

# Lab Exercise 9– Creating Replicaset in Kubernetes

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Below is a lab exercise that will help you understand and practice creating a Replicaset in Kubernetes:

## Step 1: Create a ReplicaSet Configuration File

Create a file named replicaset.yaml with the following configuration:

Link of file: (Copy following code from my GitHub repo)

<https://github.com/hkshitesh/ACO-LAB-2021-25/blob/main/scripts/replicaset.yaml>

```
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: my-nginx-rs
spec:
  replicas: 3
  selector:
    matchLabels:
      app: lbnginx
  template:
    metadata:
      labels:
        app: lbnginx
```

```
spec:

  containers:

  - name: nginx

    image: nginx
```

## Step 2: Apply the ReplicaSet Configuration

Apply the configuration to create the ReplicaSet:

```
kubectl apply -f replicaset.yaml
```

```
PS F:\dockerlab\Sudhanshu> kubectl apply -f replicaset.yaml
replicaset.apps/my-nginx-rs created
```

## Step 3: View the ReplicaSet and Pods

View the created ReplicaSet and the associated Pods:

```
kubectl get replicaset
```

```
kubectl get pods
```

```
PS F:\dockerlab\Sudhanshu> kubectl get replicaset
NAME           DESIRED   CURRENT   READY   AGE
my-nginx-rs    3         3         3       110s
```

```
PS F:\dockerlab\Sudhanshu> kubectl get pods
NAME                    READY   STATUS    RESTARTS   AGE
my-nginx-rs-86kbq       1/1     Running   0           2m29s
my-nginx-rs-f9bkj       1/1     Running   0           2m29s
my-nginx-rs-t7sdb       1/1     Running   0           2m29s
```

## Step 4: Scale the ReplicaSet

Scale the ReplicaSet to 5 replicas:

```
kubectl scale replicaset my-nginx-rs --replicas=5
```

```
PS F:\dockerlab\Sudhanshu> kubectl scale replicaset my-nginx-rs --replicas=5
replicaset.apps/my-nginx-rs scaled
```

```
PS F:\dockerlab\Sudhanshu> kubectl get all
NAME                                READY   STATUS    RESTARTS   AGE
pod/my-nginx-rs-86kbq              1/1     Running   0           5m42s
pod/my-nginx-rs-d9dq6              1/1     Running   0           20s
pod/my-nginx-rs-f9bkj              1/1     Running   0           5m42s
pod/my-nginx-rs-t7jkv              1/1     Running   0           20s
pod/my-nginx-rs-t7sdb              1/1     Running   0           5m42s

NAME                                TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)    AGE
service/kubernetes                 ClusterIP     10.96.0.1    <none>        443/TCP    41d

NAME                                DESIRED   CURRENT   READY   AGE
replicaset.apps/my-nginx-rs         5         5         5       5m42s
```

## Step 5: Delete the ReplicaSet

Delete the ReplicaSet:

```
kubectl delete replicaset my-replicaset
```

```
PS F:\dockerlab\Sudhanshu> kubectl delete replicaset my-nginx-rs
replicaset.apps "my-nginx-rs" deleted
```

```
PS F:\dockerlab\Sudhanshu> kubectl get all
NAME                                TYPE          CLUSTER-IP   EXTERNAL-IP   PORT(S)    AGE
service/kubernetes                 ClusterIP     10.96.0.1    <none>        443/TCP    41d
```

## Conclusion

This exercise demonstrated how to create, manage, and update a ReplicaSet in Kubernetes. You learned how to scale the ReplicaSet, update the image, and delete the

ReplicaSet from the cluster. Experiment further with different configurations and scaling options to deepen your understanding of managing ReplicaSets in Kubernetes.