

## Lab Exercise 10– Creating Deployment in Kubernetes

Below is a lab exercise that demonstrates how to create and manage a 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>

```
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
```

## Step 2: Apply the Deployment Configuration

Apply the configuration to create the Deployment:

```
● (base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % 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:

```
● (base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl get deployments
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
apache-deployment   0/10    10           0           39s
```

```
● (base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl get pods
NAME                                READY   STATUS              RESTARTS   AGE
apache-deployment-788fbf66b5-5n9nn  0/1     ContainerCreating   0           60s
apache-deployment-788fbf66b5-6j2km  0/1     ContainerCreating   0           60s
apache-deployment-788fbf66b5-87qjt  1/1     Running             0           60s
apache-deployment-788fbf66b5-8p68j  1/1     Running             0           60s
apache-deployment-788fbf66b5-cxccd  0/1     ContainerCreating   0           60s
apache-deployment-788fbf66b5-hctj6  1/1     Running             0           60s
apache-deployment-788fbf66b5-lfcmn  0/1     ContainerCreating   0           60s
apache-deployment-788fbf66b5-rqcb5  0/1     ContainerCreating   0           60s
apache-deployment-788fbf66b5-tg45j  1/1     Running             0           60s
apache-deployment-788fbf66b5-wp4v2  0/1     ContainerCreating   0           60s
my-nginx-pod                        1/1     Running             1 (73m ago)  42d
my-nginx-rs-2chjs                   1/1     Running             0           66m
my-nginx-rs-8gcxt                   1/1     Running             0           66m
my-nginx-rs-d9kwq                   1/1     Running             0           66m
my-nginx-rs-gsthc                   1/1     Running             0           63m
my-nginx-rs-m2rdf                   1/1     Running             0           63m
```

## Step 4: Delete the Deployment

Delete the Deployment:

```
● (base) vanshika@VANSHIKAs-MacBook-Air Kubernetes-Lab % kubectl delete deployment my-deployment
Error from server (NotFound): deployments.apps "my-deployment" not found
```

## **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.