

Task 4:

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1. Create the Kubernetes Deployment and Service Definition File

- Open a terminal and navigate to the desired directory.
- Create a YAML file (t4.yaml) using a text editor: nano t4.yaml
- Add the following Kubernetes configuration:

```
apiVersion: apps/v1
```

```
kind: Deployment
```

```
metadata:
```

```
  labels:
```

```
    app: springboot-app
```

```
  name: springboot-app
```

```
spec:
```

```
  replicas: 1
```

```
  selector:
```

```
    matchLabels:
```

```
      app: springboot-app
```

```
  template:
```

```
    metadata:
```

```
      labels:
```

```
        app: springboot-app
```

```
    spec:
```

```
      containers:
```

```
        - name: my-springboot-app
```

```
    image: vibudesh07/dev:latest
    imagePullPolicy: Always
    ports:
      - containerPort: 80
        name: http
        protocol: TCP
```

```
apiVersion: v1
kind: Service
metadata:
  labels:
    app: springboot-app
    k8s-app: springboot-app
  name: springboot-app
spec:
  ports:
    - name: http
      port: 80
      protocol: TCP
      targetPort: 80
  type: NodePort
  selector:
    app: springboot-app
```

Save and exit the file.

2. Apply the Kubernetes Configuration

- Run the following command to deploy the application:

```
kubectl apply -f t4.yaml
```

- You should see the following output:

3. Expose the Service Using Minikube

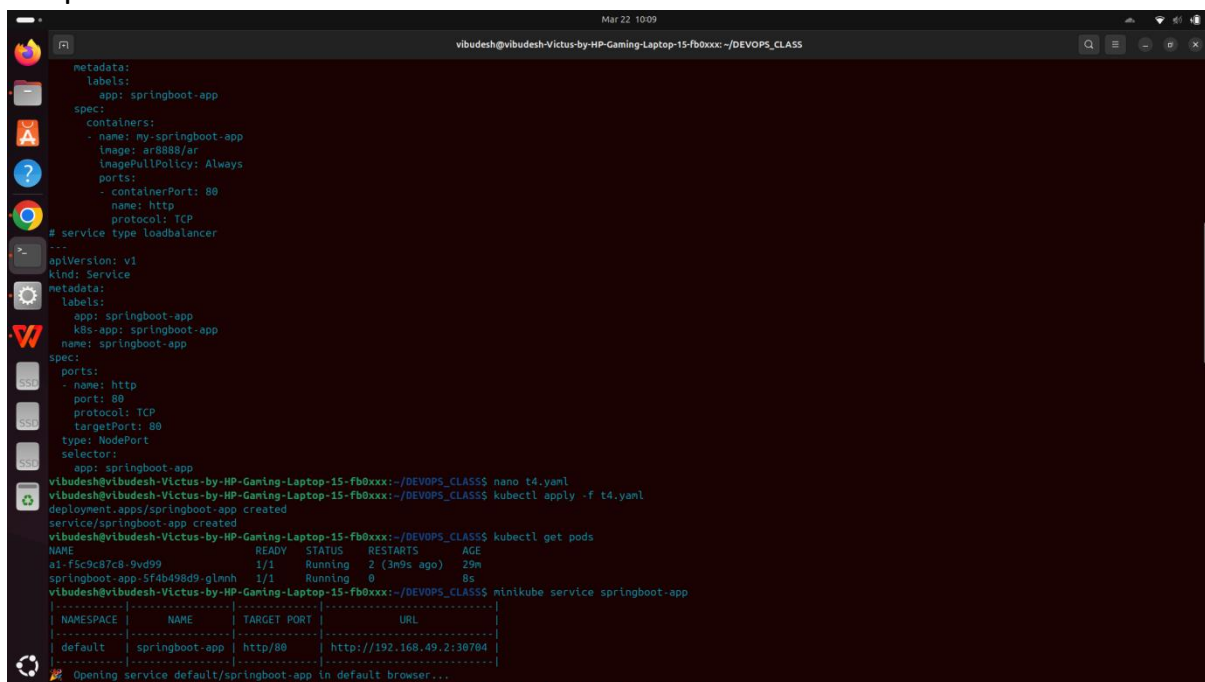
- Run the command:

¶ Because you are using a Docker driver on Linux, the terminal needs to be open to run it.

- Access the application in the browser using the displayed URL, e.g., `http://127.0.0.1:42275`.

This process successfully deploys the Spring Boot application on Minikube and makes it accessible via a browser.

Output:



```
Mar 22 10:09
vibudesh@vibudesh-Victus-by-HP-Gaming-Laptop-15-Fb0xxx: ~/DEVOPS_CLASS$
metadata:
  labels:
    app: springboot-app
spec:
  containers:
    - name: my-springboot-app
      image: ar8888/ar
      imagePullPolicy: Always
      ports:
        - containerPort: 80
          name: http
          protocol: TCP
  # service type loadbalancer
  ...
apiVersion: v1
kind: Service
metadata:
  labels:
    app: springboot-app
    k8s-app: springboot-app
    name: springboot-app
spec:
  ports:
    - name: http
      port: 80
      protocol: TCP
      targetPort: 80
  type: NodePort
  selector:
    app: springboot-app
vibudesh@vibudesh-Victus-by-HP-Gaming-Laptop-15-Fb0xxx:~/DEVOPS_CLASS$ nano t4.yaml
vibudesh@vibudesh-Victus-by-HP-Gaming-Laptop-15-Fb0xxx:~/DEVOPS_CLASS$ kubectl apply -f t4.yaml
deployment.apps/springboot-app created
service/springboot-app created
vibudesh@vibudesh-Victus-by-HP-Gaming-Laptop-15-Fb0xxx:~/DEVOPS_CLASS$ kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
a1-f5c9c87c8-9vd99                 1/1     Running   2 (3m9s ago)  29m
springboot-app-5f4b498d9-glmmh     1/1     Running   0           8s
vibudesh@vibudesh-Victus-by-HP-Gaming-Laptop-15-Fb0xxx:~/DEVOPS_CLASS$ minikube service springboot-app
|-----|
| NAMESPACE | NAME          | TARGET PORT | URL                               |
|-----|
| default   | springboot-app | http/80     | http://192.168.49.2:30704 |
|-----|
Opening service default/springboot-app in default browser...
```

