

# **Exam Questions CKA**

Certified Kubernetes Administrator (CKA) Program

https://www.2passeasy.com/dumps/CKA/





Create a pod with environment variables as var1=value1. Check the environment variable in pod

A. Mastered

B. Not Mastered

#### Answer: A

#### **Explanation:**

kubectl run nginx --image=nginx --restart=Never --env=var1=value1

# then

kubectl exec -it nginx -- env

# or

kubectl exec -it nginx -- sh -c 'echo \$var1'

# or

kubectl describe po nginx | grep value1

#### **NEW QUESTION 2**

Create a deployment as follows:

- Name:nginx-random
- Exposed via a servicenginx-random
- Ensure that the service & podare accessible via theirrespective DNS records
- The container(s) within anypod(s) running as a part of thisdeployment should use thenginxImage Next, use the utilitynslookupto lookup the DNS records of the service &pod and write the output to /opt/KUNW00601/service.dnsand/opt/KUNW00601/pod.dnsrespectively.

A. Mastered

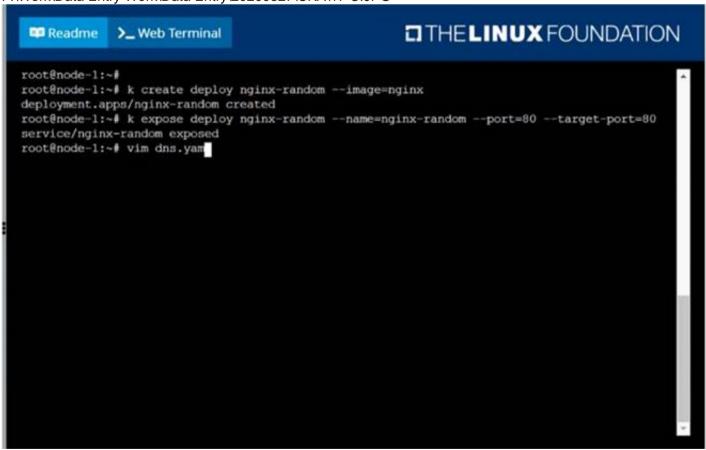
B. Not Mastered

Answer: A

## **Explanation:**

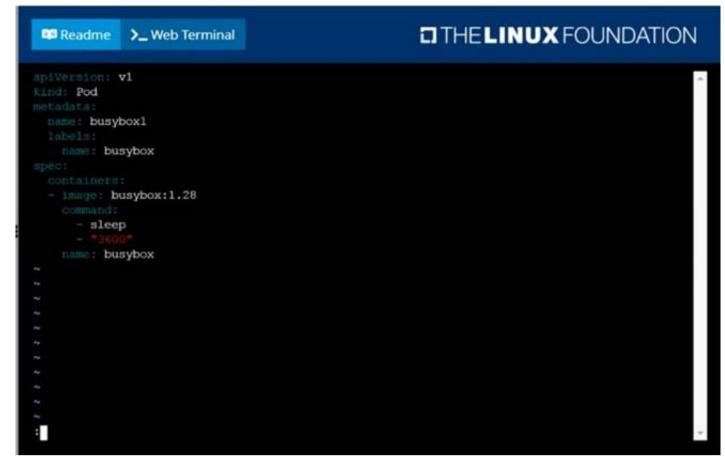
#### Solution:

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#### **NEW QUESTION 3**

Given a partially-functioningKubernetes cluster, identifysymptoms of failure on the cluster.

Determine the node, the failingservice, and take actions to bring upthe failed service and restore thehealth of the cluster. Ensure that anychanges are made permanently.

You cansshto the relevant Inodes (bk8s-master-0orbk8s-node-0) using:

[student@node-1] \$ ssh<nodename>

You can assume elevatedprivileges on any node in thecluster with the followingcommand: [student@nodename] \$ | sudo ?Ci

A. Mastered

B. Not Mastered

Answer: A

Explanation:

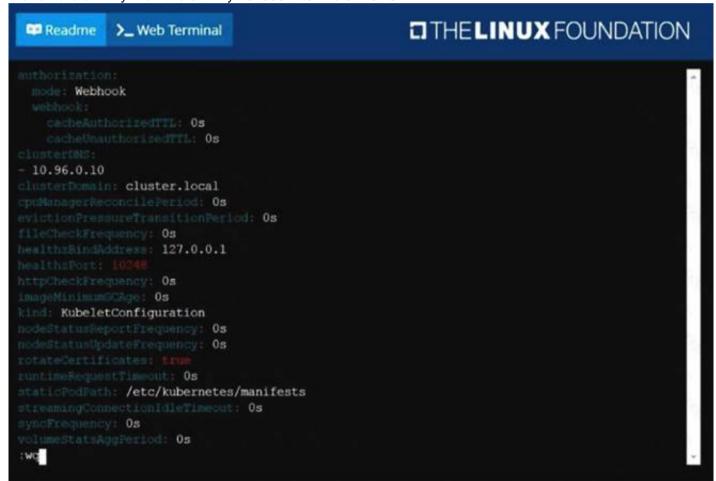
solution

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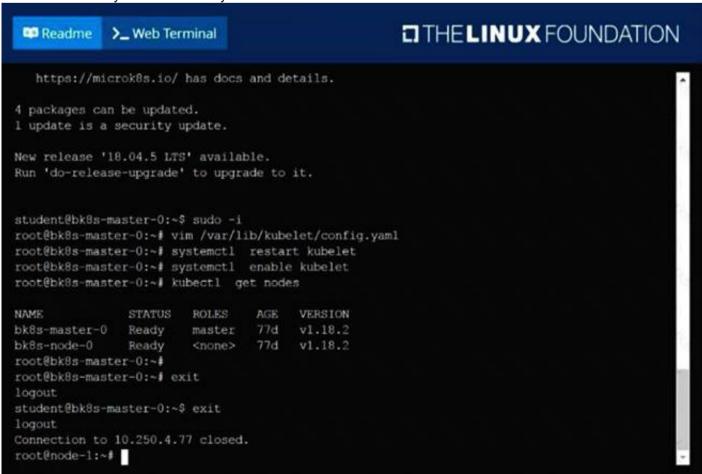


```
THELINUX FOUNDATION
 Readme
             >_ Web Terminal
root@node-1:~#
root@node-1:~# kubectl config use-context bk8s
Switched to context "bk8s".
root@node-1:~# ssh bk8s-master-0
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.4.0-1109-aws x86 64)
* Documentation: https://help.ubuntu.com
* Management:
                  https://landscape.canonical.com
* Support:
                  https://ubuntu.com/advantage
 * Are you ready for Kubernetes 1.19? It's nearly here! Try RC3 with
  sudo snap install microk8s --channel=1.19/candidate --classic
  https://microk8s.io/ has docs and details.
4 packages can be updated.
1 update is a security update.
New release '18.04.5 LTS' available.
Run 'do-release-upgrade' to upgrade to it.
student@bk8s-master-0:~$ sudo -i
root@bk8s-master-0:~# vim /var/lib/kubelet/config.yaml
```

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Create a pod as follows:

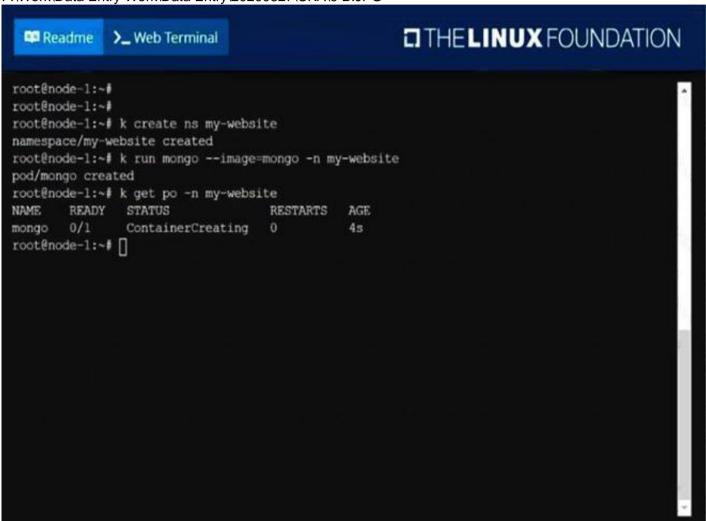
- Name:mongo
- Using Image:mongo
- In anew Kubernetes namespacenamed:my-website
- A. Mastered
- B. Not Mastered

Answer: A

#### **Explanation:**

solution

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#### **NEW QUESTION 5**

List ??nginx-dev?? and ??nginx-prod?? pod and delete those pods

A. Mastered

B. Not Mastered

Answer: A

## **Explanation:**

kubect1 get pods -o wide

kubectl delete po ??nginx-dev??kubectl delete po ??nginx-prod??

#### **NEW QUESTION 6**

Create a pod with image nginx called nginx and allow traffic on port 80

A. Mastered

B. Not Mastered

Answer: A

## **Explanation:**

kubectlrun nginx --image=nginx --restart=Never --port=80

## **NEW QUESTION 7**

Create a nginx pod with label env=test in engineering namespace

A. Mastered

B. Not Mastered

Answer: A

#### **Explanation:**

kubectl run nginx --image=nginx --restart=Never --labels=env=test --namespace=engineering --dry-run -o yaml > nginx-pod.yaml



kubectl run nginx --image=nginx --restart=Never --labels=env=test --namespace=engineering --dry-run -o yaml | kubectl create -nengineering-f ?C

YAML File: apiVersion: v1 kind: Pod metadata: name: nginx

namespace: engineering labels: env: test spec: containers: - name: nginx image: nginx

imagePullPolicy: IfNotPresent restartPolicy: Never

kubectl create -f nginx-pod.yaml

#### **NEW QUESTION 8**

Create a persistent volume with nameapp-data, of capacity2Giandaccess modeReadWriteMany. Thetype of volume ishostPathand itslocation is/srv/app-data.

A. Mastered

B. Not Mastered

Answer: A

#### **Explanation:**

solution

Persistent Volume

A persistent volume is a piece of storage in aKubernetes cluster. PersistentVolumes are a cluster-level resource like nodes, which don??t belong to any namespace. It is provisioned by the administrator and has a particular file size. This way, a developer deploying their app on Kubernetes need not knowthe underlying infrastructure. When the developer needs a certain amount of persistent storage for their application, the system administrator configures the cluster so that they consume the PersistentVolume provisioned in an easy way.

Creating PersistentVolume

kind: PersistentVolumeapiVersion: v1metadata:name:app-dataspec:capacity: # defines the capacity of PV we are creatingstorage:2Gi#the amount of storage we are tying to claimaccessModes: # defines the rights of the volumewe are creating-ReadWriteManyhostPath:path: "/srv/app-data" # path to which we are creating the volume

Challenge

Create a Persistent Volume namedapp-data, with access modeReadWriteMany, storage classname

shared,2Giof storage capacity and the host path/srv/app-data.

```
apiVersion: v1
kind: PersistentVolume
metadata:
    mammo: app-data
spec:
    capacity:
    storage: 2Gi
accessModes:
    - ReadWriteMany
hostPath:
    path: /srv/app-data
storageClassNammo: shared
```

\* 2. Save the file and create the persistent volume. Image for post

njerry191@cloudshell:~ (extreme-clone-265411)\$ kubectl create -f pv.yaml persistentvolume/pv created

\* 3. View the persistent volume.

```
njerry191@cloudshell:~ (extreme-clone-265411) $ kubectl get pv
       CAPACITY
                  ACCESS MODES
                                  RECLAIM POLICY
                                                    STATUS
                                                                 CLAIM
                                                                         STORAGECLASS
                                                                                         REASON
                                                                                                  AGE
app-data
       2Gi
                                                    Available
                                                                                                  31s
                   RWX
                                  Retain
                                                                         shared
```

Our persistent volume status is available meaning it is available and it has not been mounted yet. This status willchange when we mount the persistentVolume to a persistentVolumeClaim.

PersistentVolumeClaim

In a real ecosystem, a system admin will create the PersistentVolume then a developer will create a PersistentVolumeClaim which will be referenced in a pod. A PersistentVolumeClaim is created by specifying the minimum size and the access mode they require from the persistentVolume.

#### Challenge

Preate a Persistent Volume Claim that requests the Persistent Volume we had created above. The claim should request 2Gi. Ensurethat the Persistent Volume Claim has the same storageClassName as the persistentVolume you had previously created.

kind: PersistentVolumeapiVersion: v1metadata:name:app-data spec:

accessModes:-ReadWriteManyresources:

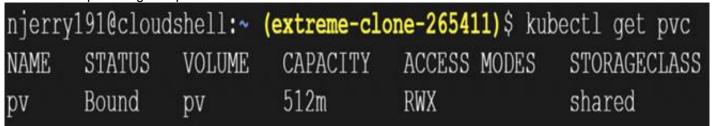


requests:storage:2Gi storageClassName:shared

\* 2. Save and create the pvc

njerry191@cloudshell:~(extreme-clone-2654111)\$ kubect1 create -f app-data.yaml persistentvolumeclaim/app-data created

\* 3. View the pvc Image for post



\* 4. Let??s see what has changed in the pv we had initially created.

Image for post



Our status has now changed from available to bound.

\* 5. Create a new pod named myapp with image nginx that will be used to Mount the Persistent Volume Claim with the path /var/app/config. Mounting a Claim

apiVersion: v1kind: Podmetadata:creationTimestamp: nullname: app-dataspec:volumes:- name:congigpvcpersistenVolumeClaim:claimName: app-datacontainers:image: nginxname: appvolumeMounts:- mountPath: "/srv/app-data"name: configpvc

#### **NEW QUESTION 9**

Create a namespace called 'development' and a pod with image nginx called nginx on this namespace.

A. Mastered

B. Not Mastered

Answer: A

#### **Explanation:**

kubectl create namespace development

kubectl run nginx --image=nginx --restart=Never -n development

#### **NEW QUESTION 10**

Create a pod as follows:

- Name:non-persistent-redis
- container Image:redis
- Volume with name:cache-control
- Mount path:/data/redis

The pod should launch in the staging names pace and the volume must not be persistent.

A. Mastered

B. Not Mastered

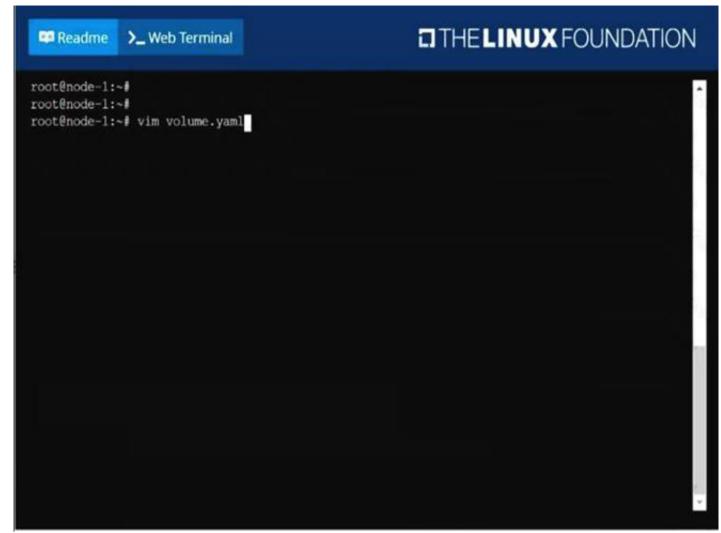
Answer: A

## **Explanation:**

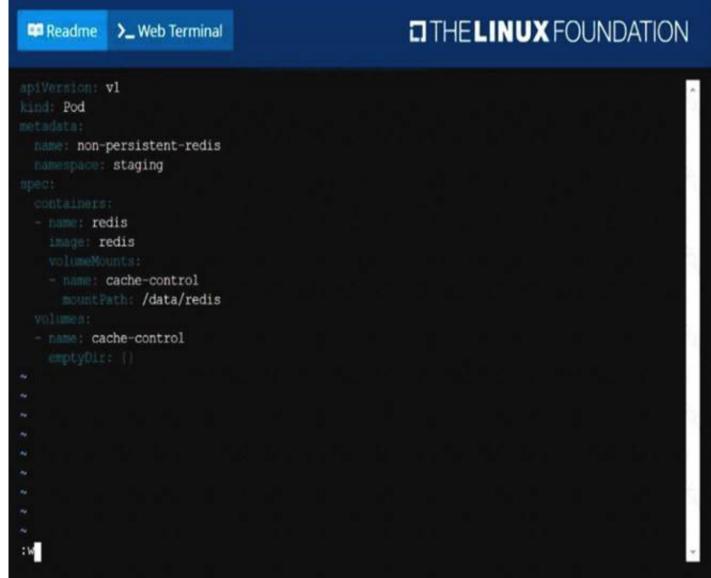
solution

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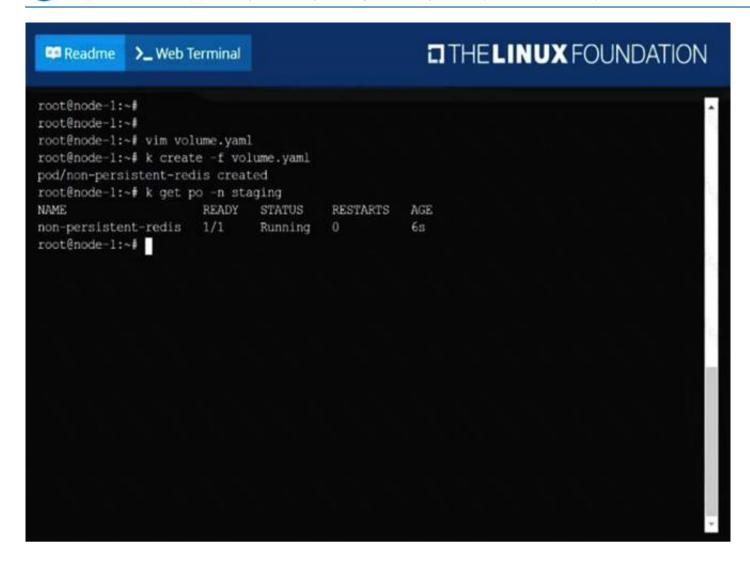




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List the nginx pod with custom columns POD\_NAME and POD\_STATUS

A. Mastered

B. Not Mastered

Answer: A

### **Explanation:**

kubectl get po -o=custom-columns="POD\_NAME:.metadata.name, POD\_STATUS:.status.containerStatuses[].state"

## **NEW QUESTION 12**

Ensure a single instance of podnginxis running on each node of the Kubernetes cluster wherenginxalso represents the Image name whichhas to be used. Do not override anytaints currently in place.

UseDaemonSetto complete thistask and useds-kusc00201asDaemonSet name.

A. Mastered

B. Not Mastered

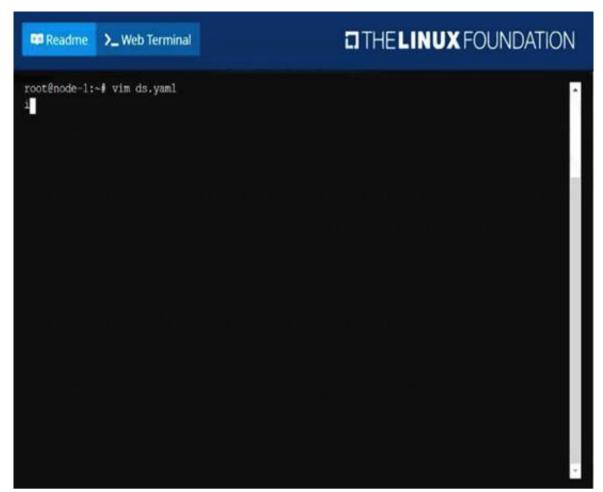
Answer: A

#### **Explanation:**

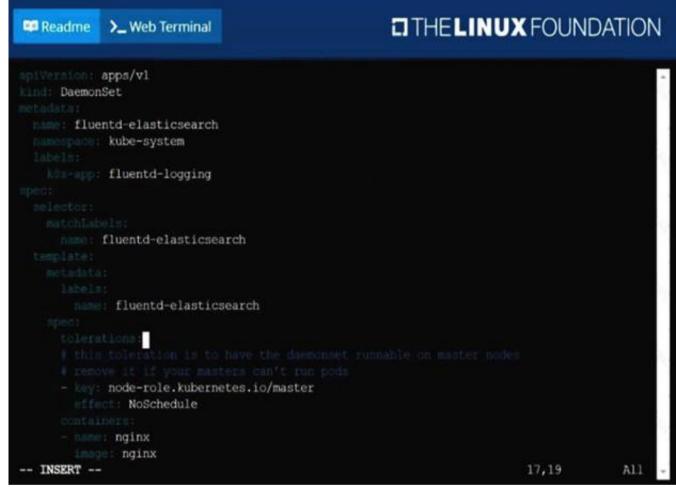
solution

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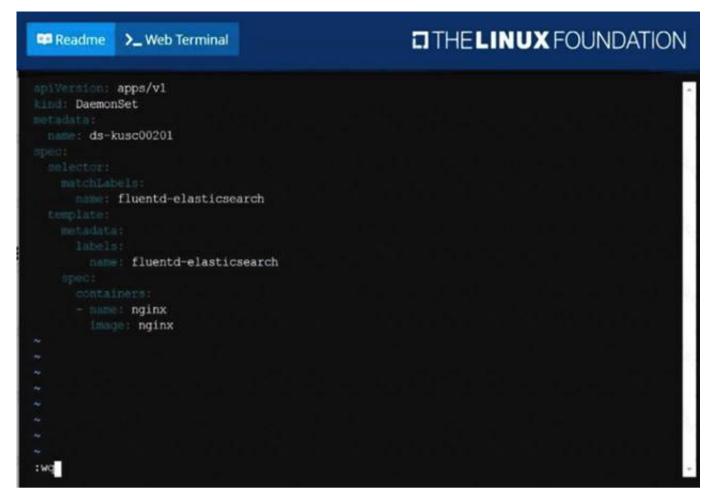




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#### **NEW QUESTION 14**

Check the image version in pod without the describe command

A. Mastered

B. Not Mastered

Answer: A

## Explanation:

 $kubectl\ get\ po\ nginx\ -o\ jsonpath='\{.spec.containers[].image\}\{"\n"\}'$ 

## **NEW QUESTION 16**

Configure the kubelet systemd-managed service, on the nodelabelled withname=wk8s-node-1, tolaunch a pod containing a singlecontainer of Imagehttpdnamedwebtoolautomatically. Any spec filesrequired should be placed in the/etc/kubernetes/manifestsdirectoryon the node.

You canssh to theappropriate node using:

[student@node-1] \$ sshwk8s-node-1

You can assume elevatedprivileges on the node with thefollowing command: [student@wk8s-node-1] \$ |sudo ?Ci

A. Mastered B. Not Mastered

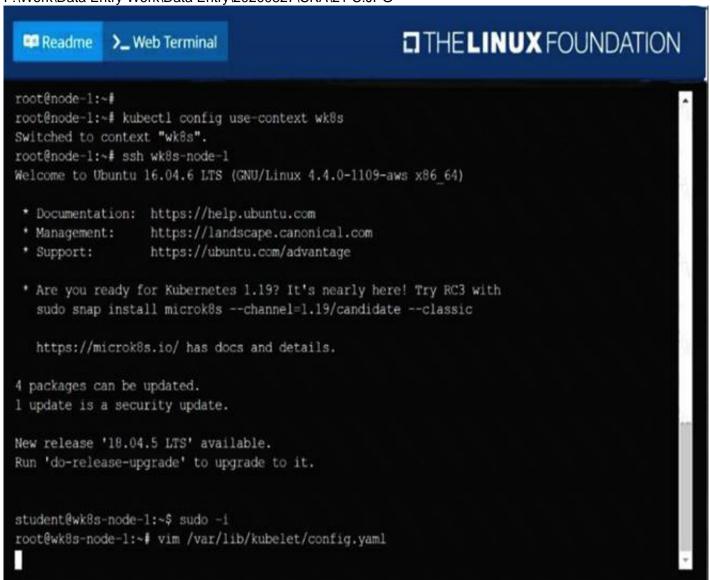
Answer: A

**Explanation:** 

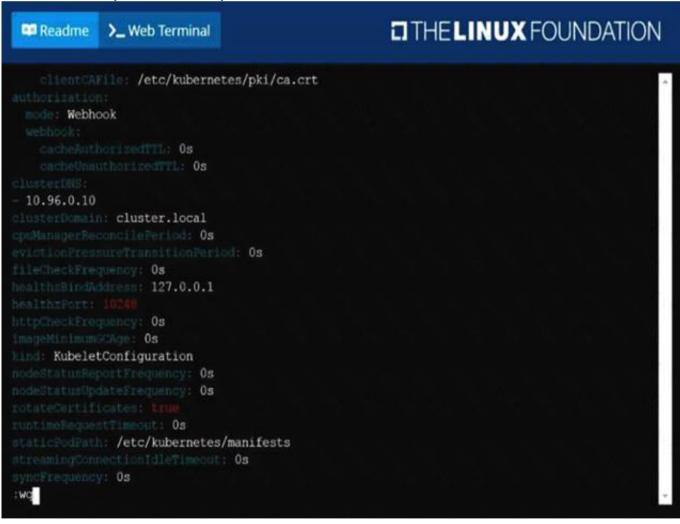


solution

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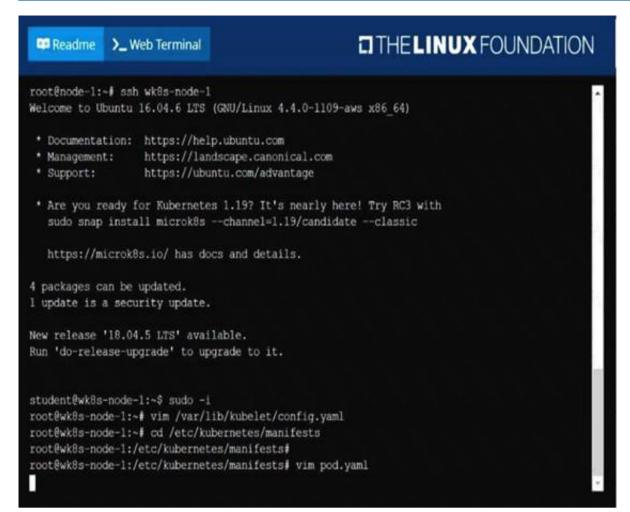


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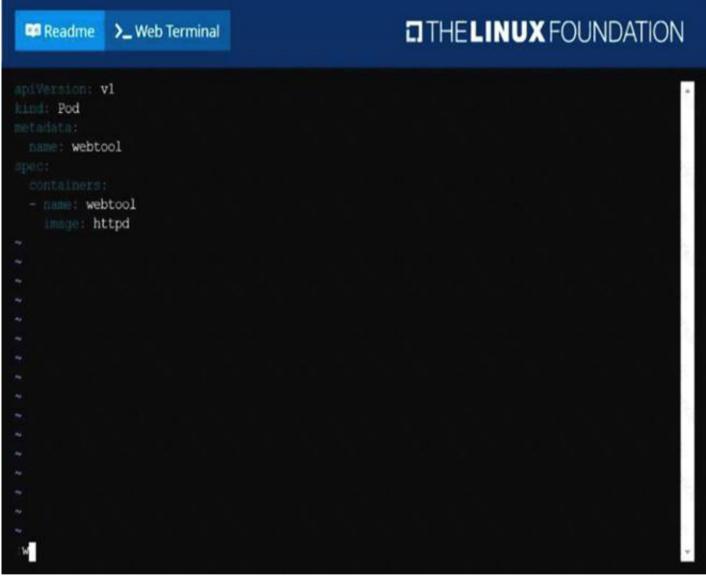


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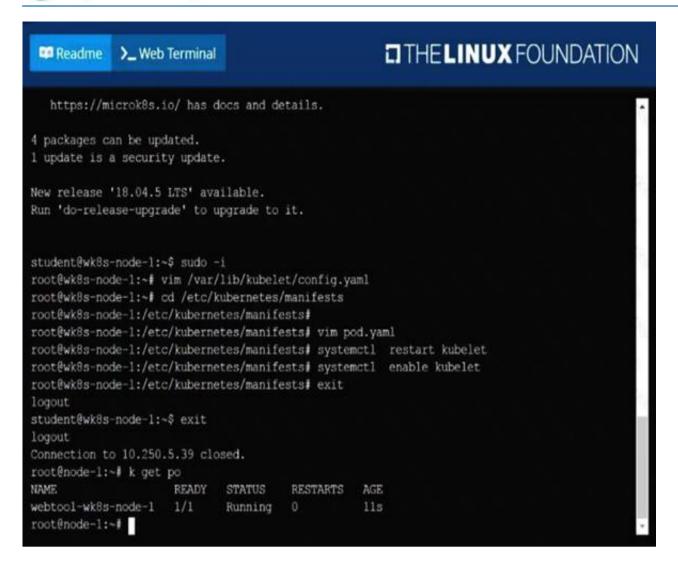


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Perform the following tasks:

- Add an init container tohungry-bear(which has beendefined in spec file /opt/KUCC00108/pod-spec-KUCC00108.yaml)
- The init container should createan empty file named/workdir/calm.txt
- If/workdir/calm.txtis notdetected, the pod should exit
- Once the spec file has beenupdatedwith the init containerdefinition, the pod should becreated
- A. Mastered
- B. Not Mastered

Answer: A

## **Explanation:**

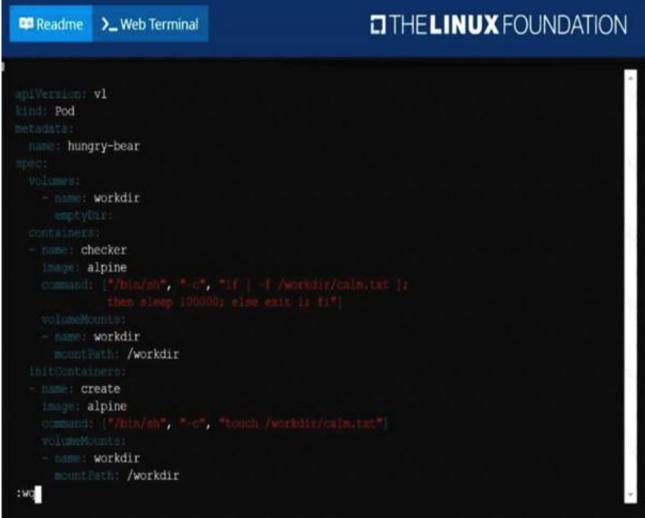
solution

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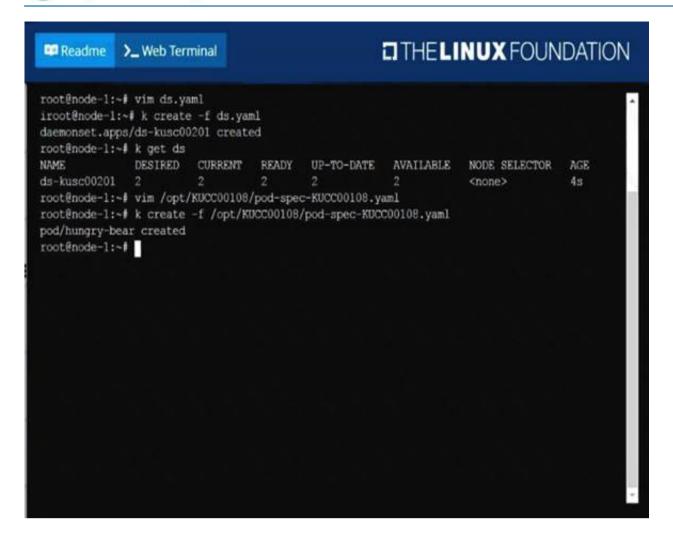




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Create a busybox pod and add ??sleep 3600?? command

A. MasteredB. Not Mastered

Answer: A

## **Explanation:**

kubectl run busybox --image=busybox --restart=Never -- /bin/sh -c "sleep 3600"

#### **NEW QUESTION 26**

Create and configure the servicefront-end-serviceso it's accessiblethroughNodePortand routes to the existing pod namedfront-end.

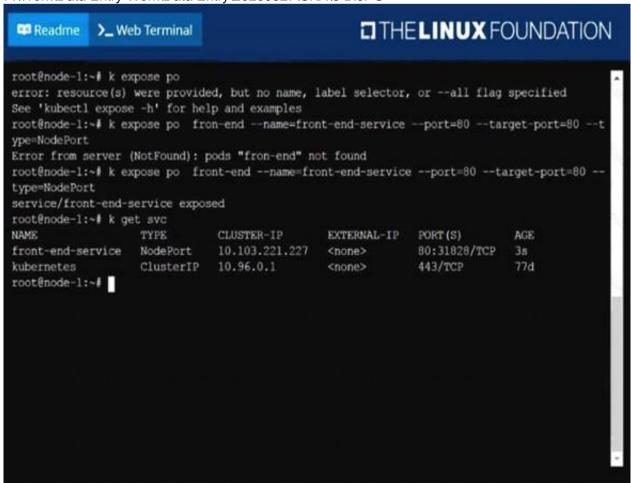
A. Mastered

B. Not Mastered

## Answer: A

**Explanation:** solution

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List all the pods sorted by name

A. Mastered B. Not Mastered

Answer: A

#### **Explanation:**

kubectl get pods --sort-by=.metadata.name

#### **NEW QUESTION 33**

For this item, you will havetosshto the nodesik8s-master-0andik8s-node-0and complete all tasks on thesenodes. Ensure that you return to the base node (hostname:node-1) when you havecompleted this item.

Context

As an administrator of a smalldevelopment team, you have beenasked to set up a Kubernetes clusterto test the viability of a newapplication.

You must usekubeadmto performthis task. Anykubeadminvocationswill require the use of the

- --ignore-preflight-errors=alloption.
- Configure thenodeik8s-master-Oas a masternode. .
- Join the nodeik8s-node-otothe cluster.

A. Mastered

B. Not Mastered

Answer: A

### **Explanation:**

solution

You must use thekubeadmconfiguration file located at/etc/kubeadm.confwhen initializingyour cluster.

You may use any CNI pluginto complete this task, but ifyou don't have your favouriteCNI plugin's manifest URL athand, Calico is one popularoption:https://docs.projectcalico.org/v3.14/manifests/calico.yaml

Docker is already installedon both nodes and apthasbeen configured so that you can install the required tools.

#### **NEW QUESTION 34**

Get IP address of the pod ?C ??nginx-dev??

A. Mastered

B. Not Mastered

Answer: A

## **Explanation:**

Kubect1 get po -o wide Using JsonPath

kubect1 get pods -o=jsonpath='{range items[\*]}{.metadata.name}{"\t"}{.status.podIP}{"\n"}{end}'

#### **NEW QUESTION 36**

Scale the deploymentwebserverto6pods.

A. Mastered

B. Not Mastered

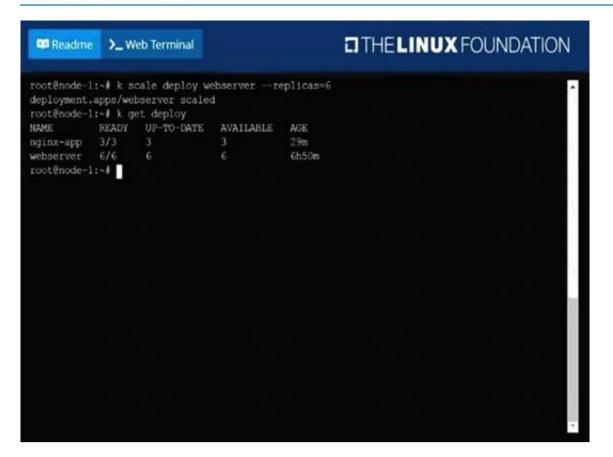
Answer: A

#### **Explanation:**

solution

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List all the pods sorted by created timestamp

A. MasteredB. Not Mastered

Answer: A

#### **Explanation:**

kubect1 get pods--sort-by=.metadata.creationTimestamp

#### **NEW QUESTION 43**

Print pod name and start time to ??/opt/pod-status?? file

A. MasteredB. Not Mastered

Answer: A

## Explanation:

kubect1 get pods -o=jsonpath='{range items[\*]}{.metadata.name}{"\t"}{.status.podIP}{"\n"}{end}'

#### **NEW QUESTION 47**

Check to see how many worker nodes are ready (not including nodes taintedNoSchedule) and write the number to/opt/KUCC00104/kucc00104.txt.

A. Mastered

B. Not Mastered

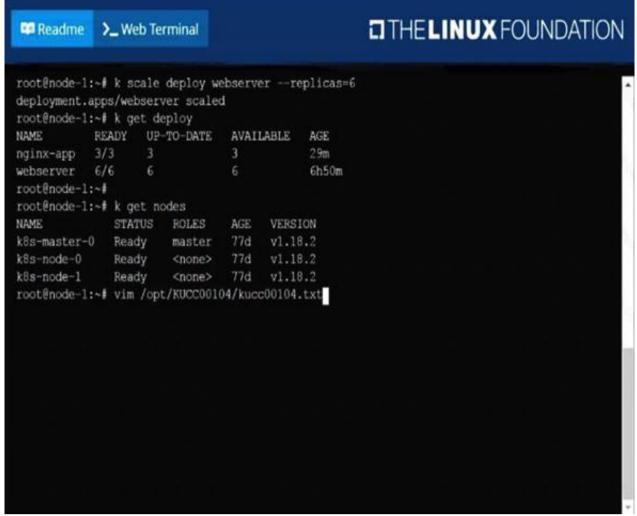
Answer: A

## Explanation:

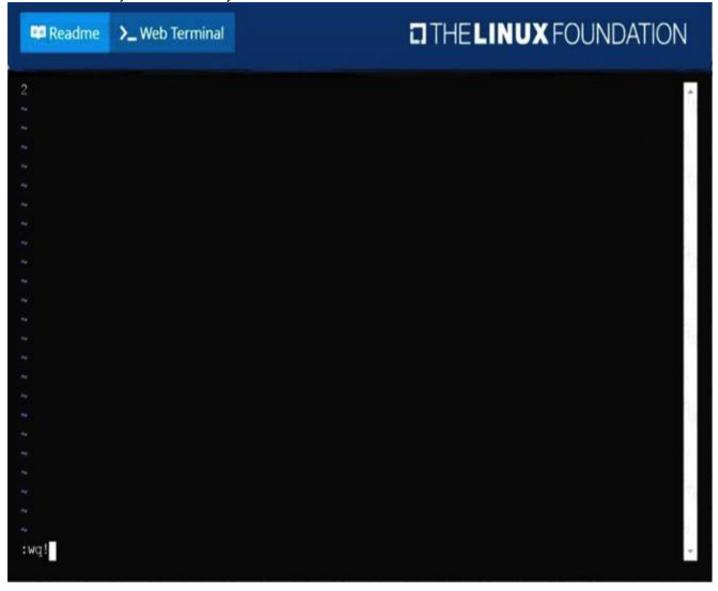
solution

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#### **NEW QUESTION 51**

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