Linux-Foundation

Exam Questions CKA

Certified Kubernetes Administrator (CKA) Program

NEW QUESTION 1
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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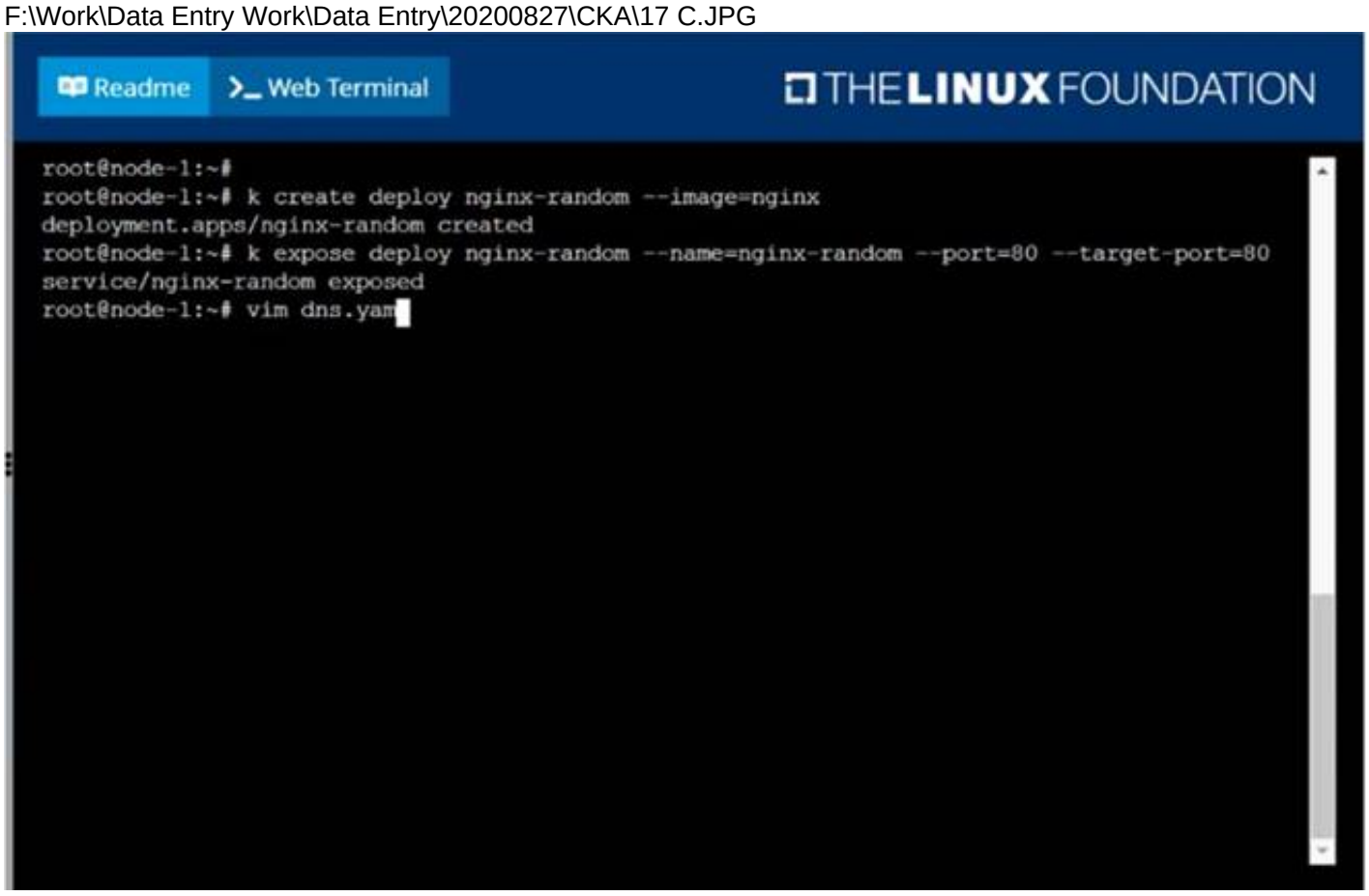

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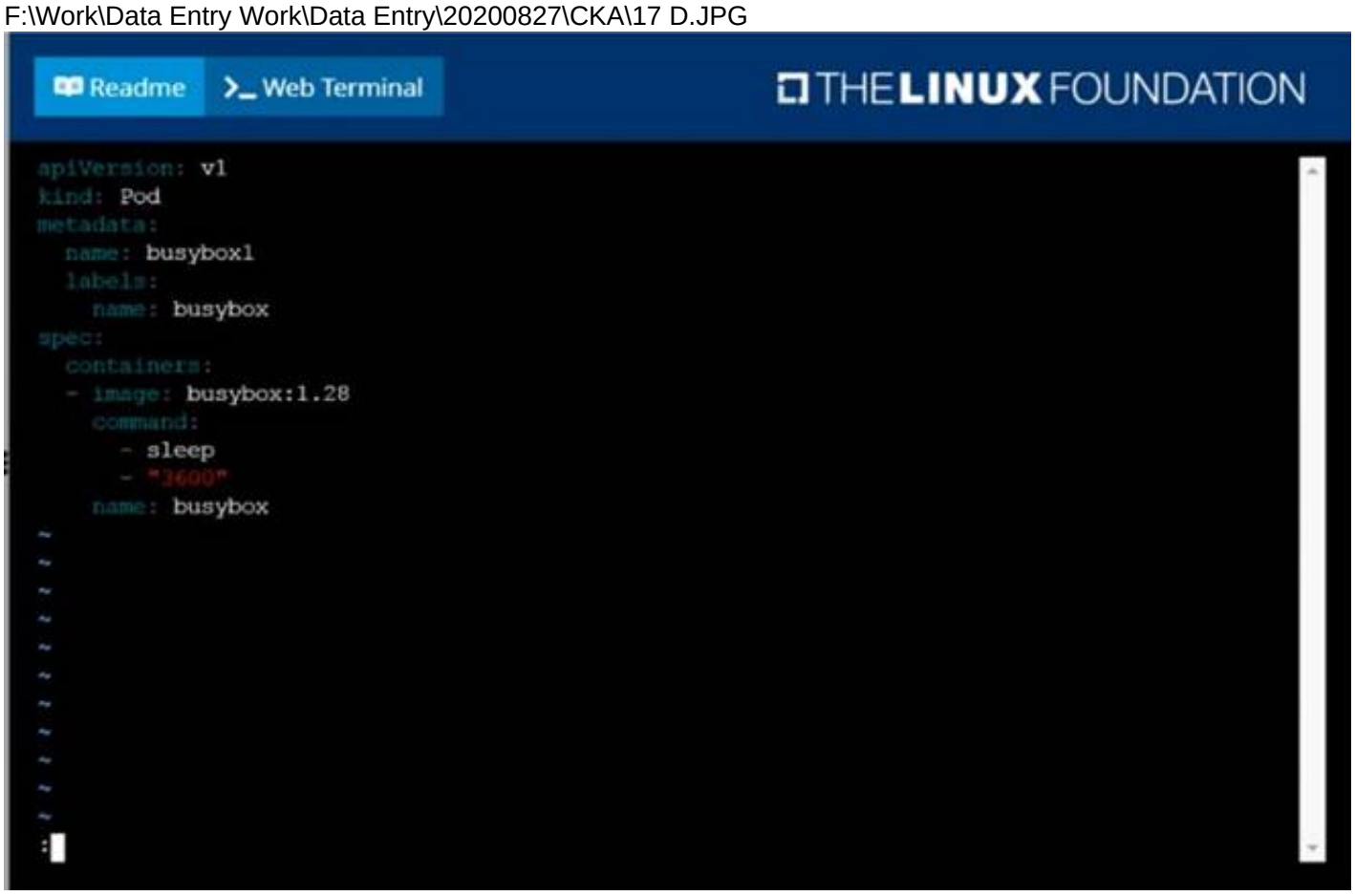

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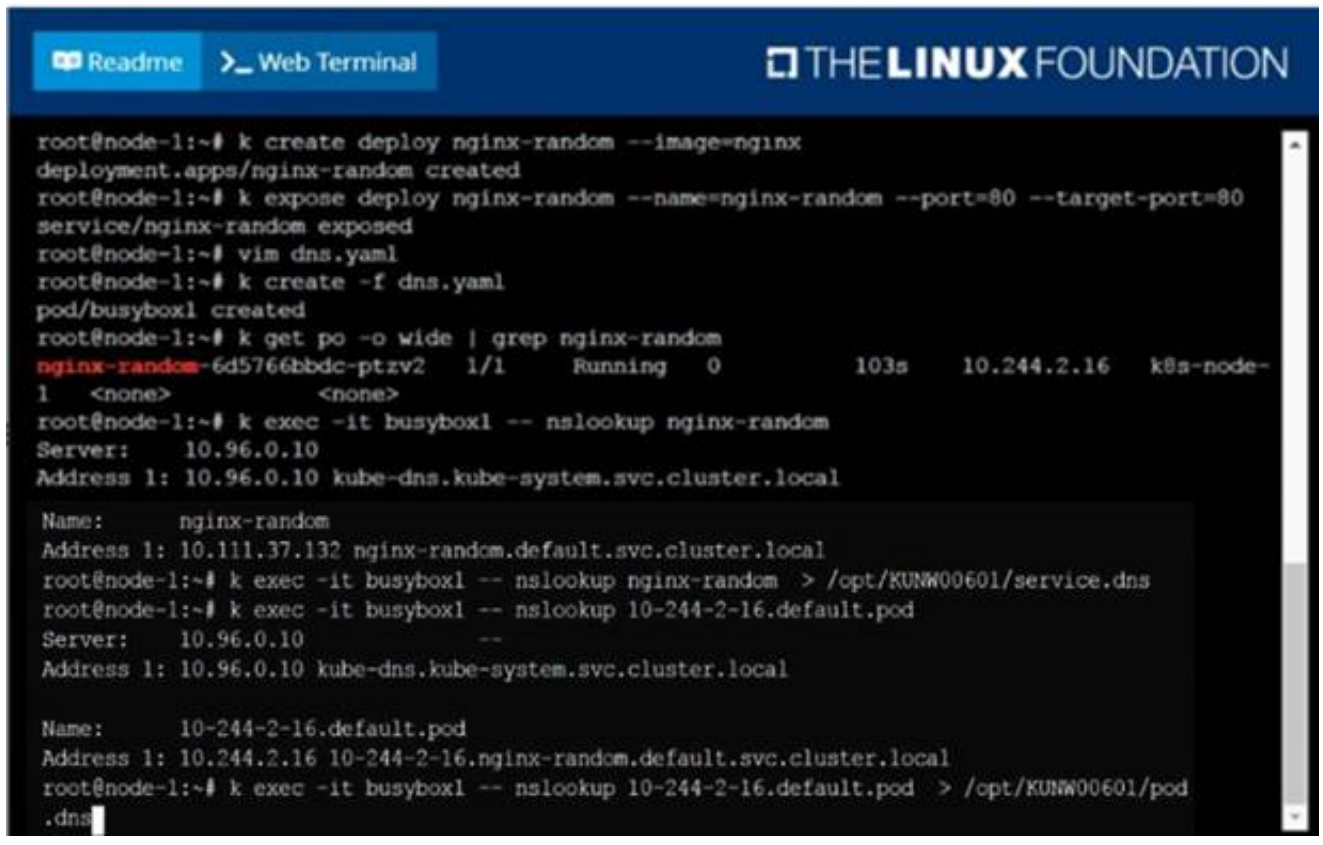

NEW QUESTION 2
List the nginx pod with custom columns POD_NAME and POD_STATUS

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 3
Create a pod namedkucc8with asingle app container for each of the
following images running inside(there may be between 1 and 4images specified): nginx + redis + memcached.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
solution
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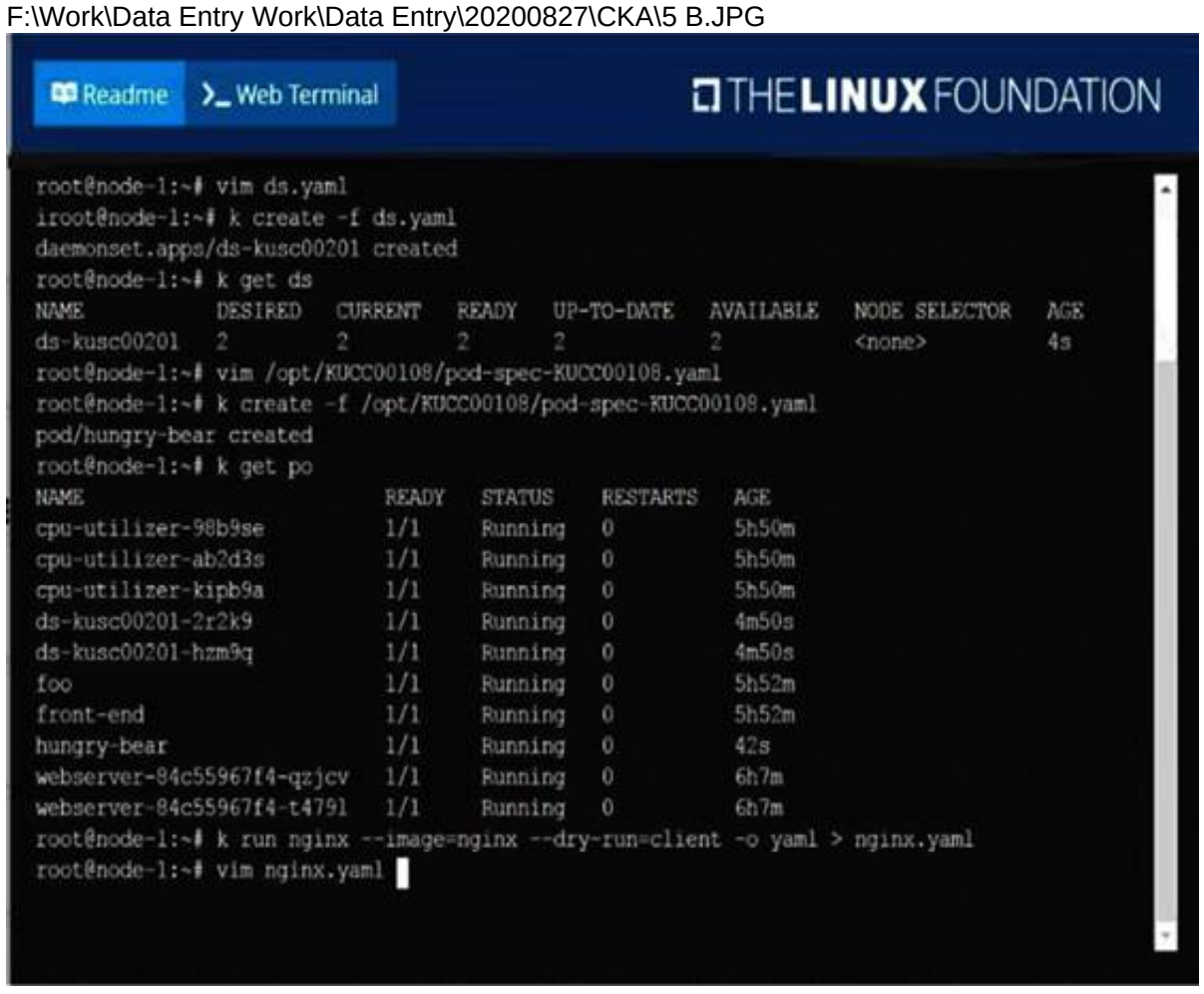

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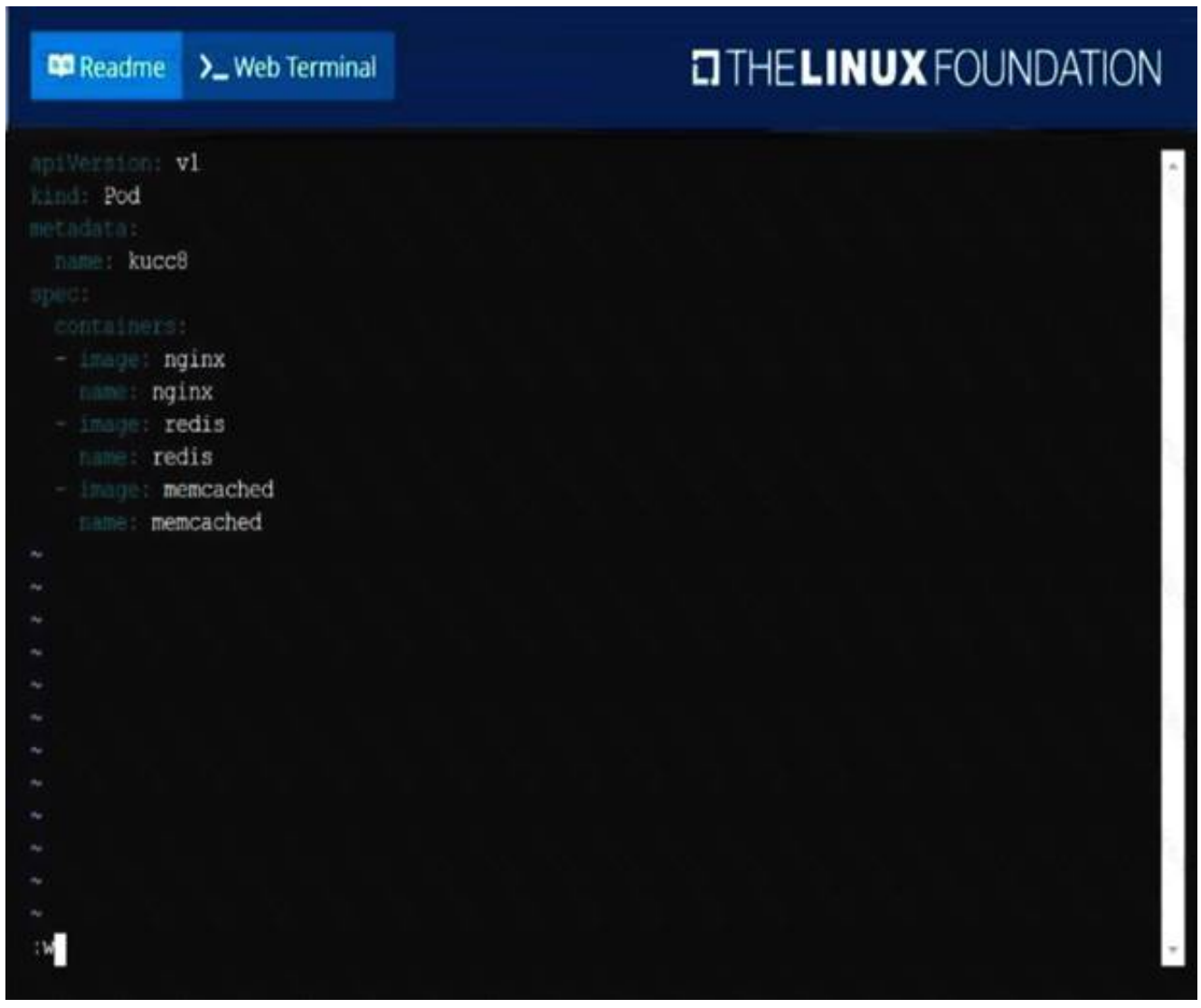

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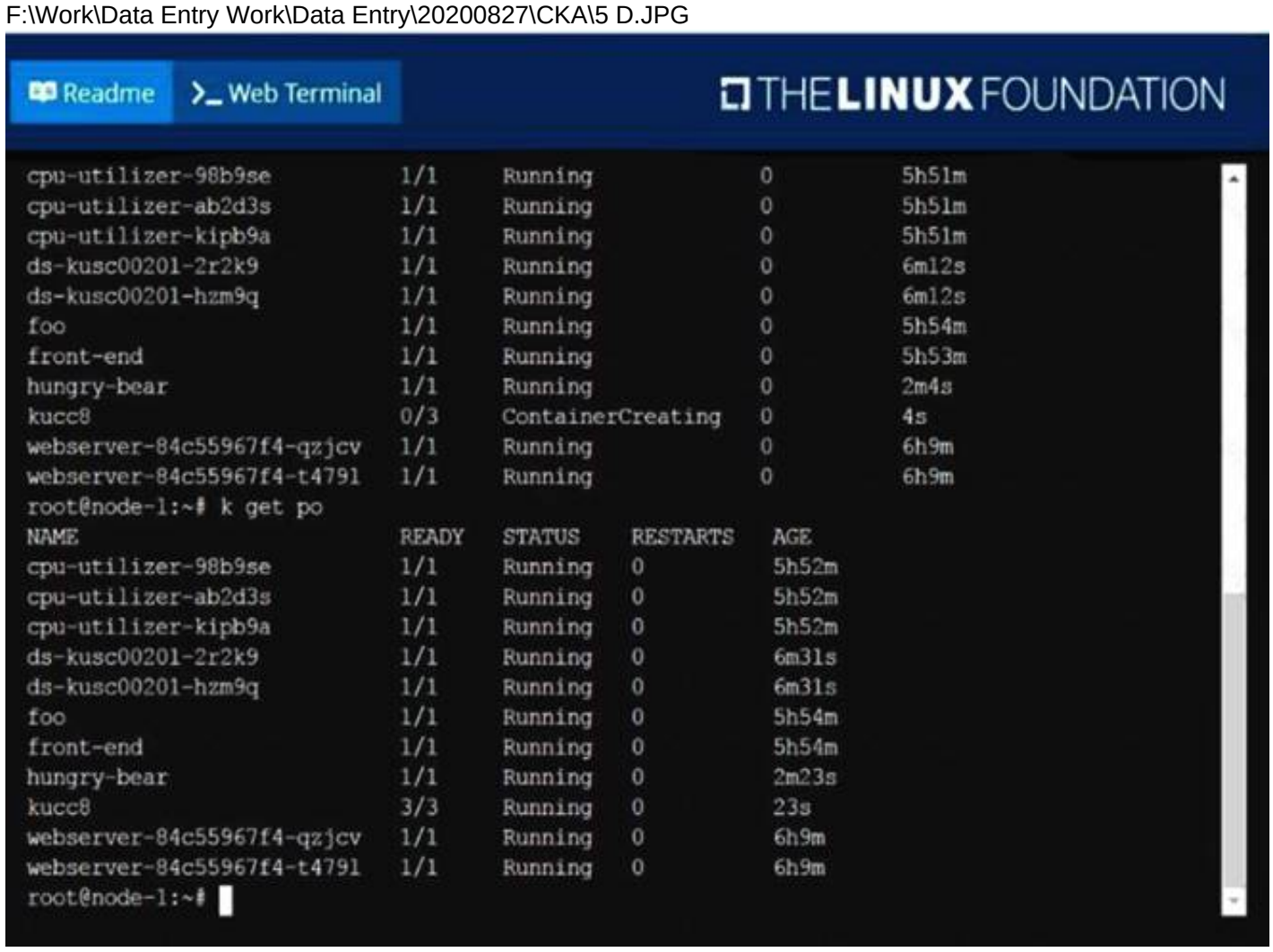


NEW QUESTION 4
Create a pod with image nginx called nginx and allow traffic on port 80

A. Mastered
B. Not Mastered

Answer: A

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

NEW QUESTION 5
Create a nginx pod with label env=test in engineering namespace

A. Mastered
B. Not Mastered

Answer: A

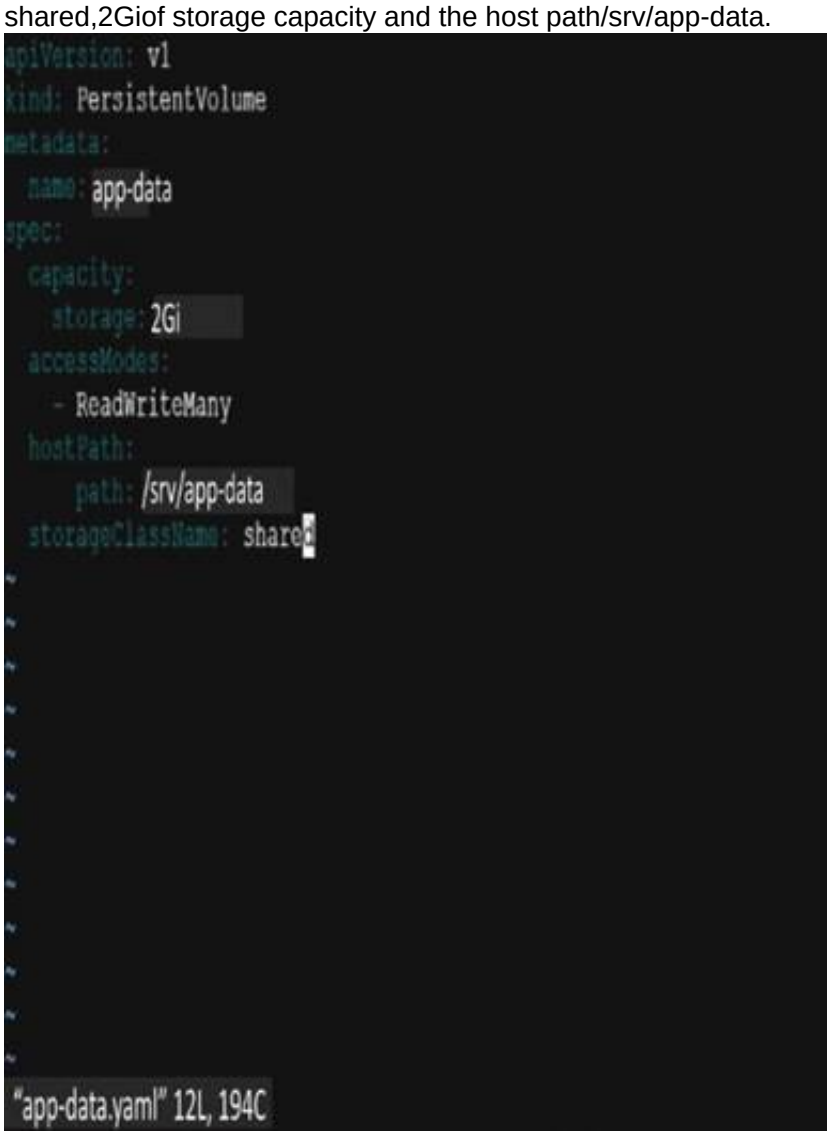
Explanation:
kubectl run nginx --image=nginx --restart=Never --labels=env=test --namespace=engineering --dry-run -o yaml > nginx-pod.yaml
kubectl run nginx --image=nginx --restart=Never --labels=env=test --namespace=engineering --dry-run -o yaml | kubectl create -nengineering-f ?C
YAML File: apiVersion: 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 6
Create a persistent volume with nameapp-data, of capacity2Giandaccess modeReadWriteMany. Thetype of volume ishostPathand itslocation is/srv/app-data.

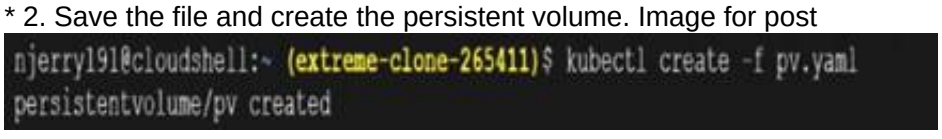
A. Mastered
B. Not Mastered

Answer: A

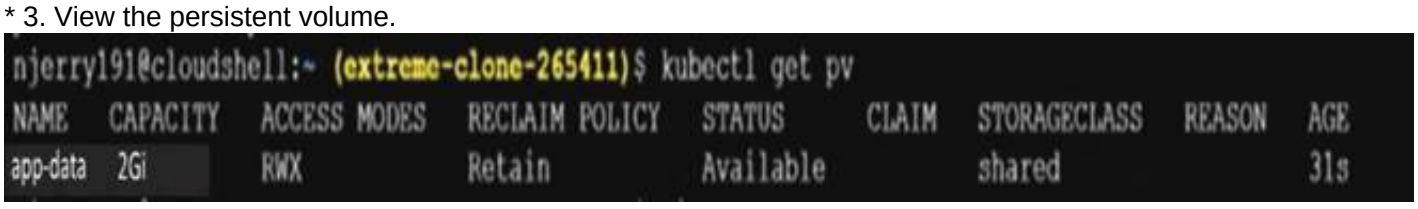
Explanation:
solution
Persistent Volume
A persistent volume is a piece of storage in aKubernetes cluster. PersistentVolumes are a cluster-level resource like nodes, which don??t belong to any namespace. It is provisioned by the administrator and has a particular file size. This way, a developer deploying 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.



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



* 3. View the persistent volume.



> 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

> Create 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

```
njerry191@cloudshell:~ (extreme-clone-265411)$ kubectl get pvc
NAME   STATUS   VOLUME   CAPACITY   ACCESS MODES   STORAGECLASS
pv     Bound    pv       512m       RWX            shared
```

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

```
njerry191@cloudshell:~ (extreme-clone-265411)$ kubectl get pv
NAME   CAPACITY   ACCESS MODES   RECLAIM POLICY   STATUS   CLAIM      STORAGECLASS   REASON   AGE
pv     512m       RWX            Retain           Bound    default/pv shared         16m
```

Our status has now changed fromavailabletobound.
* 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 7
List all persistent volumes sorted bycapacity, saving the fullkubectloutput to
/opt/KUCC00102/volume_list. Usekubectl 's own functionality forsorting the output, and do not manipulate it any further.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
solution
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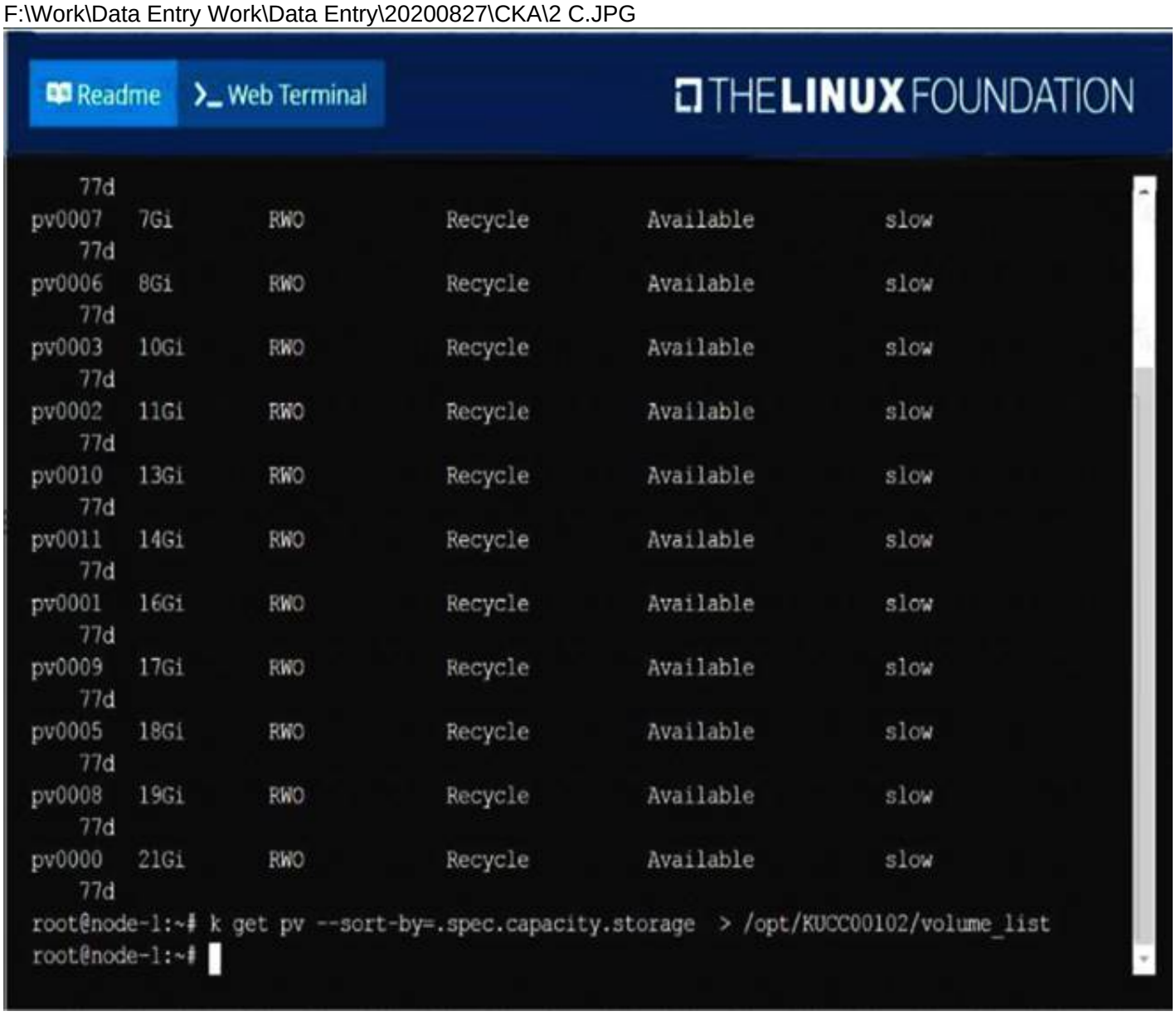

NEW QUESTION 8
A Kubernetes worker node, namedwk8s-node-0is in stateNotReady.Investigate why this is the case, andperform any appropriate steps tobring the node to aReadystate,ensuring that any changes are madepermanent.
You cansshto the failednode using:

[student@node-1] $ | sshWk8s-node-0
You can assume elevatedprivileges on the node with thefollowing command:
[student@w8ks-node-0] $ |sudo ?Ci

A. Mastered
B. Not Mastered

Answer: A

Explanation:
solution
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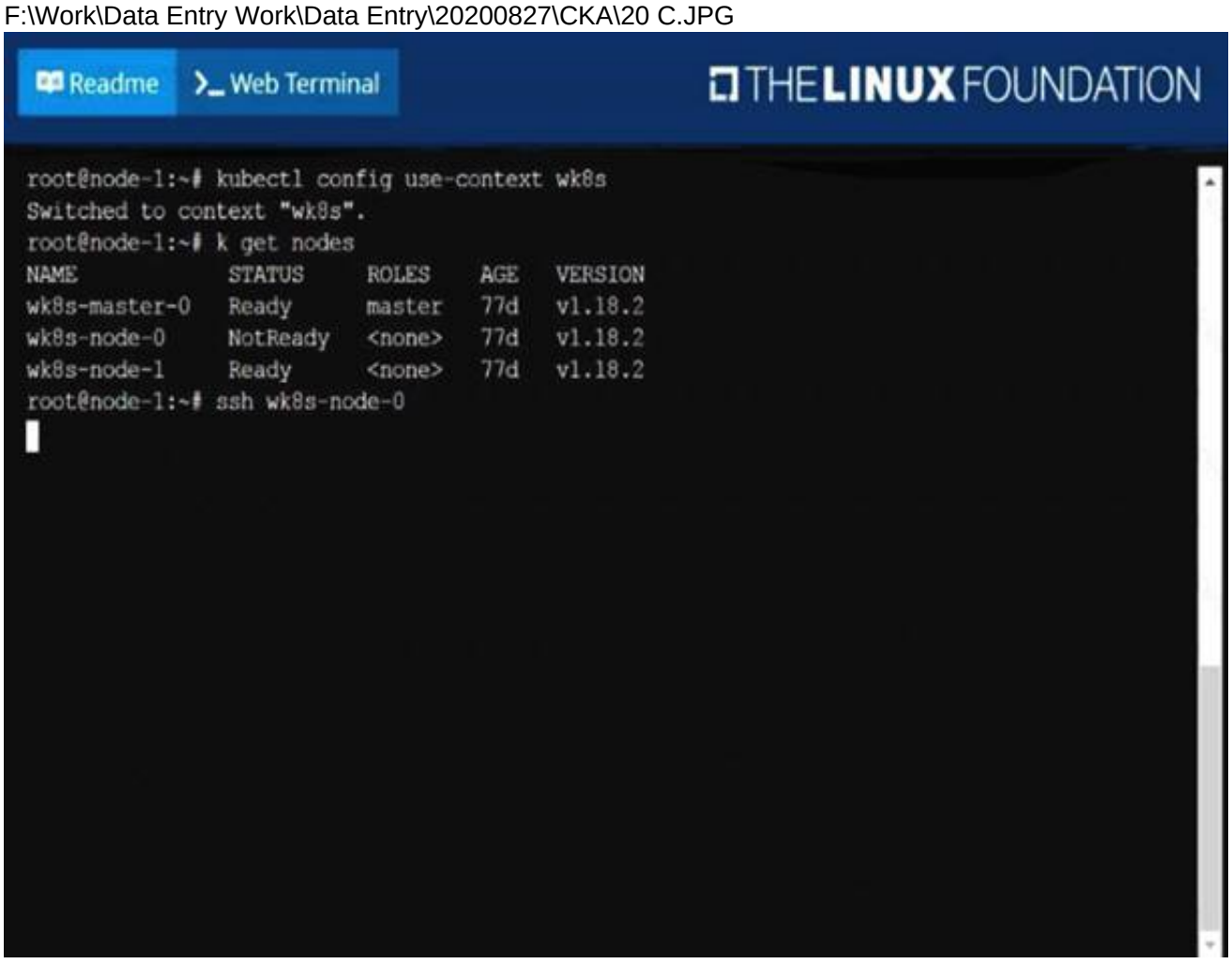

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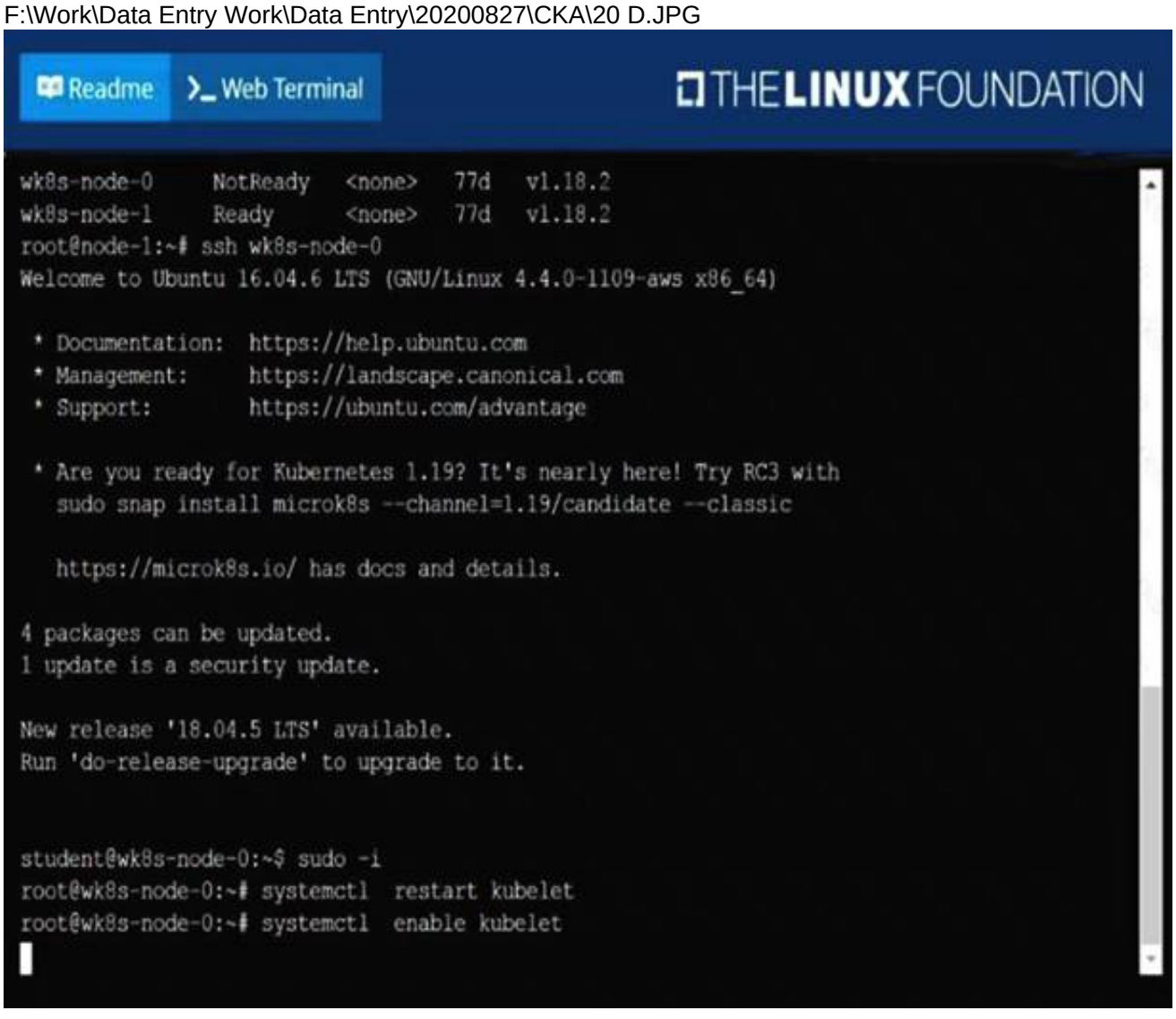

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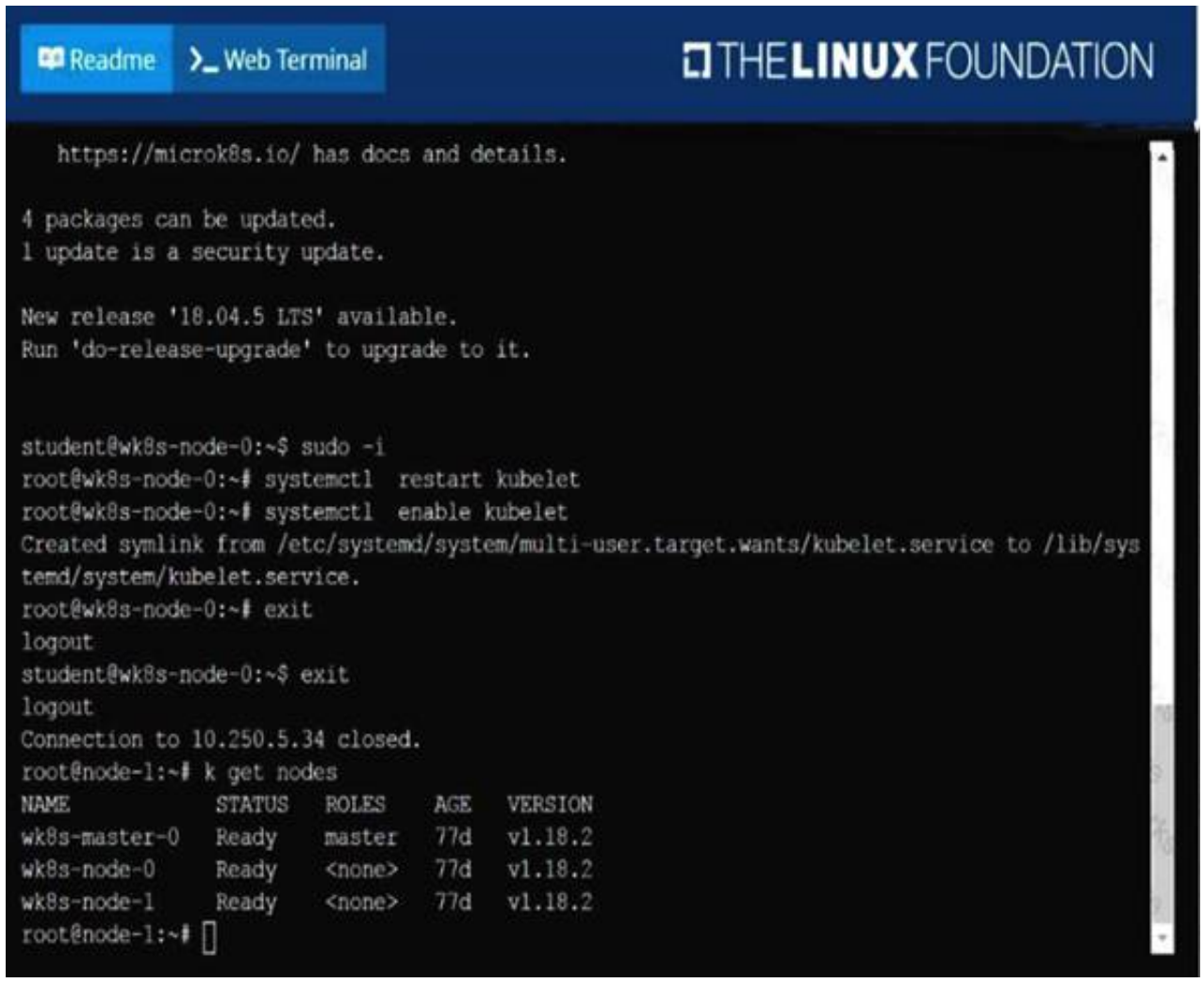


NEW QUESTION 9
Get list of all pods in all namespaces and write it to file ??/opt/pods-list.yaml??

A. Mastered
B. Not Mastered

Answer: A

Explanation:
kubectl get po ?Call-namespaces > /opt/pods-list.yaml

NEW QUESTION 10
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 10
Create 2 nginx image pods in which one of them is labelled with env=prod and another one labelled with env=dev and verify the same.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
kubectl run --generator=run-pod/v1 --image=nginx -- labels=env=prod nginx-prod --dry-run -o yaml > nginx-prodpod.yaml Now, edit nginx-prod-pod.yaml file and remove entries like ??creationTimestamp: null?? ??dnsPolicy: ClusterFirst??
vim nginx-prod-pod.yaml apiVersion: v1
kind: Pod metadata: labels: env: prod
name: nginx-prod spec:
containers:
- image: nginx name: nginx-prod
restartPolicy: Always
kubectl create -f nginx-prod-pod.yaml
kubectl run --generator=run-pod/v1 --image=nginx -- labels=env=dev nginx-dev --dry-run -o yaml > nginx-dev-pod.yaml apiVersion: v1
kind: Pod metadata: labels: env: dev
name: nginx-dev
spec: containers:
- image: nginx name: nginx-dev
restartPolicy: Always
kubectl create -f nginx-prod-dev.yaml Verify :

kubectl get po --show-labels kubectl get po -l env=prod kubectl get po -l env=dev

NEW QUESTION 14
Create a busybox pod and add ??sleep 3600?? command

A. Mastered
B. Not Mastered

Answer: A

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

NEW QUESTION 18
List all the pods sorted by name

A. Mastered
B. Not Mastered

Answer: A

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

NEW QUESTION 21
For this item, you will havetosshto the nodesik8s-master-0andik8s-node-0and complete all tasks on thesenodes. Ensure that you return tothe 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.
Task
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 andapthasbeen configured so that you caninstall the required tools.

NEW QUESTION 24
List all the pods sorted by created timestamp

A. Mastered
B. Not Mastered

Answer: A

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

NEW QUESTION 28
Create a pod that having 3 containers in it? (Multi-Container)

A. Mastered
B. Not Mastered

Answer: A

Explanation:
image=nginx, image=redis, image=consul Name nginx container as ??nginx-container?? Name redis container as ??redis-container?? Name consul container as ??consul-container??
Create a pod manifest file for a container and append container section for rest of the images
kubectl run multi-container --generator=run-pod/v1 --image=nginx -- dry-run -o yaml > multi-container.yaml
then
vim multi-container.yaml apiVersion: v1
kind: Pod metadata: labels:
run: multi-container name: multi-container spec:
containers:
- image: nginx

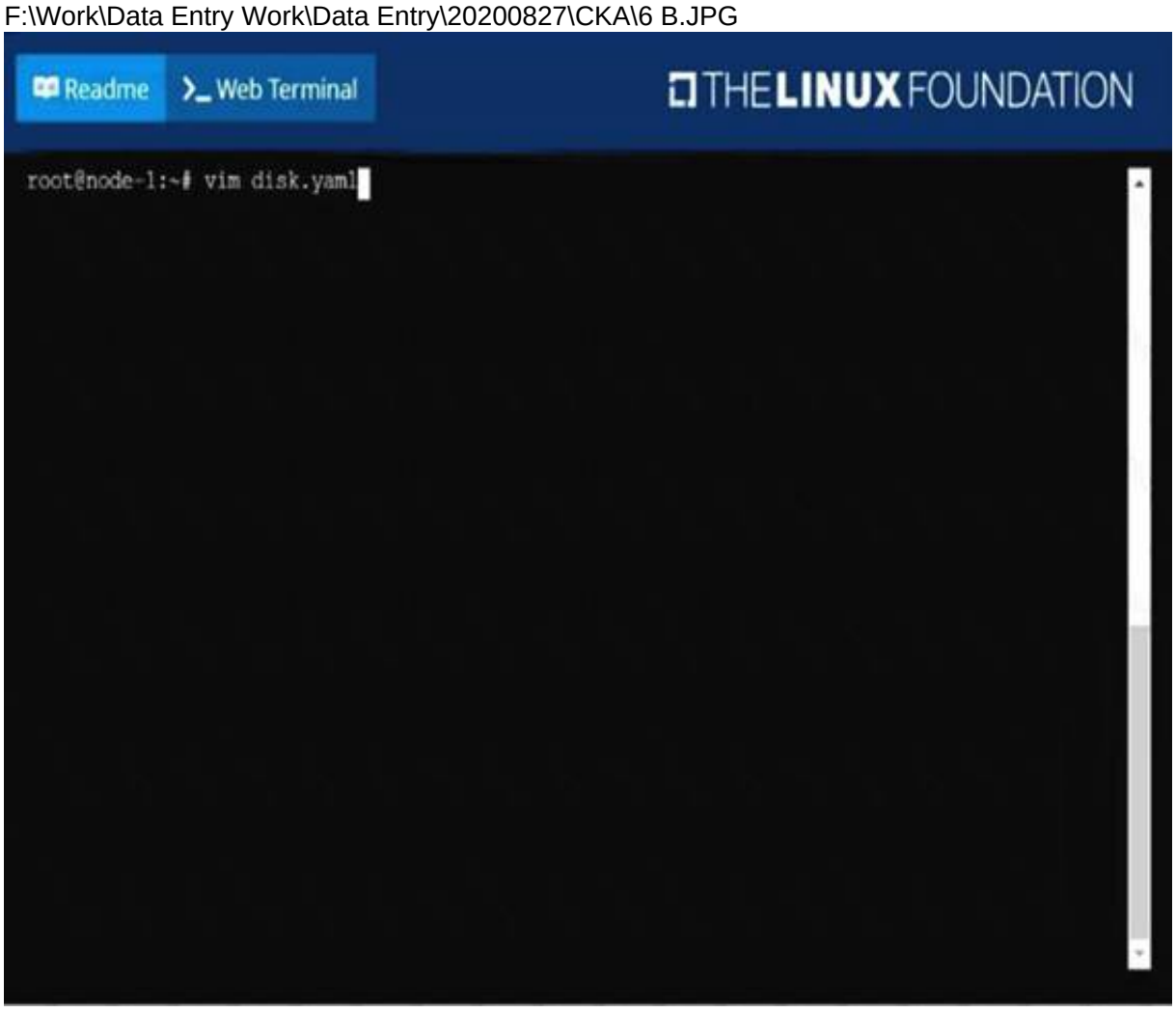
name: nginx-container
- image: redis
name: redis-container
- image: consul
name: consul-container
restartPolicy: Always

NEW QUESTION 31
Schedule a pod as follows:
- Name: nginx-kusc00101
- Image: nginx
- Node selector: disk=ssd

A. Mastered
B. Not Mastered

Answer: A

Explanation:
solution
F:\Work\Data Entry Work\Data Entry\20200827\CKA\6 B.JPG



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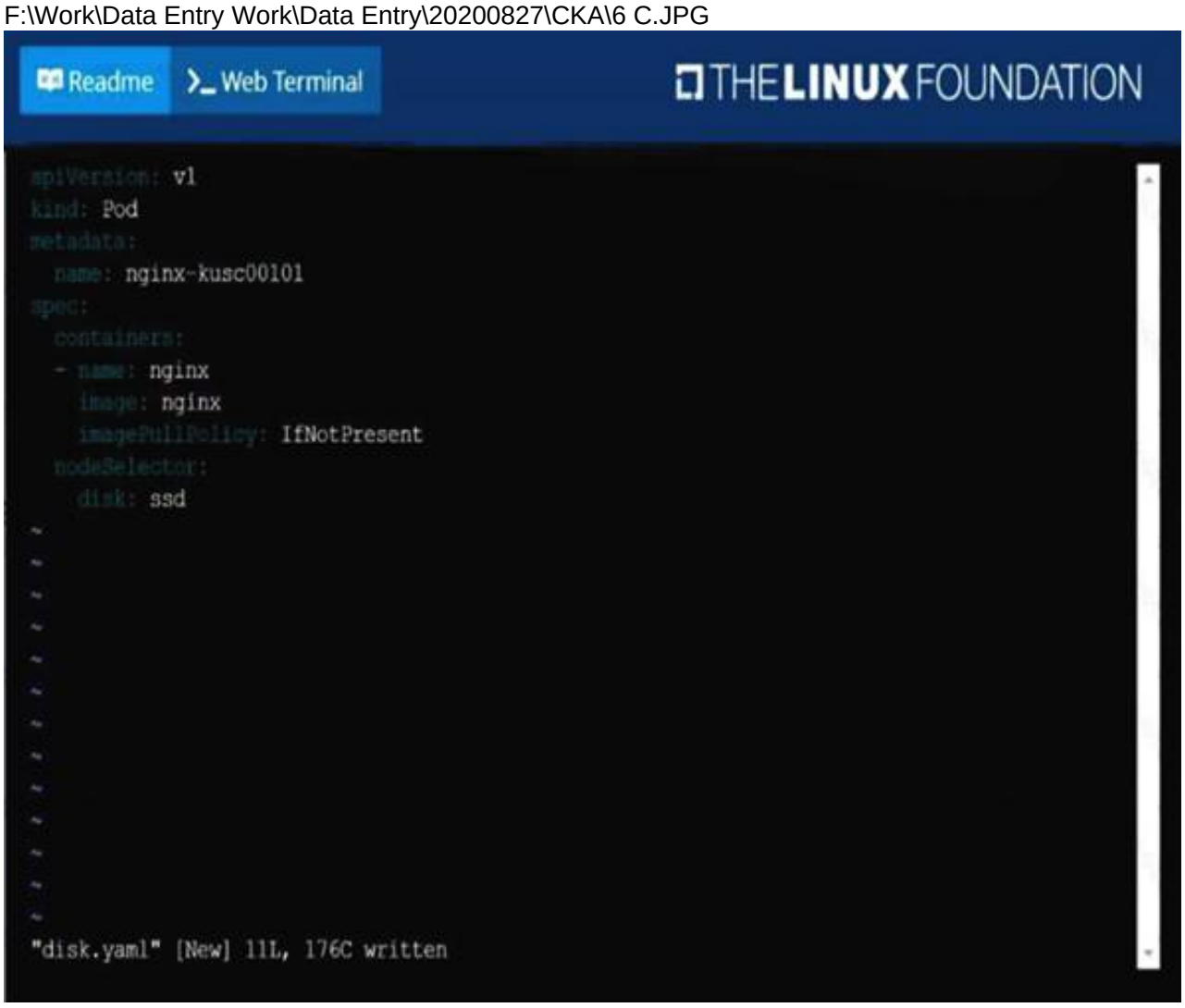

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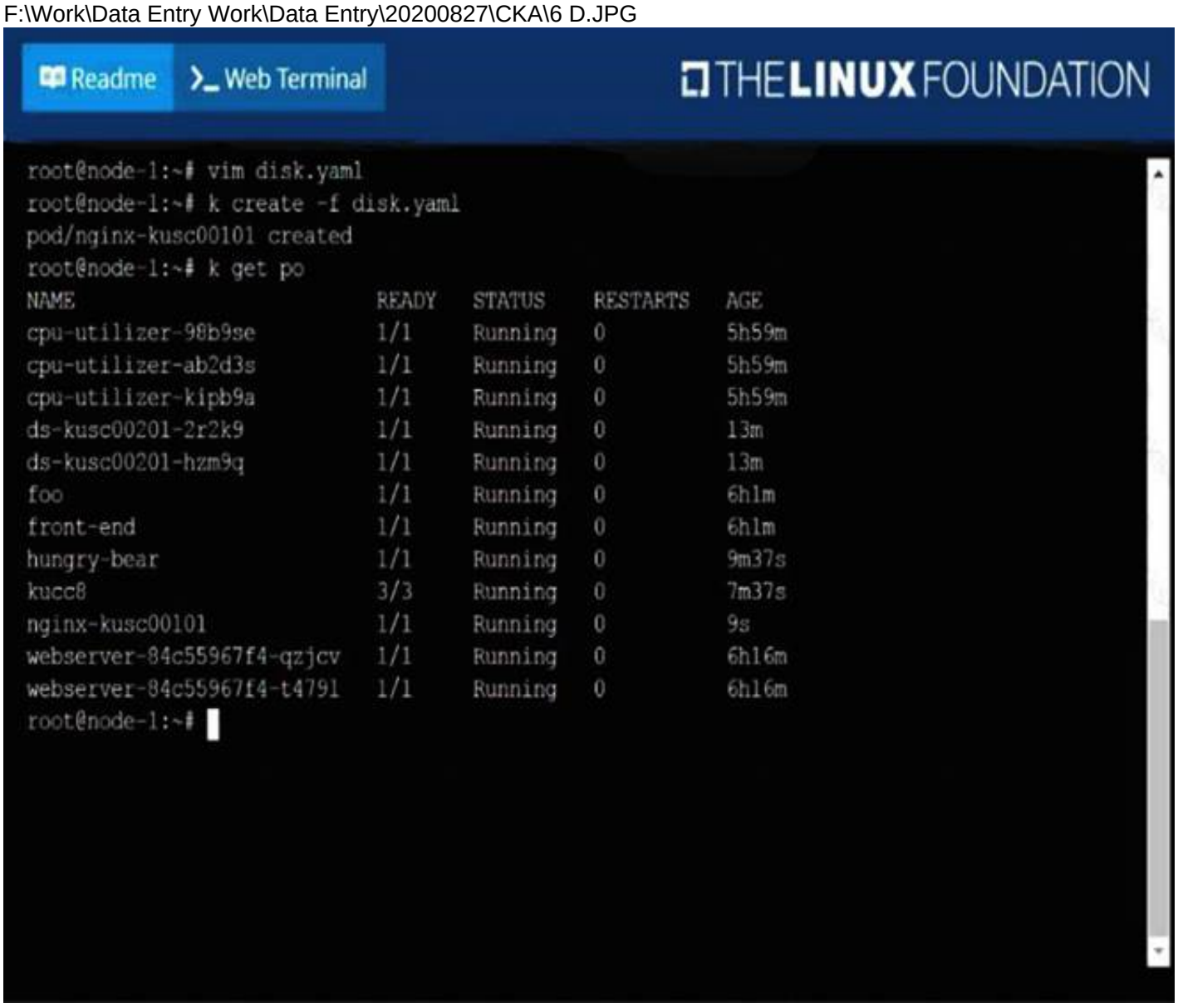


NEW QUESTION 32
Print pod name and start time to ??/opt/pod-status?? file

A. Mastered
B. Not Mastered

Answer: A

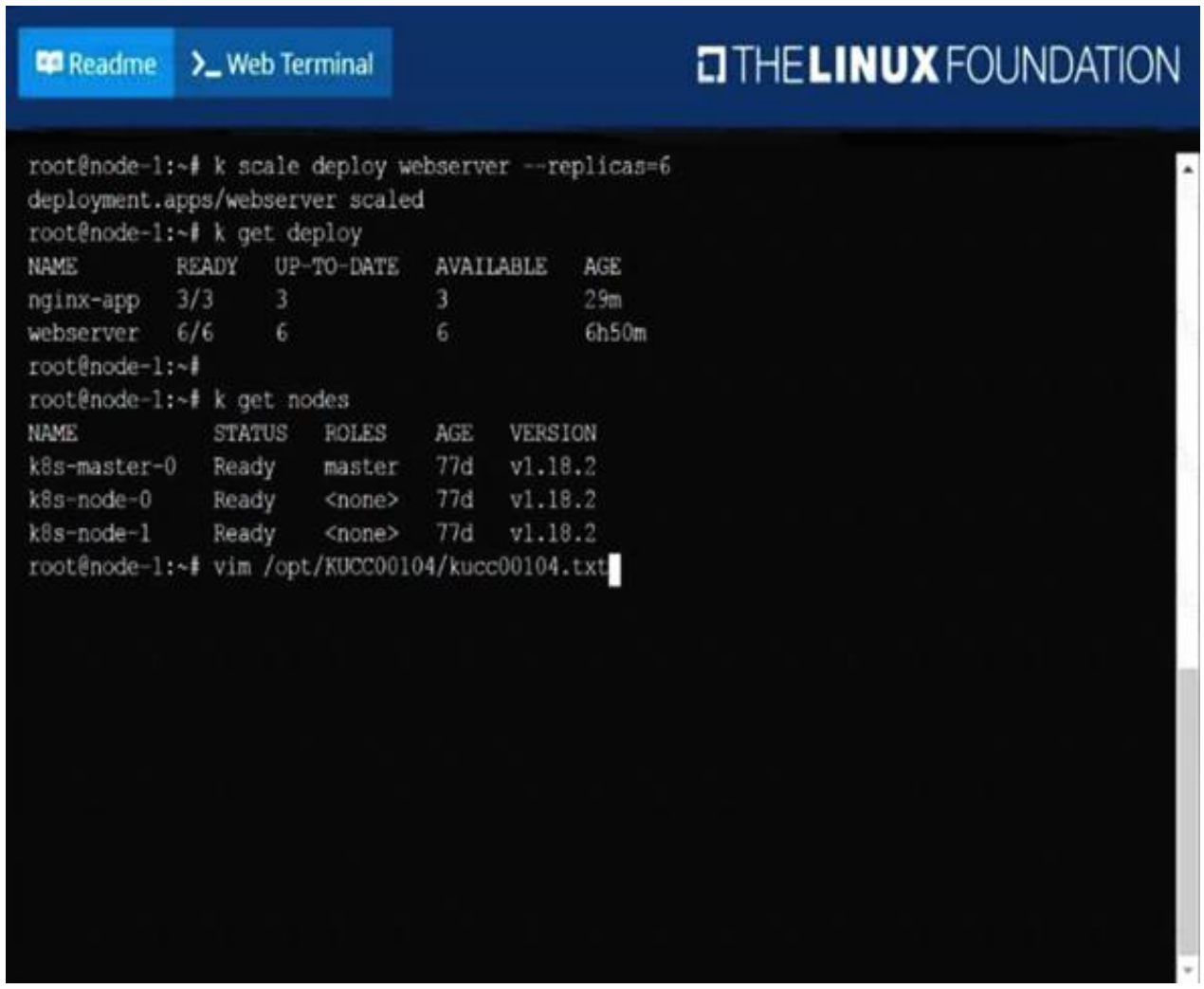
Explanation:
kubect1 get pods -o=jsonpath='{range items[*]}{.metadata.name}{"\t"}{.status.podIP}{"\n"}{end}'

NEW QUESTION 36
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
F:\Work\Data Entry Work\Data Entry\20200827\CKA\15 B.JPG



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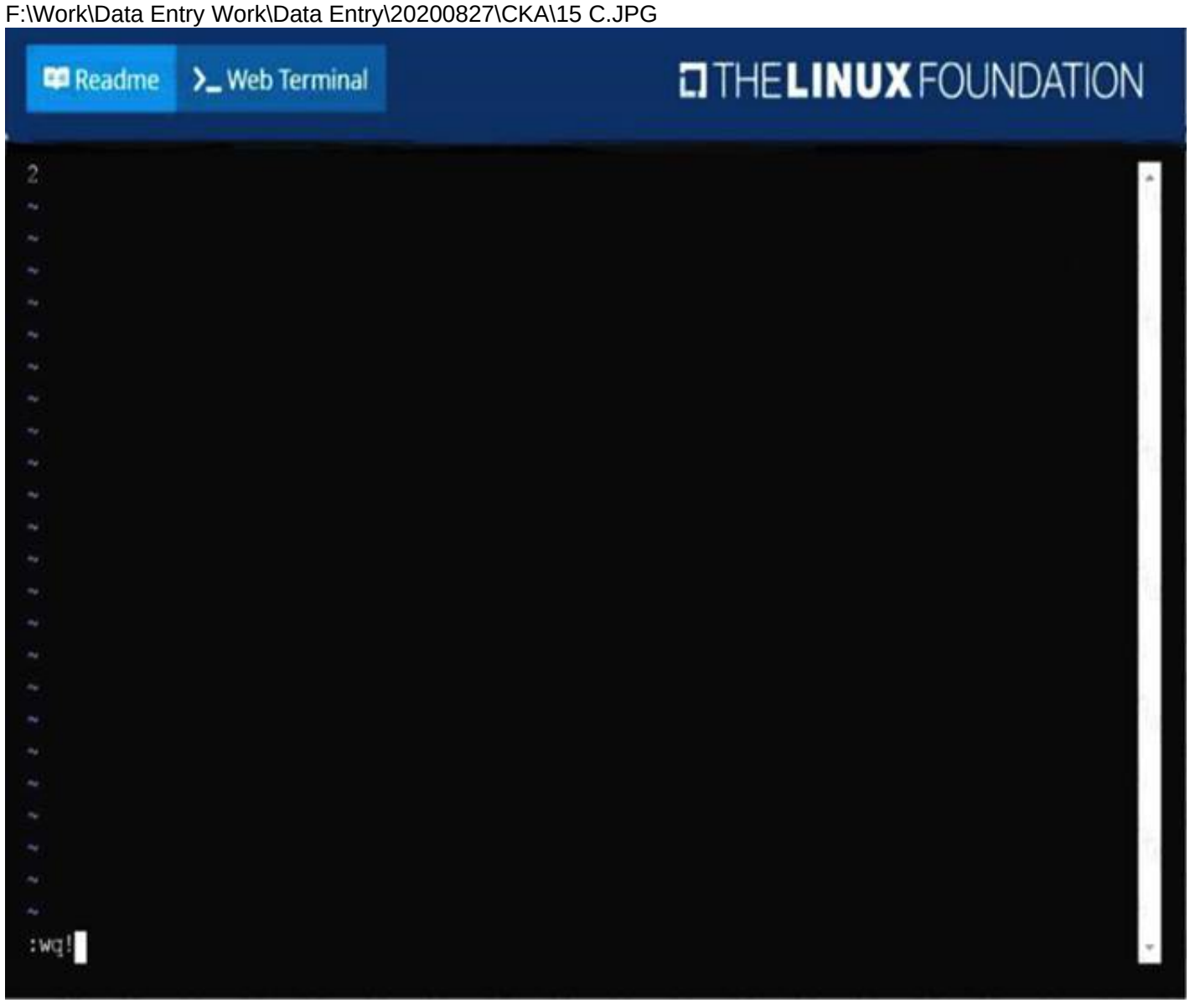

NEW QUESTION 39
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