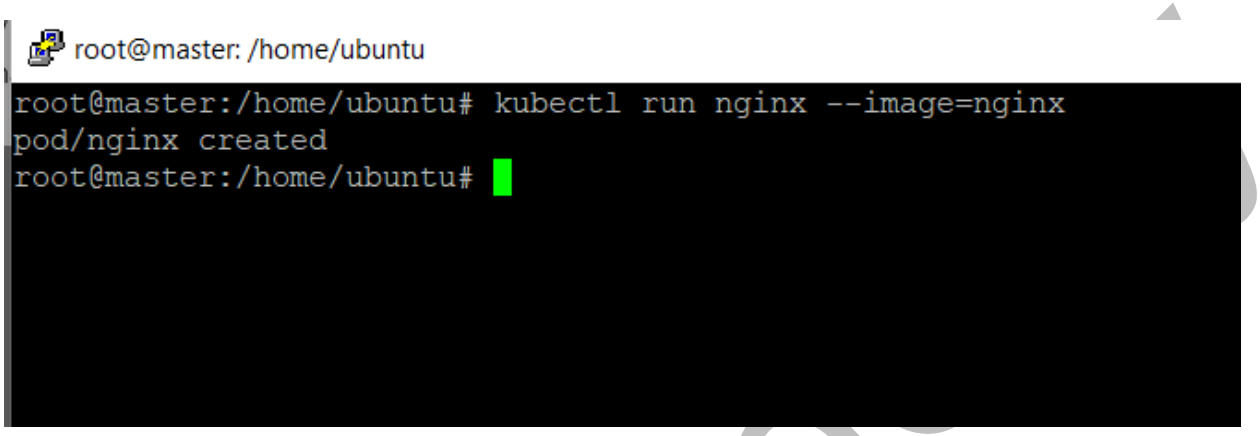
Q1) Create a new pod with the **NGINX image**.

Ans:

```
kubectl run nginx --image=nginx
```



Q2) Which nodes are these pods placed on?

Ans:

```
kubectl describe pod nginx --output=wide
```

```
root@master:/home/ubuntu# kubectl get pods --output=wide
NAME    READY   STATUS    RESTARTS   AGE    IP          NODE     NOMINATED NODE   READINESS GATES
nginx   1/1     Running   0          109s   10.44.0.1   worker   <none>           <none>
```

Q3) Delete the 'nginx' Pod.

Ans:

```
kubectl delete pod nginx
```

Q4) Create a Replicaset with 2 number of replica with nginx image.

Ans:

```
vim test-replicaset.yaml
```

```
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: test-replicaset
spec:
  replicas: 2
```

```
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
      - name: nginx
        image: nginx
```

kubectl create -f test-replicaset.yaml

```
root@master:/home/ubuntu# vim test-replicaset.yaml
root@master:/home/ubuntu# kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
nginx   1/1     Running   0          9m26s
root@master:/home/ubuntu# kubectl create -f test-replicaset.yaml
replicaset.apps/test-replicaset created
root@master:/home/ubuntu#
```

Q5) Delete any one of the 2 PODs from above replicaset.

Ans:

```
root@master:/home/ubuntu# kubectl get pods
NAME                   READY   STATUS    RESTARTS   AGE
nginx                  1/1     Running   0          10m
test-replicaset-bs887  1/1     Running   0          58s
test-replicaset-sfjx5  1/1     Running   0          58s
root@master:/home/ubuntu#
```

kubectl delete pod <nginx name> //This will create delete pods and will create new pods

Q6) Scale the ReplicaSet to 5 PODs

Ans:

kubectl edit replicaset <name>, //Modify the replicas and then save the file.

Or

kubectl scale --replicas=5 rs/test-replicaset

```
root@master:/home/ubuntu# kubectl get pods
NAME                    READY   STATUS    RESTARTS   AGE
nginx                   1/1     Running   0          21m
test-replicaset-22588   1/1     Running   0          6s
test-replicaset-bs887   1/1     Running   0          12m
test-replicaset-fgnk8   1/1     Running   0          6s
test-replicaset-qv5gt   1/1     Running   0          6s
test-replicaset-sfjx5   1/1     Running   0          12m
```

Q7) Now scale the ReplicaSet down to 2 PODs**.**

Ans:

```
kubectl scale --replicas=5 rs/test-replicaset
or
kubectl edit replicaset <name>, modify the replicas and then save the file.
```

Q8) kubectl delete replicaset

Ans:

```
kubectl delete replicaset test-replicaset
```

```
root@master:/home/ubuntu# kubectl delete replicaset test-replicaset
replicaset.apps "test-replicaset" deleted
root@master:/home/ubuntu# kubectl get pods
NAME    READY   STATUS    RESTARTS   AGE
nginx   1/1     Running   0          23m
root@master:/home/ubuntu#
```

Q9) Create a new Deployment with 2 replicas and use busybox image.

Ans:

```
kubectl create deployment test-deployment --image=busybox --replicas=2
or
vim test-deployment.yaml
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: test-deployment
spec:
  replicas: 2
  selector:
    matchLabels:
      name: busybox-pod
```

```
  template:
    metadata:
      labels:
        name: busybox-pod
    spec:
      containers:
      - name: busybox-container
        image: busybox
```

```
kubectl create -f test-deployment.yaml
```

Q10) Create a test namespace.

Ans:

```
kubectl create namespace test
```

Q11) Create pod in test namespace.

Ans:

```
Kubectl run nginx --image=nginx -n test
```

Q12) Create a new service “web-application” .

Name: web-application; Type: NodePort; ; port: 8080; nodePort: 30083; selector: simple-webapp

Ans:

```
vim web-application.yaml
```

```
apiVersion: v1
kind: Service
metadata:
  name: web-application
spec:
  type: NodePort
  ports:
    - targetPort: 8080
      port: 8080
      nodePort: 30083
  selector:
    name: simple-webapp
```

```
kubectl create -f web-application.yaml
```

Q13) How many Services exist on the system

Ans:

```
kubectl get svc
```

Q14) Delete Services “web-application”

Ans:

```
Kubectl delete service web-application
```

Q15) Create a deployment named webapp using the image nginx with 3 replicas.

Ans:

```
Kubectl create deployment webapp --image=nginx
kubectl scale deployment/webapp --replicas=3
```