

Question 1

Complete

Mark 1.71 out of 2.00

Flag question

The command

```
docker run --rm -ti -v /root/data:/data:z --name fedora-1 fedora bash
```

```
docker run --rm -ti --volumes-from fedora-1 --name fedora-2 fedora
```

means

True False

- ☒ True ☐ False The /root/data folder on the Host is shared with the container(s)
- ☐ True ☒ False One docker container of the fedora image is created, namely fedora-1 , and fedora-2 is an alias for that instace

☒ True ☐ False Running `ls /root/data` on host, `ls /data` on fedora1 and `ls /data` on fedora2 will show same result

☒ True ☐ False The commands basically say that whatever is the volume for fedora1, should be copied ditto with fedora2

☒ True ☐ False The commands basically say that whatever is the volume for fedora1, should be shared with fedora2

☐ True ☒ False Running `ls /var/lib/docker/volumes/root/data` on host, `ls /data` on fedora1 and `ls /data` on fedora2 will show same result

☒ True ☐ False Two docker containers of the fedora image are created, namely fedora-1 and fedora-2

The /root/data folder on the Host is shared with the container(s): True

One docker container of the fedora image is created, namely fedora-1 , and fedora-2 is an alias for that instace: False

Running `ls /root/data` on host, `ls /data` on fedora1 and `ls /data` on fedora2 will show same result: True

The commands basically say that whatever is the volume for fedora1, should be copied ditto with fedora2: False

The commands basically say that whatever is the volume for fedora1, should be shared with fedora2: True

Running `ls /var/lib/docker/volumes/root/data` on host, `ls /data` on fedora1 and `ls /data` on fedora2 will show same result: False

Two docker containers of the fedora image are created, namely fedora-1 and fedora-2: True

Question 2

Complete

Mark 0.00 out of 2.00

Flag question

Which of the following images (for x86a and linux) are downloaded less than a billion times from docker-hub?

- ☒ a. tomcat
- ☒ b. busybox
- ☐ c. golang
- ☐ d. haproxy
- ☐ e. rabbitmq
- ☒ f. php
- ☒ g. redis
- ☐ h. elasticsearch
- ☒ i. nodejs
- ☒ j. httpd

The correct answers are: rabbitmq, elasticsearch, haproxy, php,

### Question 3

Complete

Mark 0.55 out of 2.00

Flag question

Match the actions with each Kubernetes component, for the purpose of creation of a pod

pod info is updated in etcd	kube-apiserver
node to run the pod is identified	kube-scheduler
send reports of pods regularly to kube-apiserver	kubectl
request docker to run the instance	container-runtime
application image is deployed	kubelet
authentication request is validated	kube-apiserver
detect that new pod object is created	kubectl
pod object is created	kubelet
pod is created on the node	kube-scheduler
authentication request is generated	kubelet
register a node with cluster	kube-apiserver

The correct answer is: pod info is updated in etcd → kube-apiserver, node to run the pod is identified → kube-scheduler, send reports of pods regularly to kube-apiserver → kubelet, request docker to run the instance → kubelet, application image is deployed → container-runtime, authentication request is validated → kube-apiserver, detect that new pod object is created → kube-scheduler, pod object is created → kube-apiserver, pod is created on the node → kubelet, authentication request is generated → kubectl, register a node with cluster → kubelet

### Question 4

Complete

Mark 0.75 out of 1.00

Flag question

Select correct statements about the command kubectl

- ☒ a. in minikube installation the kubectl is already pre-configured to talk to kube-apiserver
- ☒ b. is used to manage pods on a single node cluster on your laptop
- ☐ c. talks to kube-apiserver
- ☒ d. runs on the kubernetes user's laptop

The correct answers are: runs on the kubernetes user's laptop, talks to kube-apiserver, in minikube installation the kubectl is already pre-configured to talk to kube-apiserver, is used to manage pods on a single node cluster on your laptop

### Question 5

Not answered

Marked out of 2.00

Flag question

Write a shell program which does the following:

Takes two file-names as arguments on the command line.

Reads from the first file a pair of characters where the first is the "find" character and the second is the "replace" character.

Replaces all "find" characters in the second file with the "replace" character.

For example,

if the first file contains:

```
a m
[ ]
j t
```

Then the program will replace all "a" by "m" in the second file, all "[" by "]" in the second file, etc.

### Question 6

Complete

Mark 2.00 out of 2.00

Flag question

Which of the following are NOT features of kubernetes?

- ☐ a. written in GO
- ☐ b. supports declarative configuration
- ☐ c. is extensible
- ☒ d. written in C
- ☒ e. supports only docker
- ☐ f. automates software deployment
- ☐ g. is open source
- ☐ h. is portable

The correct answers are: supports only docker, written in C

Question 6

Complete

Mark 2.00 out of 2.00

🚩 Flag question

Which of the following are NOT features of kubernetes?

- ☐ a. written in GO
- ☐ b. supports declarative configuration
- ☐ c. is extensible
- ☒ d. written in C
- ☒ e. supports only docker
- ☐ f. automates software deployment
- ☐ g. is open source
- ☐ h. is portable

The correct answers are: supports only docker, written in C

Question 7

Complete

Mark 1.13 out of 1.50

🚩 Flag question

Which of the following statements are true about Kube API Server?

- ☒ a. Each component of kubernetes interacts with the kube-apiserver
- ☒ b. kube-apiserver updates the data in 'etcd' for all pods
- ☐ c. kube-apiserver deploys a pod on a node
- ☐ d. kube-apiserver schedules a pod on a node
- ☒ e. pod objects are created by kube-apiserver, but without assigning to a node
- ☐ f. Non kubernetes applications can also connect the kube-apiserver using HTTP protocol

The correct answers are: Each component of kubernetes interacts with the kube-apiserver, Non kubernetes applications can also connect the kube-apiserver using HTTP protocol, pod objects are created by kube-apiserver, but without assigning to a node, kube-apiserver updates the data in 'etcd' for all pods

Question 8

Complete

Mark 0.60 out of 1.00

🚩 Flag question

Given below are few statements differentiating between and comparing containers and virtual machines.

For each statement, mark True/False.

- | True                             | False                            |   |
|----------------------------------|----------------------------------|---|
| <input type="radio"/>            | <input checked="" type="radio"/> | Example of container runtime is "dockerd", and an example of hypervisor is "kvm"                |
| <input checked="" type="radio"/> | <input type="radio"/>            | Virtual Machine runs its own kernel, but Container uses the kernel of the Host operating system |
| <input checked="" type="radio"/> | <input type="radio"/>            | Virtual Machines need more storage compared to containers doing the same job                    |
| <input type="radio"/>            | <input checked="" type="radio"/> | Example of container runtime is "docker", and an example of hypervisor is "secureboot"          |
| <input checked="" type="radio"/> | <input type="radio"/>            | Container runtime and hypervisor do the same job  |

Example of container runtime is "dockerd", and an example of hypervisor is "kvm": True  
 Virtual Machine runs its own kernel, but Container uses the kernel of the Host operating system: True  
 Virtual Machines need more storage compared to containers doing the same job: True  
 Example of container runtime is "docker", and an example of hypervisor is "secureboot": False  
 Container runtime and hypervisor do the same job: False

Question 9

Complete

JSON files were extracted from the tar image of a docker.

The files are listed below:

JSON files were extracted from the tar image of a docker.

The files are listed below:

#### File1

```
{
  "architecture": "amd64",
  "config": {
    "Hostname": "896ed4258c84",
    "Domainname": "",
    "User": "",
    "AttachStdin": true,
    "AttachStdout": true,
    "AttachStderr": true,
    "Tty": true,
    "OpenStdin": true,
    "StdinOnce": true,
    "Env": [

    "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
    ],
    "Cmd": [
      "bash"
    ],
    "Image": "ubuntu",
    "Volumes": null,
    "WorkingDir": "",
    "Entrypoint": null,
    "OnBuild": null,
    "Labels": {}
  },
  "container":
  "896ed4258c8422489a183fc1a0f7d110e4e5c432fc5d62971b24015d58620701",
  "container_config": {
    "Hostname": "896ed4258c84",
    "Domainname": "",
    "User": "",
    "AttachStdin": true,
    "AttachStdout": true,
    "AttachStderr": true,
    "Tty": true,
    "OpenStdin": true,
    "StdinOnce": true,
    "Env": [

    "PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
    ],
    "Cmd": [
      "bash"
    ],
    "Image": "ubuntu",
    "Volumes": null,
    "WorkingDir": "",
    "Entrypoint": null,
    "OnBuild": null,
    "Labels": {}
  },
  "created": "2022-09-21T15:31:32.742756984Z",
  "docker_version": "20.10.18",
  "history": [
    {
      "created": "2022-09-01T23:46:35.026691064Z",
      "created_by": "/bin/sh -c #(nop) ADD file:a7268f82a86219801950401c224cabbdd83ef510a7c71396b2570c2639ae4fa in /"
    },
    {
      "created": "2022-09-01T23:46:35.375057619Z",
      "created_by": "/bin/sh -c #(nop) CMD [\"bash\"]",
      "empty_layer": true
    },
    {
      "created": "2022-09-21T15:31:32.742756984Z",
      "created_by": "bash"
    }
  ],
  "os": "linux",
  "rootfs": {
    "type": "layers",
    "diff_ids": [

    "sha256:7f5cbdb8cc787c8d628630756bcc7240e6c96b876c2882e6fc980a8b60cdfa274",

    "sha256:0a7af9a8e086cfd665e913c752013f6c918fc132485e3b152b538179f0314467"
    ]
  }
}
```

#### file2:

```
{
  "id":
  "03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a",
  "created": "1970-01-01T05:30:00+05:30",
  "container_config": {
    "Hostname": "",
    "Domainname": "",
    "User": "",
    "AttachStdin": false,
    "AttachStdout": false,
    "AttachStderr": false,
    "Tty": false
```

**file2:**

```
{
  "id":
"03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a",
  "created": "1970-01-01T05:30:00+05:30",
  "container_config": {
    "Hostname": "",
    "Domainname": "",
    "User": "",
    "AttachStdin": false,
    "AttachStdout": false,
    "AttachStderr": false,
    "Tty": false,
    "OpenStdin": false,
    "StdinOnce": false,
    "Env": null,
    "Cmd": null,
    "Image": "",
    "Volumes": null,
    "WorkingDir": "",
    "Entrypoint": null,
    "OnBuild": null,
    "Labels": null
  },
  "os": "linux"
}
```

**File3:**

```
{
  "id":
"e81f28d0db59ae988d99e9484ef94debd8b84cc4afe9159a4816aeb0febddd1cd",
  "parent":
"03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a",
  "created": "2022-09-21T15:31:32.742756984Z",
  "container":
"896ed4258c8422489a183fc1a0f7d110e4e5c432fc5d62971b24015d58620701",
  "container_config": {
    "Hostname": "896ed4258c84",
    "Domainname": "",
    "User": "",
    "AttachStdin": true,
    "AttachStdout": true,
    "AttachStderr": true,
    "Tty": true,
    "OpenStdin": true,
    "StdinOnce": true,
    "Env": [

"PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
],
    "Cmd": [
      "bash"
    ],
    "Image": "ubuntu",
    "Volumes": null,
    "WorkingDir": "",
    "Entrypoint": null,
    "OnBuild": null,
    "Labels": {}
  },
  "docker_version": "20.10.18",
  "config": {
    "Hostname": "896ed4258c84",
    "Domainname": "",
    "User": "",
    "AttachStdin": true,
    "AttachStdout": true,
    "AttachStderr": true,
    "Tty": true,
    "OpenStdin": true,
    "StdinOnce": true,
    "Env": [

"PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
],
    "Cmd": [
      "bash"
    ],
    "Image": "ubuntu",
    "Volumes": null,
    "WorkingDir": "",
    "Entrypoint": null,
    "OnBuild": null,
    "Labels": {}
  },
  "architecture": "amd64",
  "os": "linux"
}
```

**file4:**

```
[
  {
    "Config":
"aef552620a0f9b00184fd236648d3ec745e50126a6ac82a0117b3ed517296280.json",
    "RepoTags": [
      "my-ubuntu-tar:latest"
    ],
    "Layers": [
```

```

"AttachStdout": true,
"AttachStderr": true,
"TTY": true,
"OpenStdin": true,
"StdinOnce": true,
"Env": [

"PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin"
],
"Cmd": [
  "bash"
],
"Image": "ubuntu",
"Volumes": null,
"WorkingDir": "",
"Entrypoint": null,
"OnBuild": null,
"Labels": {}
},
"architecture": "amd64",
"os": "linux"
}

```

**file4:**

```

[
  {
    "Config":
"aef552620a0f9b00184fd236648d3ec745e50126a6ac82a0117b3ed517296280.json",
    "RepoTags": [
      "my-ubuntu-tar:latest"
    ],
    "Layers": [

"03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a/layer.tar",

"e81f28d0db59ae988d99e9484ef94debd8b84cc4afe9159a4816aeb0febdd1cd/layer.tar"
    ]
  }
]

```

Mark those statements as True which can be definitely deduced from this information. Wrong/incomplete deductions should be marked as False.

True	False	
<input checked="" type="radio"/>	<input type="radio"/>	The "id" of base image is 03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a
<input checked="" type="radio"/>	<input type="radio"/>	The base image is ubuntu
<input type="radio"/>	<input checked="" type="radio"/>	The "id" of base image is 896ed4258c8422489a183fc1a0f7d110e4e5c432fc5d62971b24015d58620701
<input type="radio"/>	<input checked="" type="radio"/>	The base image is fedora
<input checked="" type="radio"/>	<input type="radio"/>	The image contains the command "tar" in it.
<input type="radio"/>	<input checked="" type="radio"/>	The "id" of base image is aef552620a0f9b00184fd236648d3ec745e50126a6ac82a0117b3ed517296280
<input checked="" type="radio"/>	<input type="radio"/>	There is at least one layer added on top of base image

The "id" of base image is  
 03c159c5eead07601110c82ad724cfe7b85eb6c9c9a91e44775338053e8e988a:  
 True  
 The base image is ubuntu: True  
 The "id" of base image is  
 896ed4258c8422489a183fc1a0f7d110e4e5c432fc5d62971b24015d58620701:  
 False  
 The base image is fedora: False  
 The image contains the command "tar" in it.: False  
 The "id" of base image is  
 aef552620a0f9b00184fd236648d3ec745e50126a6ac82a0117b3ed517296280:  
 False  
 There is at least one layer added on top of base image: True

Question **10**

Complete

Mark 1.00 out of 1.00

🚩 Flag question

Why is "kubectl edit" not recommended, against "kubectl apply"?

- ☐ a. because it edits the YAML file but does not apply it
- ☒ b. because it does change a running pod, and no record of changes is maintained
- ☐ c. because it changes the pod when it is created next time
- ☐ d. because it does change a running pod, and it may crash the pod
- ☐ e. because it changes a running pod

The correct answer is: because it does change a running pod, and no record of changes is maintained

Question **11**

Complete

Mark 0.00 out of 2.00

🚩 Flag question

Select all the incorrect statements about git merge and git rebase.

Select one or more:

- ☒ a. rebase is costlier than a merge
- ☐ b. merge is costlier than a rebase
- ☒ c. git merge may not work automatically and fail
- ☒ d. we can't use git unless we resolve a failed merge
- ☐ e. rebase is for newbies, and merge for experienced programmers.
- ☐ f. merge and rebase are just two names for the same thing
- ☒ g. rebase can lead to very complicated scenarios in distributed development.
- ☒ h. we can't use git unless we resolve a failed rebase
- ☒ i. git merge necessarily creates a commit
- ☒ j. git rebase creates a more linear history
- ☒ k. git merge creates a more non-linear history
- ☒ l. git rebase may not work automatically and fail

Your answer is incorrect.

The correct answers are: merge and rebase are just two names for the same thing, merge is costlier than a rebase, rebase is costlier than a merge, rebase is for newbies, and merge for experienced programmers.

Question **12**

Complete

Mark 1.00 out of 1.00

🚩 Flag question

Math pairs

Toleration

Let the scheduler schedule a pod with matching taints

Taint

Nodes repelling a set of pods

node affinity

A property of Pods, attracting it to specified nodes

Your answer is correct.

The correct answer is: Toleration → Let the scheduler schedule a pod with matching taints, Taint → Nodes repelling a set of pods, node affinity → A property of Pods, attracting it to specified nodes

Question **13**

Complete

Mark 0.83 out of 1.00

🚩 Flag question

Consider following the sequence of commands executed either on the host or container or somewhere so that all of them together make some sense.

```
docker run -it ubuntu
apt update; apt install net-tools iputils-ping
openssh-server openssh-client
docker commit <container-id> myubuntu
exit

docker network create network1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u1 myubuntu
echo 1 >> /folder/1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u2 myubuntu
echo 2 >> /folder/1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u3 myubuntu
echo 3 >> /folder/1
```

Mark statements as True/False w.r.t. above commands.

True False



Question 13

Complete

Mark 0.83 out of 1.00

Flag question

Consider following the sequence of commands executed either on the host or container or somewhere so that all of them together make some sense.

```
docker run -it ubuntu
apt update; apt install net-tools iputils-ping
openssh-server openssh-client
docker commit <container-id> myubuntu
exit

docker network create network1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u1 myubuntu
echo 1 >> /folder/1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u2 myubuntu
echo 2 >> /folder/1
docker run -it -v /tmp/folder:/folder --network network1 --hostname u3 myubuntu
echo 3 >> /folder/1
```

Mark statements as True/False w.r.t. above commands.

True	False	
<input checked="" type="radio"/>	<input type="radio"/>	The file /tmp/folder/1 on host finally contains the data "1\n2\n3\n"
<input checked="" type="radio"/>	<input type="radio"/>	The file /folder/1 on container u1 finally contains the data "1\n2\n3\n"
<input checked="" type="radio"/>	<input type="radio"/>	The openssh-server installed in the image has helped the containers communicate with each other
<input type="radio"/>	<input checked="" type="radio"/>	ssh from u1 to u2 will work now.
<input checked="" type="radio"/>	<input type="radio"/>	u1 u2 u3 will be able to ping each other
<input checked="" type="radio"/>	<input type="radio"/>	The creation of a network does not serve any purpose in the echo commands

The file /tmp/folder/1 on host finally contains the data "1\n2\n3\n": True  
The file /folder/1 on container u1 finally contains the data "1\n2\n3\n": True  
The openssh-server installed in the image has helped the containers communicate with each other: False  
ssh from u1 to u2 will work now.: False  
u1 u2 u3 will be able to ping each other: True  
The creation of a network does not serve any purpose in the echo commands: True

Question 14

Complete

Mark 0.50 out of 1.00

Flag question

Match each docker command with its meaning.

docker build -t new .	Build a new docker image using Dockerfile in current directory, and tag it as "new"
docker images	show list of docker images available on the local machine
docker port 517065f6ab04	show all mappings for the port 517065f6ab04
docker run --rm ubuntu	run the ubuntu image, and remove it from output of "ps -a" only

Your answer is partially correct.

You have correctly selected 2.

The correct answer is: docker build -t new . → Build a new docker image using Dockerfile in current directory, and tag it as "new", docker images → show list of docker images available on the local machine, docker port 517065f6ab04 → show all port mappings for the container with id 517065f6ab04, docker run --rm ubuntu → run the ubuntu image, and remove it when its done, as a result "docker ps -a" will show nothing here

Question 15

Complete

Mark 0.40 out of 1.00

Select the correct statements, which describe why the clusterIP is used, how it is used and what it does.

☒ a. ClusterIP service is reachable only within the cluster



Question **15**

Complete

Mark 0.40 out of 1.00

Flag question

Select the correct statements, which describe why the clusterIP is used, how it is used and what it does.

- ☒ a. ClusterIP service is reachable only within the cluster
- ☒ b. The ClusterIP exports the IP address to which the clients of the service attach
- ☐ c. ClusterIP service in Kubernetes is a REST object, similar to a Pod
- ☐ d. Using Pod's IP address leads to non-portability, as when Pod is deleted and respawned, it will have a different IP address
- ☐ e. If ClusterIP goes down, then it's respawned but with same IP address, so the existing connections are maintained

Your answer is partially correct.

You have correctly selected 2.

The correct answers are: Using Pod's IP address leads to non-portability, as when Pod is deleted and respawned, it will have a different IP address, ClusterIP service in Kubernetes is a REST object, similar to a Pod, The ClusterIP exports the IP address to which the clients of the service attach, If ClusterIP goes down, then it's respawned but with same IP address, so the existing connections are maintained, ClusterIP service is reachable only within the cluster

Question **16**

Complete

Mark 1.50 out of 1.50

Flag question

Consider the following declaration in a YML file

```
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: myapp-ha
  labels:
    app: myapp
    type: front-end
spec:
  template:
    metadata:
      name: myapp
      labels:
        app: myapp
        type: frontend
    spec:
      containers:
        - name: container-1
          image: redis
        - name: container-2
          image: httpd
  replicas: 3
  selector:
    matchLabels:
      type: frontend
```

This configuration will

create  containers

create  pods

create a  ↕

Question **17**

Complete

Mark 1.50 out of 2.00

Flag question

Select all the correct statements about branches in git

Select one or more:

- ☐ a. creation of a branch results in a commit
- ☒ b. creating a branch is cheap with git
- ☐ c. creating a branch involves copy of the commits
- ☒ d. one can work in parallel on different branches
- ☒ e. switching branches is a costly operation
- ☐ f. master branch is treated specially by git
- ☒ g. 'master' is just another branch
- ☒ h. a branch is just a pointer in git data-structure

Your answer is partially correct.

You have selected too many options.

The correct answers are: a branch is just a pointer in git data-structure, creating a branch is cheap with git, 'master' is just another branch, one can work in parallel on different branches

Question **18**

Complete

Mark 0.57 out of 2.00

Flag question

Given below is the output of one command:

```
$ kubectl describe replicaset.apps nginx-deployment
Name:          nginx-deployment-6768c68f7b
Namespace:    default
```

Given below is the output of one command:

```
$ kubectl describe replicaset.apps nginx-deployment

Name:          nginx-deployment-6768c68f7b
Namespace:     default
Selector:      app=nginx,pod-template-hash=6768c68f7b
Labels:        app=nginx
               pod-template-hash=6768c68f7b

Annotations:   deployment.kubernetes.io/desired-replicas: 3
               deployment.kubernetes.io/max-replicas: 4

deployment.kubernetes.io/revision: 2
Controlled By: Deployment/nginx-deployment
Replicas:      3 current / 3 desired
Pods Status:   3 Running / 0 Waiting / 0
Succeeded / 0 Failed
Pod Template:
  Labels:  app=nginx
          pod-template-hash=6768c68f7b
  Containers:
    nginx:
      Image:      nginx:1.20
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
      Volumes:    <none>

Events:
  Type      Reason      Age
  From      Message
  ----      -
-
  Normal    SuccessfulCreate   3m7s    replicaset-controller Created pod: nginx-deployment-6768c68f7b-sqqbf
  Normal    SuccessfulCreate   2m43s   replicaset-controller Created pod: nginx-deployment-6768c68f7b-xbtr8
  Normal    SuccessfulCreate   2m41s   replicaset-controller Created pod: nginx-deployment-6768c68f7b-pq2nt

Name:          nginx-deployment-77979d4865
Namespace:     default
Selector:      app=nginx,pod-template-hash=77979d4865
Labels:        app=nginx
               pod-template-hash=77979d4865

Annotations:   deployment.kubernetes.io/desired-replicas: 3
               deployment.kubernetes.io/max-replicas: 4

deployment.kubernetes.io/revision: 1
Controlled By: Deployment/nginx-deployment
Replicas:      0 current / 0 desired
Pods Status:   0 Running / 0 Waiting / 0
Succeeded / 0 Failed
Pod Template:
  Labels:  app=nginx
          pod-template-hash=77979d4865
  Containers:
    nginx:
      Image:      nginx:1.18
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
      Volumes:    <none>

Events:
  Type      Reason      Age
  From      Message
  ----      -
-
  Normal    SuccessfulCreate   3m51s   replicaset-controller Created pod: nginx-deployment-77979d4865-jskrv
  Normal    SuccessfulCreate   3m51s   replicaset-controller Created pod: nginx-deployment-77979d4865-bmxj7
  Normal    SuccessfulCreate   3m51s   replicaset-controller Created pod: nginx-deployment-77979d4865-tfjrs
  Normal    SuccessfulDelete   2m43s   replicaset-controller Deleted pod: nginx-deployment-77979d4865-jskrv
  Normal    SuccessfulDelete   2m41s   replicaset-controller Deleted pod: nginx-deployment-77979d4865-bmxj7
  Normal    SuccessfulDelete   2m39s   replicaset-controller Deleted pod: nginx-deployment-77979d4865-tfjrs
```

```
Normal SuccessfulDelete 2m43s replicaset-
controller Deleted pod: nginx-deployment-
77979d4865-jskrv
Normal SuccessfulDelete 2m41s replicaset-
controller Deleted pod: nginx-deployment-
77979d4865-bmxj7
Normal SuccessfulDelete 2m39s replicaset-
controller Deleted pod: nginx-deployment-
77979d4865-tfjrs
```

Mark those statements as True, which can be deduced from the information given in the above output.

True	False	
<input checked="" type="radio"/>	<input type="radio"/>	Number of replicas is 3
<input checked="" type="radio"/>	<input type="radio"/>	The upgrade/downgrade process is in operation and not complete yet
<input type="radio"/>	<input checked="" type="radio"/>	nginx was upgraded from 1.18 to 1.20
<input checked="" type="radio"/>	<input type="radio"/>	Pod has only one container, that is nginx in it
<input checked="" type="radio"/>	<input type="radio"/>	nginx was downgraded from 1.20 to 1.18
<input type="radio"/>	<input checked="" type="radio"/>	The latest version of nginx is running right now
<input checked="" type="radio"/>	<input type="radio"/>	There are 3 replica-sets

Number of replicas is 3: True

The upgrade/downgrade process is in operation and not complete yet: False

nginx was upgraded from 1.18 to 1.20: True

Pod has only one container, that is nginx in it: True

nginx was downgraded from 1.20 to 1.18: False

The latest version of nginx is running right now: True

There are 3 replica-sets: False

Question 19

Complete

Mark 0.50 out of 2.00

Flag question

Consider the following command and its output:

```
$ kubectl describe replicaset myapp-ha

Name:          myapp-ha
Namespace:     default
Selector:      type=frontend
Labels:        app=myapp
               type=front-end
Annotations:   <none>
Replicas:      3 current / 3 desired
Pods Status:   2 Running / 1 Waiting / 0
Succeeded / 0 Failed
Pod Template:
  Labels:  app=myapp
          type=frontend
  Containers:
    container-1:
      Image:      redis
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
    container-2:
      Image:      httpd
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
  Volumes:      <none>

Events:
  Type      Reason      Age
  From      Message
  ----      -
  -
  Normal    SuccessfulCreate 24s  replicaset-
controller Created pod: myapp-ha-7kkz1
  Normal    SuccessfulCreate 24s  replicaset-
controller Created pod: myapp-ha-w7pnp
  Normal    SuccessfulDelete 24s  replicaset-
controller Deleted pod: myapp-ha-7kkz1
```

```

Image:      redis
Port:       <none>
Host Port:  <none>
Environment: <none>
Mounts:     <none>
Volumes:    <none>
Events:
  Type      Reason          Age
  From              Message
  ----      -
-
Normal SuccessfulCreate 24s replicaset-
controller Created pod: myapp-ha-7kkz1
Normal SuccessfulCreate 24s replicaset-
controller Created pod: myapp-ha-w7pnp
Normal SuccessfulCreate 24s replicaset-
controller Created pod: myapp-ha-rsj4n

```

Followed by few commands, and in the end this output:

```

$ kubectl describe replicaset myapp-ha
Name:          myapp-ha
Namespace:     default
Selector:      type=frontend
Labels:        app=myapp
               type=front-end
Annotations:   <none>
Replicas:      3 current / 3 desired
Pods Status:   0 Running / 3 Waiting / 0
Succeeded / 0 Failed
Pod Template:
  Labels:  app=myapp
          type=frontend
  Containers:
    container-1:
      Image:      redis
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
    container-2:
      Image:      httpd
      Port:       <none>
      Host Port:  <none>
      Environment: <none>
      Mounts:     <none>
  Volumes:      <none>
Events:
  Type      Reason          Age
  From              Message
  ----      -
-
Normal SuccessfulCreate 93s replicaset-
controller Created pod: myapp-ha-7kkz1
Normal SuccessfulCreate 93s replicaset-
controller Created pod: myapp-ha-w7pnp
Normal SuccessfulCreate 93s replicaset-
controller Created pod: myapp-ha-rsj4n
Normal SuccessfulCreate 25s replicaset-
controller Created pod: myapp-ha-dwg7r
Normal SuccessfulCreate 5s replicaset-
controller Created pod: myapp-ha-dt7nd
Normal SuccessfulCreate 5s replicaset-
controller Created pod: myapp-ha-plw49
Normal SuccessfulCreate 5s replicaset-
controller Created pod: myapp-ha-tzb9p

```

Here,

the number of pods defined in the replicaset are:

the number of pods deleted so far are :

the first re-created pod had the ID:

At the time of the last command and its output, the number of pods waiting is 3. That means:

Question **20**

Complete

Mark 1.67 out of 2.00

Flag question

Consider the following sequence of commands

```

git init
vi a.c # file edited /* A */
git add a.c /* B */
vi a.c # file edited /* C */
git add a.c
git commit /* D */
vi a.c /* E */
git add a.c /* F */
git commit

```

For each of the lines, labeled as A to F, select the proper option describing the state of the file a.c

Question **20**

Complete

Mark 1.67 out of 2.00

Flag question

Consider the following sequence of commands

```
git init
vi a.c # file edited /* A */
git add a.c /* B */
vi a.c # file edited /* C */
git add a.c
git commit /* D */
vi a.c /* E */
git add a.c /* F */
git commit
```

For each of the lines, labled as A to F, select the proper option describing the state of the file a.c

F

B

E

A

C

D

Your answer is partially correct.

You have correctly selected 5.

The correct answer is: F → staged, B → staged, E → modified, A → untracked, C → modified, D → unmodified

Question **21**

Complete

Mark 0.80 out of 1.00

Flag question

Select all the statements that correctly identify the need, use, and limitations for containers.

- ☒ a. Containers have helped in micro-services architecture.
- ☒ b. Containers offer more portability, efficiency
- ☒ c. Managing library version dependency is a major concern, and containers ease this problem.
- ☐ d. Isolated sandbox environment helps in more reliability and uptime
- ☐ e. Containers can not be used where applications run close to the hardware
- ☒ f. Containers offer more elasticity, reusability
- ☒ g. Managing library version dependency is a major concern, and containers ease this problem.
- ☒ h. Changes in a shared library could break applications, but containers simplify upgrade and rollback.
- ☒ i. Isolated sandbox environment helps in more security
- ☒ j. A containerized application can be lauched in minimal time.

Your answer is partially correct.

You have correctly selected 8.

The correct answers are: Managing library version dependency is a major concern, and containers ease this problem., Managing library version dependency is a major concern, and containers ease this problem., Changes in a shared library could break applications, but containers simplify upgrade and rollback., Isolated sandbox environment helps in more security, Isolated sandbox environment helps in more reliability and uptime, Containers offer more portability, efficiency, Containers offer more elasticity, reusability, Containers can not be used where applications run close to the hardware, Containers have helped in micro-services architecture., A containerized application can be lauched in minimal time.

Question **22**

Complete

Mark 1.64 out of 2.00

Flag question

Suppose it is required to create a custom ubuntu docker image, saved as a tar file, with the base ubuntu and the package "vim" into it.

Complete the following description of commands, which aim to achive the above aim.

On Host

docker  -it

On container prompt

apt

apt  vim

Here service architecture, A containerized application can be launched in minimal time.

Question **22**

Complete

Mark 1.64 out of 2.00

Flag question

Suppose it is required to create a custom ubuntu docker image, saved as a tar file, with the base ubuntu and the package "vim" into it.

Complete the following description of commands, which aim to achieve the above aim.

On Host

```
docker run -it ubuntu
```

On container prompt

```
apt update
apt install vim
```

On Host, after existing from container

```
docker images # get list of images. Output shown below.
```

REPOSITORY	TAG	IMAGE
ID	CREATED	SIZE
<none>	<none>	
55fb3b7c6802	5 seconds ago	116MB
my-fedora	latest	
1862a1e17ccb	3 days ago	434MB
capitalserver	latest	
e4c2e09a1ef7	3 weeks ago	124MB

```
docker commit 55fb3b7c6802 ubuntu-vim
docker save ubuntu-vim -o /tmp/ubuntu-vim.tar
```

Question **23**

Complete

Mark 0.67 out of 1.00

Flag question

Given below is a list of possible "values" for the "Kind" tag in the kuernetes YAML syntax.

Select "Yes" if the said string can be used, and "No" if it is not a valid string.

(e.g. refer to the files like this

```
apiVersion: apps/v1
kind: Deployment
)
```

Yes	No	
<input checked="" type="radio"/>	<input type="radio"/>	Service
<input type="radio"/>	<input checked="" type="radio"/>	PersistentVolume
<input checked="" type="radio"/>	<input type="radio"/>	Deployment
<input checked="" type="radio"/>	<input type="radio"/>	Pod
<input checked="" type="radio"/>	<input type="radio"/>	ReplicaSet
<input type="radio"/>	<input checked="" type="radio"/>	PersistentVolumeClaim

Service: Yes  
PersistentVolume: Yes  
Deployment: Yes  
Pod: Yes  
ReplicaSet: Yes  
PersistentVolumeClaim: Yes

Question **24**

Complete

Mark 0.40 out of 1.00

Flag question

Match the pairs

VM in Cloud	PaaS
Web Conferencing	SaaS
Load Balancer	PaaS
Google Docs	SaaS
Ubuntu Machine in AWS	IaaS

Your answer is partially correct.

You have correctly selected 2.

The correct answer is: VM in Cloud → IaaS, Web Conferencing → SaaS, Load Balancer → IaaS, Google Docs → SaaS, Ubuntu Machine in AWS → PaaS

Question **25**

Complete

Mark 0.00 out of 1.00

Flag question

Write a Dockerfile that does the following

(a) uses a Ubuntu base image

<input checked="" type="radio"/>	<input type="radio"/>	Service
<input type="radio"/>	<input checked="" type="radio"/>	PersistentVolume
<input checked="" type="radio"/>	<input type="radio"/>	Deployment
<input checked="" type="radio"/>	<input type="radio"/>	Pod
<input checked="" type="radio"/>	<input type="radio"/>	ReplicaSet
<input type="radio"/>	<input checked="" type="radio"/>	PersistentVolumeClaim

Service: Yes  
 PersistentVolume: Yes  
 Deployment: Yes  
 Pod: Yes  
 ReplicaSet: Yes  
 PersistentVolumeClaim: Yes

Question **24**  
 Complete  
 Mark 0.40 out of 1.00  
[Flag question](#)

Match the pairs

VM in Cloud	PaaS
Web Conferencing	SaaS
Load Balancer	PaaS
Google Docs	SaaS
Ubuntu Machine in AWS	IaaS

Your answer is partially correct.

You have correctly selected 2.

The correct answer is: VM in Cloud → IaaS, Web Conferencing → SaaS, Load Balancer → IaaS, Google Docs → SaaS, Ubuntu Machine in AWS → PaaS

Question **25**  
 Complete  
 Mark 2.00 out of 2.00  
[Flag question](#)

Write a Dockerfile that does the following

- uses a Ubuntu base image
- Add the binary "hello" available in current directory to the /usr/local/bin/ path in the image
- Installs the tree command also
- Installs apache in the image
- Runs apache on port 3030

```
FROM ubuntu
COPY ./hello /usr/local/bin/path
CMD["apt","update"]
CMD["apt","install","tree"]
CMD["apt","install","apache2"]
EXPOSE 3030
```

Comment:  
 3030

Question **26**  
 Complete  
 Mark 1.00 out of 1.00  
[Flag question](#)

Select from RHS what is Unique only to the Cloud Service mentioned on the LHS

SaaS	Application
PaaS	Operating System
IaaS	Networking

Your answer is correct.

The correct answer is: SaaS → Application, PaaS → Operating System, IaaS → Networking

[Finish review](#)