Kubernetes Lab 2

1-Create a ReplicaSet using the below yaml

Editor Tab 1 +

```yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: new-replica-set
  namespace: default
spec:
  replicas: 4
  selector:
    matchLabels:
      name: busybox-pod
  template:
    metadata:
      labels:
        name: busybox-pod
    spec:
      containers:
      - command:
        - sh
        - -c
        - echo Hello Kubernetes! && sleep 3600
        image: busybox777
        imagePullPolicy: Always
        name: busybox-container
```

Editor Tab 1 +

```
Initialising Kubernetes... done

controlplane $ vi replicaset.yaml
controlplane $ kubectl create -f replicaset.yaml
replicaset.apps/new-replica-set created
controlplane $
```

2-How many PODs are DESIRED in the new-replica-set?

Editor Tab 1 +

```
controlplane $ kubectl get rs
NAME              DESIRED   CURRENT   READY   AGE
new-replica-set   4         4         0       61s
controlplane $
```

3-What is the image used to create the pods in the new-replica-set?

```
controlplane $ kubectl describe replicaset/new-replica-set
Name:         new-replica-set
Namespace:    default
Selector:     name=busybox-pod
Labels:       <none>
Annotations:  <none>
Replicas:     4 current / 4 desired
Pods Status:  0 Running / 4 Waiting / 0 Succeeded / 0 Failed
Pod Template:
  Labels:  name=busybox-pod
  Containers:
   busybox-container:
    Image:      busybox777
    Port:       <none>
    Host Port:  <none>
    Command:
      sh
      -c
      echo Hello Kubernetes! && sleep 3600
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
Events:
  Type    Reason            Age    From                    Message
  ----    ------            ----   ----                    -------
  Normal  SuccessfulCreate  2m49s  replicaset-controller  Created pod: new-replica-set-jbmbn
  Normal  SuccessfulCreate  2m49s  replicaset-controller  Created pod: new-replica-set-p989g
  Normal  SuccessfulCreate  2m49s  replicaset-controller  Created pod: new-replica-set-wsf2q
  Normal  SuccessfulCreate  2m48s  replicaset-controller  Created pod: new-replica-set-t5xgh
controlplane $
```

busybox777

4-How many PODs are READY in the new-replica-set?

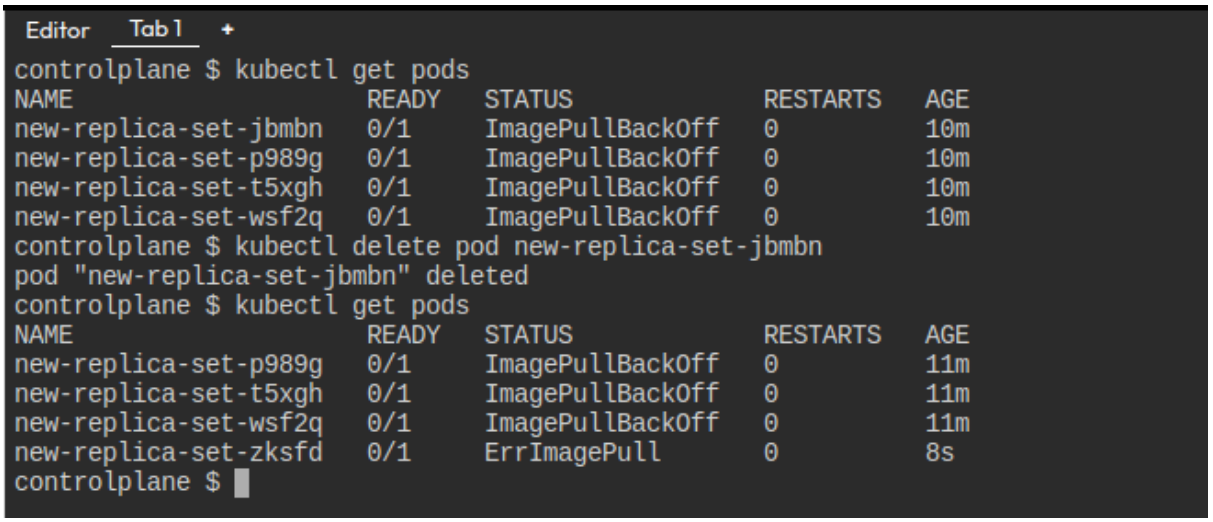
```
Editor   Tab 1   +
controlplane $ kubectl get rs
NAME              DESIRED   CURRENT   READY   AGE
new-replica-set   4         4         0       4m30s
controlplane $
```

5-Why do you think the PODs are not ready?

```
Events:
  Type     Reason     Age                    From               Message
  ----     ------     ----                   ----               -------
  Normal   Scheduled  7m34s                  default-scheduler  Successfully assigned default/new-replica-set-jbmbn to node01
  Normal   Pulling    5m51s (x4 over 7m33s)  kubelet            Pulling image "busybox777"
  Warning  Failed     5m48s (x4 over 7m29s)  kubelet            Failed to pull image "busybox777": rpc error: code = Unknown desc = failed to pull and unpack
image "docker.io/library/busybox777:latest": failed to resolve reference "docker.io/library/busybox777:latest": pull access denied, repository does not exist
or may require authorization: server message: insufficient_scope: authorization failed
  Warning  Failed     5m48s (x4 over 7m29s)  kubelet            Error: ErrImagePull
  Warning  Failed     5m35s (x6 over 7m29s)  kubelet            Error: ImagePullBackOff
  Normal   BackOff    2m31s (x19 over 7m29s) kubelet            Back-off pulling image "busybox777"
```

there is no images with this name busybox777

6-Delete any one of the 4 PODs.
How many pods now



7-Why are there still 4 PODs, even after you deleted one?
because the replica set is working to get the desired pods in the yaml file, if there is a problem with one or more pods it will create new pods instead

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8-Create a ReplicaSet using the below yaml
There is an issue with the file, so try to fix it.

```yaml
apiVersion: v1
kind: ReplicaSet
metadata:
  name: replicaset-1
spec:
  replicas: 2
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
      - name: nginx
        image: nginx
```

```
controlplane $ vim new-replicaset.yaml
controlplane $ kubectl apply -f new-replicaset.yaml
error: resource mapping not found for name: "replicaset-1" namespace: "" from "new-replicaset.yaml": no matches for kind "ReplicaSet" in version "v1"
ensure CRDs are installed first
controlplane $
```

i will change apiVersion from v1 to apps/v1

```yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: replicaset-1
spec:
  replicas: 2
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
      - name: nginx
        image: nginx
```

```
controlplane $ vim new-replicaset.yaml
controlplane $ kubectl apply -f new-replicaset.yaml
replicaset.apps/replicaset-1 created
controlplane $ kubectl get rs
NAME          DESIRED   CURRENT   READY   AGE
replicaset-1   2         2         2       17s
controlplane $
```