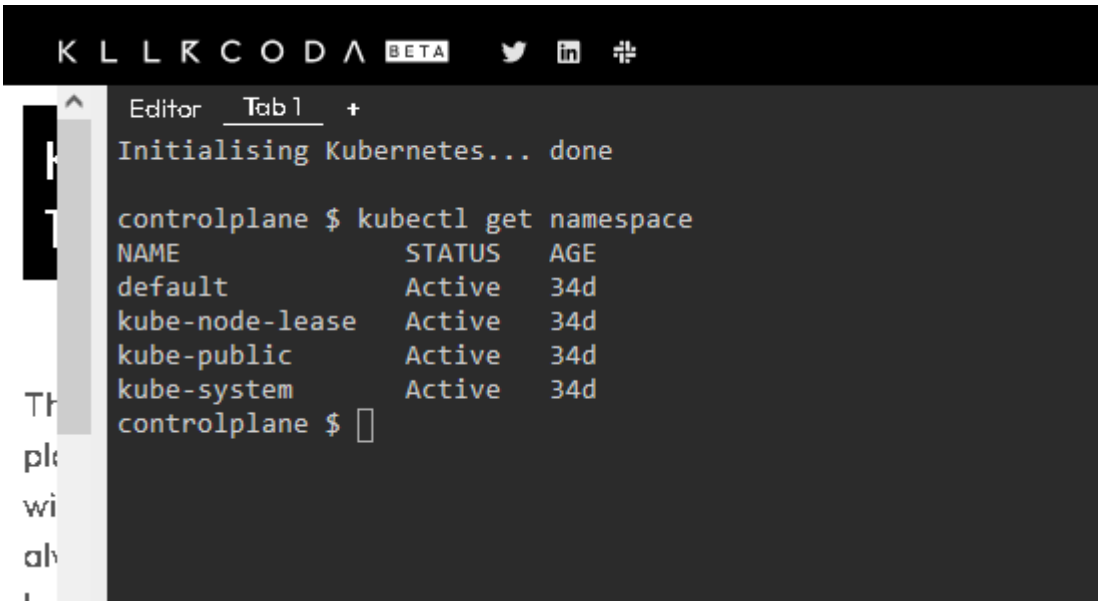
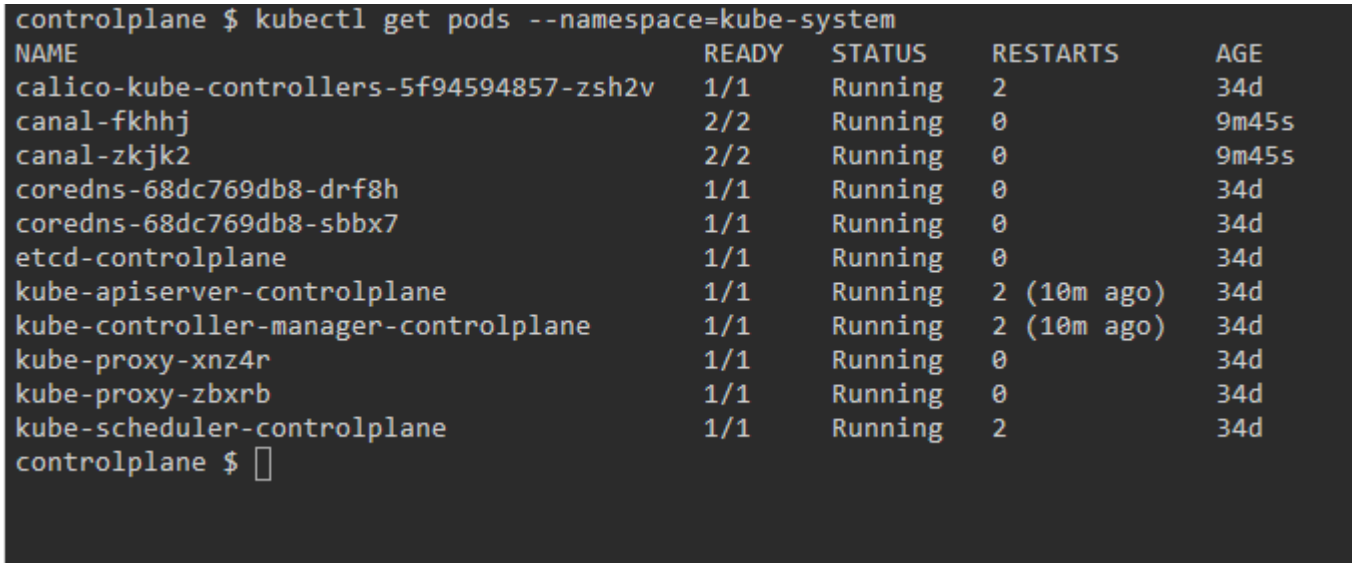
1- How many Namespaces exist on the system?



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



3- create a Deployment with name= deployment-1 image= busybox

```
Editor  Tab 1  +
apiVersion: apps/v1
kind: Deployment
metadata:
  name: deployment-1
  labels:
    app: my-app
spec:
  replicas: 3
  selector:
    matchLabels:
      app: my-app
  template:
    metadata:
      labels:
        app: my-app
    spec:
      containers:
      - name: busy-app
        image: busybox
~
~
~
~
~
~
~
~
~
~
~
-- INSERT (paste) --
```

4- How many Deployments and ReplicaSets exist on the system now?
5- How many pods are ready with the deployment-1? 0

```
Editor  Tab 1  +
controlplane $ kubectl create -f deploy.yaml
deployment.apps/deployment-1 created
controlplane $ kubectl get deployment
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1   0/3     3            0           26s
controlplane $ kubectl get rs
NAME                      DESIRED   CURRENT   READY   AGE
deployment-1-7bc98d845b   3         3         0       32s
controlplane $
```

6- Update deployment-1 image to nginx then check the ready pods again

```
controlplane $ vim deploy.yaml
controlplane $ kubectl apply -f deploy.yaml
Warning: resource deployments/deployment-1 is missing the kubectl.kubernetes.io/last-applied-configuration annotation which is required by kube
ctl apply. kubectl apply should only be used on resources created declaratively by either kubectl create --save-config or kubectl apply. The mi
ssing annotation will be patched automatically.
deployment.apps/deployment-1 configured
controlplane $ kubectl get deployment
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1   0/3     1            0           10m
controlplane $ kubectl get pods
NAME                            READY   STATUS             RESTARTS        AGE
deployment-1-5f8df5b659-7m8sp   1/2     NotReady           3 (31s ago)     54s
deployment-1-7bc98d845b-7ltrd   0/1     CrashLoopBackOff   6 (5m ago)      10m
deployment-1-7bc98d845b-kbgq7   0/1     CrashLoopBackOff   7 (25s ago)     10m
deployment-1-7bc98d845b-vhftm   0/1     Completed          7 (5m18s ago)   10m
```

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

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

```
Editor  Tab 1  +                                                                                                    45 min
controlplane $ kubectl describe deployment deployment-1
Name:                   deployment-1
Namespace:              default
CreationTimestamp:      Thu, 26 Jan 2023 16:17:30 +0000
Labels:                 app=my-app
Annotations:            deployment.kubernetes.io/revision: 2
Selector:               app=my-app
Replicas:               3 desired | 1 updated | 4 total | 0 available | 4 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=my-app
  Containers:
   nginx-app:
    Image:        nginx
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
   busy-app:
    Image:        busybox
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      False   MinimumReplicasUnavailable
```

8- Rollback the deployment-1

What is the used image with the deployment-1? Busybox

```
Editor  Tab 1  +                                                                                                    44 min
controlplane $ kubectl rollout undo deployment/deployment-1
deployment.apps/deployment-1 rolled back
controlplane $ kubectl describe deployment deployment-1
Name:                   deployment-1
Namespace:              default
CreationTimestamp:      Thu, 26 Jan 2023 16:17:30 +0000
Labels:                 app=my-app
Annotations:            deployment.kubernetes.io/revision: 3
Selector:               app=my-app
Replicas:               3 desired | 3 updated | 4 total | 0 available | 4 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=my-app
  Containers:
   busy-app:
    Image:        busybox
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      False   MinimumReplicasUnavailable
  Progressing    True    ReplicaSetUpdated
OldReplicaSets:  deployment-1-5f8df5b659 (1/1 replicas created)
NewReplicaSet:   deployment-1-7bc98d845b (3/3 replicas created)
Events:
```

10- Create a deployment with
Name: dev-deploy
Image: redis
Replicas: 2
Namespace: dev
Resources Requests:
CPU: .5 vcpu
Mem: 1G
Resources Limits:
CPU: 1 vcpu
Mem: 2G

```
Editor   Tab 1   +
controlplane $ kubectl create namespace dev
namespace/dev created
controlplane $ kubectl create -f deploy2.yaml
deployment.apps/dev-deploy created
```

```
Editor   Tab 1   +
apiVersion: apps/v1
kind: Deployment
metadata:
  name: dev-deploy
  namespace: dev
  labels:
    app: redis-app
spec:
  replicas: 2
  selector:
    matchLabels:
      app: redis-app
  template:
    metadata:
      labels:
        app: redis-app
    spec:
      containers:
      - name: redis-app
        image: redis
        resources:
          requests:
            memory: "1G"
            cpu: .5
          limits:
            memory: "2G"
            cpu: 1
~
~
~
"deploy2.yaml" 27L, 464C
```