

Cluster Networking and Services

Lab 6: Using ConfigMaps and Secrets

Objective:

- Learn how to externalize application configuration using ConfigMaps and Secrets in Kubernetes.

Steps

1. Create a ConfigMap

```
kubectl create configmap app-config \  
  --from-literal=APP_ENV=development \  
  --from-literal=APP_DEBUG=true
```

Check it:

```
kubectl get configmap app-config -o yaml
```

2. Create a Secret

```
kubectl create secret generic app-secret \  
  --from-literal=DB_USER=admin \  
  --from-literal=DB_PASS=s3cr3t
```

Check it:

```
kubectl get secret app-secret -o yaml
```

3. Create YAML file: `config-demo.yaml` to deploy a Pod Using ConfigMap and Secret

```
apiVersion: v1
kind: Pod
metadata:
  name: config-demo
spec:
  containers:
    - name: busybox
      image: busybox:musl
      command: ["sh", "-c", "env; sleep 3600"]
      env:
        - name: APP_ENV
          valueFrom:
            configMapKeyRef:
              name: app-config
              key: APP_ENV
        - name: APP_DEBUG
          valueFrom:
            configMapKeyRef:
              name: app-config
              key: APP_DEBUG
        - name: DB_USER
          valueFrom:
            secretKeyRef:
              name: app-secret
              key: DB_USER
        - name: DB_PASS
          valueFrom:
            secretKeyRef:
              name: app-secret
              key: DB_PASS
```

```
kubectl apply -f config-demo.yaml
```

4. Check the Environment Variables

```
kubectl exec -it config-demo -- printenv | grep -E 'APP_|DB_'
```

You should see all 4 values populated.

5. Clean Up

```
kubectl delete pod config-demo  
kubectl delete configmap app-config  
kubectl delete secret app-secret
```