



UNIVERSITY OF PETROLEUM & ENERGY STUDIES

Dehradun

ACO LAB

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Batch- B-4

Course- Btech Devops

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Lab Exercise 10– Creating Deployment in Kubernetes

Step 1: Create a Deployment Configuration File

Create a file named deployment.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/deployment.yaml>

```
apiVersion: apps/v1
```

```
kind: Deployment
```

```
metadata:
```

```
  name: apache-deployment
```

```
  labels:
```

```
    app: web
```

```
spec:
```

```
  replicas: 10
```

```
  selector:
```

```
    matchLabels:
```

```
      app: web
```

```
  template:
```

```
    metadata:
```

```
      labels:
```

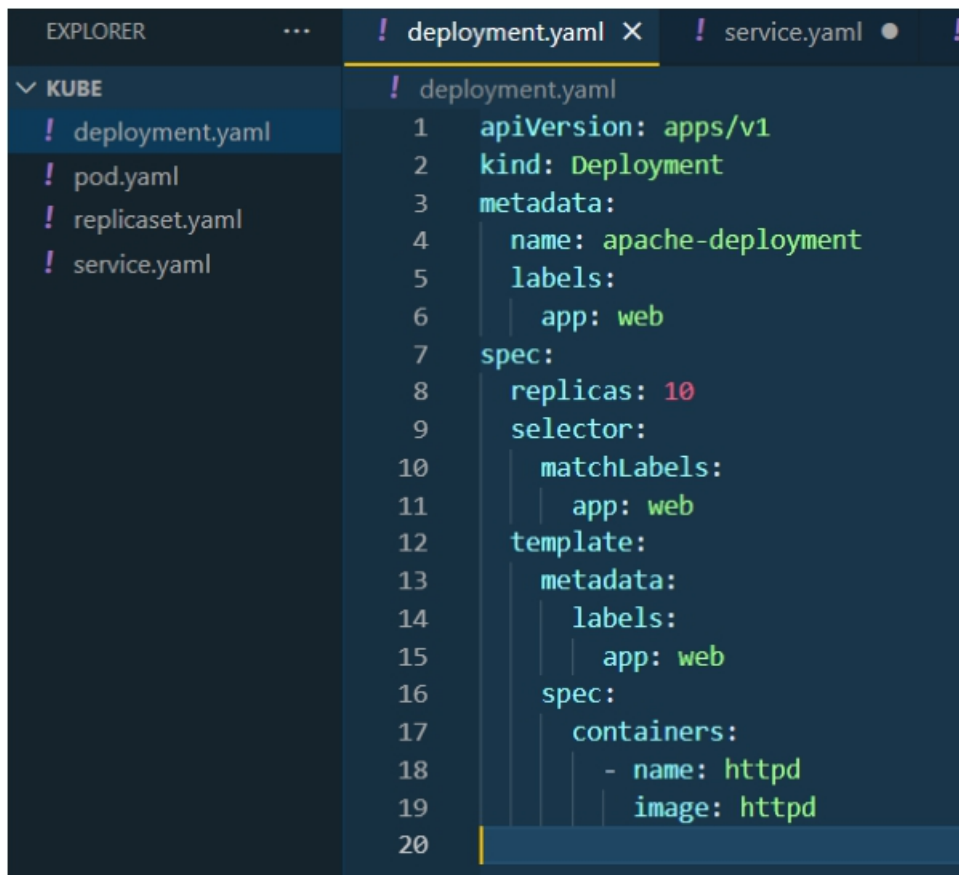
```
        app: web
```

```
    spec:
```

```
      containers:
```

```
        - name: httpd
```

image: httpd



```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: apache-deployment
5    labels:
6      app: web
7  spec:
8    replicas: 10
9    selector:
10     matchLabels:
11       app: web
12    template:
13     metadata:
14       labels:
15         app: web
16     spec:
17       containers:
18         - name: httpd
19           image: httpd
20
```

Step 2: Apply the Deployment Configuration Apply

the configuration to create the Deployment: kubectl

```
apply -f deployment.yaml
```

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl apply -f deployment.yaml
deployment.apps/apache-deployment created
```

Step 3: View the Deployment and Pods

View the created Deployment and the associated Pods:

```
kubectl get deployments
```

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl get deployments
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
apache-deployment	0/10	10	0	112s

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl get deployments
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
apache-deployment	10/10	10	10	4m48s

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl get all
```

NAME	READY	STATUS	RESTARTS	AGE
pod/apache-deployment-788fbf66b5-8vqzn	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-cclv5	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-mlmqx	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-pfht6	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-pk6vc	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-qz2c7	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-s57hg	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-t8l8v	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-x42ms	1/1	Running	0	20m
pod/apache-deployment-788fbf66b5-z2p5q	1/1	Running	0	20m

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
service/kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	39d

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
deployment.apps/apache-deployment	10/10	10	10	20m

NAME	DESIRED	CURRENT	READY	AGE
replicaset.apps/apache-deployment-788fbf66b5	10	10	10	20m

kubectl get pods

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
apache-deployment-788fbf66b5-8vqzn	1/1	Running	0	20m
apache-deployment-788fbf66b5-cclv5	1/1	Running	0	20m
apache-deployment-788fbf66b5-mlmqx	1/1	Running	0	20m
apache-deployment-788fbf66b5-pfht6	1/1	Running	0	20m
apache-deployment-788fbf66b5-pk6vc	1/1	Running	0	20m
apache-deployment-788fbf66b5-qz2c7	1/1	Running	0	20m
apache-deployment-788fbf66b5-s57hg	1/1	Running	0	20m
apache-deployment-788fbf66b5-t8l8v	1/1	Running	0	20m
apache-deployment-788fbf66b5-x42ms	1/1	Running	0	20m
apache-deployment-788fbf66b5-z2p5q	1/1	Running	0	20m


```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>
```

Step 4: Delete the Deployment Delete

the Deployment:

kubectl delete deployment my-deployment

```
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>kubectl delete deployment apache-deployment
deployment.apps "apache-deployment" deleted
C:\Users\ABC\OneDrive\Desktop\ACO\Kube>
```

Conclusion

This exercise demonstrated how to create, manage, and update a Deployment in Kubernetes. You learned how to scale the Deployment, update the image, and perform a rolling update to the Deployment. Experiment further with different configurations and update strategies to deepen your understanding of managing Deployments in Kubernetes.