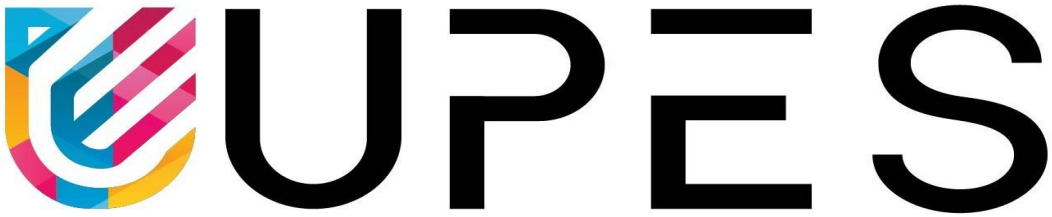

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

APPLICATION CONTAINERIZATION AND ORCHESTRATION LAB

COURSE: B.Tech CSE (Devops)

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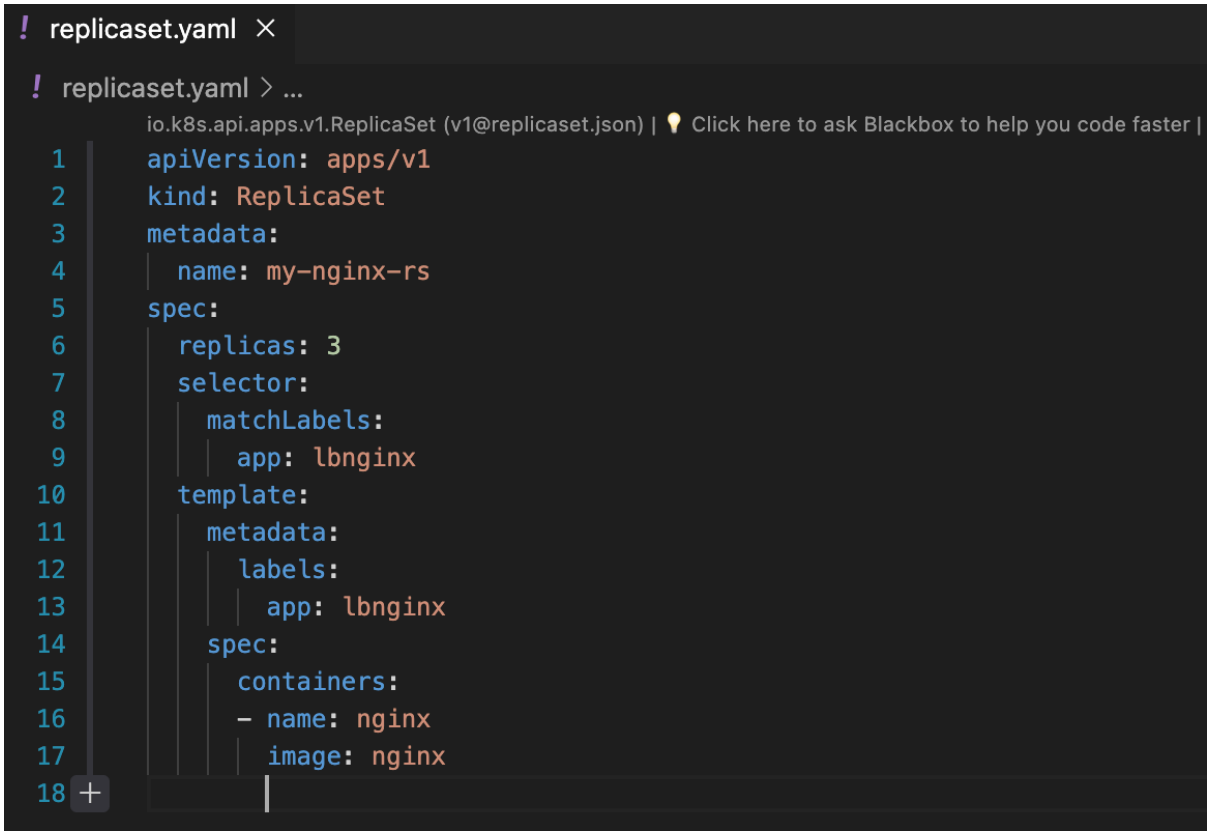
Lab Exercise 9– Creating Replicaset in Kubernetes

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:



Step 2: Apply the ReplicaSet Configuration

Apply the configuration to create the ReplicaSet:

```
priyanshurai@MacBook-Air Lab Exercise 9– Creating Replicaset in Kubernetes % ls
replicaset.yaml
priyanshurai@MacBook-Air Lab Exercise 9– Creating Replicaset in Kubernetes % 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:

```
priyanshurai@MacBook-Air Lab Exercise 9- Creating Replicaset in Kubernetes % kubectl get replicaset
NAME          DESIRED   CURRENT   READY   AGE
my-nginx-rs   3         3         0       11s
priyanshurai@MacBook-Air Lab Exercise 9- Creating Replicaset in Kubernetes % kubectl get pods
NAME                READY   STATUS              RESTARTS   AGE
my-nginx-rs-2jr4v   0/1     ContainerCreating   0          43s
my-nginx-rs-lswbl   0/1     ContainerCreating   0          43s
my-nginx-rs-t4k28   0/1     ContainerCreating   0          43s
```

Step 4: Scale the ReplicaSet

Scale the ReplicaSet to 5 replicas:

```
priyanshurai@MacBook-Air Lab Exercise 9- Creating Replicaset in Kubernetes % kubectl scale replicaset my-nginx-rs --replicas=5
replicaset.apps/my-nginx-rs scaled
```

Step 5: Delete the ReplicaSet

Delete the ReplicaSet:

```
priyanshurai@MacBook-Air Lab Exercise 9- Creating Replicaset in Kubernetes % kubectl delete replicaset my-nginx-rs
replicaset.apps "my-nginx-rs" deleted
priyanshurai@MacBook-Air Lab Exercise 9- Creating Replicaset in Kubernetes %
```

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.