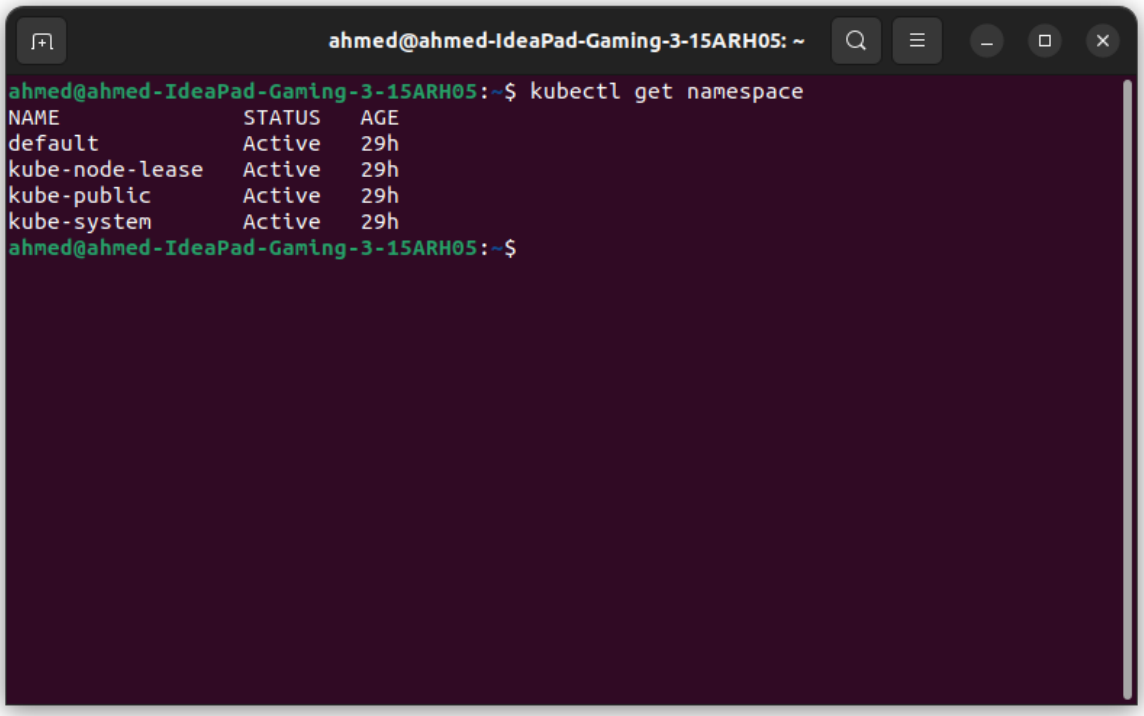
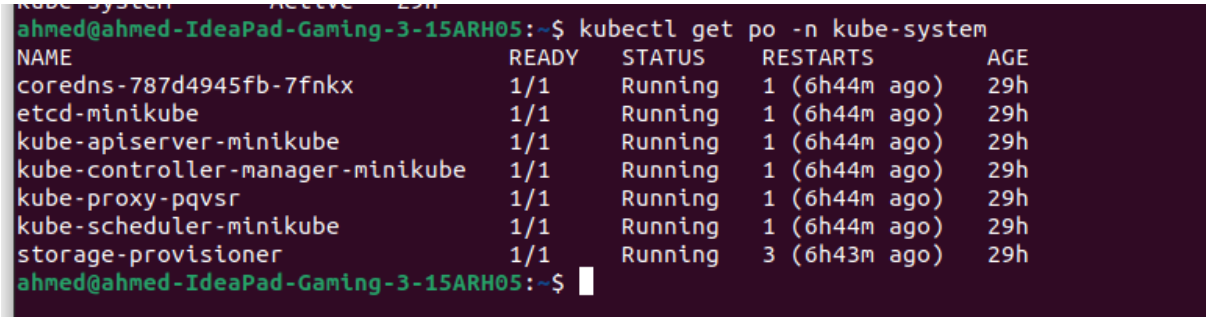
1- How many Namespaces exist on the system?



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



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

my-deployment.yml > {} spec > {} template > {} spec > [ ] containers > {} 0 > tty

```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: deployment-1
spec:
  replicas: 3
  selector:
    matchLabels:
      app: busybox
  template:
    metadata:
      labels:
        app: busybox
    spec:
      containers:
      - name: busybox-1
        image: busybox
        tty: true
```

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s ta
s$ kubectl apply -f my-deployment.yml
deployment.apps/deployment-1 created
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s ta
```

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

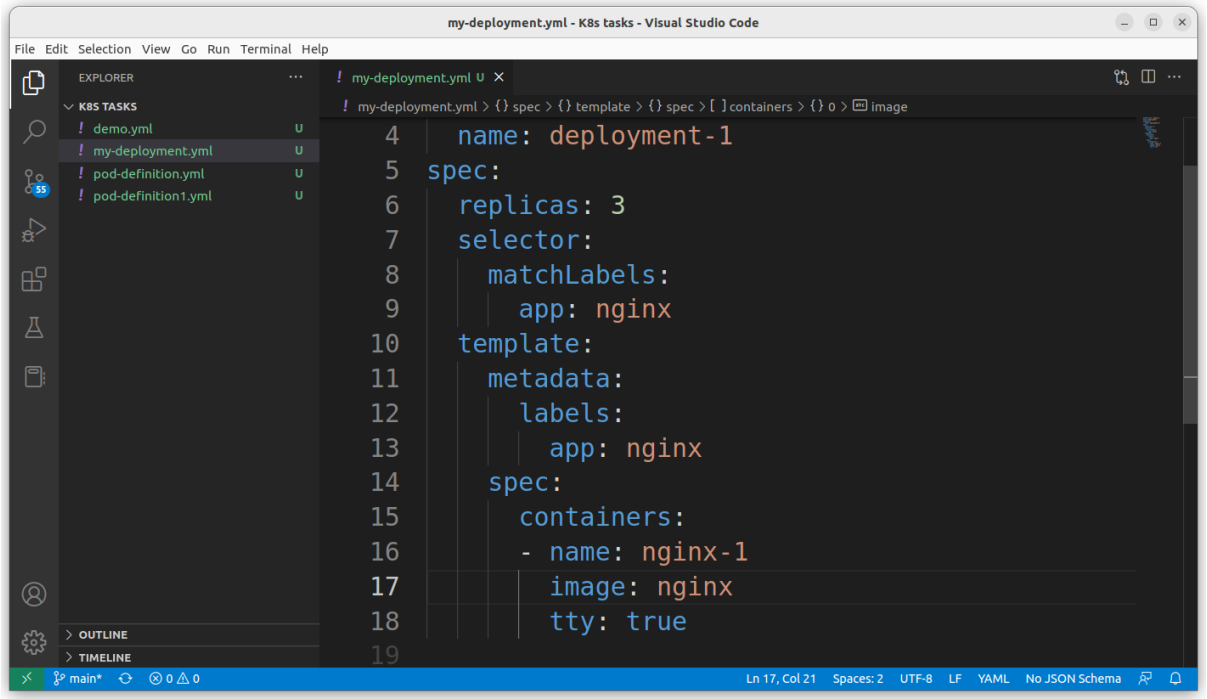
```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s ta
s$ kubectl get deployment
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1        3/3     3            3           3m55s
```

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s ta
s$ kubectl get rs
NAME                          DESIRED   CURRENT   READY   AGE
deployment-1-745f5fdf88       3         3         3       4m45s
```

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

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tas
s$ kubectl get deployment
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
```

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



```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl set image deployment/deployment-1
busybox-1=nginx:latest
deployment.apps/deployment-1 image updated
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$
```

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl get deployment
NAME           READY   UP-TO-DATE   AVAILABLE   AGE
deployment-1   3/3     3            3           8m17s
```

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

```
Replicas:               3 desired | 3 updated | 3 total | 3 available | 0 unavailable
StrategyType:           RollingUpdate
MinReadySeconds:        0
RollingUpdateStrategy:  25% max unavailable, 25% max surge
Pod Template:
  Labels:  app=busybox
  Containers:
   busybox-1:
    Image:        nginx:latest
    Port:         <none>
    Host Port:    <none>
    Environment:  <none>
    Mounts:       <none>
  Volumes:        <none>
Conditions:
  Type           Status  Reason
  ----           ------  ------
  Available      True    MinimumReplicasAvailable
  Progressing    True    NewReplicaSetAvailable
OldReplicaSets:  <none>
NewReplicaSet:   deployment-1-759f7f899c (3/3 replicas created)
Events:
  Type    Reason             Age   From                   Message
  ----    ------             ----  ----                   -------
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled up replica set deployment-1-759f7f899c to 1
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled down replica set deployment-1-745f5fdf88 to 2 from 3
  Normal  ScalingReplicaSet  11m   deployment-controller  Scaled up replica set deployment-1-759f7f899c to 2 from 1
  Normal  ScalingReplicaSet  10m   deployment-controller  Scaled down replica set deployment-1-745f5fdf88 to 1 from 2
  Normal  ScalingReplicaSet  10m   deployment-controller  Scaled up replica set deployment-1-759f7f899c to 3 from 2
  Normal  ScalingReplicaSet  10m   deployment-controller  Scaled down replica set deployment-1-745f5fdf88 to 0 from 1
```

Rollin update

8- Rollback the deployment-1 What is the used image with the deployment-1?

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl rollout  undo deployment/deployment-1
deployment.apps/deployment-1 rolled back
```

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

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl get deployments -o wide
NAME           READY   UP-TO-DATE   AVAILABLE   AGE     CONTAINERS   IMAGES    SELECTOR
deployment-1   3/3     3            3           4h14m   busybox-1    busybox   app=busybox
```

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

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl apply -f
namespace.yml
namespace/dev created
```

```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$ kubectl apply -f
dev-dep.yml
deployment.apps/dev-dep created
```