

Lab Exercise 8- Deployments with Rolling Update and Recreate Strategies

Understand how to use the rolling update and recreate strategies for deploying applications using Kubernetes Deployments.

Step 1: Create a Deployment with Rolling Update Strategy

Create a YAML file for the deployment:

Create a file named **deployment-rolling.yaml** with the following content:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: deployment-rolling
spec:
  replicas: 10
  minReadySeconds: 10
  selector:
    matchLabels:
      app: web
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxUnavailable: 3
      maxSurge: 5
  template:
    metadata:
      labels:
```

```
app: web
spec:
  containers:
    - name: my-container
      image: hkshitesh/kubedemo:1.0
    ports:
      - containerPort: 80
```

Apply the deployment:

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

Verify the deployment:

```
kubectl get deployments
kubectl get pods -l app= web
```

Update the deployment to a new image:

```
kubectl set image deployment/nginx-deployment-rolling nginx=nginx:1.21.1
```

Monitor the rolling update:

```
kubectl rollout status deployment nginx-deployment-rolling
```

Verify the updated pods:

```
kubectl get pods -l app=web -o wide
```

Step 2: Create a Deployment with Recreate Strategy

Create a YAML file for the deployment:

Create a file named **deployment-recreate.yaml** with the following content:

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: deployment-recreate
spec:
  replicas: 10
  selector:
    matchLabels:
      app: web
  strategy:
    type: Recreate
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
        - name: my-container
          image: hkshitesh/kubedemo:1.0
      ports:
        - containerPort: 80
```

Apply the deployment:

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

Verify the deployment:

```
kubectl get deployments  
kubectl get pods -l app=web
```

Update the deployment to a new image:

```
kubectl set image deployment/nginx-deployment-recreate nginx=nginx:1.21.1
```

Monitor the update:

```
kubectl rollout status deployment deployment-recreate
```

Verify the updated pods:

```
kubectl get pods -l app=web -o wide
```

Step 3: Clean Up

Delete the deployments:

```
kubectl delete deployment deployment-rolling  
kubectl delete deployment deployment-recreate
```

Verify that all resources are cleaned up:

```
kubectl get deployments
```

```
kubectl get pods -l app=web  
kubectl get pods -l app=web
```