1. An administrator created an application deployment from the command line. An update of the container image rescales the deployment to three instances. The admin ran the following set of commands in a Kubernetes command-line interface (CLI): kubectl create deployment nginx --image=nginx:1.7.9

kubectl set image deployment/nginx nginx=nginx:1.9.1 --record=true

kubectl scale deployment/nginx --replicas=3

Because of an incident that the admin must fix in the application version, they reverse the deployment revision as follows: kubectl rollout undo deployment/nginx

What values will the Image and Replicas fields indicate for the deployment nginx if the admin runs the command kubectl describe deployment/nginx?

Your choice: correct -

Image: nginx:1.7.9

Replicas: 3

2. Inside securityContext, which label stops a process from attaining more privilege than its parent process?

Incorrect -

disablePrivilegeEscalation

Your choice: correct -

allowPrivilegeEscalation

3. Based on the specification in the following Ingress configuration, what type of Ingress are you using?

apiVersion: networking.k8s.io/v1beta1

kind: Ingress

metadata:

annotations:

nginx.ingress.kubernetes.io/rewrite-target: /

spec:

rules:

- host: foo.bar.com

http:

paths:

- path: /foo

backend:

serviceName: service1

servicePort: 4200

- path: /bar

backend:

serviceName: service2

servicePort: 8080

Your choice: correct -

A simple fanout

4. Which is a valid label value?

Your choice: correct -

An empty value

5. Your team uses kubectl to manage all aspects of your company's Kubernetes deployment. You are onboarding several DevOps engineers on the team who will take over the day-to-day management of simple tasks related to deployments. Which solution is most appropriate and will help your company scale?

The updated kubectl command structure

6. You want to create a new CronJob object called demo-job that uses the image training/demo-job and runs the /scripts/job.sh script every minute. What command would you run in the Kubernetes command-line interface (CLI)?

kubectl run demo-job --restart=OnFailure --schedule="\*/1 \* \* \* \*"

--image=training/demo-job -- /scripts/job.sh

7. Which metadata field in a Pod is populated by the system?

generation

8. What is correct about using Services in Kubernetes?

The iptables proxy mode has an affect on clients passing with a load balancer.

9. You are diagnosing a problem, but running kubectl get events produces too many events for you to see the problem. Which command would you use to view only the important events?

kubectl get events --field-selector type!=Normal

10. Which workload resource would you use for an application that requires an ordered and automated rolling update?

StatefulSets

11. You are generating Kubernetes resources using kompose. You use the following kompose labels in your docker-compose.yaml file:

kompose.volume.size as 1Gi for the requests storage’s size in the PersistentVolumeClaim

kompose.service.type as node to designate the service to be created

kompose.controller.type as daemonset to convert the deployment upon creation

When you run kompose convert, the command fails. Why is this?

You must define the kompose.service.type as nodeport instead.

12. You created a Deployment with five replicas using the command kubectl apply -f https://eg.com/demo/controllers/dep.yaml. How can you verify if all five replicas are ready in the Deployment?

Run kubectl get deployments and check if the AVAILABLE label has the number five in it.

13. Why would you use the shorthand R with the kubectl rollout command?

To process the directory specified in -f recursively

14. Which container acts as a client proxy and proxies the connections to the main container?

Ambassador

15. You created a Deployment with a Pod template. When the kubelet starts the container, there is startup failure. What fixes must you make in the container to overcome the failure?

Set the imagePullPolicy to IfNotPresent instead of Never.

16. You modified the config/kernel-monitor.json file and removed the ReadonlyFilesystem condition from the file. How can you revert the changes back?

By creating a new ReadonlyFilesystem condition definition inside the conditions field along with a reason and a message

17. You deleted the PersistentVolumeClaim and released the volume. How can you reclaim the volume?

Because the PersistentVolume still exists, delete it along with the data from the linked storage asset and the asset itself.

18. You used the hostPath PersistentVolume (PV) type to test a single node. Which type will you use to test multiple node clusters?

local

19. How many ways can you discover a Service in Kubernetes?

2

20. You run a Deployment and create a Service. You confirmed that the Service exists, is reachable by Domain Name System (DNS) and IP, and has been crosschecked against the original YAML manifest. A Pod is not able to reach itself with a Service IP, however. What is the issue?

The network is not properly configured for hairpin traffic.

21. What is true of a Service in Kubernetes?

A service is a representational state transfer (REST) object similar to a Pod.

1. You want your company’s Kubernetes deployments to use dynamic Secret values generated as a set of files. Because you manage several clusters, what is the most effective way to handle this?

Your choice: correct -

Attach Secrets files to Pods by declaring a volume that will mount each Secret as a file in the Pod definition.

2.Inside securityContext, which label stops a process from attaining more privilege than its parent process?

Your choice: correct -

allowPrivilegeEscalation

3. Based on the specification in the following Ingress configuration, what type of Ingress are you using?

apiVersion: networking.k8s.io/v1beta1

kind: Ingress

metadata:

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backend:

serviceName: service1

servicePort: 4200

- path: /bar

backend:

serviceName: service2

servicePort: 8080

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6. Your team uses kubectl to manage all aspects of your company's Kubernetes deployment. You are onboarding several DevOps engineers on the team who will take over the day-to-day management of simple tasks related to deployments. Which solution is most appropriate and will help your company scale?

Correct -

The updated kubectl command structure

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Your choice: correct -

Run kubectl get deployments and check if the AVAILABLE label has the number five in it.

8.Which is a valid label value?

Correct -

An empty value

9. Which metadata field in a Pod is populated by the system?

Correct -

generation

10. How are files from a directory defined inside a ConfigMap?

Correct -

With the contents of a single file in the data attribute or a collection of key/value pairs that are also defined in the data attribute of the object

11. Why is Service an optional field in the Kubernetes web user interface (UI) deploy wizard?

Correct -

Because not every application needs to expose a Service to an external IP address

12. An application is working for the past half hour but is not progressing. You suspect the application never started successfully so you use a startup probe to check when it was started. This doesn't resolve the issue, however. What else can you do to make the application progress?

Correct -

Use a liveness probe to catch any deadlock present in the application and restart it.

13.Containers within a Pod share an IP address and port space. What special function does this enable for containers?

Your choice: correct -

The ability to find each other with localhost

14. In Kubernetes, which environment variable controls the log destination?

Correct -

KUBE\_LOGGING\_DESTINATION

15. You are working on an application that depends on a third-party service. When the application boots, it must perform a long-running handshake with the third party before it can successfully handle requests. How would you implement this in Kubernetes?

Your choice: correct -

Implement a readiness probe that checks if the third-party handshake was successful. Kubernetes will automatically handle the flow of traffic to the Pods.

16. You created a blue/green deployment for your Kubernetes application. After transferring all traffic to the green version, what will you do if users start to report bugs?

Your choice: incorrect -

Switch the users who are reporting the bugs back to the blue version until you fix the bugs in the green version.

Correct -

Switch the traffic back to the blue version and destroy the green version.

17. Which option must you set while creating a CronJob object to handle timezones?

Your choice: correct -

CRON\_TZ

18. A microservice you engineered contains endpoints that persist information to a database. In your application, a component of the Kubernetes container logic handles the final issuing of the calls. When the database call is made, the data to be persisted is sanitized, transformed, and injected into the database. The application handles sanitization and transformation. As the deployed application runs, resiliency testing is performed, but when containers are shut down, calls are dropped and do not experience a retry. Why is this?

Your choice: correct -

Generally, containers should be treated as ephemeral. Therefore, the microservice should handle the final issuing of calls, not the container.

19.What objects can the dataSource field reference to?

Your choice: correct -

PersistentVolumeClaim and VolumeSnapshot

20.

What is the purpose of using the kompose up command?

Your choice: correct -

To create a Kubernetes deployment for a Dockerized application

5. You must implement a probe to stop Pods from receiving traffic when they are busy. The probe should also make sure the Pods are taken out within 20 seconds, checking on the /healthz:8080 endpoint. What would be the correct YAML to configure this?

readinessProbe:

httpGet:

path: /healthz

port: 8080

initialDelaySeconds: 3

periodSeconds: 5

7. Given the following PersistentVolume (PV) belonging to the storage class Recyclable:

apiVersion: v1

kind: PersistentVolume

metadata:

name: persistent-disk

spec:

capacity:

storage: 10Gi

accessModes:

- ReadWriteMany

persistentVolumeReclaimPolicy: Recycle

storageClassName: Recyclable

nfs:

path: /tmp

server: 172.17.0.2

What happens when a user creates a PersistentVolumeClaim (PVC) that is requesting storage capacity of 5 Gb and belongs to the same storage class Recyclable?

The PVC is created with 5 Gb of storage capacity and the PV locks the remaining amount.

9. You have a MongoDB server running in a Pod at port number 34121. You must access the database from your local system which means you require port forwarding. How will you achieve the task without choosing the port number manually?

kubectl port-forward replicaset/mongo-3fj5sk9 :34121

10. You must load the following configuration file into Kubernetes as a ConfigMap:

## application config appconfig.txt

## comments for dev use onlyhost=reports.example.com

port=80

timeout=6When you run the command kubectl create configmap myconfig --from-file=./appconfig.txt, however, the ConfigMap is created with the comments intact, which is causing your application to throw an error. How would you fix the command?

kubectl create configmap myconfig --from-env-file=./appconfig.txt

12. You want to fetch out the stable release and track the records weekly. To do so, you create two labels as follows:

release!=stable

track==daily

You receive the canary release with daily records. What fixes must you make to the labels to overcome the glitches?

release!=canary,track!=daily

16. While working with kubectl, you encounter an error. To troubleshoot it, which verbosity level would you choose to get its detailed trace?

--v=5

18. What is the first step to take in a canary deployment in Kubernetes?

Ensure that the Service does not have a version selector.

19. You must create an endpoint for a Service with no selector. Which loopback endpoint IP (IPv4) can you choose?

192.0.0.0

21. As a namespace administrator, you need ultimate control over deployment security, but must allow your developers to configure within a range. How can you do this?

Implement a security policy on the cluster and use securityContext in deployments as normal.

22. You passed a certain value to both the dataSourceRef and the dataSource fields. This leads to an error by the dataSourceRef field. You confirm the value of the object to be demo.kubernetes.ex. What is the cause of the error?

The object doesn't belong to any of the available apiGroup values.

Consider the following configuration file of a Service with multiple ports:

apiVersion: v1  
kind: Service  
metadata:  
 name: service-demo  
spec:  
 selector:  
 app: PSDemo  
 ports:  
 - name: 0\_http  
 protocol: TCP  
 port: 80  
 targetPort: 2342  
 - name: https-p  
 protocol: TCP  
 port: 443  
 targetPort: 9871

This file results in an error because of an invalid port name. What fixes must you make to remove the error?

 Correct -

Remove 0\_ from 0\_http.

 Incorrect -

Remove -p from https-p.

 Your choice: incorrect -

Replace 0\_http with ~http\_0.

 Incorrect -

Replace https-p with https\_p.

 Incorrect -

I don't know yet.

Consider the following resource definition file called multi-container-app.yaml:  
  
apiVersion: apps/v1   
kind: Deployment  
metadata:  
name: multi-container-app  
spec:  
[...]  
template:  
spec:  
containers:  
- name: app-container  
image: training/main-application:0.1   
- name: web-container  
image: nginx:1.7.9  
  
And the file named log-exporter-container-extension.yaml:  
  
spec:  
template:  
spec:  
containers:  
- name: log-exporter-container  
image: training/log-exporter:0.1  
  
After you create a live deployment object named deployment/multi-container-app from the template, you run an update by issuing the command:  
  
kubectl patch deployment multi-container-app --patch "$(cat log-exporter-container-extension.yaml)" --type=strategic  
  
What is the outcome?

 Incorrect -

It will add the log-exporter-container to the list of containers in the deployment template object. To trigger a rolling update on the deployment instance, a user must manually deploy the new revision.

 Your choice: correct -

It will add the log-exporter-container to the list of containers in the deployment template object and will trigger a rolling update on the deployment instance.

 Incorrect -

It will replace the list of containers in the deployment template object with a single entry containing log-exporter-container and it will trigger a rolling update on the deployment instance.

 Incorrect -

It will replace the resource definition file, adding log-exporter-container to the list of containers and will update the live deployment object.

 Incorrect -

I don't know yet.

You do not want to use the default service account for your Pod so you set the name of your custom service account in the spec.serviceAccountName field. Your custom service account is rejected, however. What could be the possible explanation?

 Incorrect -

The custom service account consists of an imagePullSecret.

 Incorrect -

The automounting API credentials for the service account are disabled.

 Your choice: correct -

The custom service account was not created when the Pod was created.

 Incorrect -

The automounting API credentials for the Pod are disabled.

 Incorrect -

I don't know yet.

Given the following live deployment object called "multi-container-app":  
  
apiVersion: apps/v1   
kind: Deployment  
metadata:  
name: multi-container-app  
spec:  
[...]  
template:  
spec:  
containers:  
- name: app-container  
image: training/main-application:0.1   
- name: web-container  
image: nginx:1.7.9  
containerPort: 80  
  
And the container extension found in the file "web-preview-container-extension.yaml":

spec:  
template:  
spec:  
containers:  
- name: web-preview-container  
image: training/web-preview:0.1  
containerPort: 80  
  
A cluster administrator patched the "deployment/multi-container-app" with an extra container by issuing the command:  
  
kubectl patch deployment multi-container-app --patch "$(cat web-preview-container-extension.yaml)" --type=strategic  
  
The command returns an error. Why?

 Incorrect -

The command is missing label selectors that match which container entries to replace from the deployment object.

 Incorrect -

The deployment is not accepting any updates to the containers field without a pre-existing updateTolerations label.

 Incorrect -

The update is revoked because you cannot perform strategic merges on live deployment objects.

 Your choice: correct -

The container from the extension file is binding to port 80 which is already used in the web-container container from the deployment.

 Incorrect -

I don't know yet.

Given the following files:  
  
**ui-config.yaml**

color.good=purple  
color.bad=yellow  
allow.textmode=true

**game-config.yaml**

enemies=aliens  
lives=3

A user entered the following command in a Kubernetes command-line interface (CLI):

kubectl create configmap "training-game-config" --from-file=ui.properties="./ui-config.yaml" --from-file="./game-config.yaml" --from-literal=secret.code=secret.code.lives=30

What would the resulting ConfigMap object look like?

 Incorrect -

apiVersion: v1  
kind: ConfigMap  
metadata:  
 name: training-game-config  
data:   
 ui.properties: |  
 color.good=purple  
 color.bad=yellow  
 allow.textmode=true  
 game-config.yaml: |  
 enemies=aliens  
 lives=3  
 SECRET\_CODE: secret.code.lives: 30

 Incorrect -

apiVersion: v1  
kind: ConfigMap  
metadata:  
 name: training-game-config  
data:   
 ui-config.yaml: |  
 color.good=purple  
 color.bad=yellow  
 allow.textmode=true  
 game-config.yaml: |  
 enemies=aliens  
 lives=3  
 secret.code: secret.code.lives=30

 Correct -

apiVersion: v1  
kind: ConfigMap  
metadata:  
 name: training-game-config  
data:   
 ui.properties: |  
 color.good=purple  
 color.bad=yellow  
 allow.textmode=true  
 game-config.yaml: |  
 enemies=aliens  
 lives=3  
 secret.code: secret.code.lives=30

 Incorrect -

apiVersion: v1  
kind: ConfigMap  
metadata:  
 name: training-game-config  
data:   
 ui.properties: |  
 color.good=purple  
 color.bad=yellow  
 allow.textmode=true  
 game.properties: |  
 enemies=aliens  
 lives=3  
 secret.code: secret.code.lives=30

 Incorrect -

I don't know yet.

What would you add to this service definition to enable an external port of 5678 to a container port of 8080?

apiVersion: v1  
kind: Service  
metadata:  
 labels:  
 app: frontend  
 name: frontend  
spec:  
 ports:  
 - name: web  
 selector:  
 app: frontend  
 type: NodePort  
status:  
 loadBalancer: {}

 Incorrect -

spec:  
 ports:  
 - name: web  
 port: 5678  
 protocol: HTTP  
 destinationPort: 8080

 Incorrect -

spec:  
 ports:  
 - name: web  
 port: 8080  
 protocol: TCP  
 targetPort: 5678

 Correct -

spec:  
 ports:  
 - name: web  
 port: 5678  
 protocol: TCP  
 targetPort: 8080

 Incorrect -

spec:  
 ports:  
 - name: web  
 port: 8080  
 protocol: HTTP  
 destinationPort: 5678

 Incorrect -

I don't know yet.

A Pod named demo-application-1 is mounting the PersistentVolumeClaim (PVC) called slow-storage-pvc, which has the following definition:

apiVersion: v1   
kind: PersistentVolumeClaim   
metadata:  
 name: slow-storage-pvc   
spec:  
 accessModes:  
 - ReadWriteOnce  
 volumeMode: block  
 resources:  
 requests:  
 storage: 8Gi  
 storageClassName: slow

What will happen if you mount the PVC slow-storage-pvc to a new Pod demo-application-2 under the same file system path as demo-application-1?

 Your choice: correct -

The operation will fail because the ReadWriteOnce access mode restricts other Pods from mounting the PVC.

 Incorrect -

The operation will fail because the PVC is mounted under the same file system in the Pods.

 Incorrect -

The operation will fail because the volumeMode attribute is set to block and should be set to filesystem.

 Incorrect -

The operation will succeed and mount the shared PVC to the new Pod under the specified file system path.

 Incorrect -

I don't know yet.