Replicaset

```
controlplane:~$ cat rs.yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: frontend1
spec:
  # modify replicas according to your case
  replicas: 3
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
      - name: nginx
        image: nginx
```

Replicaset yaml file using nginx image it will create 3 replicas.

```
ontrolplane:~$ vi rs.yaml
ontrolplane:~$ kubectl apply -f rs.yaml
eplicaset.apps/frontend1 created
ontrolplane:~$ kubectl get rs
AME        DESIRED   CURRENT   READY   AGE
rontend1   3         3         0       9s
ontrolplane:~$ kuberctl get pds
uberctl: command not found
ontrolplane:~$ kuberctl get pods
uberctl: command not found
ontrolplane:~$ kuberctl get pod
uberctl: command not found
ontrolplane:~$ kubectl get pod
AME              READY   STATUS    RESTARTS   AGE
rontend1-gwtxg   1/1     Running   0          35s
rontend1-h5l55   1/1     Running   0          35s
rontend1-w5gb5   1/1     Running   0          35s
ontrolplane:~$ kubectl delete pod frontend1-gwtxg
od "frontend1-gwtxg" deleted
ontrolplane:~$ kubectl get pod
AME              READY   STATUS    RESTARTS   AGE
rontend1-h5l55   1/1     Running   0          74s
rontend1-mmzhh   1/1     Running   0          4s
rontend1-w5gb5   1/1     Running   0          74s
ontrolplane:~$ kubectl scale --replicas=5 replicaset/frontend1
eplicaset.apps/frontend1 scaled
ontrolplane:~$ kubectl get pod
AME              READY   STATUS    RESTARTS   AGE
rontend1-28d97   1/1     Running   0          4s
rontend1-dzf44   1/1     Running   0          4s
rontend1-h5l55   1/1     Running   0          3m16s
rontend1-mmzhh   1/1     Running   0          2m6s
rontend1-w5gb5   1/1     Running   0          3m16s
```

deleted a pod but replicaset created another pod.

scale the pods 3 to 5 using kubectl scale command.

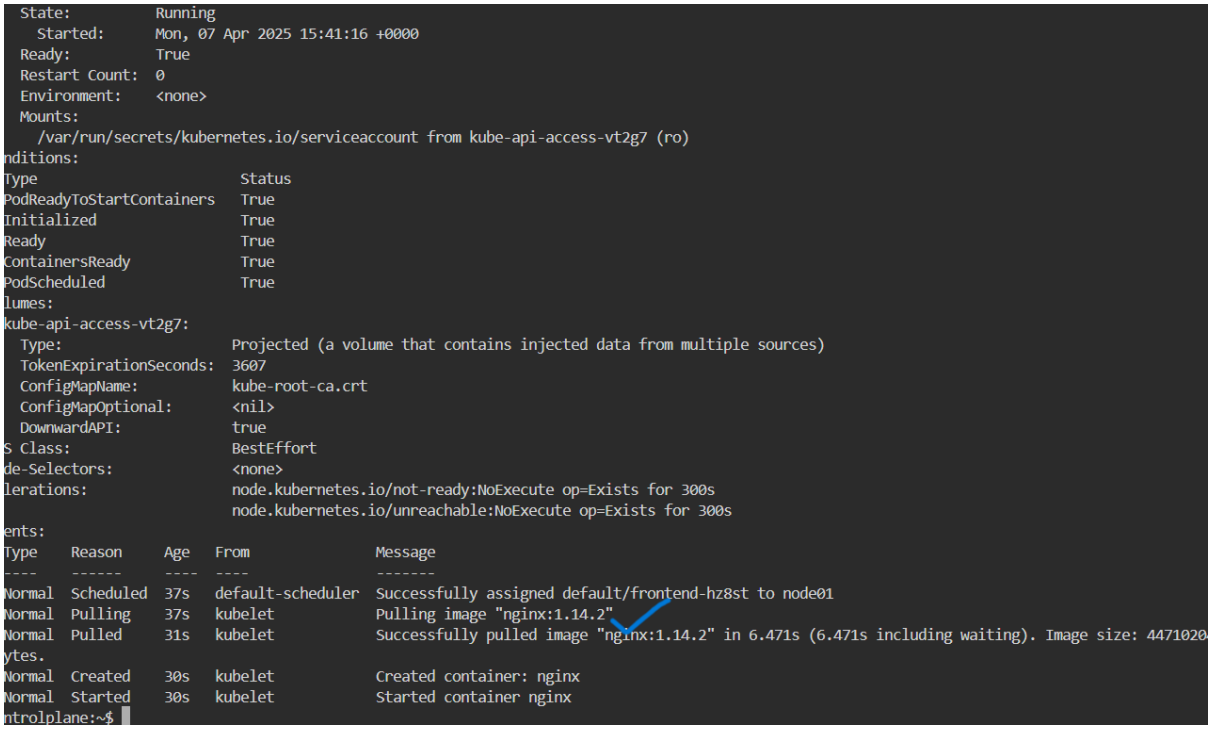
```
frontend1-w5gb5   1/1     Running   0          3m16s
controlplane:~$ kubectl scale --replicas=1 replicaset/frontend1
replicaset.apps/frontend1 scaled
controlplane:~$ kubectl get pod
NAME              READY   STATUS    RESTARTS   AGE
frontend1-w5gb5   1/1     Running   0          3m31s
controlplane:~$ kubectl delete pod frontend1-w5gb5
pod "frontend1-w5gb5" deleted
controlplane:~$ kubectl get pod
NAME              READY   STATUS    RESTARTS   AGE
frontend1-z8vnb   1/1     Running   0          5s
```

decrease the pod from 5 to 1.

```yaml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: frontend1
spec:
  # modify replicas according to your case
  replicas: 3
  selector:
    matchLabels:
      tier: frontend
  template:
    metadata:
      labels:
        tier: frontend
    spec:
      containers:
      - name: nginx
        image: nginx:1.14.2
~
```

```
    Host Port:      <none>
    State:          Running
      Started:      Mon, 07 Apr 2025 14:20:44 +0000
    Ready:          True
    Restart Count:  0
    Environment:    <none>
    Mounts:
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-7pk85 (ro)
onditions:
  Type                        Status
  PodReadyToStartContainers   True
  Initialized                 True
  Ready                       True
  ContainersReady             True
  PodScheduled                True
olumes:
  kube-api-access-7pk85:
    Type:                     Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds:   3607
    ConfigMapName:            kube-root-ca.crt
    ConfigMapOptional:        <nil>
    DownwardAPI:              true
oS Class:                     BestEffort
ode-Selectors:                <none>
olerations:                   node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
                              node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
vents:
  Type    Reason     Age    From               Message
  ----    ------     ----   ----               -------
  Normal  Scheduled  5m     default-scheduler  Successfully assigned default/frontend1-z8vnb to node01
  Normal  Pulling    4m59s  kubelet            Pulling image "nginx"
  Normal  Pulled     4m58s  kubelet            Successfully pulled image "nginx" in 612ms (612ms including waiting). Image size: 72180980 bytes.
  Normal  Created    4m58s  kubelet            Created container: nginx
  Normal  Started    4m58s  kubelet            Started container nginx
ontrolplane:~$
```

```
Error from server (NotFound): pods "frontend-bgm5p" not found
controlplane:~$ kubectl get pod
NAME             READY   STATUS             RESTARTS   AGE
frontend-cglk9   1/1     Running            0          8m
frontend-k4p4p   0/1     InvalidImageName   0          99s
frontend-lt9tb   1/1     Running            0          8m
controlplane:~$ kubectl delete pod frontend-k4p4p
pod "frontend-k4p4p" deleted
controlplane:~$ kubectl get pod
NAME             READY   STATUS              RESTARTS   AGE
frontend-cglk9   1/1     Running             0          8m35s
frontend-hz8st   0/1     ContainerCreating   0          3s
frontend-lt9tb   1/1     Running             0          8m35s
controlplane:~$ kubectl get pod
NAME             READY   STATUS              RESTARTS   AGE
frontend-cglk9   1/1     Running             0          8m37s
frontend-hz8st   0/1     ContainerCreating   0          5s
frontend-lt9tb   1/1     Running             0          8m37s
controlplane:~$ kubectl get pod
NAME             READY   STATUS              RESTARTS   AGE
frontend-cglk9   1/1     Running             0          8m39s
frontend-hz8st   0/1     ContainerCreating   0          7s
frontend-lt9tb   1/1     Running             0          8m39s
controlplane:~$ kubectl get pod
NAME             READY   STATUS    RESTARTS   AGE
frontend-cglk9   1/1     Running   0          8m41s
frontend-hz8st   1/1     Running   0          9s
frontend-lt9tb   1/1     Running   0          8m41s
controlplane:~$ kubectl describe pod frontend-hz8st
Name:             frontend-hz8st
```



I updated the Docker image in the YAML file and applied the changes using kubectl apply. However, when I checked the Pod description, it still showed the old image. After deleting one of the Pods managed by the Replica Set, a new Pod was created, and upon describing the new Pod, I found that the image had been updated to the new version.