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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

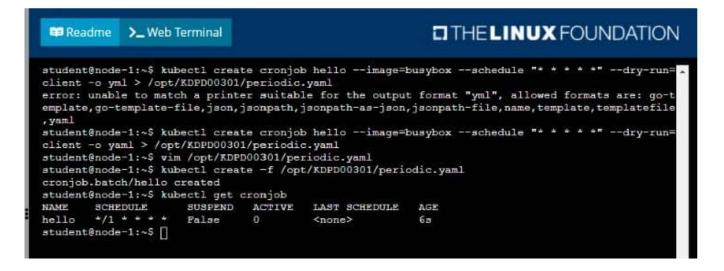
Create the resource in the above manifest and verify that the job executes successfully at least once

A. Please check explanations

B. Place Holder



```
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
```





CORRECT TEXT



Context

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

Task

Please complete the following:

1.

Update the app deployment in the kdpd00202 namespace with a maxSurge of 5% and a maxUnavailable of 2%

2.

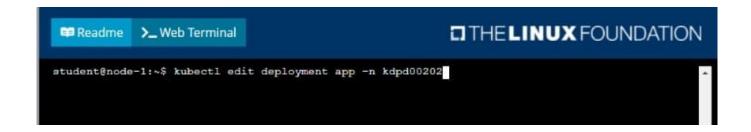
Perform a rolling update of the web1 deployment, changing the Ifccncf/ngmx image version to 1.13

3.

Roll back the app deployment to the previous version

- A. Please check explanations
- B. Place Holder

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```
wid: 1dfa2527-5c61-46a9-8dd3-e24643d3ce14

spec:

progressDeadlineSeconds: 600
replicas: 12
revisionHistoryLimit: 10
selector:
    matchlabels:
    app: nginx
    strategy:
    rollingUpdate:
    maxOurge: 55
    maxUnavailable: 2
    type: RollingUpdate
template:
    metadata:
        oreationTimestamp: null
    labels:
    app: nginx

spec:
    containers:
    - image: 1fccnef/nginx:1.13
    imagePullFolicy: IfNotPresent
    name: nginx
    ports:
        - containerPort: 50
        protocol: TCP

:wq!
```

```
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: 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: 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: 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: 9 out of 10 new replicas have been
```

```
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: 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: 9 of 10 updated replicas are available...

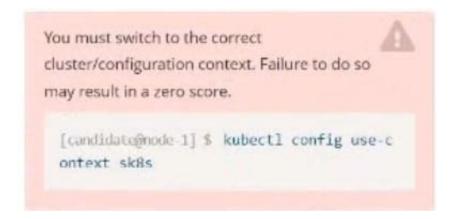
Waiting for deployment "app" rollout to finish: 9 of 10 updated replicas are available...

Waiting for deployment "app" rollout to finish: 9 of 10 updated replicas are available...

Waiting for deployment "app" rollout to finish: 9 of 10 updated replicas are available...
```



CORRECT TEXT



Task:

Modify the existing Deployment named broker-deployment running in namespace quetzal so that its containers.

The broker-deployment is manifest file can be found at:



- A. Please check explanations
- B. Place Holder



```
candidate@node-1:-$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:-$ vim ■
```

```
containers:
    name: broker
    image: redisratpine
    ports:
        - containerPort: 6379
    securityContext:
        runAsyser: 30000
        privileged: false
```

```
candidate@node-1:-$ kubectl config use-context k8s

Switched to context "k8s".

candidate@node-1:-$ vim -/daring-moccasin/broker-deployment.yaml

candidate@node-1:-$ kubectl apply -f -/daring-moccasin/broker-deployment.yaml

deployment.apps/broker-deployment configured

candidate@node-1:-$ kubectl get pods -n quetzal

NAME READY STATUS RESTARTS AGE

broker-deployment-65446d6d94-868p6 1/1 Running 0 30s

broker-deployment-65446d6d94-8dn7l 1/1 Running 0 32s

broker-deployment-65446d6d94-p4h4l 1/1 Running 0 31s

candidate@node-1:-$ kubectl get deploy -n quetzal

NAME READY UP-TO-DATE AVAILABLE AGE

broker-deployment 3/3 3 3 7h3m

candidate@node-1:-$
```

CORRECT TEXT





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

1.

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

2.

Start an nginx pod named nginx-secret using container image nginx, and add an environment variable exposing the value of the secret key key1, using COOL_VARIABLE as the name for the environment variable inside the pod

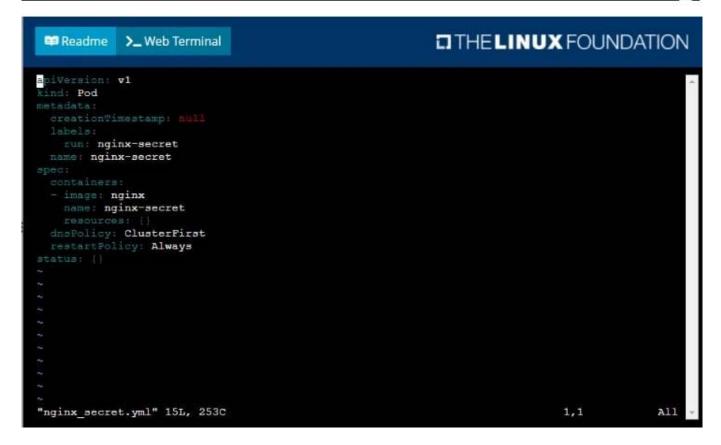
A. Please check explanations

B. Place Holder



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```
student@node-1:~$ kubectl create secret generic some-secret --from-literal=key1=value4
secret/some-secret created
student@node-1:~$ kubectl get secret
NAME
                                                            DATA
                                                                    AGE
                      TYPE
default-token-4kvr5
                      kubernetes.io/service-account-token
                                                                    2d11h
                                                                    58
some-secret
                      Opaque
student@node-1:~$ kubectl run nginx-secret --image=nginx --dry-run=client -o yaml > nginx_secret
·yml
student@node-1:~$ vim nginx_secret.yml
```







```
THE LINUX FOUNDATION
 Readme
             >_ Web Terminal
student@node-1:~$ kubectl get pods -n web
       READY STATUS
                         RESTARTS
                                    AGE
               Running
       1/1
                         0
                                    98
student@node-1:~$ kubectl create secret generic some-secret --from-literal=keyl=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
                                                                  58
some-secret
                     Opaque
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
               READY
                      STATUS
                                           RESTARTS
                                                      AGE
               1/1
                       Running
liveness-http
                                           0
                                                      6h38m
nginx-101
               1/1
                       Running
                                           0
                                                      6h39m
               0/1
nginx-secret
                       ContainerCreating
                                           0
                                                       45
poller
               1/1
                       Running
                                           0
                                                      6h39m
student@node-1:~$ kubectl get pods
               READY
                      STATUS
NAME
                                 RESTARTS
                                            AGE
liveness-http
                       Running
               1/1
                                 0
                                            6h38m
nginx-101
                        Running
                1/1
                                 0
                                             6h39m
               1/1
nginx-secret
                       Running
                                 0
                                            28
poller
                       Running
                                 0
                                            6h39m
student@node-1:~$
```



CORRECT TEXT



Task

Create a new deployment for running.nginx with the following parameters:

1.

Run the deployment in the kdpd00201 namespace. The namespace has already been created

2.

Name the deployment frontend and configure with 4 replicas

3.

Configure the pod with a container image of Ifccncf/nginx:1.13.7

4.

Set an environment variable of NGINX_PORT=8080 and also expose that port for the container above

A. Please check explanations

B. Place Holder





```
spiversion: apps/v1
kind: Deployment
metadata:
labels:
app: api
name: spi
nameapace: kdpd00201
spec:
replicas:
app: api
template:
metadata:
labels:
app: api
template:
metadata:
labels:
app: api
spec:
containers:
- image: lfcenef/nginx:1.13.7-alpine
name: nginx
portos:
- containerFort: 0000

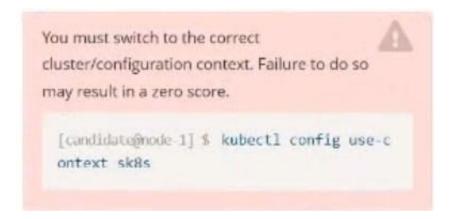
avv:
- name: NGINX PORT
value: *5000
```

```
student@node-1:-$ kubectl create deployment api --image=lfccncf/nginx:1.13.7-alpine --replicas=4 -
n kdpd00201 --dry-rum=client -o yaml > nginx_deployment.yml
student@node-1:-$ vim nginx_deployment.yml
student@node-1:-$ vim nginx_deployment.yml
student@node-1:-$ vim 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:-$ vim nginx_deployment.yml": error validating data: ValidationError(Deployment
t.spec.template.spec): unknown field "env" in io.k8s.api.core.vl.PodSpec; if you choose to ignor
t.spec.template.spec): unknown field "env" in io.k8s.api.core.vl.PodSpec; if you choose to ignor
t.spec.template.spec): whench create -f nginx_deployment.yml
deployment.aps/api created
student@node-1:-$ vim nginx_deployment.yml
deployment.aps/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-9dsvp 1/1 Running 0 13s
api-745677f7dc-fd4gk 1/1 Running 0 13s
api-745677f7dc-mbnpc 1/1 Running 0 13s
api-745677f7dc-mbnpc 1/1 Running 0 13s
api-745677f7dc-mbnpc 1/1 Running 0 13s
student@node-1:-$ [
```



CORRECT TEXT



Task:

A pod within the Deployment named buffalo-deployment and in namespace gorilla is logging errors.

Look at the logs identify errors messages.

Find errors, including User "system:serviceaccount:gorilla:default" cannot list resource "deployment" [...] in the namespace "gorilla"

The buffalo-deployment `S manifest can be found at -/prompt/escargot/buffalo- deployment.yaml

A. Please check explanations

B. Place Holder



```
deployment.apps/backend-deployment configured
candidate@node-1:-$ kubectl get pods -n staging
                                            READY
                                                      STATUS
                                                                  RESTARTS
                                                                               AGE
backend-deployment-59d449b99d-cxct6
                                                      Running
                                                                               20s
backend-deployment-59d449b99d-h2zjq
backend-deployment-78976f74f5-b8c85
                                                                               6h40m
                                                      Running
backend-deployment-78976f74f5-flfsj
                                                      Running
candidate@node-1:~$ kubectl get deploy -n staging
                                                 AVAILABLE
                        READY UP-TO-DATE
backend-deployment
                        3/3
candidate@node-1:-$ kubectl get deploy -n staging
                        READY
                                 UP-TO-DATE AVAILABLE
                                                               6h41m
backend-deployment
:andidate@node-1:-$ vim ~/spicy-pikachu/backend-deployment.yaml
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s"
candidate@node-1:-$ kubectl set serviceaccount deploy app-1 app -n frontend
deployment.apps/app-1 serviceaccount updated
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:-$ vim -/prompt-escargot/buffalo-deployment.yaml
candidate@node-1:-$ vim -/prompt-escargot/buffalo-deployment.yaml
candidate@node-1:-$ kubectl apply -f -/prompt-escargot/buffalo-deployment.yaml
deployment.apps/buffalo-deployment.configured
candidate@node-1:~$ kubectl get pods -n gorilla
                                            READY
                                                      STATUS
                                                                              RESTARTS
                                                                                           AGE
buffalo-deployment-776844df7f-r5fsb
buffalo-deployment-859898c6f5-zx5gj
                                                                                           5h38m
                                                      Running
                                           0/1
                                                      ContainerCreating
                                                                                           85
andidate@node-1:-$ kubectl get deploy n gorilla
                        READY
                                 UP-TO-DATE
                                                 AVAILABLE
                                                               AGE
                                                               6h38m
ouffalo-deployment
                        1/1
 andidate@node-1:-$
```

CORRECT TEXT



Task

A deployment is falling on the cluster due to an incorrect image being specified. Locate the deployment, and fix the problem.

- A. Please check explanations
- B. Place Holder



Correct Answer: A

create deploy hello-deploy --image=nginx --dry-run=client -o yaml > hello-deploy.yaml Update deployment image to nginx:1.17.4: kubectl set image deploy/hello-deploy nginx=nginx:1.17.4

QUESTION 8

CORRECT TEXT



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:

1.

Create a file on node sk8s-node-0 at /opt/KDSP00101/data/index.html with the content Acct=Finance

2.

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.

1.

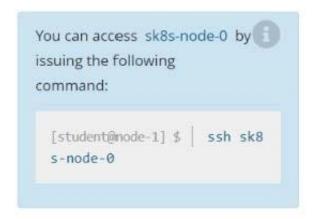
Create a PefsissentVolumeClaim named task-pv-claim that requests a volume of at least 100Mi and specifies an access mode of ReadWriteOnce

2.

Create a pod that uses the PersistentVolmeClaim as a volume with a label app: my- storage-app mounting the resulting



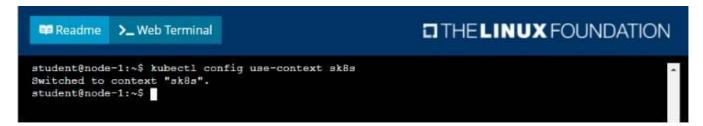
volume to a mountPath /usr/share/nginx/html inside the pod

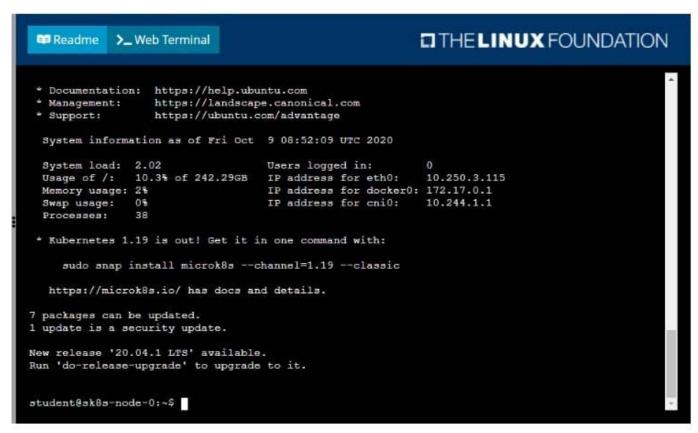


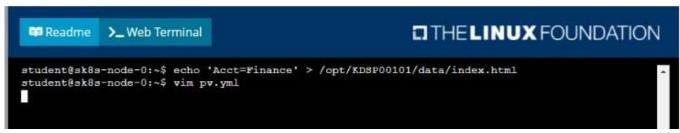
Ensure that you return to the base node (with hostname node-1) once you have completed your work on sk8s-node-0 Copy

- A. Please check explanations
- B. Place Holder

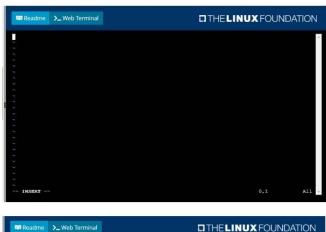








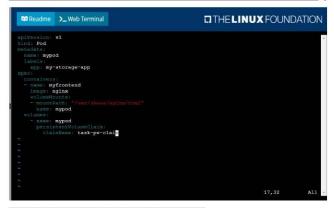








```
student8gk8s-node-01-$ kubectl create -f pv.yml
persistentvolume/task-pv-volume created
student8gk8s-node-01-$ kubectl create
student8gk8s-node-01-$ vim pod.yml
persistentvolumectlain/task-pv-claim created
student8gk8s-node-01-$ vim pod.yml
REMAN CAUACITY ACCESS NODES RECLAIM POLICY STATUS CLAIM
STO
RECLAIM SEASON RES
110
rage 110
rag
```



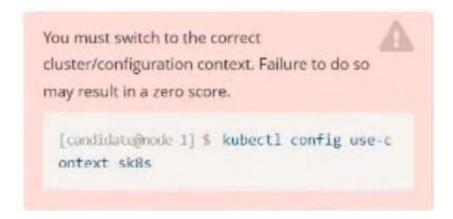
```
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```



CORRECT TEXT



Task:

1.

Update the Propertunel scaling configuration of the Deployment web1 in the ckad00015 namespace setting maxSurge to 2 and maxUnavailable to 59

2.

Update the web1 Deployment to use version tag 1.13.7 for the Ifconf/nginx container image.

3.

Perform a rollback of the web1 Deployment to its previous version

A. Please check explanations

B. Place Holder



```
candidate@node-1:~$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy web1 -n ckad00015
```

```
File Edit View Terminal Tabs Help
     app: nginx
 strategy:
   rollingUpdate:
     maxSurge: 2%
maxUnavailable: 5%
 type: RollingUpdate
template:
   metadata:
     creationTimestamp: null
     labels:
       app: nginx
   spec:
     containers:

    image: lfccncf/nginx:1.13.7

        imagePullPolicy: IfNotPresent
        name: nginx
        ports:
        - containerPort: 80
          protocol: TCP
        resources: ()
        terminationMessagePath: /dev/termination-log
        terminationMessagePolicy: File
     dnsPolicy: ClusterFirst
     restartPolicy: Always
schedulerName: default-scheduler
      securityContext: {}
     terminationGracePeriodSeconds: 30
status:
 availableReplicas: 2
 conditions
   lastTransitionTime: "2022-09-24T84:26:41Z"
```

```
File Edit View Terminal Tabs Help
Switched to context "k8s"
andidate@node-1:-$ kubectl create secret generic app-secret -n default --from-literal=key3=valuel
secret/app-secret created
andidate@node-1:~$ kubectl get secrets
              TYPE DATA AGE
app-secret Opaque
andidate@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
andidate@node-1:-$ kubectl get pods
HAME READY STATUS RESTARTS
eginx-secret 1/1 Running 0
                                                AGE
NAME READY
nginx-secret 1/1
MAME
candidate@node-1:-$ kubectl config use-context k8s
Switched to context "k8s".
candidate@node-1:~$ kubectl edit deploy web1 -n ckad00015
deployment.apps/webl edited
candidate@node-1:-$ kubectl rollout status deploy web1 -n ckad00015
deployment "web1" successfully rolled out
candidate@node-1:~$ kubectl rollout undo deploy web1 -n ckad60015
deployment.apps/web1 rolled back
candidate@node-1:-$ kubectl rollout history deploy webl -n ckad00015
eployment.apps/webl
REVISION CHANGE-CAUSE
          <none>
          <none>
andidate@node-1:-$ kubectl get rs -n ckad00015
MAME
                   DESIRED CURRENT READY
                                                   AGF
web1-56f98bcb79
                                                   63s
eb1-85775b6b79
                                                    6h53m
 andidate@node-1:~$
```



CORRECT TEXT



Context

A user has reported an application is unreachable due to a failing livenessProbe .

Task

Perform the following tasks:

Find the broken pod and store its name and namespace to /opt/KDOB00401/broken.txt in the format:



The output file has already been created

1.

Store the associated error events to a file /opt/KDOB00401/error.txt, The output file has already been created. You will need to use the -o wide output specifier with your command

2.

Fix the issue.

The associated deployment could be running in any of the following namespaces:



- da
- test
- production
- alan

A. Please check explanations

B. Place Holder

Correct Answer: A

Create the Pod: kubectl create -f http://k8s.io/docs/tasks/configure-pod-container/exec-liveness.yaml Within 30 seconds, view the Pod events: kubectl describe pod liveness-exec The output indicates that no liveness probes have failed yet: FirstSeen LastSeen Count From SubobjectPath Type Reason Message ------ ---- ----- ---------- 24s 24s 1 {default-scheduler } Normal Scheduled Successfully assigned liveness-exec to worker0 23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Pulling pulling image "gcr.io/google_containers/busybox" 23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Pulled Successfully pulled image "gcr.io/google_containers/busybox" 23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Created Created container with docker id 86849c15382e; Security:[seccomp=unconfined] 23s 23s 1 {kubelet worker0} spec.containers{liveness} Normal Started Started container with docker id 86849c15382e After 35 seconds, view the Pod events again: kubectl describe pod liveness-exec At the bottom of the output, there are messages indicating that the liveness probes have failed, and the containers have been killed and recreated. FirstSeen LastSeen Count From SubobjectPath Type Reason Message ------ ---- ---- 37s 37s 1 {default-scheduler } Normal Scheduled Successfully assigned liveness-exec to worker 36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Pulling pulling image "gcr.io/google_containers/busybox" 36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Pulled Successfully pulled image "gcr.io/google_containers/busybox" 36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Created Created container with docker id 86849c15382e; Security:[seccomp=unconfined] 36s 36s 1 {kubelet worker0} spec.containers{liveness} Normal Started Started container with docker id 86849c15382e 2s 2s 1 {kubelet worker0} spec.containers{liveness} Warning Unhealthy Liveness probe failed: cat: can\\'t open \\'/tmp/healthy\\': No such file or directory Wait another 30 seconds, and verify that the Container has been restarted: kubectl get pod liveness-exec The output shows that RESTARTS has been incremented: NAME READY STATUS RESTARTS AGE liveness-exec 1/1 Running 1 m

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