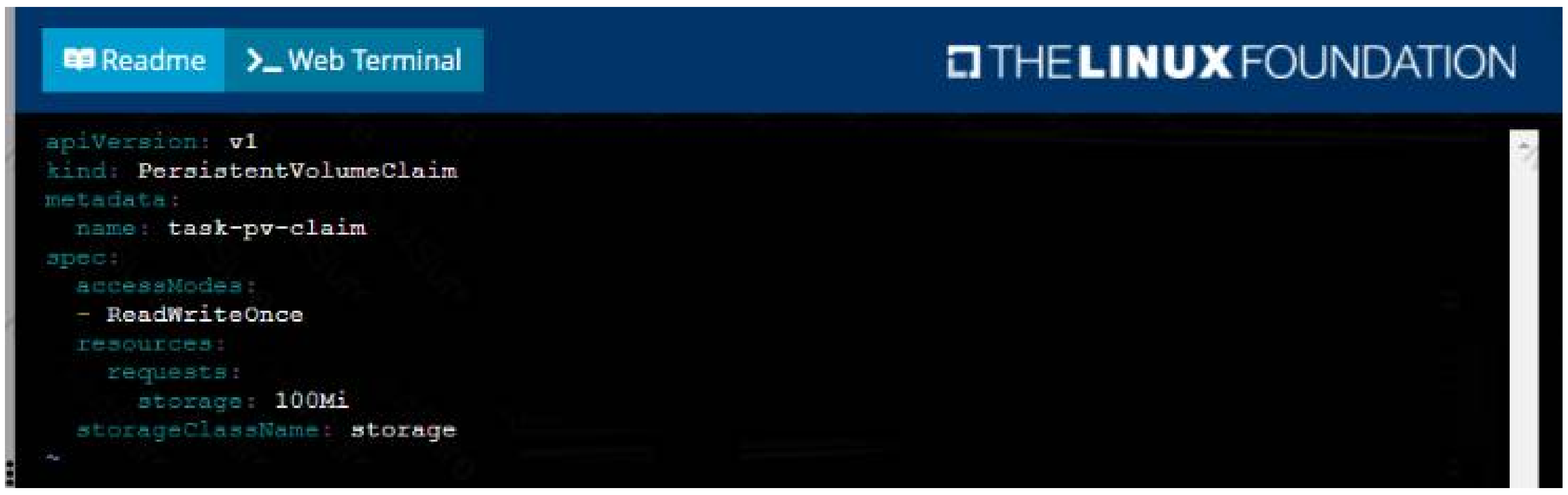
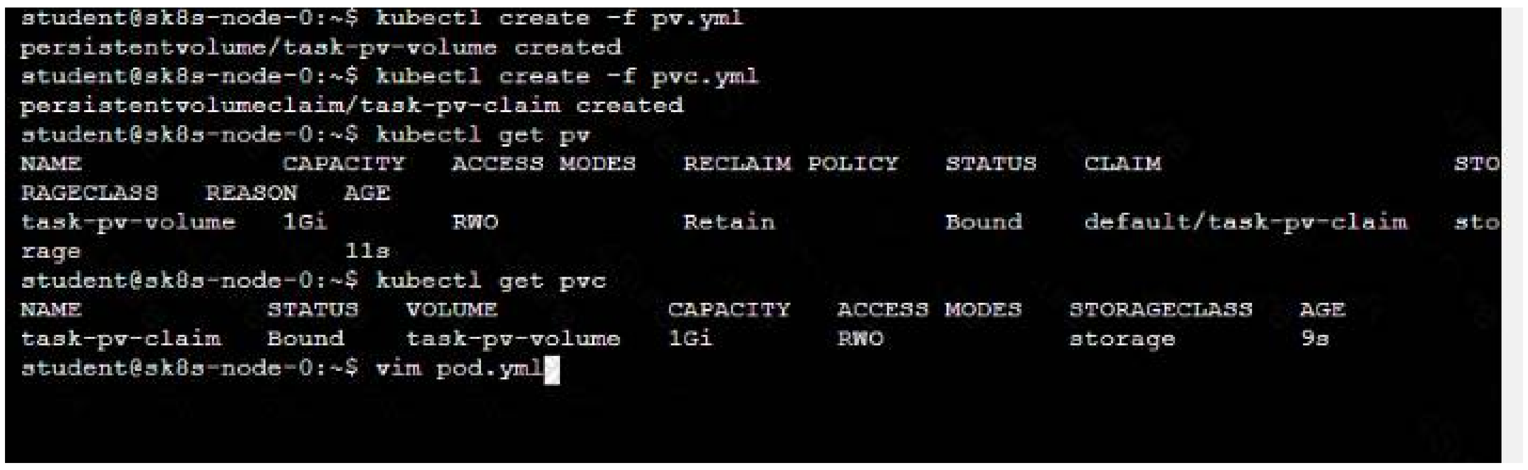



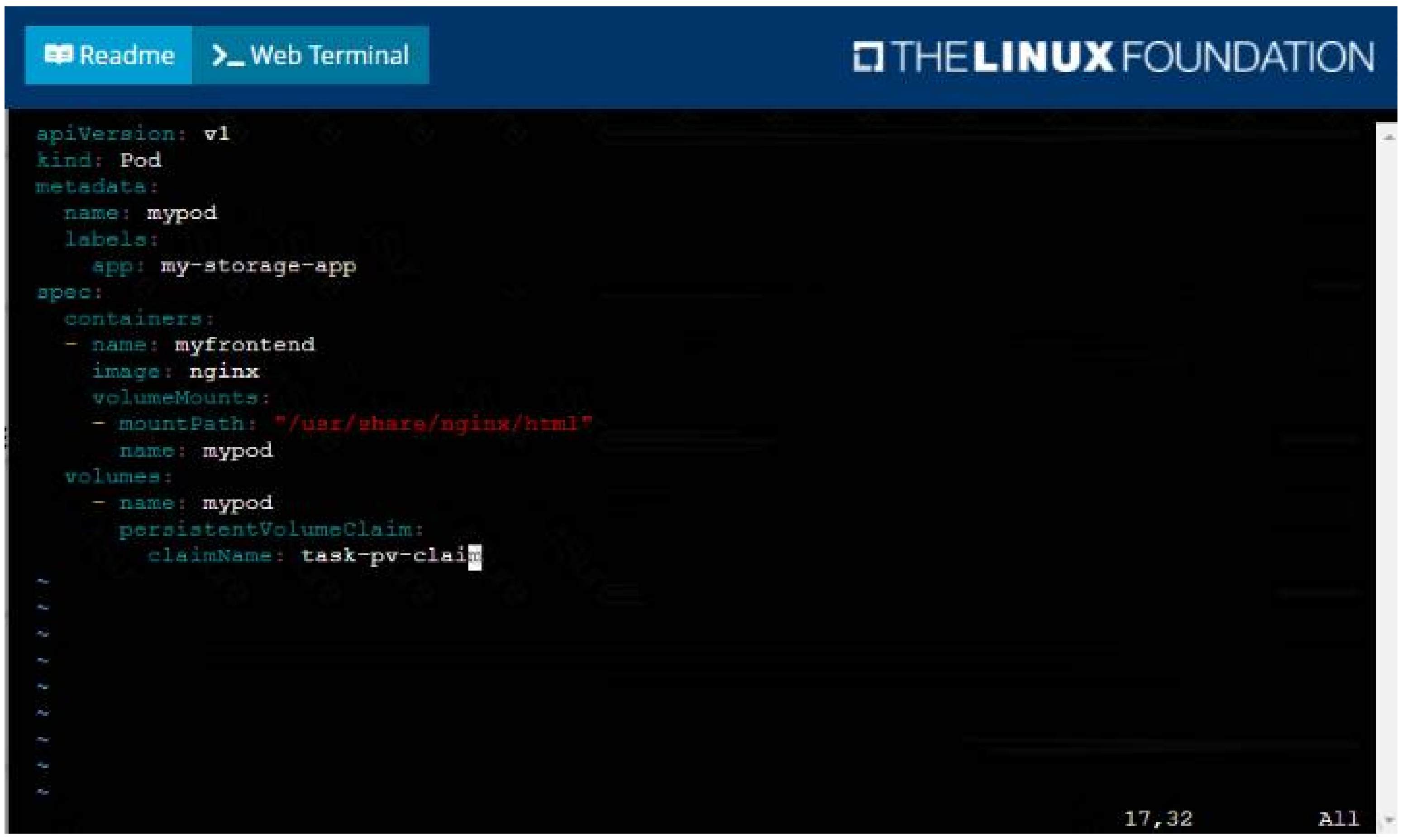
```
apiVersion: v1
kind: PersistentVolume
metadata:
  name: task-pv-volume
spec:
  capacity:
    storage: 1Gi
  accessModes:
  - ReadWriteOnce
  storageClassName: storage
  hostPath:
    path: /opt/KDSP00101/data
    type: Directory
```



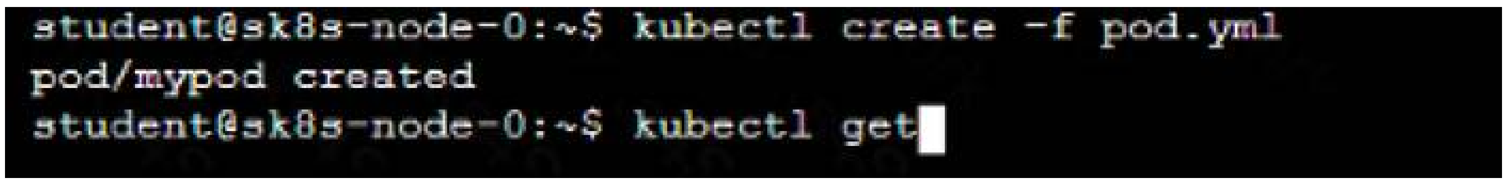
```
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  name: task-pv-claim
spec:
  accessModes:
  - ReadWriteOnce
  resources:
    requests:
      storage: 100Mi
  storageClassName: storage
~
```



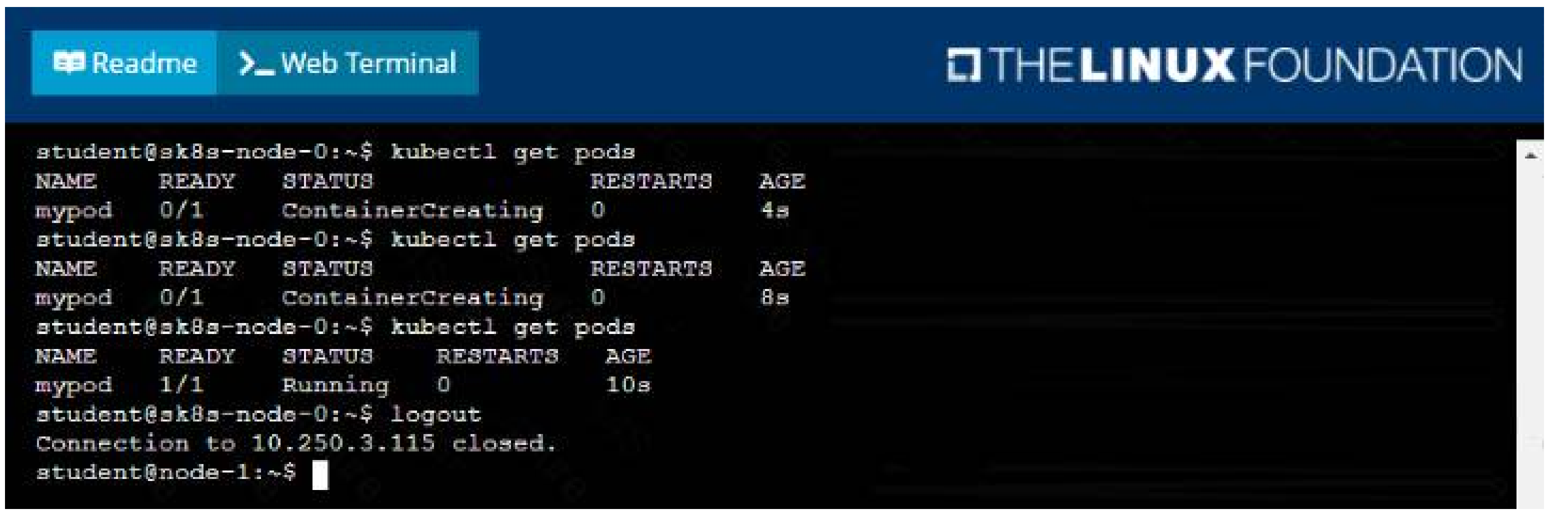
```
student@sk8s-node-0:~$ kubectl create -f pv.yml
persistentvolume/task-pv-volume created
student@sk8s-node-0:~$ kubectl create -f pvc.yml
persistentvolumeclaim/task-pv-claim created
student@sk8s-node-0:~$ kubectl get pv
NAME             CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS   CLAIM                   STO
RAGECLASS    REASON   AGE
task-pv-volume   1Gi        RWO            Retain           Bound    default/task-pv-claim   sto
rage                  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
```



```
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
```

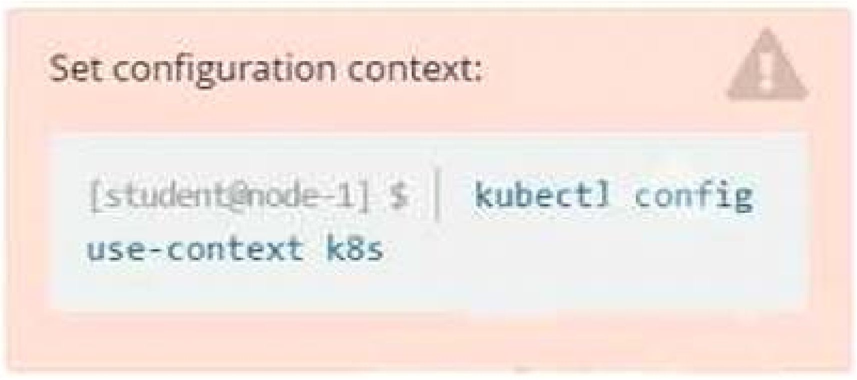


```
student@sk8s-node-0:~$ kubectl create -f pod.yml
pod/mypod created
student@sk8s-node-0:~$ kubectl get
```



```
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:~$
```

NEW QUESTION 9
Exhibit:



Set configuration context:

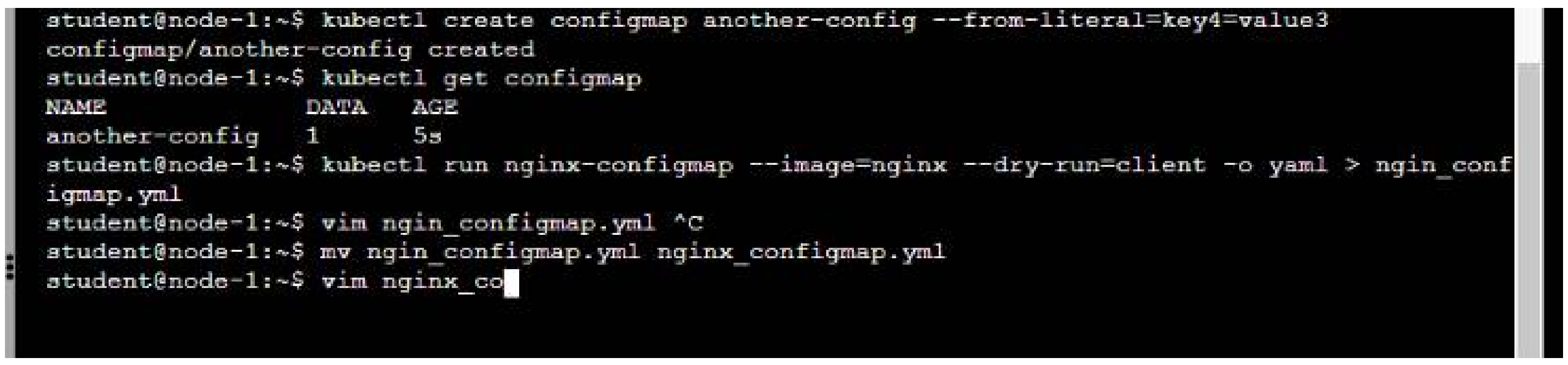
```
[student@node-1] $ | kubectl config
use-context k8s
```

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 namedanother-config containing the key/value pair: key4/value3
• starta 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

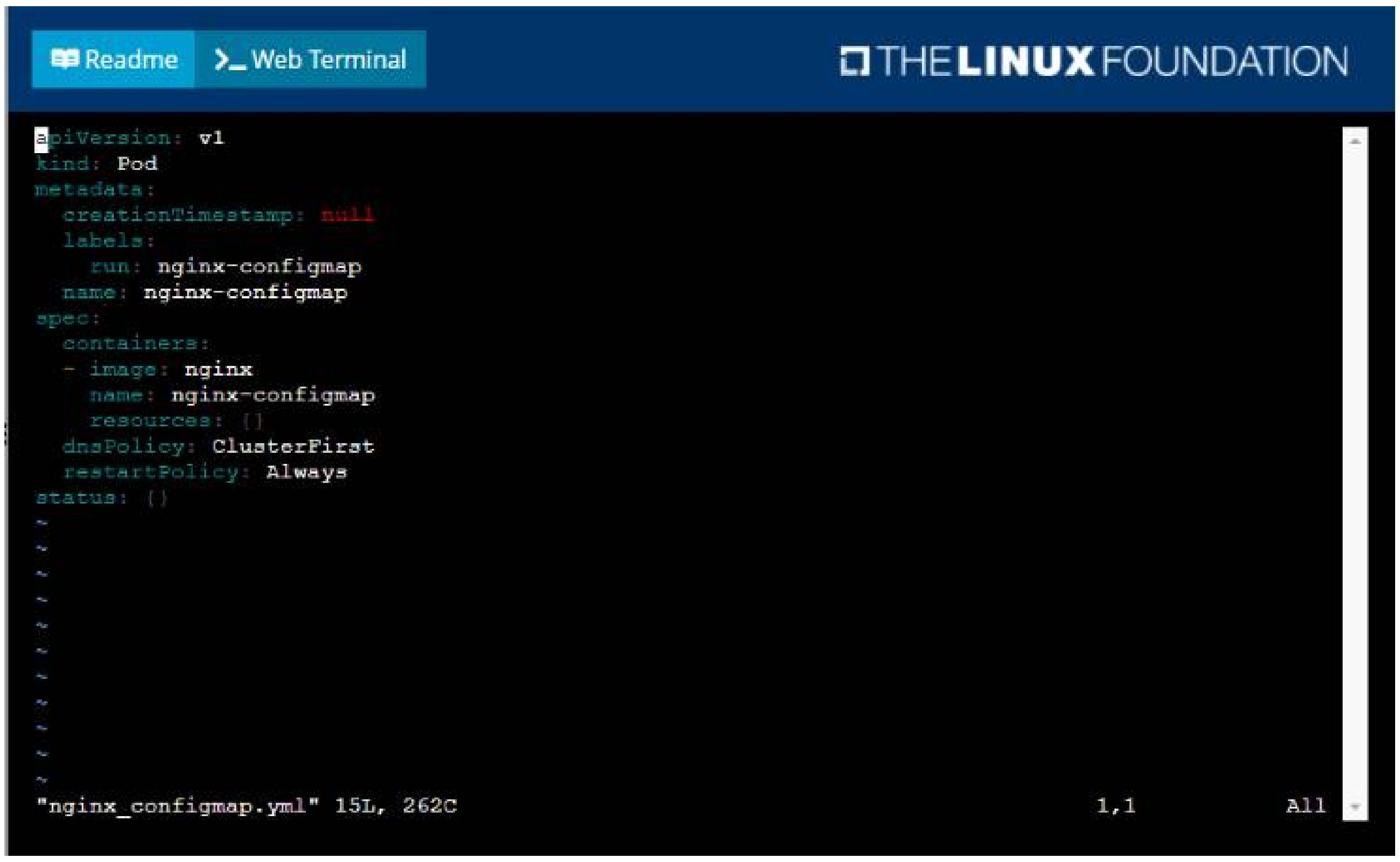
A. Mastered
B. Not Mastered

Answer: A

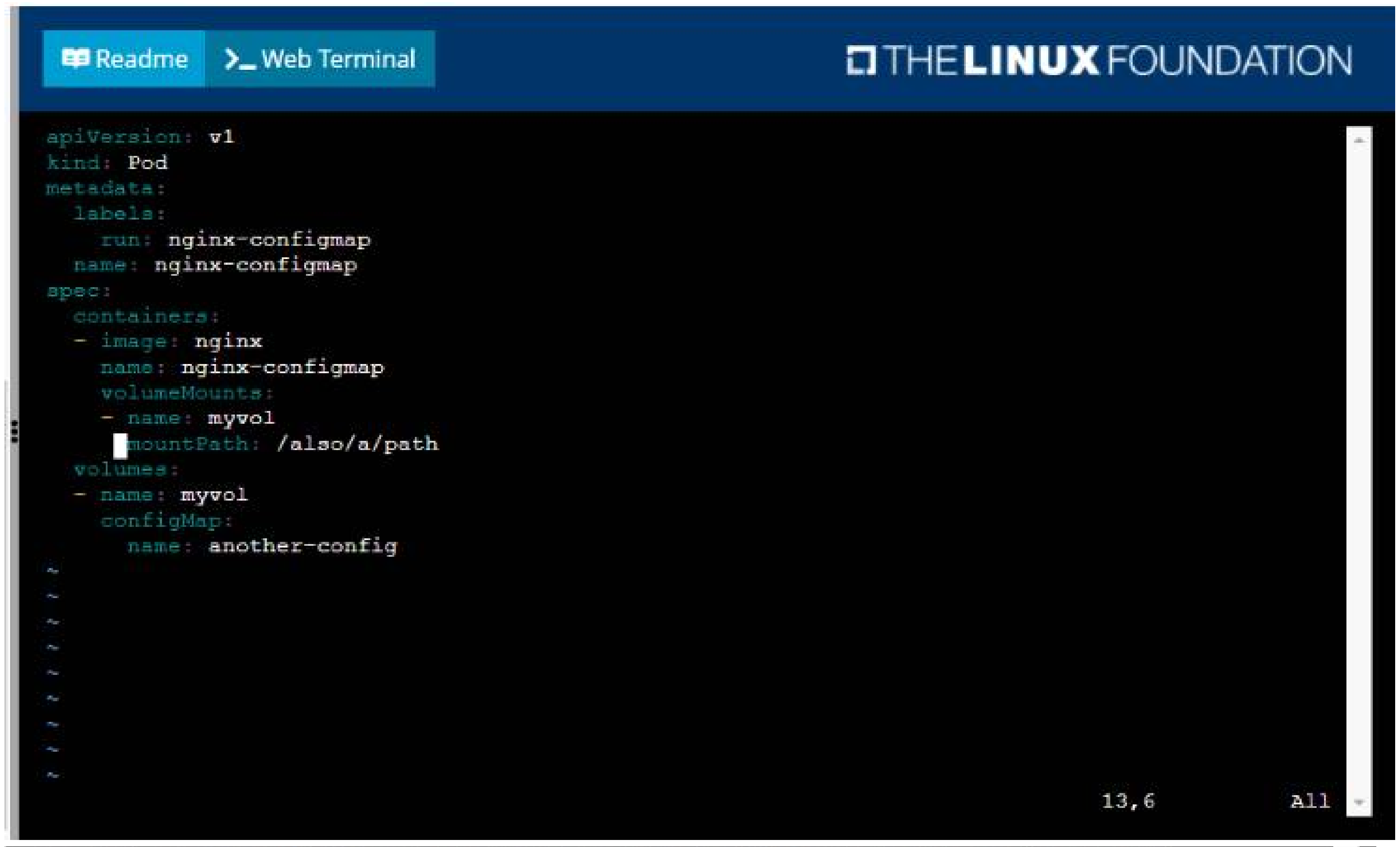
Explanation:
Solution:



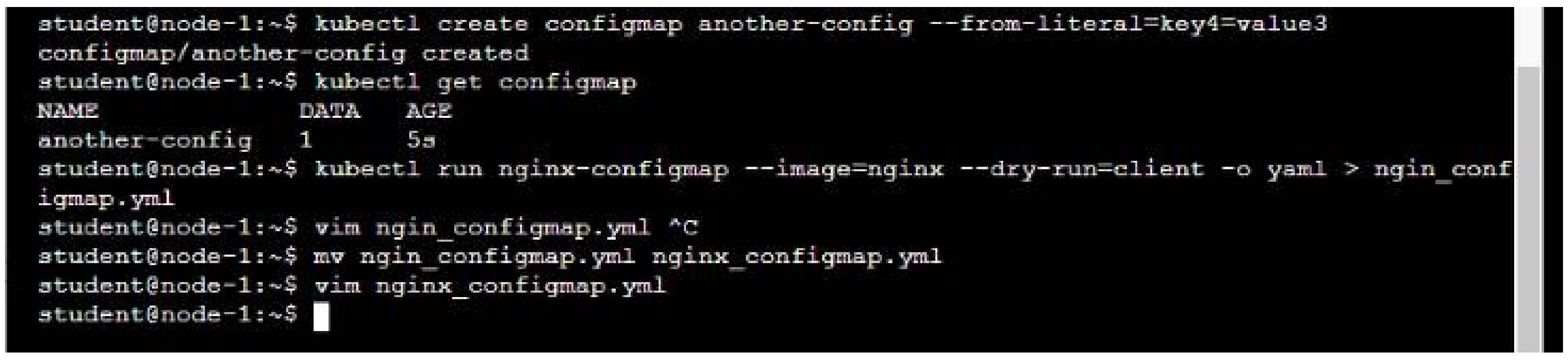
```
student@node-1:~$ kubectl create configmap another-config --from-literal=key4=value3
configmap/another-config created
student@node-1:~$ kubectl get configmap
NAME             DATA   AGE
another-config   1      5s
student@node-1:~$ kubectl run nginx-configmap --image=nginx --dry-run=client -o yaml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



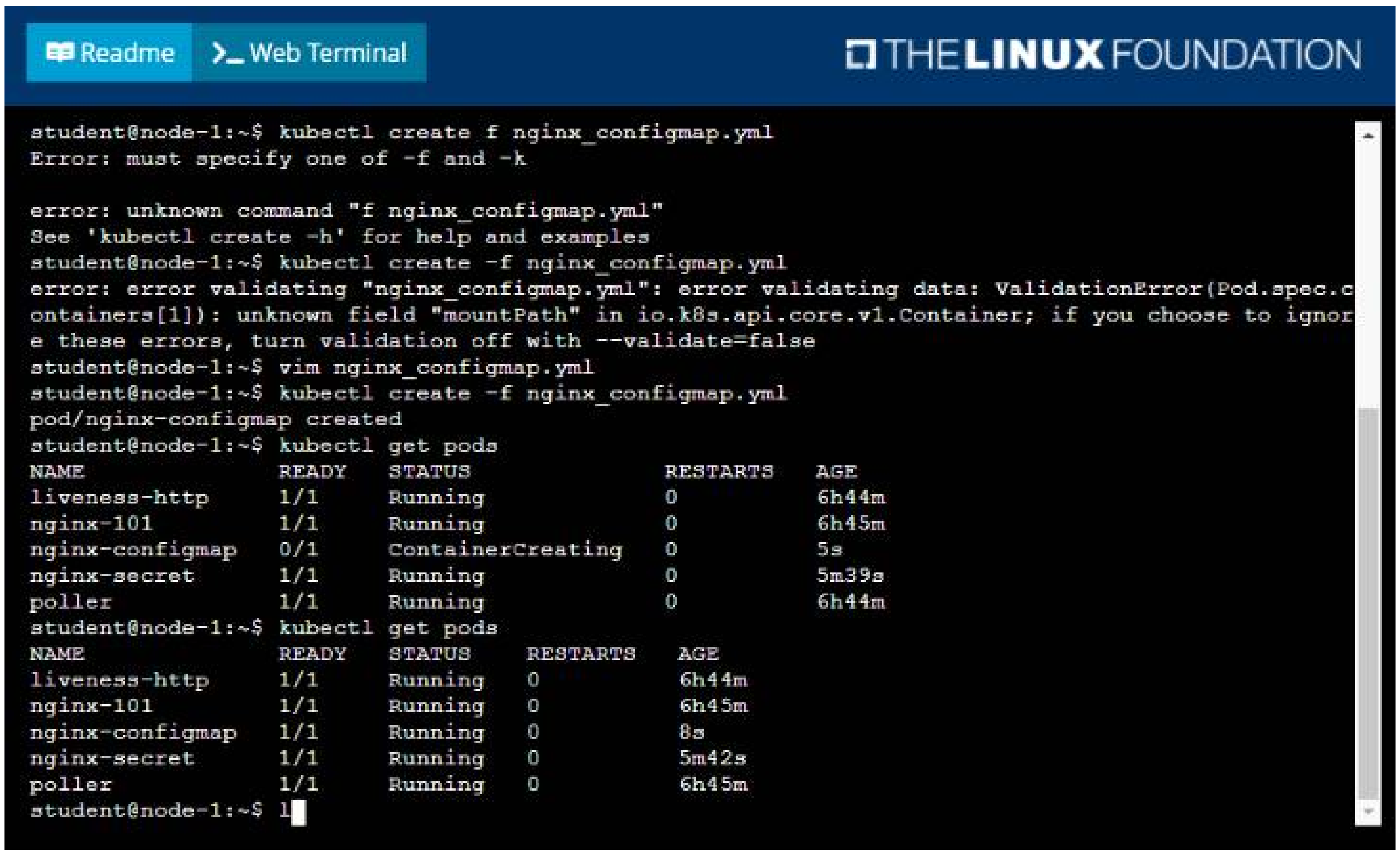
```
apiVersion: v1
kind: Pod
metadata:
  creationTimestamp: null
  labels:
    run: nginx-configmap
  name: nginx-configmap
spec:
  containers:
  - image: nginx
    name: nginx-configmap
    resources: {}
  dnsPolicy: ClusterFirst
  restartPolicy: Always
status: {}
~
~
~
~
~
~
~
~
~
~
~
"nginx_configmap.yml" 15L, 262C                                          1,1           All
```



```
apiVersion: v1
kind: Pod
metadata:
  labels:
    run: nginx-configmap
  name: nginx-configmap
spec:
  containers:
  - image: nginx
    name: nginx-configmap
    volumeMounts:
    - name: myvol
      mountPath: /also/a/path
  volumes:
  - name: myvol
    configMap:
      name: another-config
~
~
~
~
~
~
~
~
~
                                                                         13,6          All
```



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



```
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.c
ontainers[1]): unknown field "mountPath" in io.k8s.api.core.v1.Container; if you choose to ignor
e these errors, turn validation off with --validate=false
student@node-1:~$ vim nginx_configmap.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:~$ l
```

NEW QUESTION 10

......