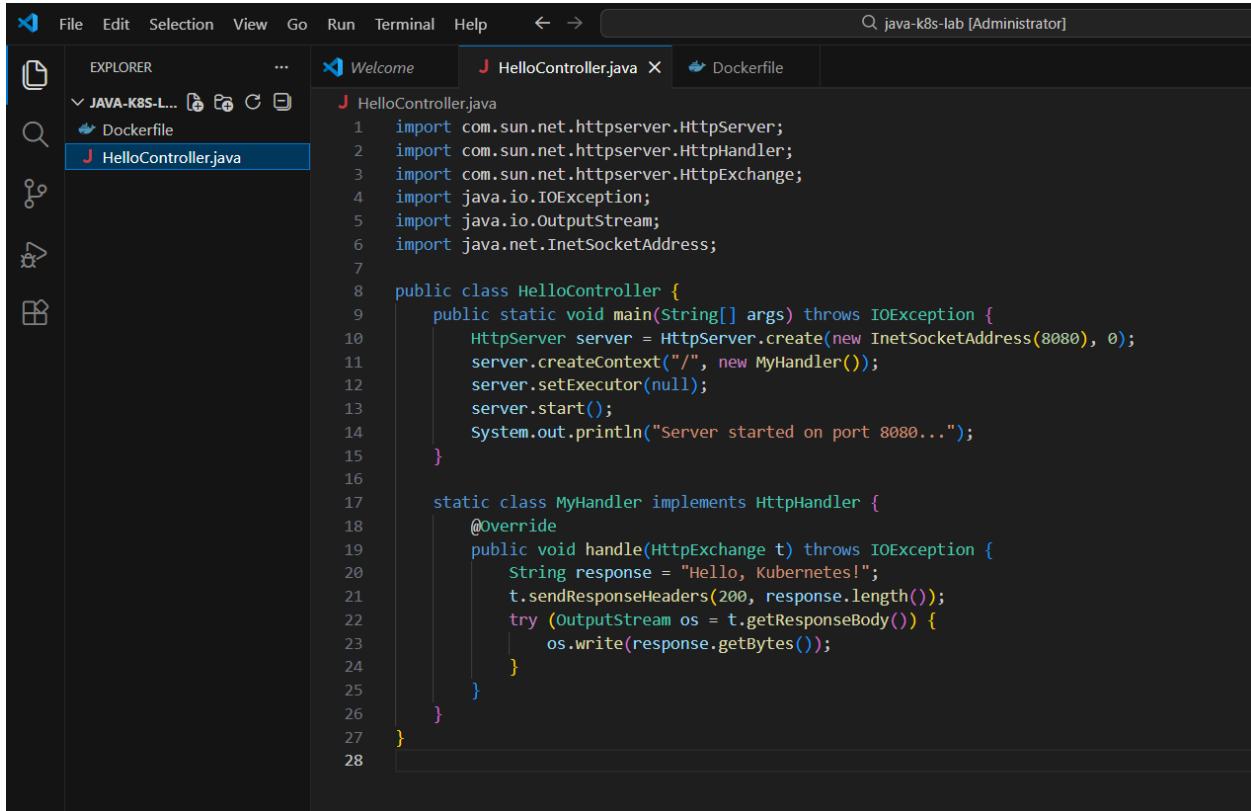


Lab - Simple Java App on K8s

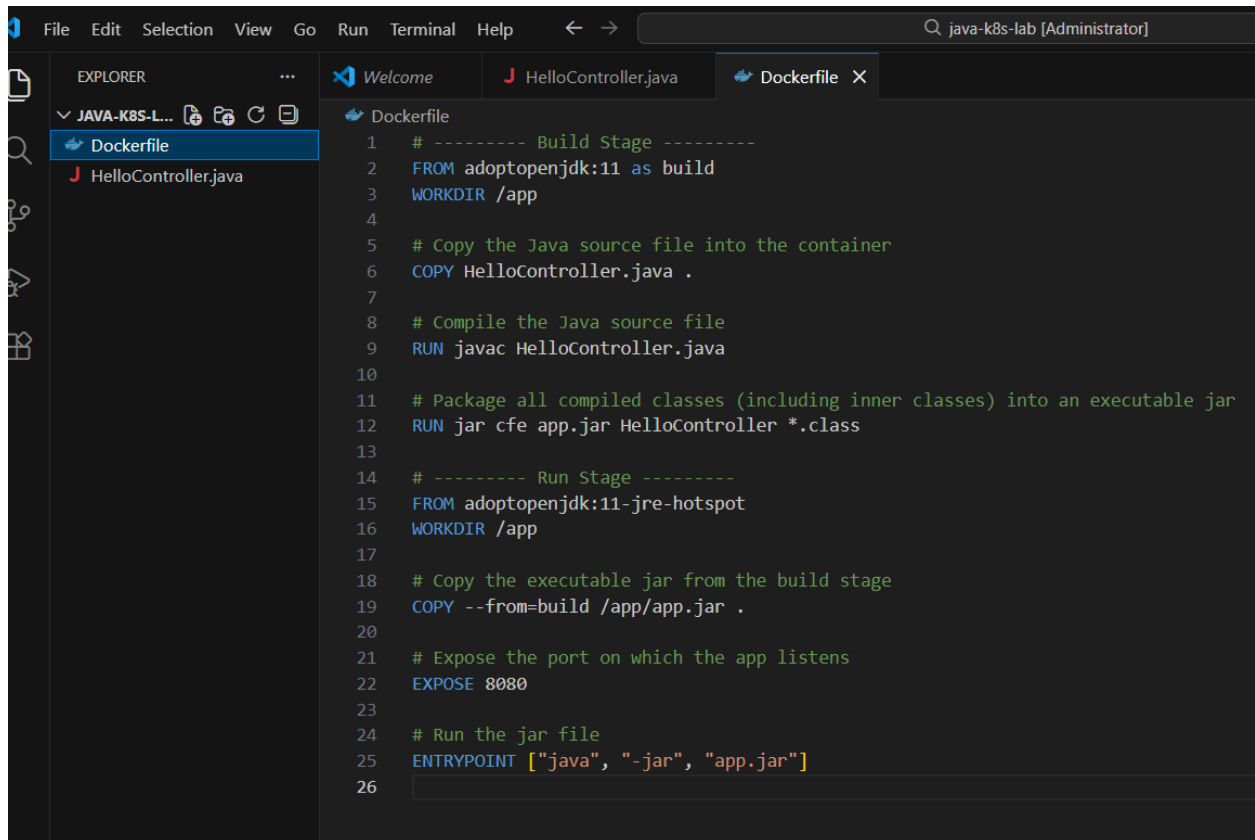
Source Code/Dockerfile



The screenshot shows an IDE window with the following components:

- Explorer:** Shows a project named "JAVA-K8S-L..." with two files: "Dockerfile" and "HelloController.java". "HelloController.java" is selected.
- Editor:** Displays the source code for "HelloController.java".

```
1  import com.sun.net.httpserver.HttpServer;
2  import com.sun.net.httpserver.HttpHandler;
3  import com.sun.net.httpserver.HttpExchange;
4  import java.io.IOException;
5  import java.io.OutputStream;
6  import java.net.InetSocketAddress;
7
8  public class HelloController {
9      public static void main(String[] args) throws IOException {
10         HttpServer server = HttpServer.create(new InetSocketAddress(8080), 0);
11         server.createContext("/", new MyHandler());
12         server.setExecutor(null);
13         server.start();
14         System.out.println("Server started on port 8080...");
15     }
16
17     static class MyHandler implements HttpHandler {
18         @Override
19         public void handle(HttpExchange t) throws IOException {
20             String response = "Hello, Kubernetes!";
21             t.sendResponseHeaders(200, response.length());
22             try (OutputStream os = t.getResponseBody()) {
23                 os.write(response.getBytes());
24             }
25         }
26     }
27 }
28
```



Deploy to Kubernetes

```
viyayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker build -t my-java-app:1.0 .
failed to fetch metadata: fork/exec /usr/local/lib/docker/cli-plugins/docker-buildx: no such file or directory
```

DEPRECATED: The legacy builder is deprecated and will be removed in a future release.
Install the buildx component to build images with BuildKit:
<https://docs.docker.com/go/buildx/>

```
Sending build context to Docker daemon 4.096kB
```

```
viyayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
my-java-app	1.0	4aae8f8d24ab	4 seconds ago	244MB

```
viyayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker run -d -p 8080:8080 --name test-java-app my-java-app:1.0
4c66a529572efd0437a67db55375350b618332a0dd10c781f5cdd36fb17405a5
```

```
viyayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ curl http://localhost:8080
Hello, Kubernetes!viyayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker rm -f test-java-app
test-java-app
```

```

vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker tag my-java-app:1.0 vijayagagla123/my-java-app:1.0
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ docker push vijayagagla123/my-java-app:1.0
The push refers to repository [docker.io/vijayagagla123/my-java-app]
b8c689a7dab2: Pushed
ed51034fefbd: Pushed
83b767b06655: Mounted from library/adoptopenjdk
14fbd8039ba4: Mounted from library/adoptopenjdk
da55b45d310b: Mounted from library/adoptopenjdk
1.0: digest: sha256:d0a1329b1f10b030e9b78157401e286fd5735b68979300e7ca4015e2f0e2c260 size: 1367
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ kubectl apply -f deployment.yaml
deployment.apps/java-app-deployment created
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ kubectl get deployments
NAME                READY   UP-TO-DATE   AVAILABLE   AGE
hello                3/3     3             3           3d6h
java-app-deployment 0/1     1             0           9s
nginx-deployment    10/10   10            10          6h32m
nginx-webserver     1/1     1             1           4h56m
redis-deployment    1/1     1             1           109m
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ kubectl apply -f service.yaml
service/java-app-service created
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ kubectl get svc
NAME                TYPE        CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
hello                NodePort    10.99.6.155   <none>        8080:32345/TCP   3d6h
java-app-service     NodePort    10.106.46.159 <none>        80:30080/TCP     8s
kubernetes           ClusterIP   10.96.0.1     <none>        443/TCP          3d6h
redis-service        NodePort    10.101.251.26 <none>        6379:30079/TCP   110m
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ minikube service java-app-service

```

NAMESPACE	NAME	TARGET PORT	URL
default	java-app-service	80	http://192.168.49.2:30080

Test the Application

```
vijayagagla@DESKTOP-FP40P26:~/kubernetes/java-k8s-lab$ minikube service java-app-service
```

NAMESPACE	NAME	TARGET PORT	URL
default	java-app-service	80	http://192.168.49.2:30080

🔑 Starting tunnel for service java-app-service.

NAMESPACE	NAME	TARGET PORT	URL
default	java-app-service		http://127.0.0.1:44247

🌐 Opening service default/java-app-service in default browser...

```
/usr/bin/xdg-open: 882: x-www-browser: not found
/usr/bin/xdg-open: 882: firefox: not found
/usr/bin/xdg-open: 882: iceweasel: not found
/usr/bin/xdg-open: 882: seamonkey: not found
/usr/bin/xdg-open: 882: mozilla: not found
/usr/bin/xdg-open: 882: epiphany: not found
/usr/bin/xdg-open: 882: konqueror: not found
/usr/bin/xdg-open: 882: chromium: not found
/usr/bin/xdg-open: 882: chromium-browser: not found
/usr/bin/xdg-open: 882: google-chrome: not found
/usr/bin/xdg-open: 882: www-browser: not found
/usr/bin/xdg-open: 882: links2: not found
/usr/bin/xdg-open: 882: elinks: not found
/usr/bin/xdg-open: 882: links: not found
/usr/bin/xdg-open: 882: lynx: not found
/usr/bin/xdg-open: 882: w3m: not found
xdg-open: no method available for opening 'http://127.0.0.1:44247'
```

← → 🔍 127.0.0.1:44247

🔍 | 🌐 Leiter/in - ITIT-Proje... | 🌐 GitHub Flow | 🐙 Git | » A successful Git bra... | 📖 PMP Practice Exam... | 🌐 GitHub - danielboh... | 📄 e | 🌐 Catalina(Tomcat) Cu... | 🔥 Apache Tomcat Har...

Hello, Kubernetes!