# **Lab 3**

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## **Objective**

In this lab for Kubernetes Basics the objective is to

* Deploy a containerized application on a cluster.
* Scale the deployment.
* Update the containerized application with a new software version.
* Debug the containerized application

## **Kubernetes Basic Module**

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### **Using Minikube to Create a Cluster**

Begin Hello Minikube tutorial

<https://kubernetes.io/docs/tutorials/hello-minikube/>

Install Kubectl

Then continue on with running Minikube start

**Note: Windows CMD doesn’t support export or $, use kubectl get pods to copy the pod name manually instead.**

## **Hello Minikube Tutorial**

### **Create a Minikube cluster**

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### **Open the Dashboard**

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### **Create a deployment**

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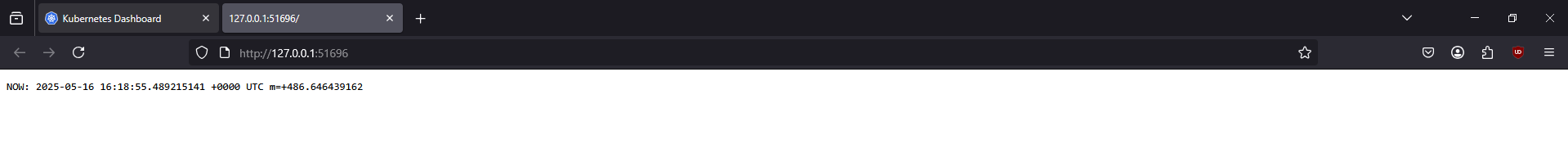
### **Create a Service**

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### **Enable addons**

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### **Clean up**

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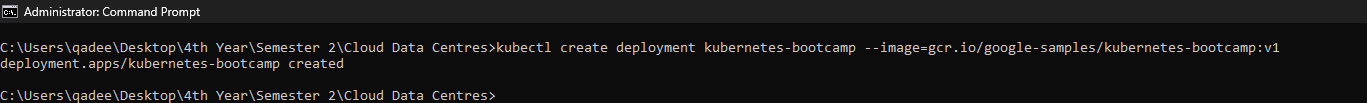
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## **Using kubectl to Create a Deployment**

### **Deploying your first app on Kubernetes**

#### **kubectl basics**

#### **Deploy an app**



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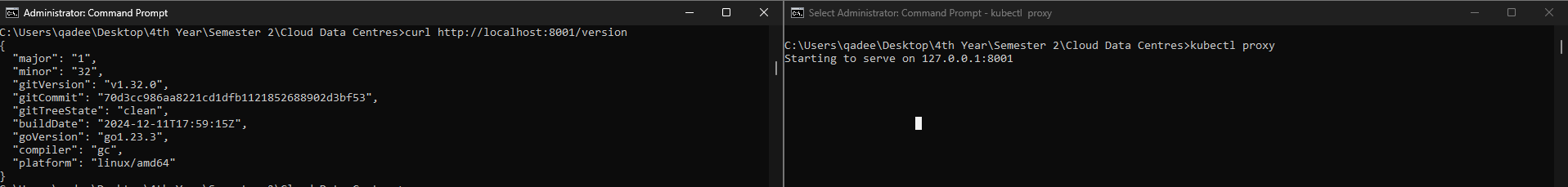
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#### **View the app**



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## **Viewing Pods and Nodes**

### **Troubleshooting with kubectl**

#### **Check application configuration**

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#### **Show the app in the terminal**

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#### **Executing commands on the container**

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## **Using a Service to Expose Your App**

### **Services and Labels**

#### **Step 1: Creating a new Service**

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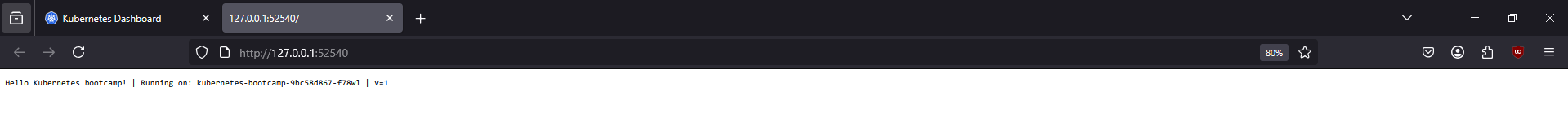
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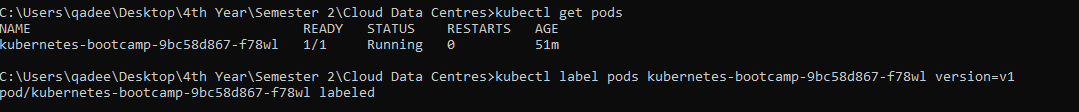
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#### **Step 2: Using labels**

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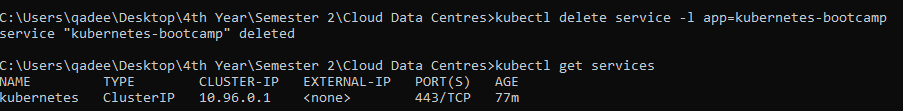
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#### **Step 3: Deleting a service**



## **Running Multiple Instances of Your App**

### **Scaling an application**

#### **Scaling a Deployment**

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#### **Load Balancing**

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#### **Scale Down**

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## **Performing a Rolling Update**

### **Rolling updates overview**

#### **Update the version of the app**

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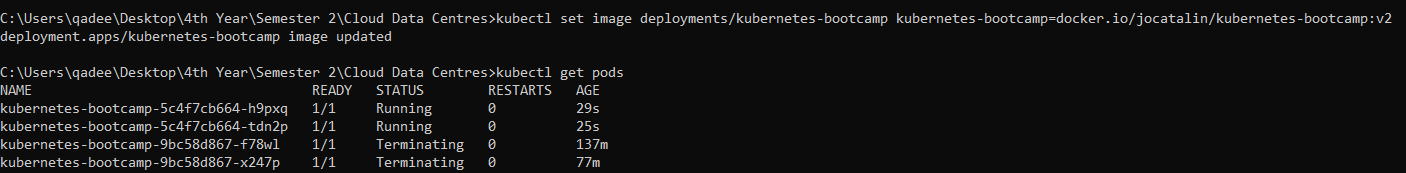
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#### **Verify an update**

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#### **Roll back an update**

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