

Step-by-Step Guide to Deploying a Spring Boot App on Minikube using Kubernetes

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Step 1: Create a New Directory

This command creates a new directory named task4 in the current working directory.

Code:

```
mkdir task4
```

Step 2: Navigate to the Directory

This command moves you into the task4 directory.

Code:

```
cd task4
```

Step 3: Create a YAML Configuration File

This command opens the **sample.yaml** file in the Vim text editor.

If the file does not exist, Vim will create it.

Inside Vim:

- Press **i** to enter insert mode.
- Write your Kubernetes YAML configuration (e.g., a deployment or service).
- Press **ESC**, type **:wq**, and press **Enter** to save and exit.

Code:

```
vim sample.yaml
```

Screenshot:

```
vboxuser@Ubuntu:~$ mkdir task4
vboxuser@Ubuntu:~$ cd task4
vboxuser@Ubuntu:~/task4$ vim sample.yaml
```

Step 4: Apply the YAML Configuration Using kubectl

This command deploys resources defined in `sample.yaml` to the Kubernetes cluster.

Ensure that **Minikube** or another Kubernetes cluster is running before executing this.

Code:

```
kubectl apply -f sample.yaml
```

Screenshot:

```
vboxuser@Ubuntu:~/task4$ kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
springboot-app-6fbbffbfcc-svf9x	1/1	Running	0	21s

Step 5: Check Running Pods

This command lists all running pods in the Kubernetes cluster.

It provides details such as pod name, status, restarts, and age.

Code:

```
kubectl get pods
```

Screenshot:

```
vboxuser@Ubuntu:~/task4$ kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
springboot-app-6fbbffbfcc-svf9x	1/1	Running	0	21s

Step 6: Expose the Spring Boot Application via Minikube

This command exposes the springboot-app service in Minikube.

It opens the application in a web browser by forwarding traffic to a local machine-accessible URL.

Code:

```
minikube service springboot-app
```

Screenshot:

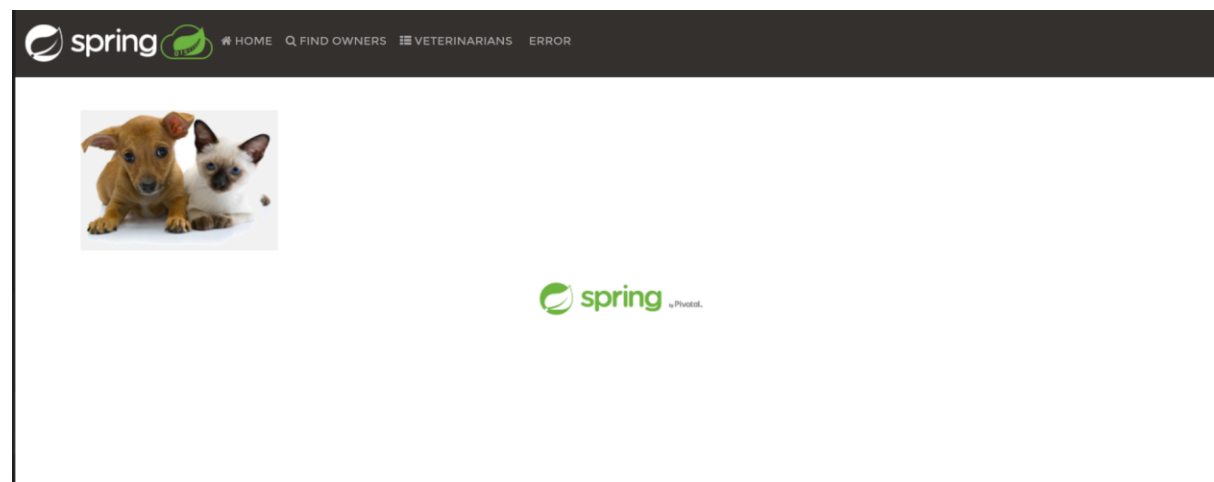
```
vboxuser@Ubuntu:~/task4$ minikube service springboot-app
NAMESPACE   NAME          TARGET PORT  URL
default     springboot-app  http/8080    http://192.168.49.2:30136
vboxuser@Ubuntu:~/task4$
```

Opening service default/springboot-app in default browser...

```
vboxuser@Ubuntu:~/task4$
```

Gtk-Message: 84:13:28.436: Not loading module "atk-bridge": The functionality is provided by GTK natively. Please try to not load it.

```
vboxuser@Ubuntu:~/task4$
```



Prerequisites:

1)Minikube installed and running

Code:

```
minikube start
```

2)kubectl installed and configured

Code:

```
kubectl version --client
```

3)A valid `sample.yaml` file containing Kubernetes resource definitions (e.g., Deployment, Service).