Application Containerization And Orchestration Lab

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Batch – DevOps B4

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Lab Exercise 9– Creating Replicaset in Kubernetes

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: (Coly 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 C:\Users\Vidyarthi\Desktop\500097009_Chitwan> kubectl apply -f replica.yaml
replicaset.apps/my-nginx-rs unchanged
```

Step 3: View the ReplicaSet and Pods

View the created ReplicaSet and the associated Pods:

```
kubectl get replicaset

kubectl get pods
```

```
PS C:\Users\Vidyarthi\Desktop\500097009_Chitwan> kubectl get replicaset
NAME          DESIRED   CURRENT   READY   AGE
my-nginx-rs   3         3         3       19m
```

```
PS C:\Users\Vidyarthi\Desktop\500097009_Chitwan> kubectl get pods
NAME                READY   STATUS    RESTARTS   AGE
my-nginx-rs-42kzj   1/1     Running   0          21m
my-nginx-rs-c42b6   1/1     Running   0          21m
my-nginx-rs-pcgsj   1/1     Running   0          21m
```

Step 4: Scale the ReplicaSet

Scale the ReplicaSet to 5 replicas:

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

```
PS C:\Users\Vidyarthi\Desktop\ACO-LAB-2021-25> kubectl scale replicaset my-nginx-rs --replicas=5
replicaset.apps/my-nginx-rs scaled
```

Step 5: Delete the ReplicaSet

Delete the ReplicaSet:

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

```
PS C:\Users\Vidyarthi\Desktop\ACO-LAB-2021-25> kubectl delete replicaset my-nginx-rs
replicaset.apps "my-nginx-rs" deleted
```

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.