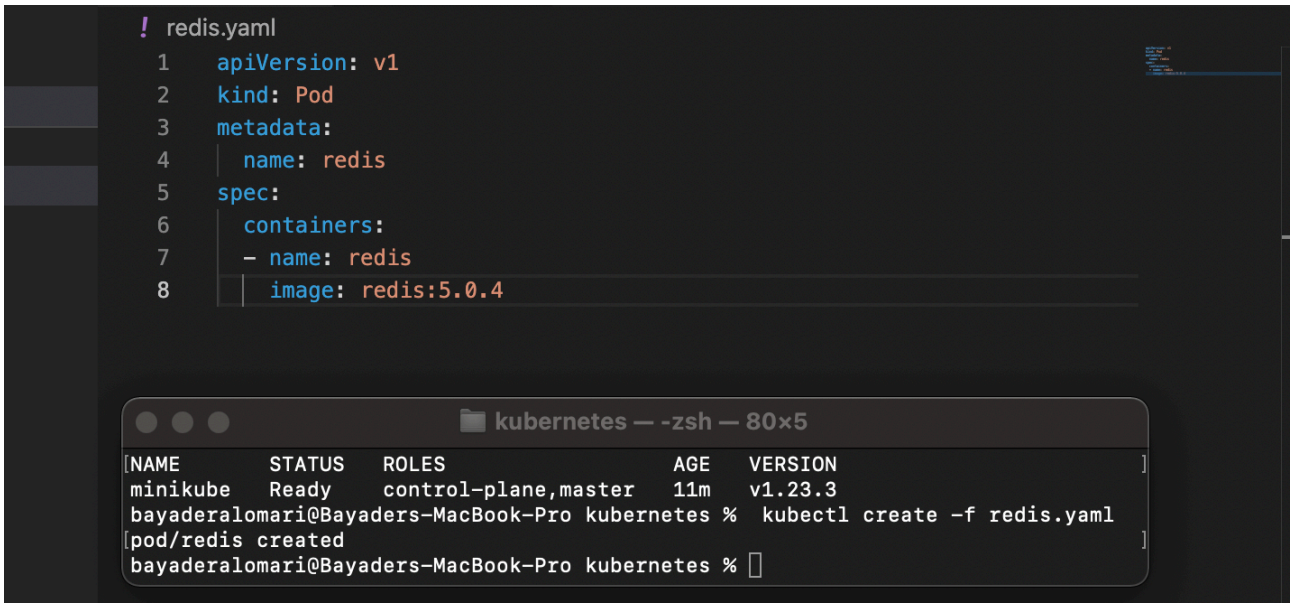
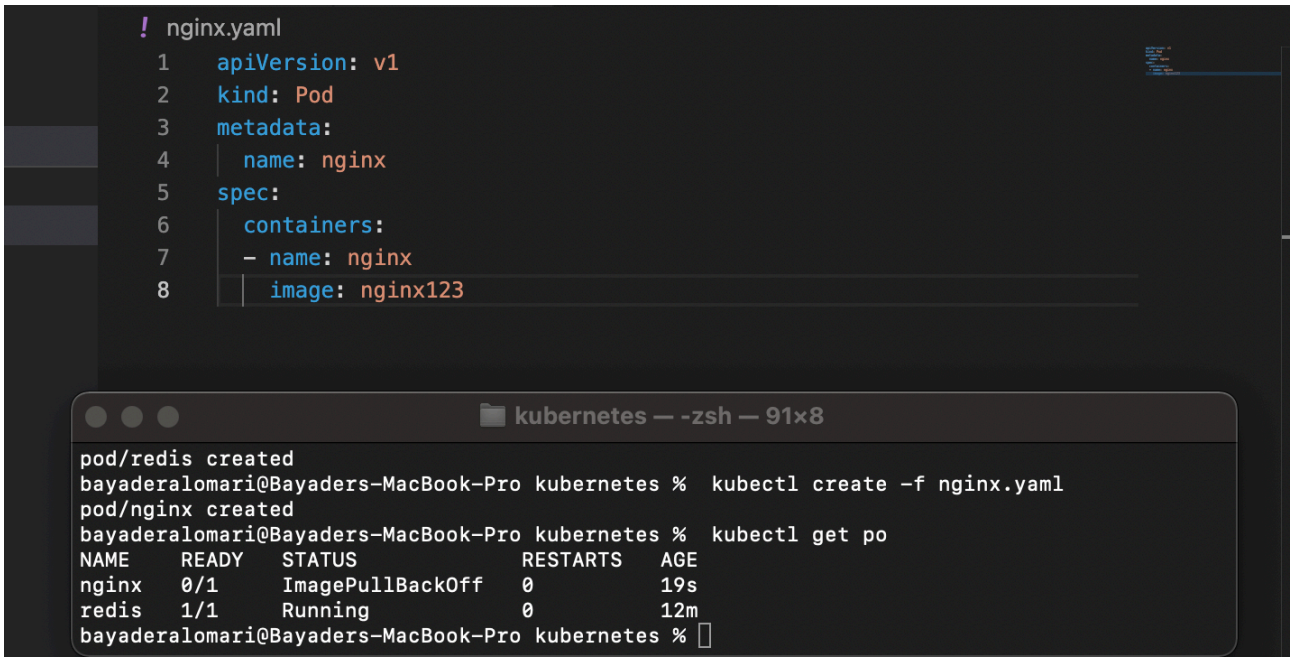
1- Install k8s cluster (minikube) (optional you can use https://www.katacoda.com/courses/kubernetes/playground)

2- Create a pod with the name Redis and with the image Redis.



3- Create a pod with the name Nginx and with the image nginx123.

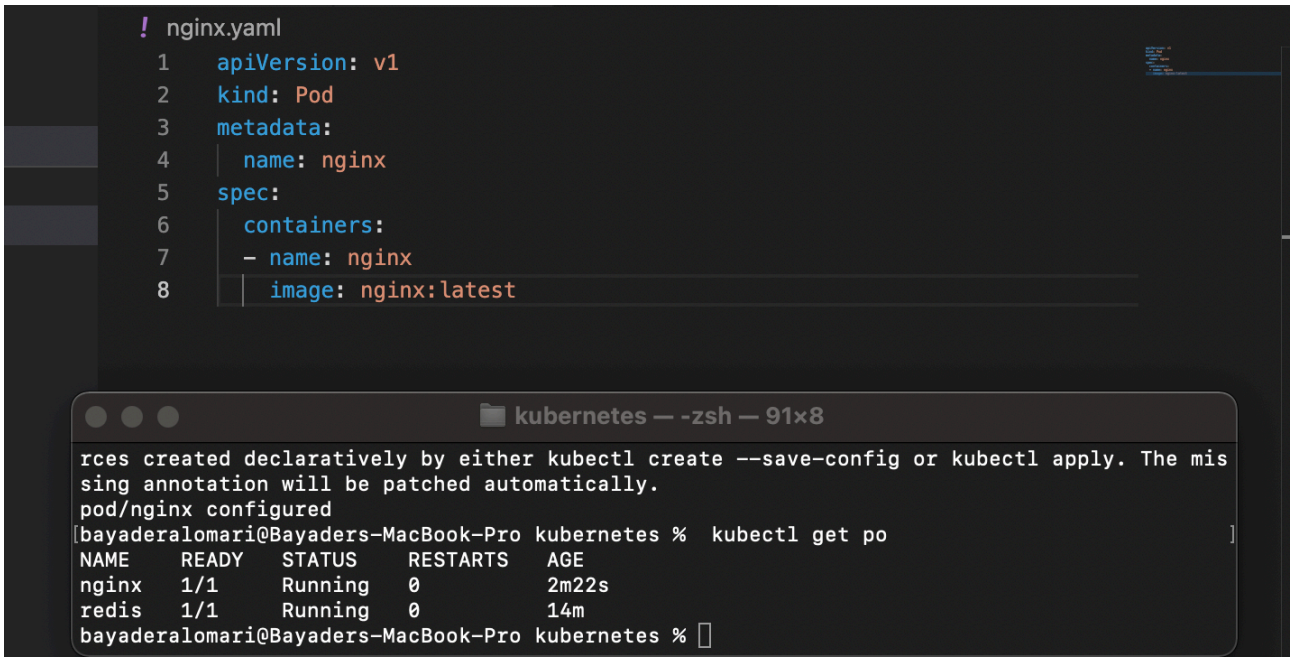
Use a pod-definition YAML file. And yes the image name is wrong!



4- What is the Nginx pod status?

ImagePullBackOff

5- Change the Nginx pod image to Nginx check the status again



6- How many ReplicaSets exist on the system?

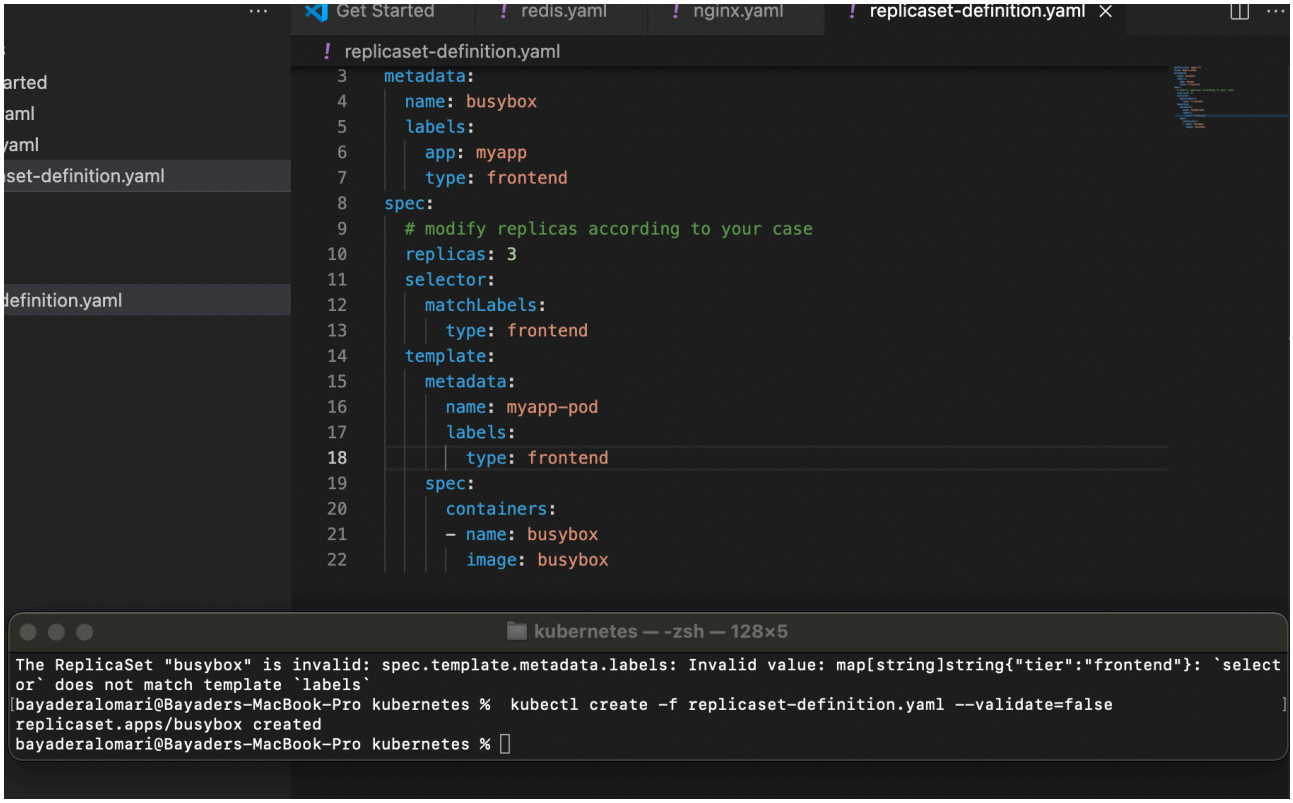
None

7- Create a ReplicaSet with

name= replica-set-1

image= busybox

replicas= 3



8- Scale the ReplicaSet replica-set-1 to 5 PODs.

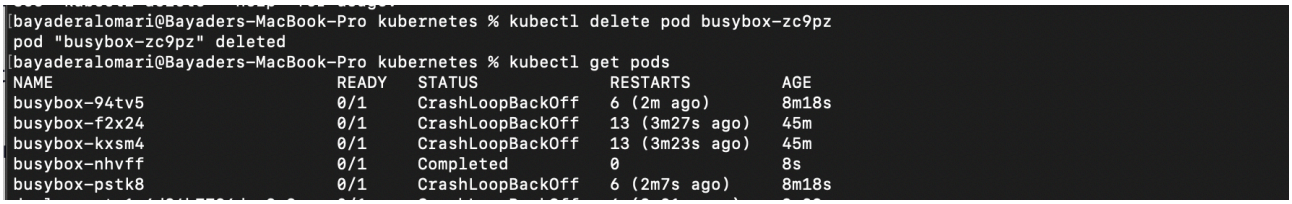
```
bayaderalomari@Bayaders-MacBook-Pro kubernetes % kubectl scale --replicas=5 -f replicaset-definition.yaml
replicaset.apps/busybox scaled
bayaderalomari@Bayaders-MacBook-Pro kubernetes %
```

9- How many PODs are READY in the replica-set-1?

None

```
bayaderalomari@Bayaders-MacBook-Pro kubernetes % kubectl get pods
NAME                      READY   STATUS             RESTARTS        AGE
busybox-94tv5             0/1     CrashLoopBackOff   1 (4s ago)      13s
busybox-f2x24             0/1     CrashLoopBackOff   12 (36s ago)    37m
busybox-kxsm4             0/1     CrashLoopBackOff   12 (30s ago)    37m
busybox-pstk8             0/1     CrashLoopBackOff   1 (6s ago)      13s
busybox-zc9pz             0/1     CrashLoopBackOff   11 (3m8s ago)   35m
```

10- Delete any one of the 5 PODs then check How many PODs exist now?



```
bayaderalomari@Bayaders-MacBook-Pro kubernetes % kubectl delete pod busybox-zc9pz
pod "busybox-zc9pz" deleted
bayaderalomari@Bayaders-MacBook-Pro kubernetes % kubectl get pods
NAME                          READY   STATUS             RESTARTS         AGE
busybox-94tv5                 0/1     CrashLoopBackOff   6 (2m ago)       8m18s
busybox-f2x24                 0/1     CrashLoopBackOff   13 (3m27s ago)   45m
busybox-kxsm4                 0/1     CrashLoopBackOff   13 (3m23s ago)   45m
busybox-nhvff                 0/1     Completed          0                8s
busybox-pstk8                 0/1     CrashLoopBackOff   6 (2m7s ago)     8m18s
```

Why are there still 5 PODs, even after you deleted one?

Because we scale the replicaset so it generate a new one

11- How many Deployments and ReplicaSets exist on the system?

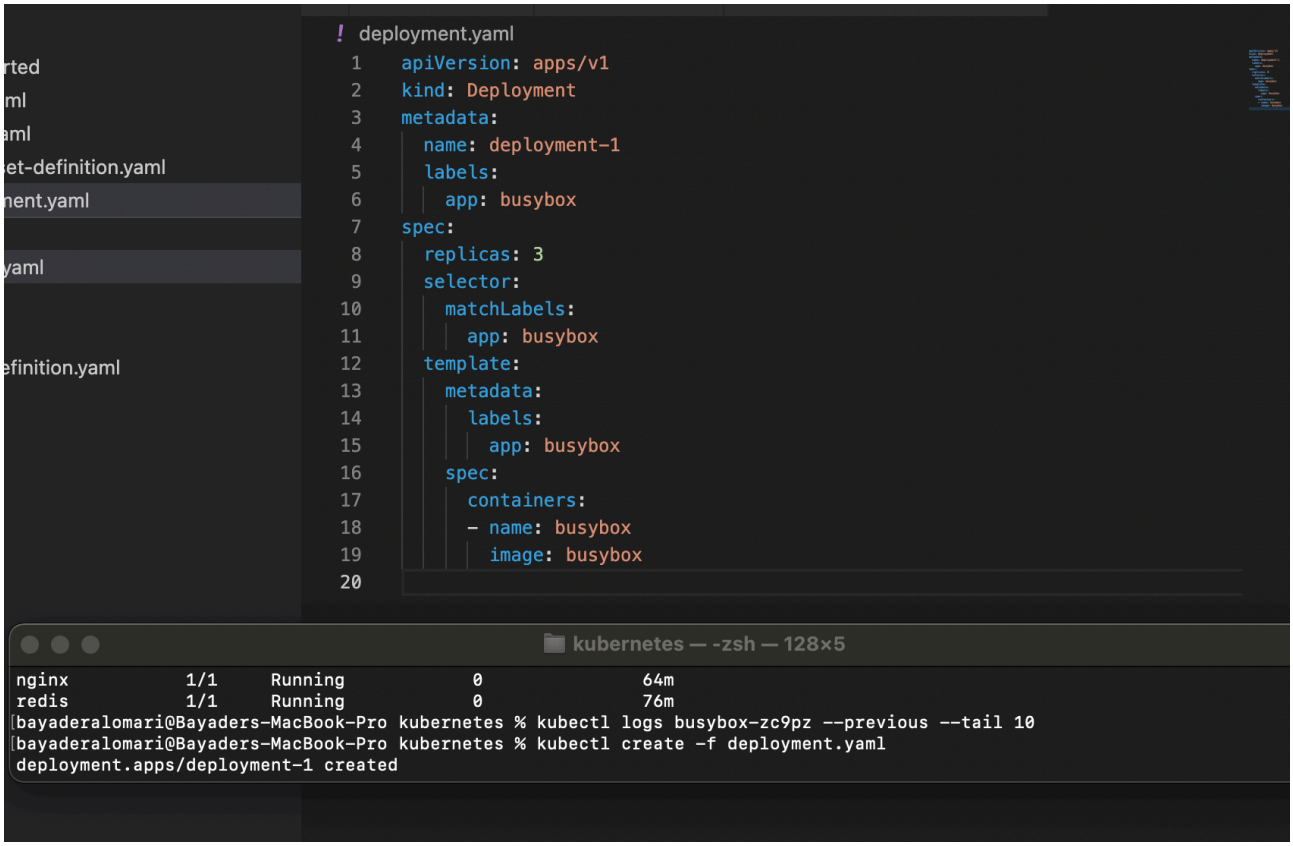
None

12- Create a Deployment with

name= deployment-1

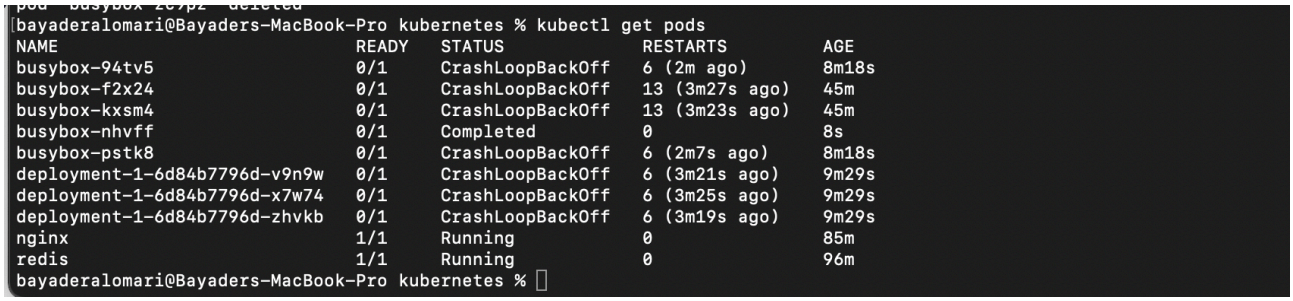
image= busybox

replicas= 3



13- How many Deployments and ReplicaSets exist on the system now?

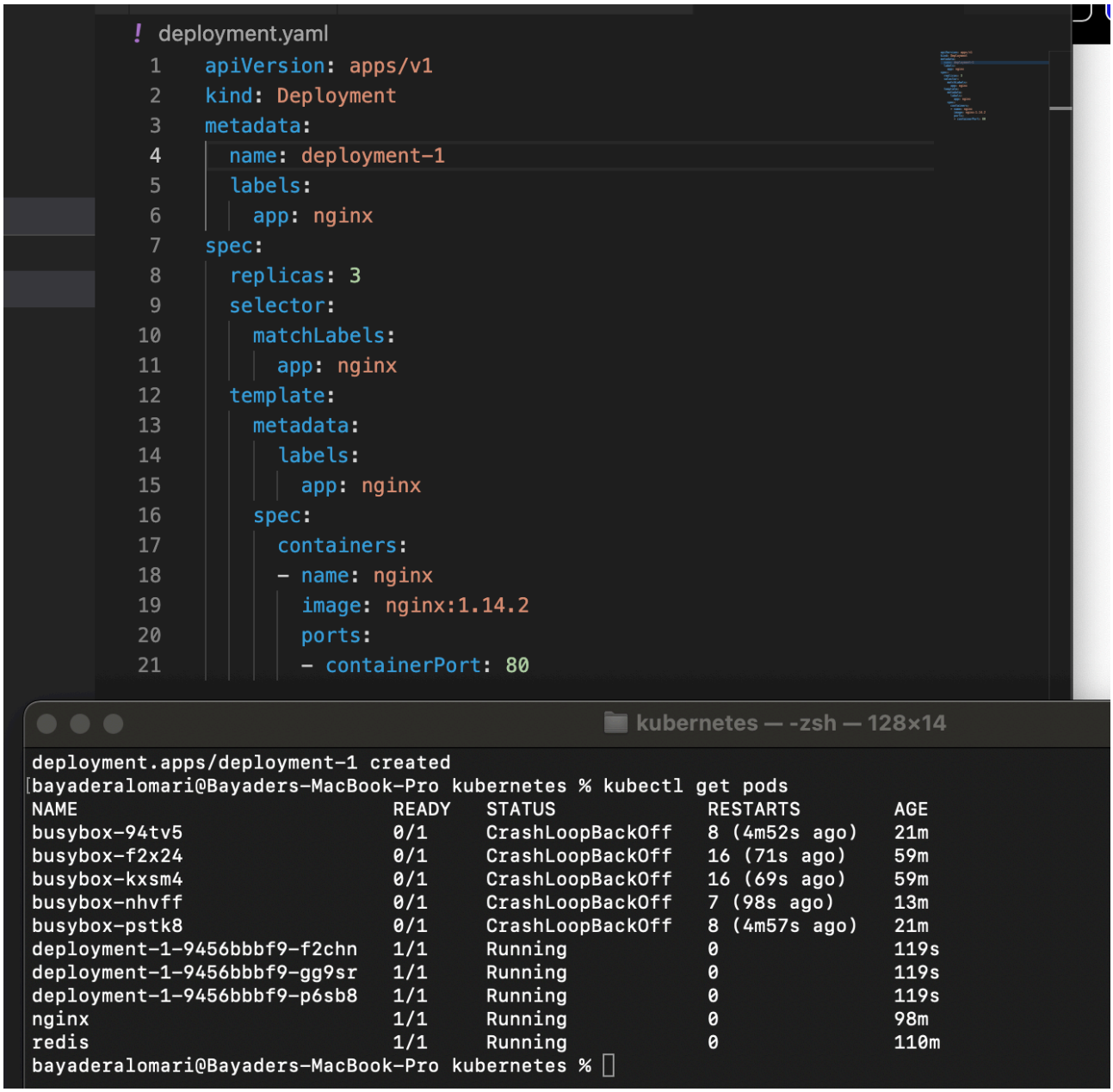
8



14- How many pods are ready with the deployment-1?

2

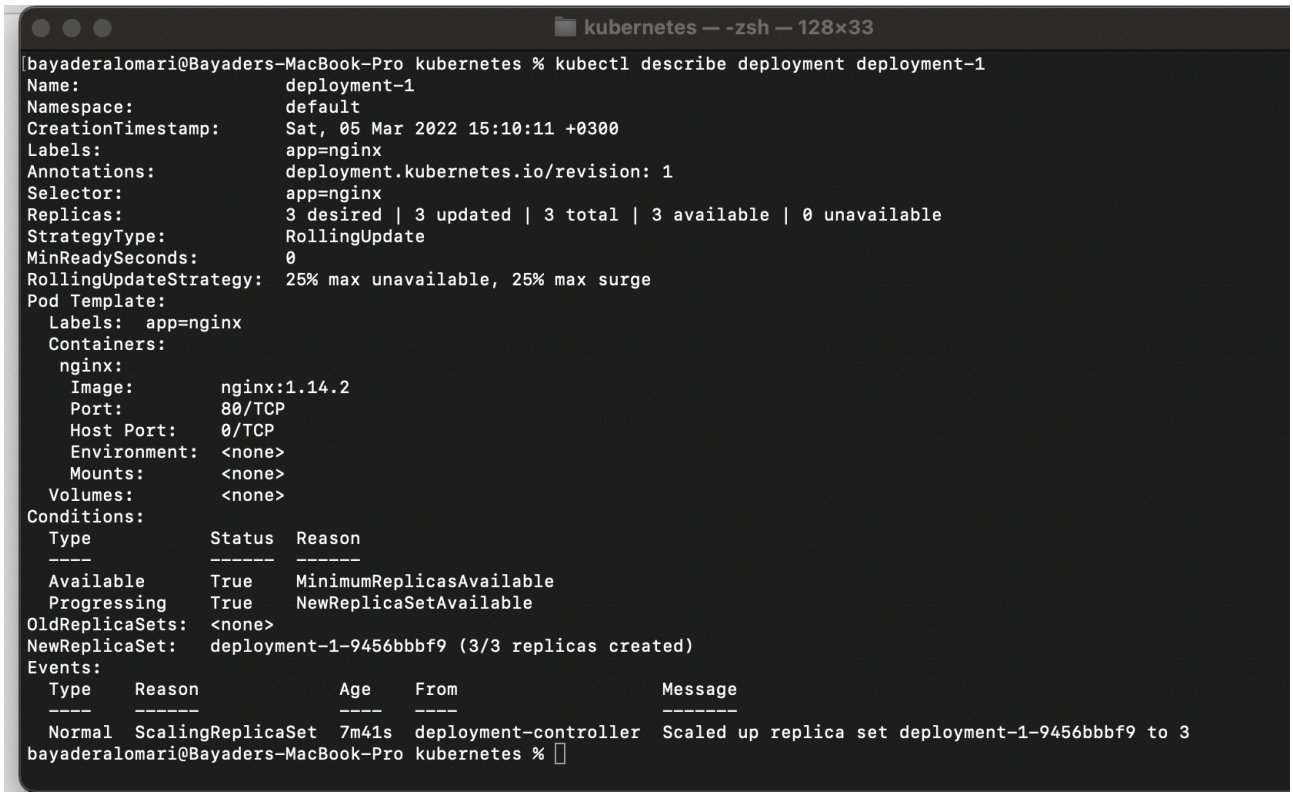
15- Update deployment-1 image to Nginx then check the ready pods again



16- Run kubectl describe deployment deployment-1 and check events

What is the deployment strategy used to upgrade the deployment-1?

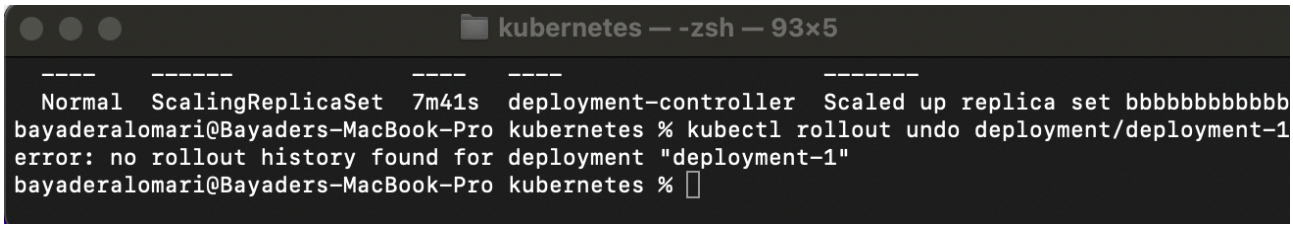
RollingUpdate



17- Rollback the deployment-1

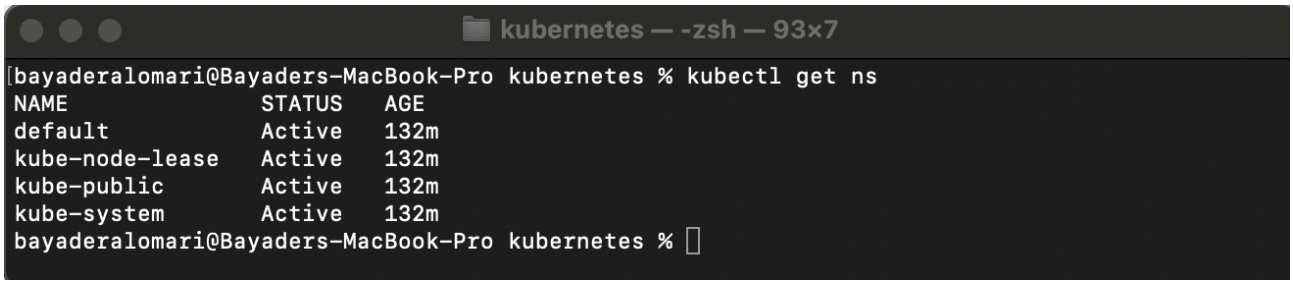
What is the used image with the deployment-1?

It should be busybox but I delete the deployment and created again with Nginx because I couldn’t apply it without created it again.



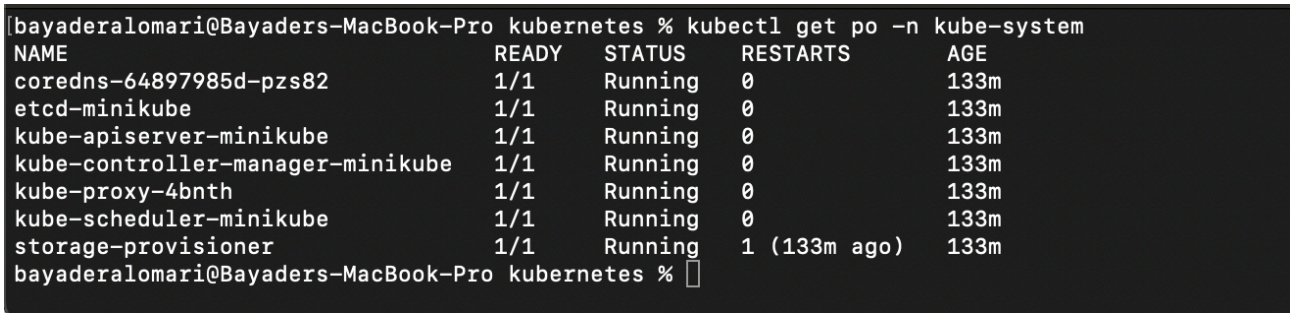
18- How many Namespaces exist on the system?

4



19- How many pods exist in the kube-system namespace?

7



20- Create a deployment with

Name: beta

Image: Redis

Replicas: 2

Namespace: finance

Resources Requests:

CPU: .5 vcpu

Mem: 1G

Resources Limits:

CPU: 1 vcpu

Mem: 2G