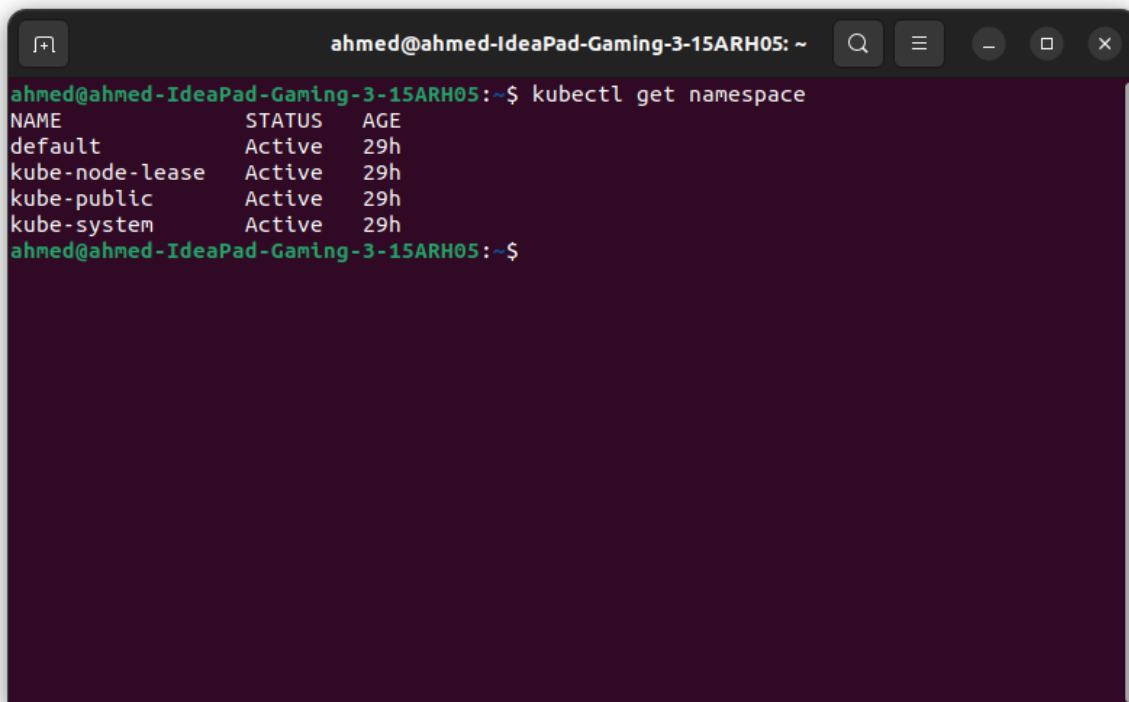
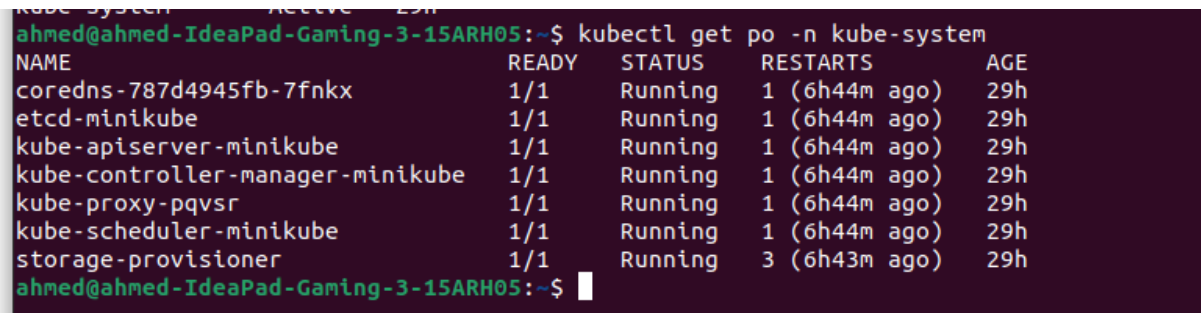


1- How many Namespaces exist on the system?



```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05: ~$ kubectl get namespace
NAME                STATUS   AGE
default             Active   29h
kube-node-lease     Active   29h
kube-public         Active   29h
kube-system         Active   29h
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05: ~$
```

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



```
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05: ~$ kubectl get po -n kube-system
NAME                                READY   STATUS    RESTARTS   AGE
coredns-787d4945fb-7fnkx           1/1     Running   1 (6h44m ago)  29h
etcd-minikube                       1/1     Running   1 (6h44m ago)  29h
kube-apiserver-minikube             1/1     Running   1 (6h44m ago)  29h
kube-controller-manager-minikube    1/1     Running   1 (6h44m ago)  29h
kube-proxy-pqvsr                    1/1     Running   1 (6h44m ago)  29h
kube-scheduler-minikube             1/1     Running   1 (6h44m ago)  29h
storage-provisioner                 1/1     Running   3 (6h43m ago)  29h
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05: ~$
```

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

```
my-deployment.yml > {} spec > {} template > {} spec > [ ] containers > {} 0 > 42 tty
```

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: deployment-1
5  spec:
6    replicas: 3
7    selector:
8      matchLabels:
9        app: busybox
10   template:
11     metadata:
12       labels:
13         app: busybox
14     spec:
15       containers:
16       - name: busybox-1
17         image: busybox
18         tty: true
19
```

```
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
```

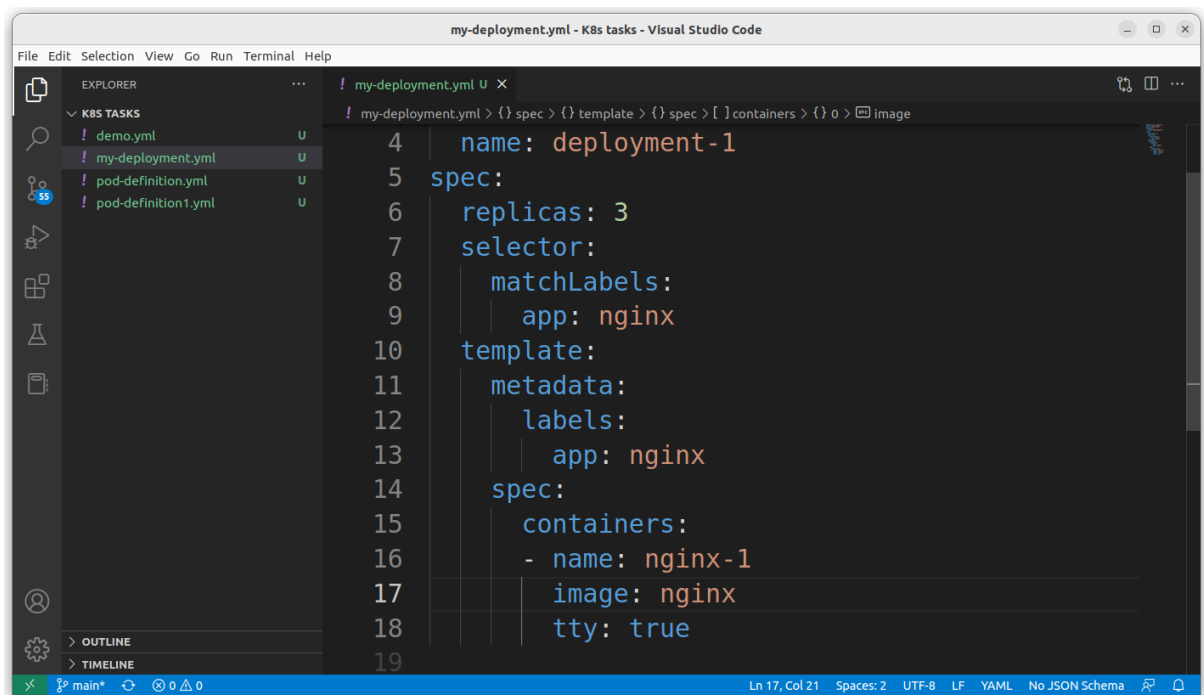
4- How many Deployments and ReplicaSets exist on the system now?

```
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
imperative-nginx    1/1      1              1             45h
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 ta
s$ kubectl get deployment
NAME                READY    UP-TO-DATE    AVAILABLE    AGE
deployment-1        3/3      3              3             5m20s
```

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
ahmed@ahmed-IdeaPad-Gaming-3-15ARH05:/media/ahmed/k/Ahmed/Sprints Tasks/K8s tasks$
```

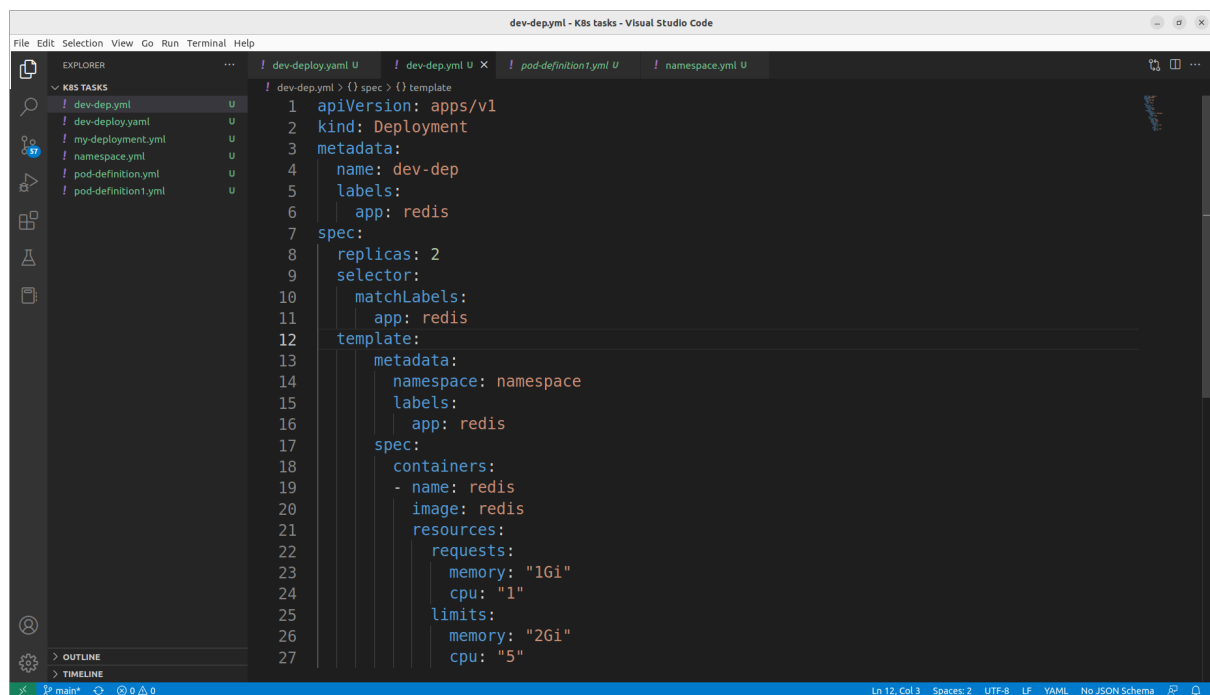
## 9-What is the used image with the deployment-1?

```
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
```



```
dev-dep.yml - K8s tasks - Visual Studio Code
File Edit Selection View Go Run Terminal Help
EXPLORER
K8S TASKS
! dev-dep.yml
! dev-deploy.yml
! my-deployment.yml
! namespace.yml
! pod-definition.yml
! pod-definition1.yml
! dev-dep.yml > {} spec > {} template
1 apiVersion: apps/v1
2 kind: Deployment
3 metadata:
4   name: dev-dep
5   labels:
6     app: redis
7 spec:
8   replicas: 2
9   selector:
10    matchLabels:
11      app: redis
12 template:
13   metadata:
14     namespace: namespace
15     labels:
16       app: redis
17 spec:
18   containers:
19     - name: redis
20       image: redis
21       resources:
22         requests:
23           memory: "1Gi"
24           cpu: "1"
25         limits:
26           memory: "2Gi"
27           cpu: "5"
Ln 12, Col 3 Spaces: 2 UTF-8 LF YAML No JSON Schema
```