Lesson 04 Demo 02

Configuring a Pod Using Init Container

Objective: To create and configure a pod using the init container to design more complex and flexible workflows for Kubernetes applications

Tools required: kubeadm, kubectl, kubelet, and containerd

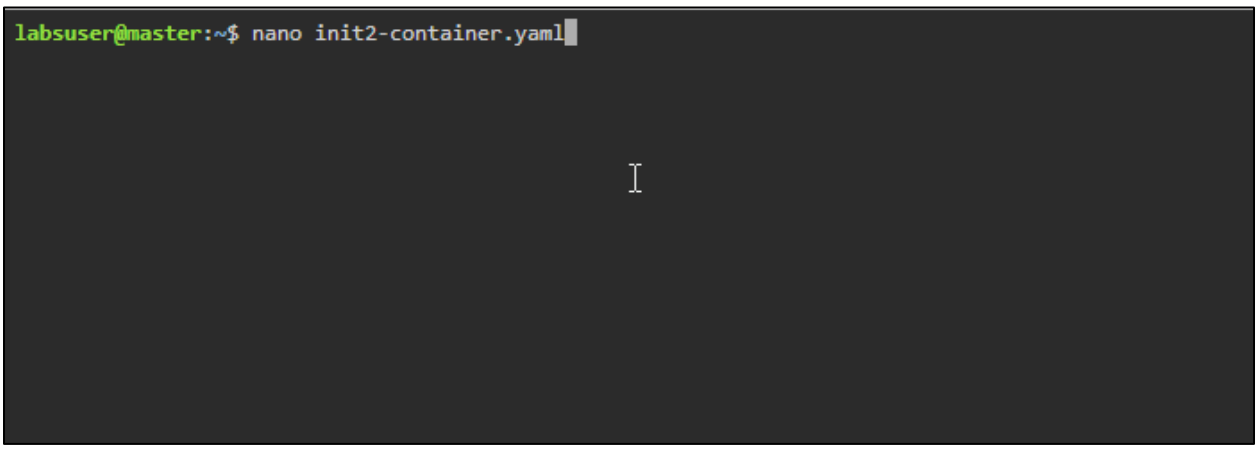
Prerequisites: A Kubernetes cluster should already be set up (refer to the steps in Lesson 02, Demo 01 for guidance).

Steps to be followed:

1. Create a pod
2. Create the services
3. Verify the pod's state

Step 1: Create a pod

1.1 On the master node, enter the command **nano init2-container.yaml** to create a YAML file



1.2 Copy the following code in the YAML file:

apiVersion: v1
kind: Pod
metadata:
name: myapp-pod
labels:
app: myapp
spec:
containers:
- name: myapp-container
image: registry.access.redhat.com/ubi8/ubi:latest
command: ['sh', '-c', 'echo The app is running! && sleep 3600']
initContainers:
- name: init-myservice
image: registry.access.redhat.com/ubi8/ubi:latest
command: ['sh', '-c', 'until getent hosts myservice; do echo waiting for myservice; sleep 2; done;']
- name: init-mydb
image: registry.access.redhat.com/ubi8/ubi:latest
command: ['sh', '-c', 'until getent hosts mydb; do echo waiting for mydb; sleep 2; done;']

```
  GNU nano 6.2                                                    init2-container.yaml *
apiVersion: v1
kind: Pod
metadata:
  name: myapp-pod
  labels:
    app: myapp
spec:
  containers:
  - name: myapp-container
    image: registry.access.redhat.com/ubi8/ubi:latest
    command: ['sh', '-c', 'echo The app is running! && sleep 3600']
  initContainers:
  - name: init-myservice
    image: registry.access.redhat.com/ubi8/ubi:latest
    command: ['sh', '-c', 'until getent hosts myservice; do echo waiting for myservice; sleep 2; done;']
  - name: init-mydb
    image: registry.access.redhat.com/ubi8/ubi:latest
    command: ['sh', '-c', 'until getent hosts mydb; do echo waiting for mydb; sleep 2; done;']
```

1.3 Create a pod by entering the below command:
kubectl create -f init2-container.yaml

```
labsuser@master:~$ kubectl create -f init2-myservice.yaml
service/myservice created
```

1.4 Verify the pod's state by entering the following command:
kubectl get pods

```
labsuser@master:~$ kubectl get pods
NAME        READY   STATUS     RESTARTS   AGE
myapp-pod   0/1     Init:0/2   0          2m14s
labsuser@master:~$
```

Step 2: Create the services

2.1 To create the first service, create the **init2-myservice.yaml** file by entering the following command:
nano init2-myservice.yaml

```
labsuser@master:~$ nano init2-myservice.yaml
```

2.2 Copy the following code in the YAML file:

kind: Service
apiVersion: v1
metadata:
name: myservice
spec:
ports:
- protocol: TCP
port: 80
targetPort: 9376

```
  GNU nano 6.2                                                    init2-myservice.yaml *
kind: Service
apiVersion: v1
metadata:
  name: myservice
spec:
  ports:
  - protocol: TCP
    port: 80
    targetPort: 9376
```

2.3 Run the following command to create the first service named **myservice**:

kubectl create -f init2-myservice.yaml

```
labsuser@master:~$ kubectl create -f init2-myservice.yaml
service/myservice created
```

The first service is created successfully.

2.4 To create the second service, create the **init2-mydb.yaml** file by entering the following command:
nano init2-mydb.yaml

```
labsuser@master:~$ nano init2-mydb.yaml
```

2.5 Copy the following code in the YAML file:

```
kind: Service
apiVersion: v1
metadata:
name: mydb
spec:
ports:
- protocol: TCP
port: 80
targetPort: 9377
```

```
  GNU nano 6.2                                                    init2-mydb.yaml *
kind: Service
apiVersion: v1
metadata:
  name: mydb
spec:
  ports:
  - protocol: TCP
    port: 80
    targetPort: 9377
```

2.6 Run the following command to create the second service named **mydb**:
kubectl create -f init2-mydb.yaml

```
labsuser@master:~$ kubectl create -f init2-mydb.yaml
service/mydb created
```

The second service is created successfully.

Step 3: Verify the pod's state

3.1 Run the following command to verify the state of the pod:
kubectl get pods

```
labsuser@master:~$ kubectl get pods
NAME        READY   STATUS    RESTARTS   AGE
myapp-pod   1/1     Running   0          9m3s
labsuser@master:~$
```

You can see that the pod is running.

By following these steps, you have successfully configured the pods using the init container.