Lab Exercise 10– Creating Deployment in Kubernetes

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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:
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
```


Step 2: Apply the Deployment Configuration

Apply the configuration to create the Deployment:

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


Step 3: View the Deployment and Pods

View the created Deployment and the associated Pods:

```
kubectl get deployments

kubectl get pods
```

```
PS F:\dockerlab\sudhanshu> kubectl get deployments
NAME                    READY    UP-TO-DATE    AVAILABLE    AGE
apache-deployment       10/10    10            10           94s
PS F:\dockerlab\sudhanshu>
```

```
PS F:\dockerlab\sudhanshu> kubectl get pods
NAME                                   READY    STATUS    RESTARTS    AGE
apache-deployment-788fbf66b5-2kxx7     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-4rbbv     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-77c7m     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-7fzzn     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-b22pw     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-dfw44     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-dv64q     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-h9nmp     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-mfgwg     1/1      Running   0           2m30s
apache-deployment-788fbf66b5-mmf5p     1/1      Running   0           2m30s
PS F:\dockerlab\sudhanshu>
```

Step 4: Delete the Deployment

Delete the Deployment:

```
kubectl delete deployment my-deployment
```

```
PS F:\dockerlab\sudhanshu> kubectl delete deployment apache-deployment
deployment.apps "apache-deployment" deleted
```

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.