

## Devops Final Test

### 1) Branching Strategy

```
master@master-vm:~/Desktop/java-microservice$ git push origin feature/login
Username for 'https://github.com': Bhargavkulla
Password for 'https://Bhargavkulla@github.com':
Total 0 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'feature/login' on GitHub by visiting:
remote:   https://github.com/Bhargavkulla/java-microservice/pull/new/feature/login
remote:
To https://github.com/Bhargavkulla/java-microservice.git
 * [new branch]      feature/login -> feature/login
master@master-vm:~/Desktop/java-microservice$ git checkout -b develop
Switched to a new branch 'develop'
master@master-vm:~/Desktop/java-microservice$ git push origin develop
Username for 'https://github.com': Bhargavkulla
Password for 'https://Bhargavkulla@github.com':
Total 0 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'develop' on GitHub by visiting:
remote:   https://github.com/Bhargavkulla/java-microservice/pull/new/develop
remote:
To https://github.com/Bhargavkulla/java-microservice.git
 * [new branch]      develop -> develop
```

### 2) Building and testing the Java application using Maven

```
master@master-vm:~/Desktop/java-microservice/java-microservice$ nano src/main/java/com/bhargav/app/App.java
master@master-vm:~/Desktop/java-microservice/java-microservice$ mvn clean package
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.bhargav.app:java-microservice >-----
[INFO] Building java-microservice 1.0-SNAPSHOT
[INFO]
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:3.2.0:clean (default-clean) @ java-microservice ---
[INFO] Deleting /home/master/Desktop/java-microservice/java-microservice/target
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:resources (default-resources) @ java-microservice ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory /home/master/Desktop/java-microservice/java-microservice/src/main/resources
[INFO] skip non existing resourceDirectory /home/master/Desktop/java-microservice/java-microservice/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:compile (default-compile) @ java-microservice ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to /home/master/Desktop/java-microservice/java-microservice/target/classes
[INFO]
[INFO] --- maven-resources-plugin:3.2.0:testResources (default-testResources) @ java-microservice ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] Using 'UTF-8' encoding to copy filtered properties files.
[INFO] skip non existing resourceDirectory /home/master/Desktop/java-microservice/java-microservice/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:testCompile (default-testCompile) @ java-microservice ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to /home/master/Desktop/java-microservice/java-microservice/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.2:test (default-test) @ java-microservice ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.bhargav.app.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.123 s - in com.bhargav.app.AppTest
[INFO]
[INFO] Results:
```

### 3) Building Dockerfile

```
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.2.2:jar (default-jar) @ java-microservice ---
[INFO] Building jar: /home/master/Desktop/java-microservice/java-microservice/target/java-microservice-1.0-SNAPSHOT.jar
[INFO]
[INFO] --- spring-boot-maven-plugin:2.7.18:repackage (repackage) @ java-microservice ---
[INFO] Replacing main artifact with repackaged archive
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time: 11.911 s
[INFO] Finished at: 2025-04-10T14:30:27+05:30
[INFO]
[INFO] -----
master@master-vm:~/Desktop/java-microservice/java-microservice$ docker build -t java-microservice:1.0 .
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   20MB
Step 1/4 : FROM openjdk:17-jdk-slim
--> 37eb44321d04
Step 2/4 : WORKDIR /app
--> Using cache
--> c4403171e652
Step 3/4 : COPY target/java-microservice-1.0-SNAPSHOT.jar app.jar
--> 82d8f72c5918
Step 4/4 : ENTRYPOINT ["java", "-jar", "app.jar"]
--> Running in 9915e8fee3b1
--> Removed intermediate container 9915e8fee3b1
--> 00da37cae519
Successfully built 00da37cae519
Successfully tagged java-microservice:1.0
```

```
master@master-vm:~/Desktop/java-microservice/java-microservice$ curl http://localhost:9090
Hello from Spring Boot!master@master-vm:~/Desktop/java-microservice/java-microservice$
```

```
master@master-vm:~/Desktop/java-microservice/java-microservice$ docker run -p 9090:8080 java-microservice:1.0
```

```

  ____      _       _      _ 
 / ___|    / \     | |    / \   VVVV
| |___|_  / __|    | |    / __|  WWWW
|_____|_/|___|_   |_|   /___|__|||
                                     ||
=====|=====||==/=/|||/|||
:: Spring Boot ::                    (v2.7.18)

2025-04-10 09:00:47.097 INFO 1 --- [main] com.bhargav.app.App : Starting App v1.0-SNAPSHOT using Java 17.0.2 on 95c4e5b7f4f7 with PID 1 (/app/app.jar started by root in /app)

2025-04-10 09:00:47.121 INFO 1 --- [main] com.bhargav.app.App : No active profile set, falling back to 1 default profile: "default"

2025-04-10 09:00:51.799 INFO 1 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 8080 (http)

2025-04-10 09:00:51.823 INFO 1 --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]

2025-04-10 09:00:51.825 INFO 1 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.83]

2025-04-10 09:00:52.301 INFO 1 --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext

2025-04-10 09:00:52.362 INFO 1 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 4531 ms

2025-04-10 09:00:54.523 INFO 1 --- [main] o.s.b.a.e.web.EndpointLinksResolver : Exposing 1 endpoint(s) beneath base path '/actuator'

2025-04-10 09:00:54.680 INFO 1 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context path ''

2025-04-10 09:00:54.701 INFO 1 --- [main] com.bhargav.app.App : Started App in 9.489 seconds (JVM running for 11.19)

2025-04-10 09:00:55.564 INFO 1 --- [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'

2025-04-10 09:00:55.565 INFO 1 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'

2025-04-10 09:00:55.568 INFO 1 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 2 ms

^Cmaster@master-vm:~/Desktop/java-microservice/java-microservice$ docker run -d -p 9090:8080 java-microservice:1.0
6b8bd18e764fc1d75ed01ff0eda5dd20742ceb54abc9b4a786cbad7411de31865
```

## A screenshot of a web browser window. The address bar shows 'localhost:9090/'. The page content displays 'Hello from Spring Boot!' in a simple black font on a white background. The browser interface includes a tab labeled 'localhost:9090/', navigation buttons (back, forward, refresh), and a private browsing indicator.

```

master@master-vn:~/Desktop/java-microservice/java-microservice$ docker login
Authenticating with existing credentials...
WARNING! Your password will be stored unencrypted in /home/master/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

master@master-vn:~/Desktop/java-microservice/java-microservice$ docker tag java-microservice:1.0 bhargavakulla/java-microservice:1.0
master@master-vn:~/Desktop/java-microservice/java-microservice$ docker push bhargavakulla/java-microservice:1.0
The push refers to repository [docker.io/bhargavakulla/java-microservice]
653b790ef653: Pushed
bd1eb415a9a5: Pushed
6be698267e47: Mounted from library/openjdk
13a34b6fff78: Mounted from library/openjdk
9c1b6dd6c1e6: Mounted from library/openjdk
1.0: digest: sha256:18626525357c797409fc073d346ffbdb81eb7bc17da5ce5e5c0bb6c9a245266b size: 1371
master@master-vn:~/Desktop/java-microservice/java-microservice$

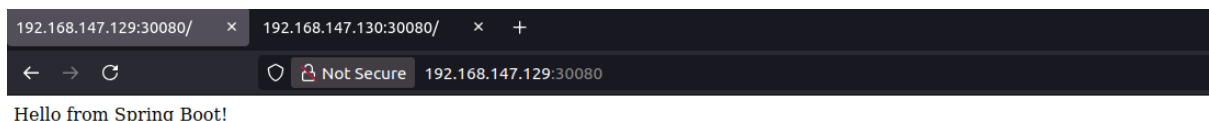
```

```
master@master-vm:~/Desktop/java-microservice/java-microservice$ mkdir -p ~/springboot-k8s
master@master-vm:~/Desktop/java-microservice/java-microservice$ cd ~/springboot-k8s
master@master-vm:~/springboot-k8s$ nano deployment.yaml
master@master-vm:~/springboot-k8s$ nano service.yaml
master@master-vm:~/springboot-k8s$ kubectl apply -f deployment.yaml
deployment.apps/java-microservice-deployment created
master@master-vm:~/springboot-k8s$ kubectl apply -f service.yaml
service/java-microservice-service created
master@master-vm:~/springboot-k8s$
```

```
GNU nano 4.8
apiVersion: apps/v1
kind: Deployment
metadata:
  name: java-microservice-deployment
spec:
  replicas: 1
  selector:
    matchLabels:
      app: java-microservice
  template:
    metadata:
      labels:
        app: java-microservice
    spec:
      containers:
        - name: java-microservice
          image: bhargavakulla/java-microservice:1.0
          ports:
            - containerPort: 8080
```

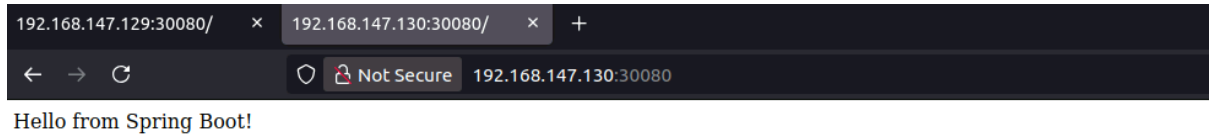
```
GNU nano 4.8
apiVersion: v1
kind: Service
metadata:
  name: java-microservice-service
spec:
  type: NodePort
  selector:
    app: java-microservice
  ports:
    - protocol: TCP
      port: 80
      targetPort: 8080
      nodePort: 30080
```

Checking worker1 through web server

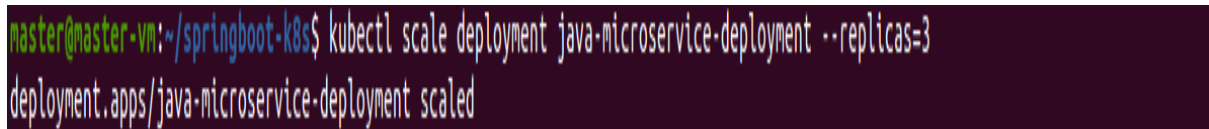


The screenshot shows a web browser window with two tabs. The active tab is titled '192.168.147.129:30080/'. The address bar shows the URL '192.168.147.129:30080' with a 'Not Secure' warning. The page content displays 'Hello from Spring Boot!'.

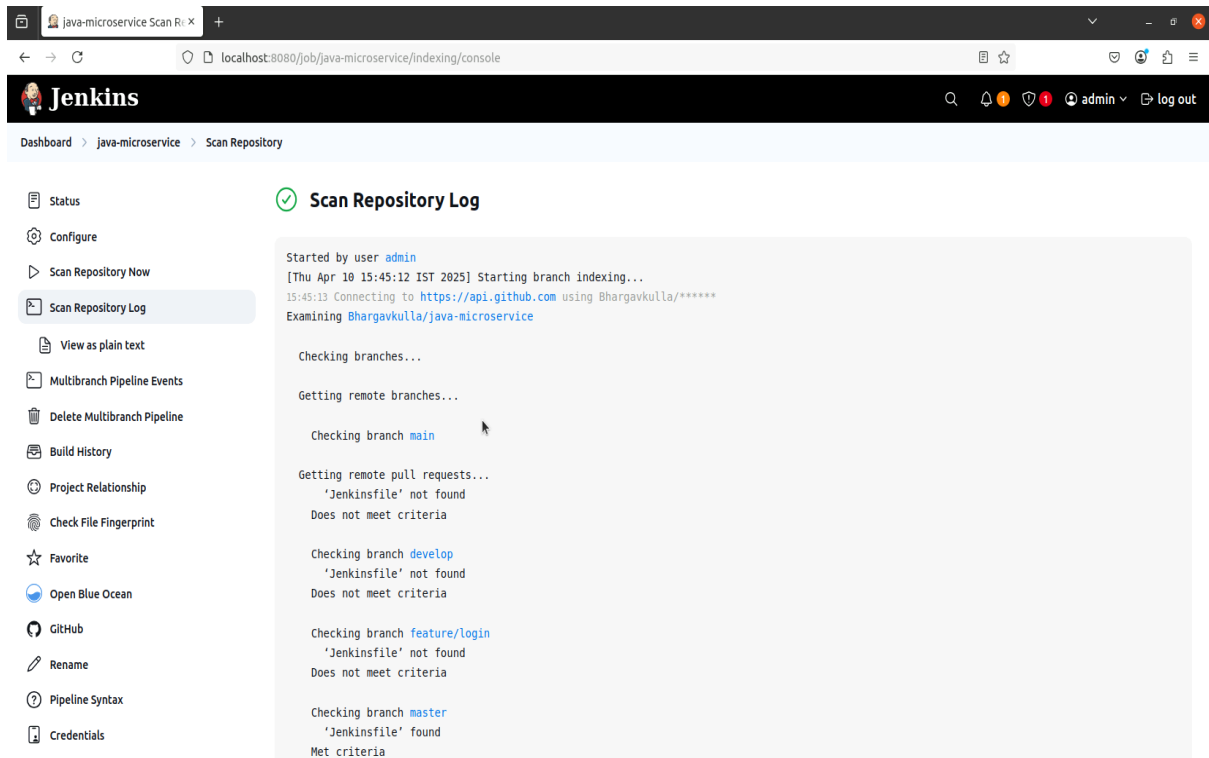
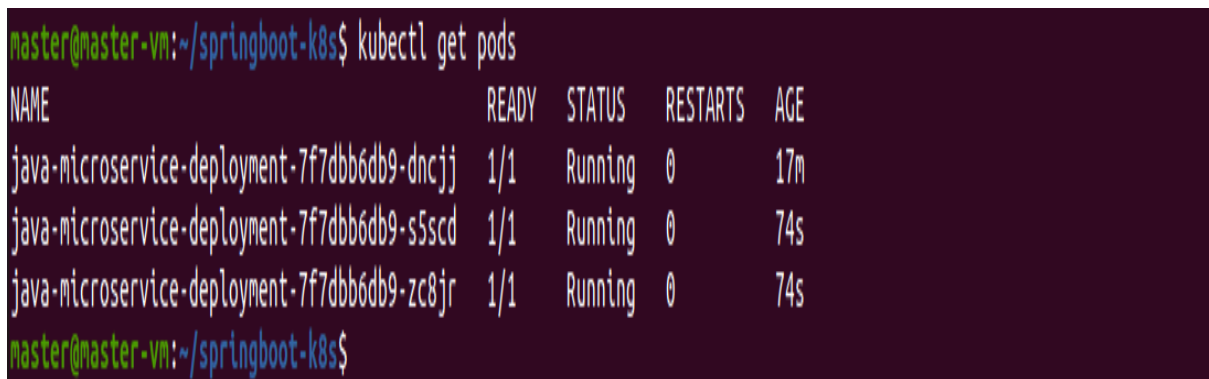
## Checking Worker 2 through Web Server



## 4) Kubernetes Deployment



Checking all pods are running or not



```
Met criteria
Scheduled build for branch: master

4 branches were processed

Checking pull-requests...

0 pull requests were processed

Finished examining Bhargavkulla/java-microservice

[Thu Apr 10 15:45:16 IST 2025] Finished branch indexing. Indexing took 3.8 sec
Finished: SUCCESS
```

Created Webhook

Okay, that hook was successfully created. We sent a ping payload to test it out! Read more about it at <https://docs.github.com/webhooks#ping-event>.

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

**Webhooks**

Environments

Codespaces

Pages

Security

Code Security

Webhooks

Add webhook

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).

✓ <https://7005-103-182-177-42.ngrok...> (push)

EditDelete

Last delivery was successful.

Final Output

