**Lesson 6 Demo 1**

**Multi-Port Services**

**Objective:** To create a Pod using a multi-port service

**Tools required:** kubeadm, kubectl, kubelet, and etcd

**Prerequisites:** A Kubernetes cluster must be set up (follow steps of Lesson 2 Demo 1)

Steps to be followed:

1. Creating a Deployment
2. Defining a Service
3. Accessing the Deployment from multiple ports

**Step 1: Creating a Deployment**

1. Write the following code in the **multiport.yaml** file:

**apiVersion: apps/v1**

**kind: Deployment**

**metadata:**

**creationTimestamp: null**

**labels:**

**app: openshift**

**name: openshift**

**spec:**

**replicas: 1**

**selector:**

**matchLabels:**

**app: openshift**

**strategy: {}**

**template:**

**metadata:**

**creationTimestamp: null**

**labels:**

**app: openshift**

**spec:**

**containers:**

**- image: docker.io/openshift/hello-openshift**

**name: hello-openshift**

Text

Description automatically generated

1. Using the commands below, create and verify the **Deployment**:

**kubectl create -f multiport.yaml**

**kubectl get pods**

**kubectl get deployments**

**Text

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The **openshift** Deployment has been successfully created.

**Step 2: Defining a Service**

1. Write the following code in the **multiport-svc.yaml** file:

**apiVersion: v1**

**kind: Service**

**metadata:**

**name: openshift**

**spec:**

**selector:**

**app: openshift**

**ports:**

**- name: port1**

**protocol: TCP**

**port: 18080**

**targetPort: 8080**

**- name: port2**

**protocol: TCP**

**port: 18888**

**targetPort: 8888**

**Text

Description automatically generated**

1. Create a **Service** for **Deployment** with the following command to access **openshift** Deployment through multiple ports:

**kubectl create -f multiport-svc.yaml**

**Text

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**Step 3: Accessing the Deployment from multiple ports**

1. Run the following command to verify the **openshift** Deployment and see which ports it can be exposed to:

**kubectl get svc**

Graphical user interface, application

Description automatically generated

1. Check if the Deployment is accessible using the **Cluster-IP** and different **ports**.

**curl 10.101.163.157:18080**

**curl 10.101.163.157:18888**

**Text

Description automatically generated**

The **openshift** Deployment can be accessed via the different ports defined in the **Service** previously, and the response can be seen in the screenshot above.