

1- How many pods exist on the system?

```
controlplane:~$ k get pods
No resources found in default namespace.
```

2- How many Nodes exist on the system?

```
controlplane:~$ k get nodes
NAME             STATUS    ROLES    AGE   VERSION
controlplane     Ready    control-plane   31d   v1.32.1
node01           Ready    <none>        31d   v1.32.1
```

3- Create a new pod with the nginx image.

Image name: nginx

```
controlplane:~$ k run nging --image=nginx
pod/nging created
controlplane:~$ k get pods
NAME    READY   STATUS             RESTARTS   AGE
nging   0/1     ContainerCreating   0           11s
```

4- Which nodes are these pods placed on?

```
controlplane:~$ k describe pod nging
Name:          nging
Namespace:     default
Priority:       0
Service Account: default
Node:          node01/172.30.2.2
```

5- Create pod from the below yaml using kubectl apply command

```
apiVersion: v1
kind: Pod
metadata:
  name: webapp
  namespace: default
spec:
  containers:
    - image: nginx
      imagePullPolicy: Always
      name: nginx
    - image: agentx
      imagePullPolicy: Always
      name: agentx
```

```
controlplane:~$ cat>pod.yml
apiVersion: v1
kind: Pod
metadata:
  name: webapp
  namespace: default
spec:
  containers:
    - image: nginx
      imagePullPolicy: Always
      name: nginx
    - image: agentx
      imagePullPolicy: Always
      name: agentx

^C
controlplane:~$ k apply -f pod.yml
pod/webapp created
```

6- How many containers are part of the pod webapp

```
Containers:
  nginx:
    Container ID:   containerd://738117f95e17bfbff06178d78022de84ad80d25433d3f694ab03ff8a00697e
    Image:          nginx
    Image ID:       docker.io/library/nginx@sha256:5ed8fcc66f4ed123c1b2560ed708dc148755b6e4cbd8b943fab094f2c6bfa91e
    Port:           <none>
    Host Port:      <none>
    State:          Running
      Started:      Wed, 23 Apr 2025 07:15:33 +0000
    Ready:          True
    Restart Count:   0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-848mz (ro)
  agentx:
    Container ID:   containerd://738117f95e17bfbff06178d78022de84ad80d25433d3f694ab03ff8a00697e
    Image:          agentx
    Image ID:       docker.io/agentx@sha256:5ed8fcc66f4ed123c1b2560ed708dc148755b6e4cbd8b943fab094f2c6bfa91e
    Port:           <none>
    Host Port:      <none>
    State:          Waiting
      Reason:       ErrImagePull
    Ready:          False
    Restart Count:   0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-848mz (ro)
```

7- What images are used in the new **webapp** pod?

```
controlplane:~$ k describe pod webapp | grep Image
Image:          nginx
Image ID:       docker.io/library/nginx@sha256:5ed8fcc66f4ed123c1b2560ed708dc148755b6e4cbd8b943fab094f2c6bfa91e
Image:          agentx
Image ID:
```

8- What is the state of the container **agentx** in the pod **webapp**

```
Container ID:
Image:        agentx
Image ID:
Port:         <none>
Host Port:    <none>
State:        Waiting
Reason:       ErrImagePull
```

9- Why do you think the container **agentx** in pod **webapp** is in error?

Reason: ErrImagePull > no such an image

10- Delete the **webapp** Pod.

```
controlplane:~$ k delete pod webapp
pod "webapp" deleted
controlplane:~$ k get pods
NAME      READY   STATUS    RESTARTS   AGE
nging     1/1     Running   0           10m
```

11- Create a new pod with the name **redis** and with the image **redis123**.

- Name: redis
- Image Name: redis123

```
controlplane:~$ k apply -f pod.yml
pod/redis created
controlplane:~$ k get pods
NAME      READY   STATUS    RESTARTS   AGE
nging     1/1     Running   0           16m
redis     0/1     ErrImagePull 0           6s
```

12- Now change the image on this pod to **redis**, Once done, the pod should be in a **running** state.

```
controlplane:~$ vi pod.yml
controlplane:~$ k apply -f pod.yml
pod/redis configured
controlplane:~$ k get pods
NAME      READY   STATUS    RESTARTS   AGE
nging     1/1     Running   0           17m
redis     1/1     Running   0           44s
controlplane:~$
```

13- Create a pod called **my-pod** of image **nginx:alpine**

```
controlplane:~$ k run my-pod --image=nginx:alpine
pod/my-pod created
controlplane:~$ k get pods
NAME      READY   STATUS    RESTARTS   AGE
my-pod    1/1     Running   0           8s
```

14- Delete the pod called `my-pod`

```
controlplane:~$ k delete pod my-pod
pod "my-pod" deleted
controlplane:~$ k get pods
No resources found in default namespace.
```