

Final Project

Day - 6

Java Application Deployment in Minikube

Pipeline Script:

```
pipeline {
  agent any

  tools {
    maven "maven"
  }

  environment {
    DOCKER_CREDENTIALS = credentials('docker_cred')
  }

  stages {
    stage('SCM') {
      steps {
        git branch: 'main', url: 'https://github.com/Sachinsandron2005/web-app.git'
      }
    }

    stage('Build-clean') {
      steps {
        sh "mvn clean"
      }
    }

    stage('Build-validate') {
      steps {
        sh "mvn validate"
      }
    }
  }
}
```

```
}
```

```
stage('Build-compile') {
```

```
  steps {
```

```
    sh "mvn compile"
```

```
  }
```

```
}
```

```
stage('Build-test') {
```

```
  steps {
```

```
sh "mvn test"
```

```
  }
```

```
}
```

```
stage('Build-install') {
```

```
  steps {
```

```
sh "mvn install"
```

```
  }
```

```
}
```

```
stage('Build Docker Image') {
```

```
  steps {
```

```
script {
```

```
    sh 'docker build -t sachin/web-app .'
```

```
  }
```

```
}
```

```
}
```

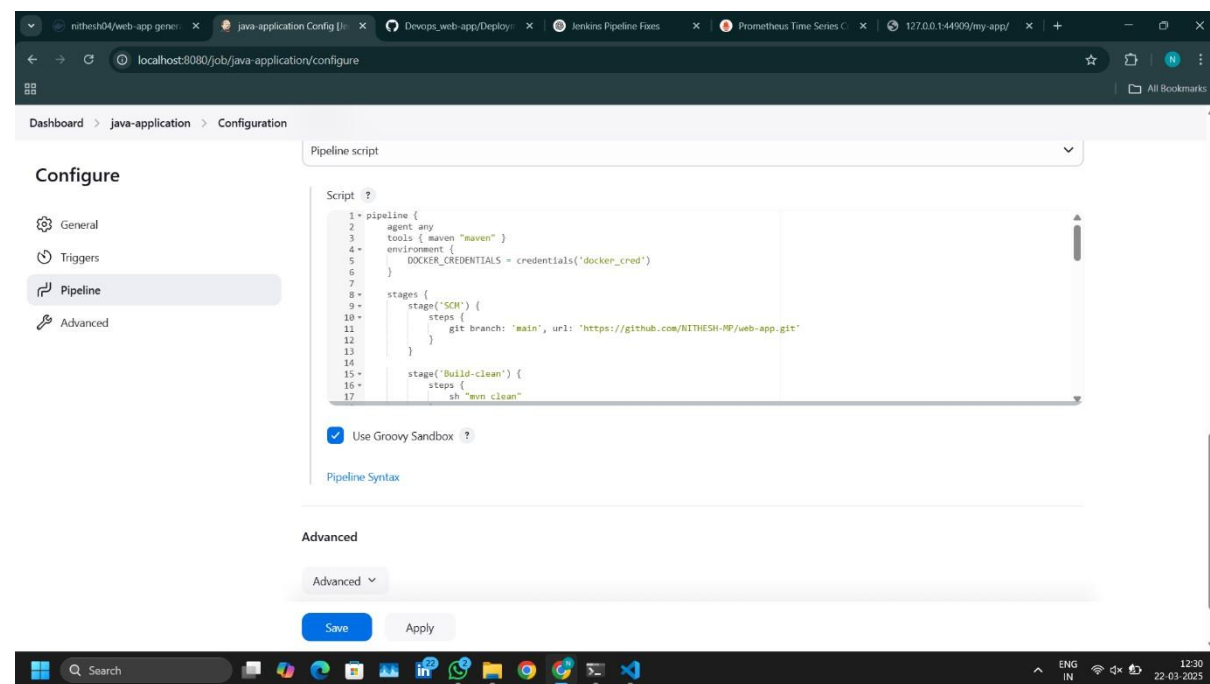
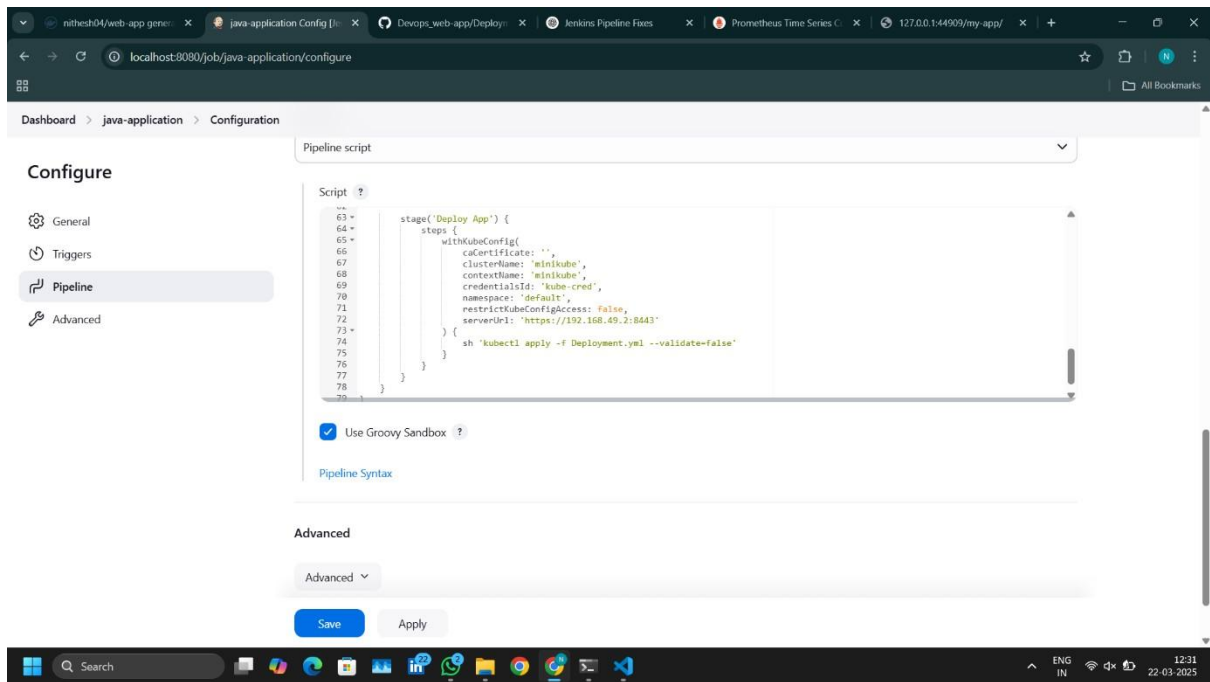
```
stage('Push to Docker Hub') {
```

```

        steps {
script {
            docker.withRegistry('https://index.docker.io/v1/', 'docker_cred') {
sh 'docker push sachin/web-app'
            }
        }
    }
}

stage('Deploy App') {
    steps {
        withKubeConfig(
            caCertificate: "",
            clusterName: 'minikube',
contextName: 'minikube',
credentialsId: 'kube-cred',
namespace: 'default',
restrictKubeConfigAccess: false,
serverUrl: 'https://192.168.49.2:8443'
        ) {
            sh 'kubectl apply -f Deployment.yml --validate=false'
        }
    }
}
}

```



Deployment File:

apiVersion:

apps/v1 kind:

Deployment

metadata: name:

my-deploy

labels: name: my-

deploy spec: replicas: 1

selector: matchLabels:

apptype: web-backend

strategy:

type:

RollingUpdate

template:

metadata:

labels:

apptype: web-backend

spec:

containers:

- name: web-app

image: nithesh04/web-app

ports:

- containerPort: 9000

apiVersion: v1

kind: Service

metadata: name:

my-service

labels:

app: my-service spec:

type: NodePort

ports: - port:

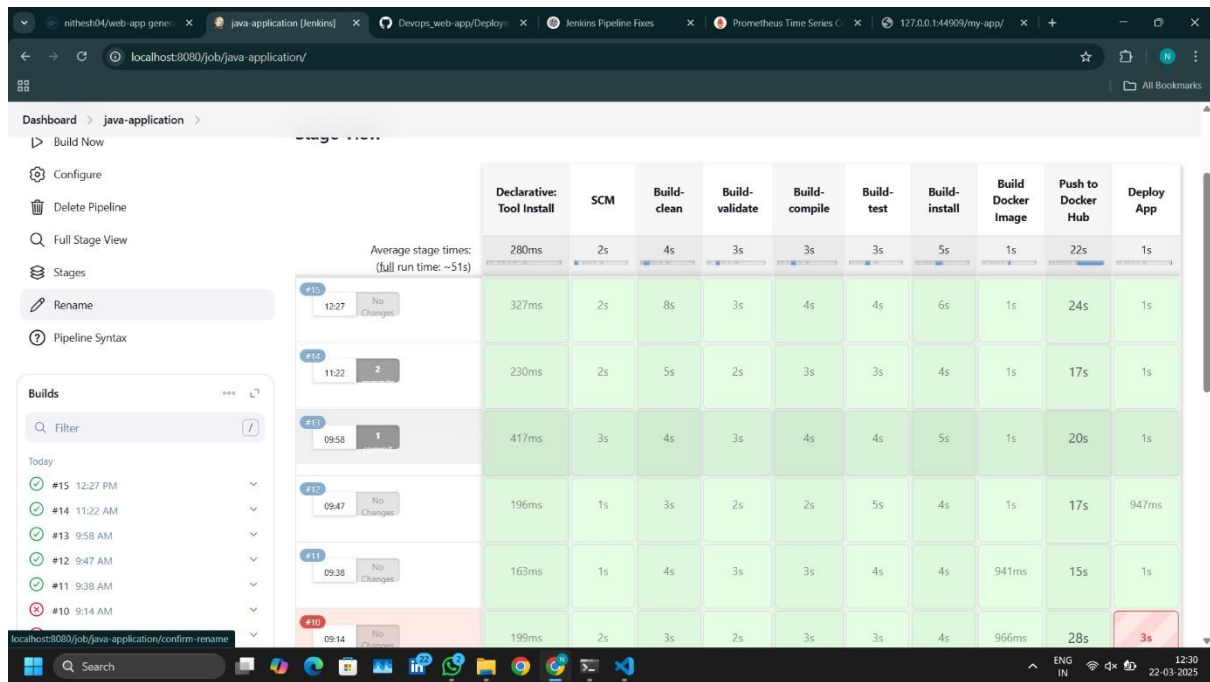
9000 targetPort:

8080 nodePort:

30002 selector:

apptype: web-backend **Credentials:**

Stage view:



Console Output:

Dashboard > java-application > #15

- Changes
- Console Output**
- Edit Build Information
- Delete build '#15'
- Timings
- Git Build Data
- Pipeline Overview
- Pipeline Console
- Restart from Stage
- Replay
- Pipeline Steps
- Workspaces
- Previous Build

```
Started by user: NITESH M P
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/java-application
[Pipeline] {
[Pipeline] withCredentials
Masking supported pattern matches of $DOCKER_CREDENTIALS or $DOCKER_CREDENTIALS_PSW
[Pipeline] {
[Pipeline] stage (hide)
[Pipeline] { (Declarative: Tool Install)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (SCH)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] withEnv
[Pipeline] {
[Pipeline] git
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
```

13:39 22-03-2025


```
Dashboard > java-application > #15

[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] {
[Pipeline] build clean
[Pipeline] tool
[Pipeline] envVarsFromTool
[Pipeline] withEnv
[Pipeline] {
[Pipeline] sh
+ mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.mycompany.app:my-web >-----
[INFO] Building my-web Maven Webapp 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO]
[INFO] -----[ war ]-----
[INFO]
[INFO] --- clean:3.4.0:clean (default-clean) @ my-web ---
[INFO] Deleting /var/lib/jenkins/workspace/java-application/target
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.677 s
[INFO] Finished at: 2025-03-22T12:27:45+05:30
[INFO]
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
```

```
Dashboard > java-application > #15

+ mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.mycompany.app:my-web >-----
[INFO] Building my-web Maven Webapp 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO]
[INFO] -----[ war ]-----
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ my-web ---
[INFO] skip non existing resourceDirectory /var/lib/jenkins/workspace/java-application/src/main/resources
[INFO]
[INFO] --- compiler:3.13.0:compile (default-compile) @ my-web ---
[INFO] No sources to compile
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ my-web ---
[INFO] skip non existing resourceDirectory /var/lib/jenkins/workspace/java-application/src/test/resources
[INFO]
[INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ my-web ---
[INFO] No sources to compile
[INFO]
[INFO] --- surefire:3.0.0:test (default-test) @ my-web ---
[INFO] No tests to run.
[INFO]
[INFO] --- war:3.4.0:war (default-war) @ my-web ---
[INFO] Packaging webapp
[INFO] Assembling webapp [my-web] in [/var/lib/jenkins/workspace/java-application/target/my-web]
[INFO] Processing war project
[INFO] Copying webapp resources [/var/lib/jenkins/workspace/java-application/src/main/webapp]
```

```
Dashboard > java-application > #15

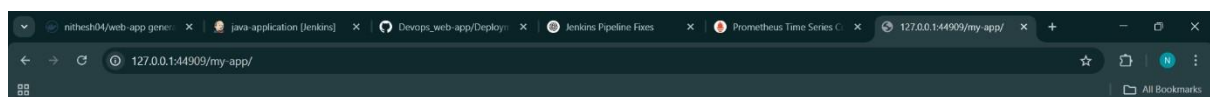
[Pipeline] withEnv
[Pipeline] {
[Pipeline] withKubeConfig
[Pipeline] {
[Pipeline] sh
+ kubectl apply -f Deployment.yml --validate=false
service/my-service unchanged
[Pipeline] }
[kubernetes-cli] kubectl configuration cleaned up
[Pipeline] // withKubeConfig
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // withCredentials
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

REST API Jenkins 2.492.2
```

Minikube Service:

```
achin@achin:~/kube$ cd ~/.kube  
achin@achin:~/kube$ cat /home/achin/.minikube/ca.crt | base64 -w 0; echo  
base64: invalid wrap size: ' 0 '  
Command `echo` not found, did you mean:  
    command `echo` from deb coreutils (9.4-2ubuntu2)  
Try: sudo apt install <deb name>  
achin@achin:~/kube$ sudo apt install  
[sudo] password for achin:  
Reading package lists... Done  
Building dependency tree... Done  
Resolving state information... Done  
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.  
achin@achin:~/kube$ cat /home/achin/.minikube/ca.crt | base64 -w 8; echo  
base64: invalid wrap size: ' 0 '  
Command `echo` not found, did you mean:  
    command `echo` from deb coreutils (9.4-2ubuntu2)  
Try: sudo apt install <deb name>  
achin@achin:~/kube$ cat /home/achin/.minikube/ca.crt | base64 -w 0; echo  
base64: invalid wrap size: ' 0 '  
Command `echo` not found, did you mean:  
    command `echo` from deb coreutils (9.4-2ubuntu2)  
Try: sudo apt install <deb name>  
achin@achin:~/kube$ cat /home/achin/.minikube/ca.crt | base64 -w 0; echo  
LS9tLSc1RUQJTjBDRVJUSUZhOGRFVS9tS0tkc1JSURCaklNQWZUZDZF3SUJBz0LCVBRTktJna3FoA2LHOXcwKqFRc0ZBREFTVTWNjd0VRWRUVUFERXdwdGFXXAKYXNlNmAwPtVktnJnQJRyRFRJMUIETXHVPVEEX  
TLRJaeSWbiHfEgEVeTURLMEPE9OTFOVELUL1vzb2DSURVNQRKHQHOTFRQPBeElLYldsdfDFzvZEUUDROGFTSXdeUELKS29aSWh7ZBS5BUUCVLQFBRGdnRBVBENDDQVFvcQzdnlRUJBTFZTKCbJma3FMNEFvmUmYY  
TVrWe5dIjHePebVxSGmPRPCoQM3M1ly2pb2NmpIEHH3Z1PiFLMKYZtljbWgcncdSMhgSRFXdwkgfwZGlFlAUZA2FB0UXBVXLwbVKWDms=TYTZ2zhRhghK8ZIQR6KBDBMyISRLUnkwhe3VIWFdz4ilCB  
U0lMZlZVMzVmZWZUMzRlcmlTdCI0MTIwMDZlUEUERZUGRuc0E2YWJkaRoOSi0HTVljbjJmRWEmBljljkac0E9SEJjeCaU0yb3JZZkZlaXNERcc0ESkdEDNVUlpmamISTVBKTUJD0ZYSHksCuIZ2  
MnxMQGHwaXPLNmJJSSzaARTRbtTaImZMiVmxTUHNKEIMGURePhz5GBVBEKSDRKozWIscGE0NBhxUVUpkbSS91MkJdd0LNWLln3HoMuUNGQuGO21IsBgkySeJCpz2t6MFvfndytQGFRUBFYU50UTV4qdRNuRMUr  
UuBMqvTHl3BJURWB2BatTuiMrAEVvNRUKVFCXCklCUADQ3MHQQVFNrkJ3TUNCZ2dyQmdcfRkRJRYBRBBVFQGDovkhSTUJBZHjFIRBBREFSC9npQBHGTOFMBVTBNVCUQkjRaFrJHS2ztobbhKhQczRRQ1RGYSVL04  
cjdmecZOJUSCZ2txagtPrzl3MEJBUXNJQSFPQORRRUFarNiIszilwpDSPDL3NYUukwUklldKN2ct0HMDFzfcyavBWJmj9vcGgd4UTEZNKRnanhibohMVXnjvitVVUTBLU2VVOHC2REJzcLppQXB3qlNgbnp2  
VUNub2Vy3qmQC0XBatFR3ibVDVnRHZAk2llisufOKzIWmcvwWHhsEcokpblygsJKaJUASjamSpb2KYV1lwczLaZjhIdnsJTkMJzwJVzMwlOW1xmOFEK21lvjrjVHJsKuNDkrZJqr2LVnmVsHVLMHI9BMFuZbpnCCHLK  
LO1mmxrXUXwnBMNNIFloEMNLMP2rdglpgvx4bfBWMZedLUelGDIDYUPHWm9XMuxuWXNTNselsFDc2LTU0QNQLceCLUAT05HU0JSDShMOvhKAwROLzFxclREK01FMC82UZEzyTBKZtlQnfFcckNSWHZVaEO3  
U01weXAZVYR8cdXCCoKENZU8dlvdvjYzDXFFMRc9PQotSLstLVOROCDRVJUSUZQ0FUROS0tLS0tc==  
achin@achin:~/kube$ /home/achin/.minikube/profiles/minikube/cClient.crt  
--bash: /home/achin/.minikube/profiles/minikube/client.crt: Permission denied  
achin@achin:~/kube$ /home/achin/.minikube/profiles/minikube/client.crt  
--bash: /home/achin/.minikube/profiles/minikube/client.crt: Permission denied  
achin@achin:~/kube$ cat /home/achin/.minikube/profiles/minikube/client.crt  
-----BEGIN CERTIFICATE-----  
MIIDIITCCAgaMAIBAgIBAIAJNBgqhkiG9w0BAQsFADEVMMRWEQYDVQODEwptaw5p  
a3ViZS1unBMBQAODTI1MDMyMDANdg2OfOXDTI4MDMyMDAANDgz2OfowTEXMBUGAIUE
```

Output:



Hello World!

