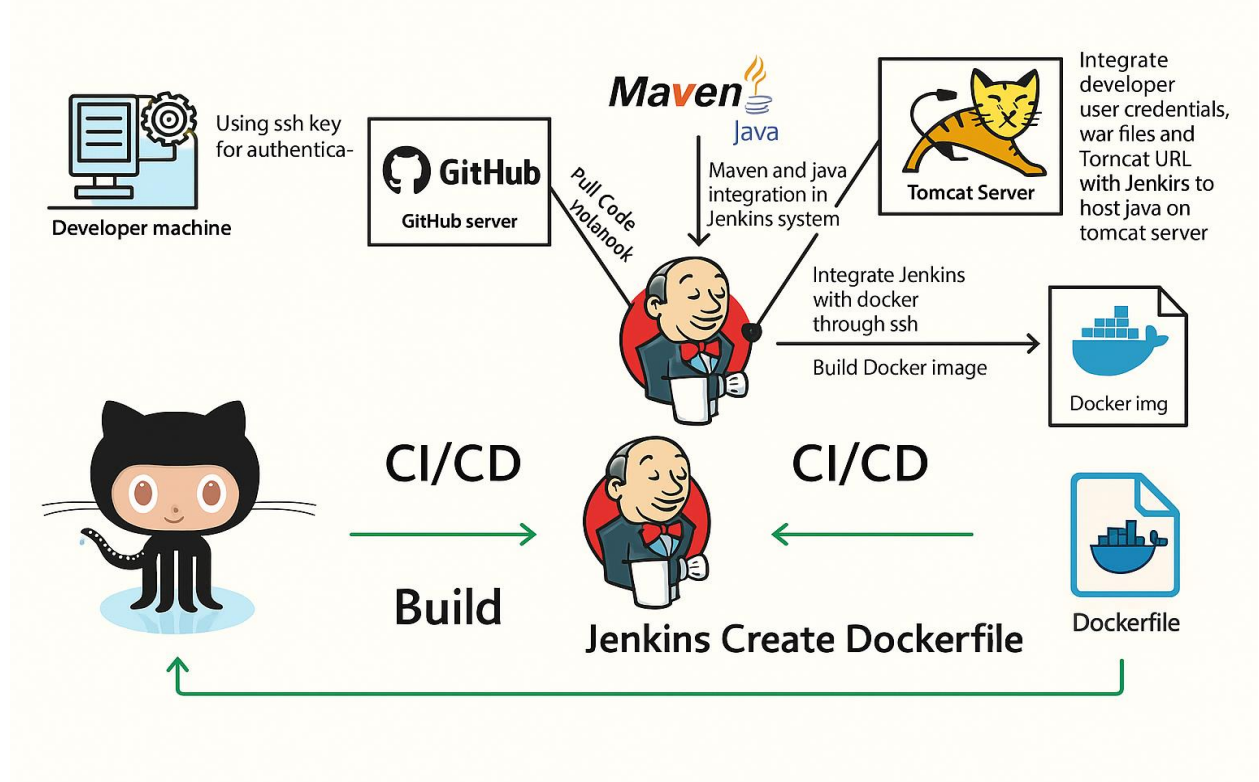


AWS DevOps Project | Build Jenkins CI/CD Pipeline for Java Application deployment | Maven | Tomcat | Webhooks



CI/CD Pipeline (Jenkins): Jenkins is configured to monitor the Git repository. Upon detecting changes, it performs the following:

- **Build:** Uses Maven to compile the Java application.
- **Test:** Runs unit tests to ensure code quality
- **Package:** Packages the application into a deployable format (e.g., WAR or JAR file).

Deploy: Transfers the packaged application to the AWS EC2 instance

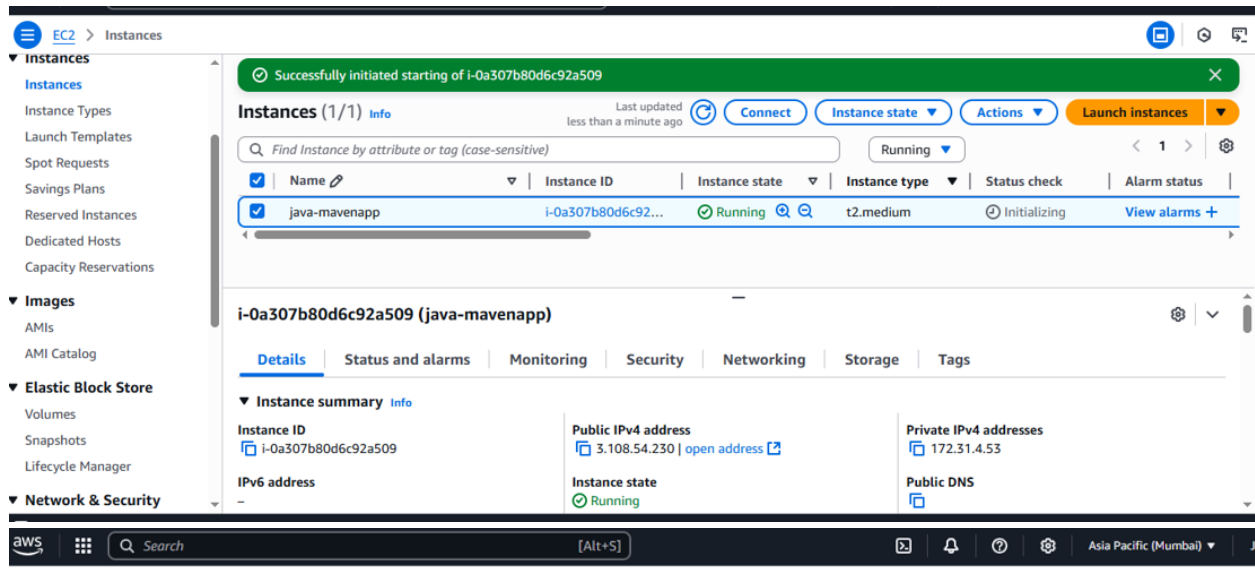
- AWS EC2 Instance (Web Server): Hosts the deployed Java application, making it accessible to end-users.
- Developer writes Java code and defines dependencies in pom.xml.
- Maven reads pom.xml, downloads necessary libraries, compiles code and package it into a .war file
- Tomcat takes the .war file and deploys it as a web app accessible via a browser.

Tools and Technologies Used

- Java & Maven: For application development and build automation.
- Git: Version control system to manage source code.
- Jenkins: Automates the build, test, and deployment processes.
- AWS EC2: Provides scalable computing capacity to host the application.

Configure Infrastructure in AWS Cloud

Launch an EC2 Instance Ubuntu (22.04) T2 medium Instance



Successfully initiated starting of i-0a307b80d6c92a509

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
java-mavenapp	i-0a307b80d6c92a509	Running	t2.medium	Initializing	View alarms +

i-0a307b80d6c92a509 (java-mavenapp)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary Info

Instance ID i-0a307b80d6c92a509	Public IPv4 address 3.108.54.230 open address	Private IPv4 addresses 172.31.4.53
IPv6 address	Instance state Running	Public DNS

aws Search [Alt+S] Asia Pacific (Mumbai)

EC2 > Instances > i-0a307b80d6c92a509 > Connect to instance

Connect Info

Connect to an instance using the browser-based client.

EC2 Instance Connect | Session Manager | **SSH client** | EC2 serial console

Instance ID
i-0a307b80d6c92a509 (java-mavenapp)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is Three-tier.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 "Three-tier.pem"
4. Connect to your instance using its Public DNS:
ec2-3-108-54-230.ap-south-1.compute.amazonaws.com

Example:
ssh -i "Three-tier.pem" ubuntu@ec2-3-108-54-230.ap-south-1.compute.amazonaws.com

Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

EC2instance->Security Groups->Edit inbound Rules:

Configure Security Group

AWS Management Console - Edit inbound rules for sg-060967d2907b6fd80 - launch-wizard-1

Security Group ID	Protocol	Port Range	Source	Destination	Action
sg-0f1507b5430012c82	Custom TCP	8080	0.0.0.0/0	jenkins	Delete
sg-03e471633fdb4ea3a	SSH	22	0.0.0.0/0		Delete
sg-0625808501ab2ec99	HTTPS	443	0.0.0.0/0		Delete
-	Custom TCP	9000	0.0.0.0/0	tomcat	Delete
-	Custom TCP	587	0.0.0.0/0	emails	Delete
-	Custom TCP	465	0.0.0.0/0		Delete

Add rule

```
ubuntu@ip-172-31-4-53:~/java-mavenapp/scripts$ sh jenkins.sh
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:4 https://download.docker.com/linux/ubuntu noble InRelease [48.8 kB]
Get:5 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1107 kB]
Get:6 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main Translation-en [235 kB]
Get:7 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [161 kB]
Get:8 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1068 kB]
Get:9 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [271 kB]
Get:10 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [376 kB]
Get:11 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [1171 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:13 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [243 kB]
Get:14 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:15 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:16 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7080 B]
Get:17 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [16.3 kB]
Get:18 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:19 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:20 https://download.docker.com/linux/ubuntu noble/stable amd64 Packages [25.8 kB]
Get:21 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [864 kB]
Get:22 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [159 kB]
Get:23 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.6 kB]
Get:24 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [845 kB]
77% [24 Packages 122 kB/845 kB 14%]
```

Install the Jenkins.sh

```

Get:7 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Hit:8 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:9 https://pkg.jenkins.io/debian-stable binary/ Packages [29.1 kB]
Fetched 32.0 kB in 0s (81.6 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  net-tools
The following NEW packages will be installed:
  jenkins net-tools
0 upgraded, 2 newly installed, 0 to remove and 68 not upgraded.
Need to get 92.4 MB of archives.
After this operation, 95.2 MB of additional disk space will be used.
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates/main amd64 net-tools amd64 2.10-0.1ubuntu4.4 [2
Get:2 https://pkg.jenkins.io/debian-stable binary/ jenkins 2.504.2 [92.2 MB]
Fetched 92.4 MB in 15s (6135 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 116171 files and directories currently installed.)
Preparing to unpack .../net-tools_2.10-0.1ubuntu4.4_amd64.deb ...
Unpacking net-tools (2.10-0.1ubuntu4.4) ...
Selecting previously unselected package jenkins.
Preparing to unpack .../jenkins_2.504.2_all.deb ...
Unpacking jenkins (2.504.2) ...
Setting up net-tools (2.10-0.1ubuntu4.4) ...
Setting up jenkins (2.504.2) ...
Created symlink /etc/systemd/system/multi-user.target.wants/jenkins.service → /usr/lib/systemd/system/jenkins.servi
Processing triggers for man-db (2.12.0-4build2) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
ubuntu@ip-172-31-4-53:~/java-mavenapp/scripts$

```

Create Docker file

ubuntu@ip-172-31-4-53: ~/java-mavenapp

```
Use a specific version of Tomcat as base image  
FROM tomcat:9.0
```

```
Expose port 8080 to access the application  
EXPOSE 8080
```

```
Copy the WAR file from the target directory of your Maven project to the Tomcat webapps directory  
COPY target/preeti-webapp.war /usr/local/tomcat/webapps/  
COPY target/*.war /usr/local/tomcat/webapps/
```

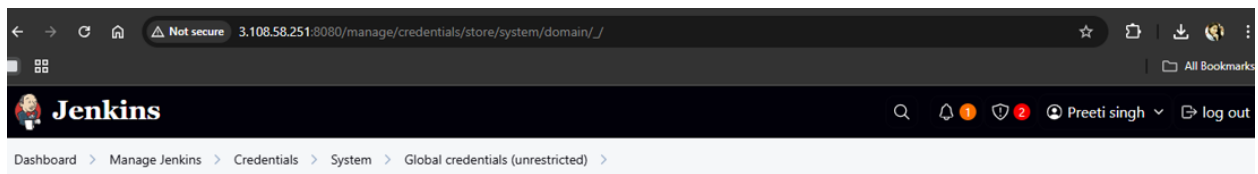
Jenkins ->Manage Jenkins ->Credentials

Add Credentials of Docker Hub

The screenshot shows a web browser window with the URL `3.108.58.251:8080/manage/credentials/store/system/domain/_/newCredentials`. The page title is "Global (Jenkins, nodes, items, all child items, etc)". The form contains the following fields:

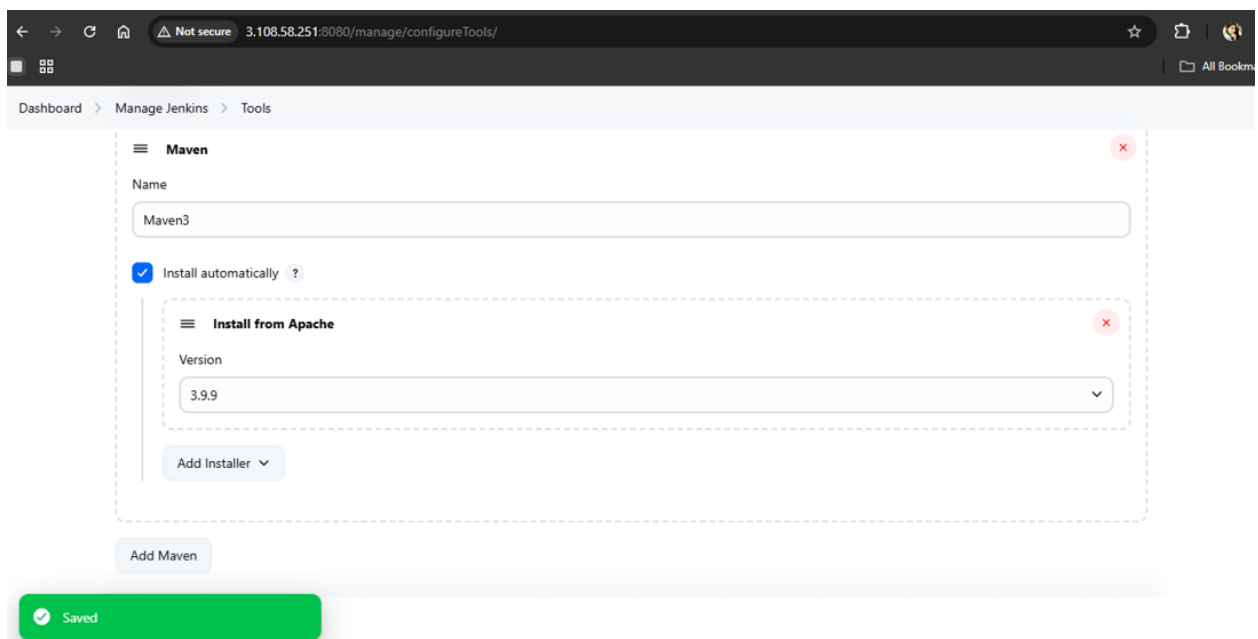
- Username**: `preetis18`
- ☐ **Treat username as secret**
- Password**: `*****`
- ID**: `docker`
- Description**: `docker`

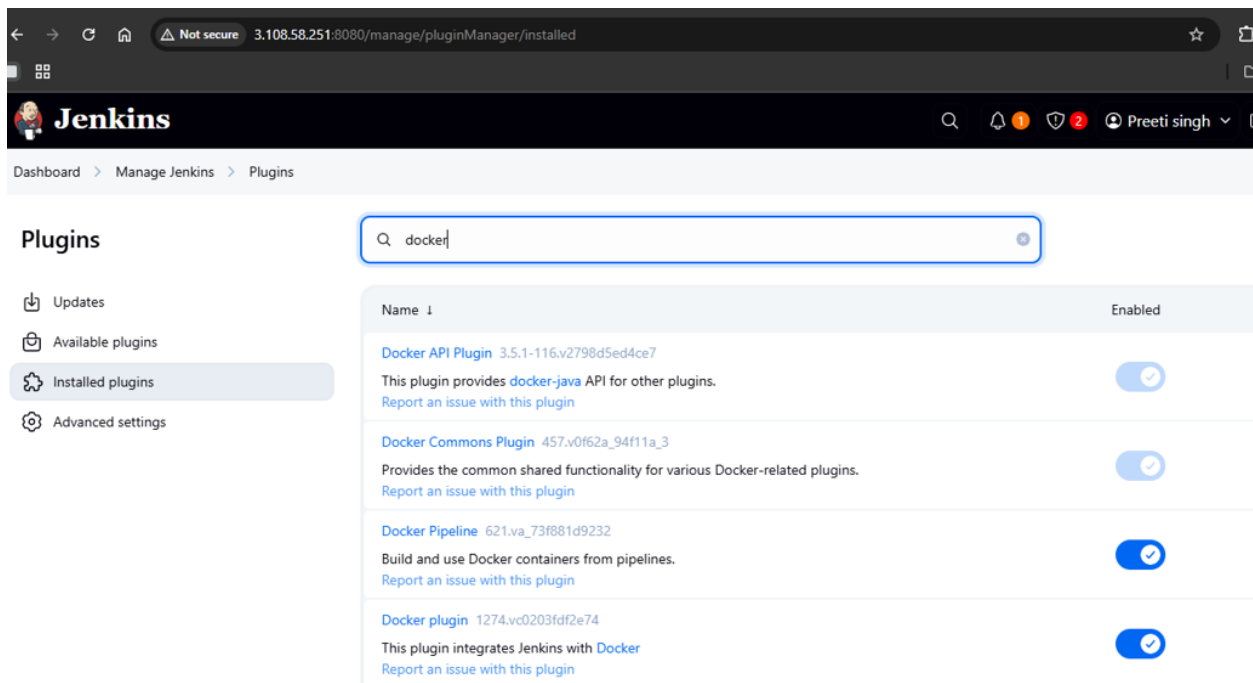
A blue **Create** button is located at the bottom of the form.



Install the tools and required Plugins in Manage Jenkins

Maven 3





Jenkins SMTP Configuration

Please go to:

Jenkins Dashboard → Manage Jenkins → Configure System → Extended E-mail Notification

Fill in the following exact values (for Gmail):

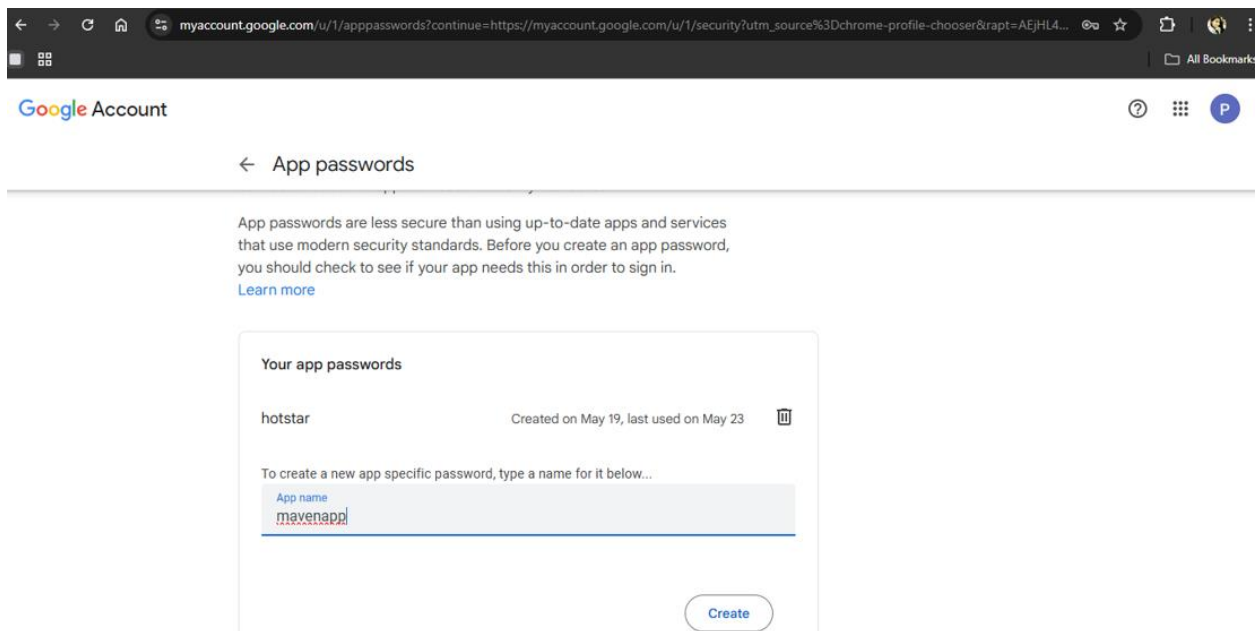
- SMTP Server: smtp.gmail.com
- Use SMTP Authentication: ☒ checked
 - User Name: singhpreeti1618@gmail.com
 - Password: Use App Password
- SMTP Port: 587
- Use TLS: ☒ checked
- **Charset:** UTF-8

If Using Gmail, Enable App Passwords

Gmail blocks access from “less secure apps,” so use an App Password.

Steps:

1. Go to <https://myaccount.google.com/security>
2. Enable 2-Step Verification
3. Click App Passwords
4. Generate password for Mail > Other (Custom Name: MavenApp)
5. Copy and use this password in Jenkins



Install Email extension Plugin

← → ↻ 🏠 ⚠ Not secure 43.204.143.186:8080/manage/pluginManager/installed ☆ 📁 All Bookmarks

Jenkins 🔍 🔔 1 🛡 2 👤 Preeti singh ▾ 🚪 log out

Dashboard > Manage Jenkins > Plugins

Plugins

- 📄 Updates
- 📁 Available plugins
- ⚙ Installed plugins
- ⚙ Advanced settings

🔍 email

Name ↴	Enabled
Email Extension Plugin 1876.v28d8d38315b_d This plugin is a replacement for Jenkins's email publisher. It allows to configure every aspect of email notifications: when an email is sent, who should receive it and what the email says Report an issue with this plugin	<input checked="" type="checkbox"/> ✖
Mailer Plugin 489.vd4b_25144138f This plugin allows you to configure email notifications for build results. Report an issue with this plugin	<input checked="" type="checkbox"/> ✖

← → ↻ 🏠 ⚠ Not secure 52.66.6.227:8080/manage/configure ☆ 📁

Dashboard > Manage Jenkins > System >

E-mail Notification

SMTP server

smtp.gmail.com

Default user e-mail suffix ?

@gmail.com

Advanced ^

✎ Edited

☒ Use SMTP Authentication ?

User Name

singhpreeti1618@gmail.com

Password

🔒 Concealed

Change Password

Save

Apply


← → ↻ 🏠 ⚠ Not secure 52.66.6.227:8080/manage/configure ☆ 📁 🗨 All Bookmarks

Dashboard > Manage Jenkins > System >

Extended E-mail Notification

SMTP server

SMTP Port

Advanced ▾  Edited

Default user e-mail suffix ?

[Save](#) [Apply](#)

← → ↻ 🏠 ⚠ Not secure 52.66.6.227:8080/manage/configure ☆ 📁 🗨 All Bookmarks

Dashboard > Manage Jenkins > System >

User Name

Password

[Change Password](#)

☐ Use SSL ? ☒ Use TLS

SMTP Port ?

Reply-To Address

Charset

[Save](#) [Apply](#)

← → ↻ 🏠 ⚠ Not secure 43.204.143.186:8080/manage/configure ☆

Dashboard > Manage Jenkins > System >

Jenkins Credentials Provider: Jenkins

Username ?
singhpreeti1618@gmail.com

☐ Treat username as secret ?

Password ?
.....

ID ?
smtp-gmail

Description ?
smtp-gmail

Cancel Add

← → ↻ 🏠 ⚠ Not secure 52.66.6.227:8080/job/javamavenproject/configure ☆ 📄 📄 All B

Dashboard > javamavenproject > Configuration

Configure

- General
- Triggers
- Pipeline
- Advanced

Script ?

```
34 script{
35     withDockerRegistry(credentialsId: 'docker', toolname: 'docker'){
36
37         sh '''docker build -t javamavenapp .
38             docker tag javamavenapp preetis18/javamavenapp:latest
39             docker push preetis18/javamavenapp:latest'''
40     }
41 }
42 }
43 }
44 stage('docker container of app') {
45     steps {
46         sh 'docker run -d -p 9000:8080 --name javamavenapp_container -t preetis18/javamavenapp:'
47     }
48 }
```

☒ Use Groovy Sandbox ?

Dashboard > javamavenproject >

Status ✓ **javamavenproject** Add description

</> Changes

▶ Build Now

⚙️ Configure

🗑️ Delete Pipeline

🔍 Full Stage View

📋 Stages

✎ Rename

❓ Pipeline Syntax

Builds ... 🔍

Filter

Stage View

Average stage times:
(full run time: ~1min 30s)

	Declarative: Tool Install	Clean workspace	Git clone	maven war file build	Docker images - Push to dockerhub	docker container of app	Declarative: Post Actions
#13 Jun 04 15:34 No Changes	167ms	317ms	1s	3s	20s	753ms	1min 0s
#12 Jun 04 15:28 No Changes	141ms	281ms	1s	3s	27s	789ms	1min 0s
#11	132ms	288ms	1s	3s	17s	624ms failed	1min 0s

Dashboard > javamavenproject > #13

Status ✓ **Console Output** Download Copy View as plain text

</> Changes

📄 Console Output

📄 Edit Build Information

🗑️ Delete build '#13'

🕒 Timings

🔗 Git Build Data

🔗 Pipeline Overview

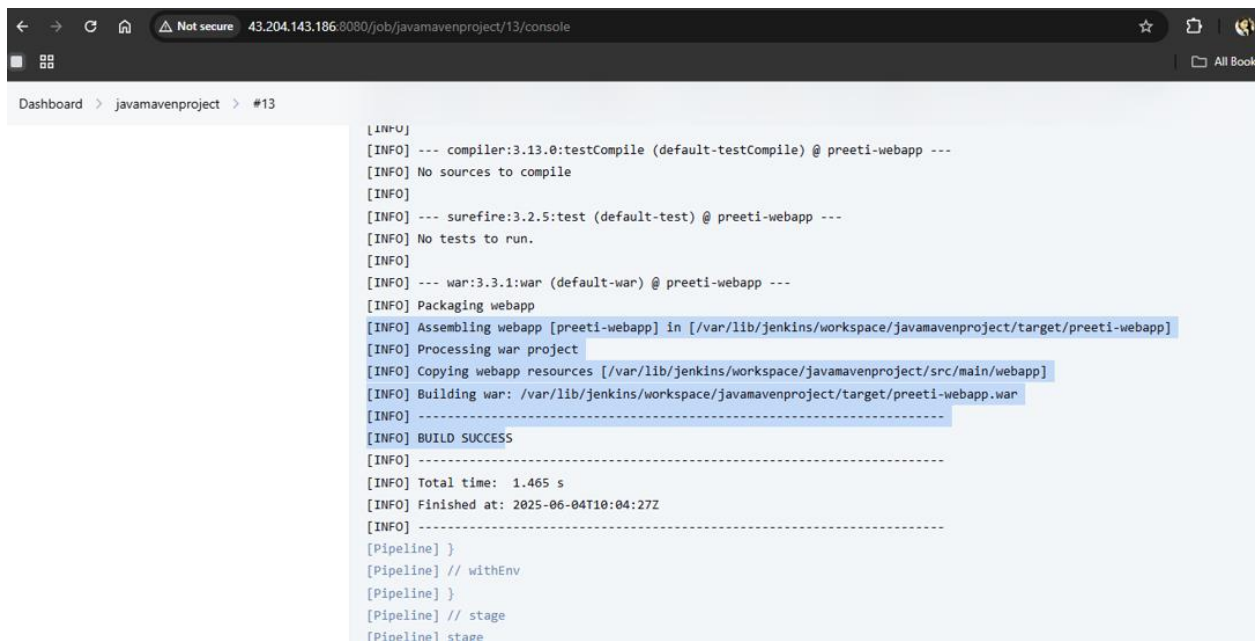
🔄 Restart from Stage

🔄 Replay

📋 Pipeline Steps

📁 Workspaces

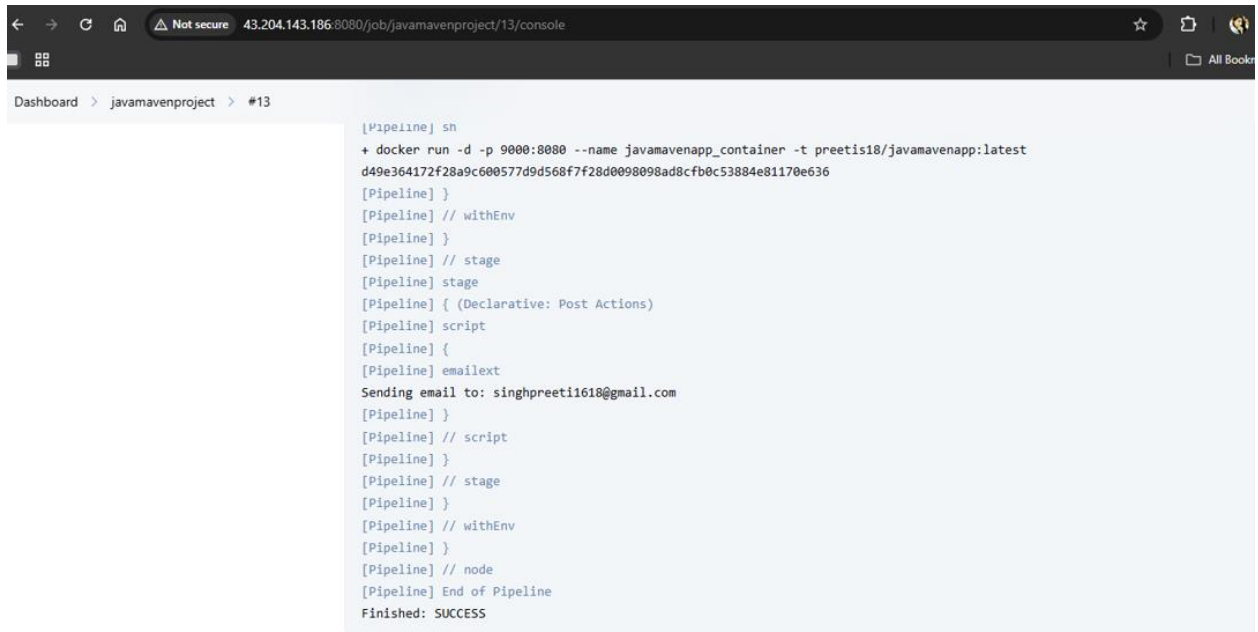
```
Started by user Preeti singh
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/javamavenproject
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Tool Install)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Clean workspace)
[Pipeline] tool
[Pipeline] envVarsForTool
```



A screenshot of a web browser displaying the Jenkins console output for a build named 'javamavenproject' with ID '#13'. The browser's address bar shows the URL '43.204.143.186:8080/job/javamavenproject/13/console'. The console output shows the following steps: [INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ preeti-webapp ---, [INFO] No sources to compile, [INFO] --- surefire:3.2.5:test (default-test) @ preeti-webapp ---, [INFO] No tests to run., [INFO] --- war:3.3.1:war (default-war) @ preeti-webapp ---, [INFO] Packaging webapp, [INFO] Assembling webapp [preeti-webapp] in [/var/lib/jenkins/workspace/javamavenproject/target/preeti-webapp], [INFO] Processing war project, [INFO] Copying webapp resources [/var/lib/jenkins/workspace/javamavenproject/src/main/webapp], [INFO] Building war: /var/lib/jenkins/workspace/javamavenproject/target/preeti-webapp.war, [INFO] BUILD SUCCESS, [INFO] Total time: 1.465 s, [INFO] Finished at: 2025-06-04T10:04:27Z. The output is enclosed in a light blue box.

```
[INFO]
[INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ preeti-webapp ---
[INFO] No sources to compile
[INFO]
[INFO] --- surefire:3.2.5:test (default-test) @ preeti-webapp ---
[INFO] No tests to run.
[INFO]
[INFO] --- war:3.3.1:war (default-war) @ preeti-webapp ---
[INFO] Packaging webapp
[INFO] Assembling webapp [preeti-webapp] in [/var/lib/jenkins/workspace/javamavenproject/target/preeti-webapp]
[INFO] Processing war project
[INFO] Copying webapp resources [/var/lib/jenkins/workspace/javamavenproject/src/main/webapp]
[INFO] Building war: /var/lib/jenkins/workspace/javamavenproject/target/preeti-webapp.war
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.465 s
[INFO] Finished at: 2025-06-04T10:04:27Z
[INFO] -----
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
```

War file is created from pom.xml using Maven build tool



A screenshot of a web browser displaying the Jenkins console output for a build named 'javamavenproject' with ID '#13'. The browser's address bar shows the URL '43.204.143.186:8080/job/javamavenproject/13/console'. The console output shows the following steps: [Pipeline] sn, + docker run -d -p 9000:8080 --name javamavenapp_container -t preetis18/javamavenapp:latest d49e364172f28a9c600577d9d568f7f28d0098098ad8cfb0c53884e81170e636, [Pipeline] }, [Pipeline] // withEnv, [Pipeline] }, [Pipeline] // stage, [Pipeline] stage, [Pipeline] { (Declarative: Post Actions), [Pipeline] script, [Pipeline] {, [Pipeline] emailx, Sending email to: singhpreeti1618@gmail.com, [Pipeline] }, [Pipeline] // script, [Pipeline] }, [Pipeline] // stage, [Pipeline] }, [Pipeline] // withEnv, [Pipeline] }, [Pipeline] // node, [Pipeline] End of Pipeline, Finished: SUCCESS. The output is enclosed in a light blue box.

```
[Pipeline] sn
+ docker run -d -p 9000:8080 --name javamavenapp_container -t preetis18/javamavenapp:latest d49e364172f28a9c600577d9d568f7f28d0098098ad8cfb0c53884e81170e636
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Declarative: Post Actions)
[Pipeline] script
[Pipeline] {
[Pipeline] emailx
Sending email to: singhpreeti1618@gmail.com
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Gmail Alert for Pipeline Success

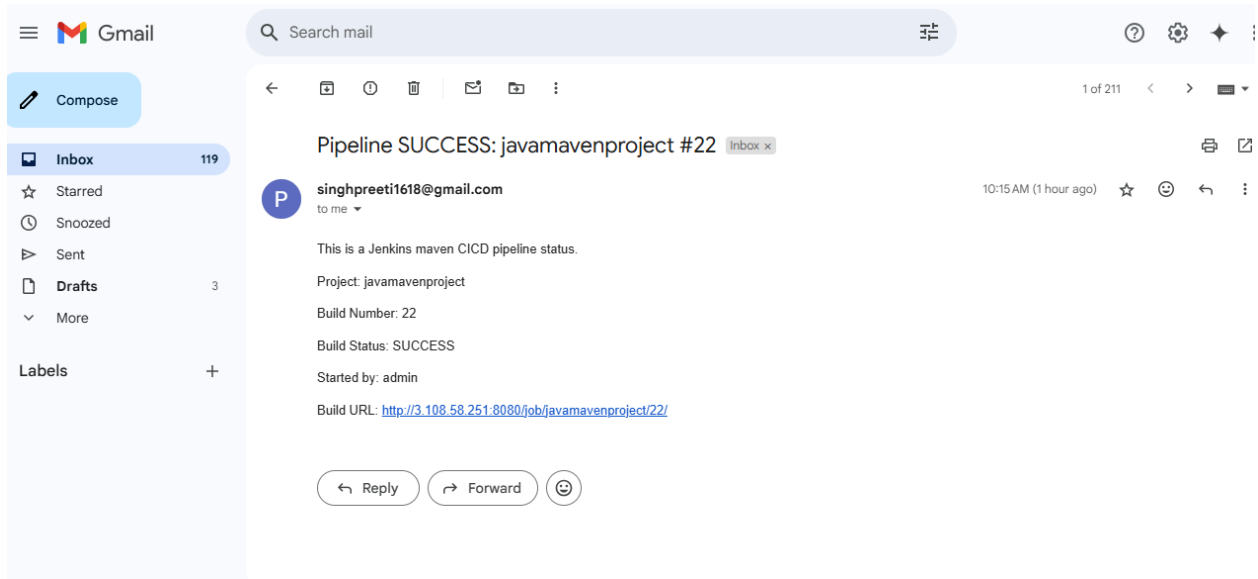
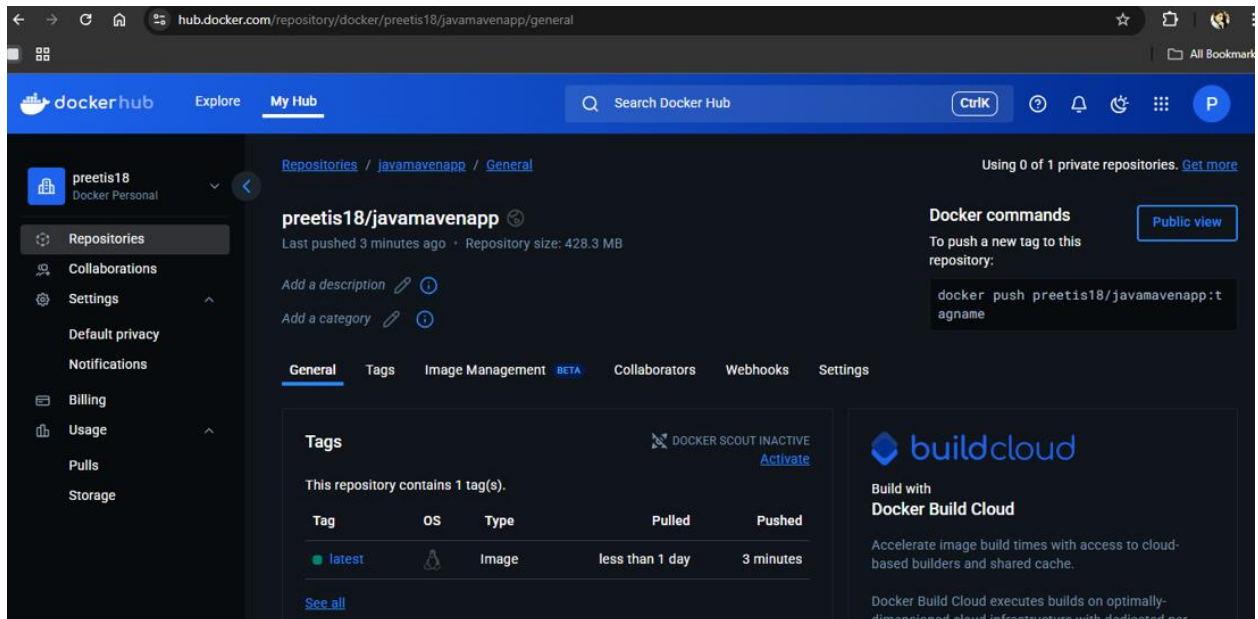


Image successfully pushed to Docker Hub




```

ubuntu@ip-172-31-4-53: ~/java-mavenapp
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-mapping/3.0.0/maven-mapping-3.0.0.jar (11 kB at 71 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-filtering/3.1.1/maven-filtering-3.1.1.jar (51 kB at 339 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/plexus/plexus-build-api/0.0.7/plexus-build-api-0.0.7.jar (8.5 kB at 57 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.3.0/plexus-utils-3.3.0.jar (263 kB at 1.7 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.20/commons-compress-1.20.jar (632 kB at 3.9 MB/s)
[INFO] Packaging webapp
[INFO] Assembling webapp [preeti-webapp] in [/home/ubuntu/java-mavenapp/target/preeti-webapp]
[INFO] Processing war project
[INFO] Copying webapp resources [/home/ubuntu/java-mavenapp/src/main/webapp]
[INFO] Building war: /home/ubuntu/java-mavenapp/target/preeti-webapp.war
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 4.595 s
[INFO] Finished at: 2025-06-04T08:56:59Z
[INFO] -----
ubuntu@ip-172-31-4-53:~/java-mavenapp$ ls target/
maven-archiver preeti-webapp preeti-webapp.war
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker build -t mavenwebapp .
[+] Building 7.2s (4/6)
=> [Internal] load build definition from Dockerfile
=> => transferring dockerfile: 367B
=> [Internal] load metadata for docker.io/library/tomcat:9.0
=> [Internal] load .dockerignore
=> => transferring context: 2B
=> [Internal] load build context
=> => transferring context: 111.57kB
=> [1/2] FROM docker.io/library/tomcat:9.0@sha256:84762095b73442ac961de80503044307201026093fc1f0047d410f901c1b7674
=> => resolve docker.io/library/tomcat:9.0@sha256:84762095b73442ac961de80503044307201026093fc1f0047d410f901c1b7674
=> => sha256:84762095b73442ac961de80503044307201026093fc1f0047d410f901c1b7674 6.64kB / 6.64kB
=> => sha256:99e9d4642ac68eab9c7c025f10589f296e799e0f6e300eeef148ee4d32014c3 12.51kB / 12.51kB
=> => sha256:fd9f9441e6dddb8defe5d23ab009dd1a3d91ad4f953b4d53d9e904e1adcae03de 157.65MB / 157.65MB
=> => sha256:0c7e27812d2329db08792622546d0858bf632eb79c381b0e706d9ad6d3391e90a 2.72kB / 2.72kB
=> => sha256:d9d352c11bbd3880007053ed6e0c1cbace76898828f3434904a0cae0672fd5a 29.72MB / 29.72MB
=> => sha256:380ab39b4f9f66f5491f1e6c6e1b00af781c9e67017d5194267c1eb1b1ea9d61 22.95MB / 22.95MB
=> => sha256:14ea0157e6cfd88563f57f3de2252f96d1de76755323a4e66dc06bfddc169362 157B / 157B
=> => extracting sha256:d9d352c11bbd3880007953ed6e0c1cbace76898828f3434904a0cae0672fd5a
=> => sha256:99f95209f6fd19181ffds0612236193ad46991100ff9ffc79e5b5d7f15f0e06 2.28kB / 2.28kB
=> => sha256:3b875137730abed859d01d7a8f7d60f7258ads57f348c82146d6b859e5a739a 137B / 137B
=> => sha256:444fb700ef54461fa02571a0dd09a0dc1e0cd5577484a6d75e68dc38e8acc1 32B / 32B
=> => sha256:3ec83758f44f482d9401a2a3839d8e0cfff1a8cf54d3ff569e335fc1a28373e9 13.93MB / 13.93MB
=> => extracting sha256:380ab39b4f9f66f5491f1e6c6e1b00af781c9e67017d5194267c1eb1b1ea9d61
=> => extracting sha256:fd9f9441e6dddb8defe5d23ab009dd1a3d91ad4f953b4d53d9e904e1adcae03de

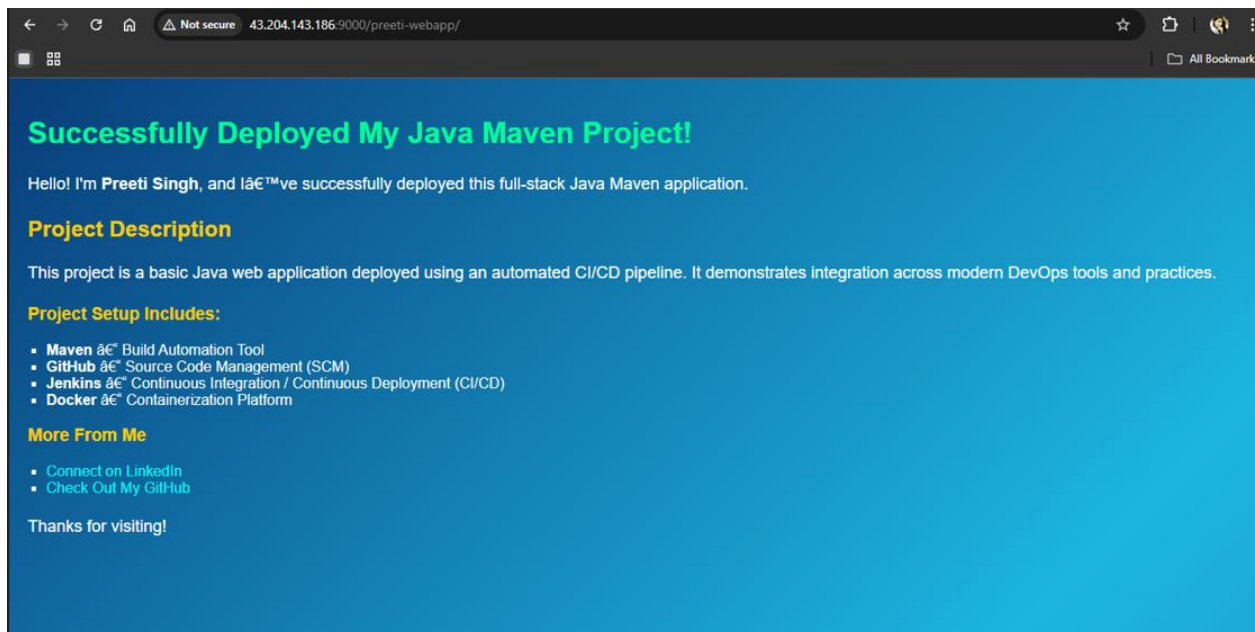
```

```

ubuntu@ip-172-31-4-53: ~/java-mavenapp
[INFO] Total time: 1.336 s
[INFO] Finished at: 2025-06-04T09:25:54Z
[INFO] -----
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
javamavenapp latest c09aa27ed01e 25 minutes ago 469MB
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker rmi javamavenapp:latest
Error response from daemon: conflict: unable to remove repository reference "javamavenapp:latest" (must force) - container 51a05211ebee is using its referenced image 9aa27ed01e
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
51a05211ebee javamavenapp:latest "catalina.sh run" 2 minutes ago Up 2 minutes 0.0.0.0:9000->8080/tcp, [::]:9000->8080/tcp javamavenapp_container
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker stop 51a05211ebee
51a05211ebee
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker rm 51a05211ebee
51a05211ebee
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker rmi javamavenapp:latest
Untagged: javamavenapp:latest
Deleted: sha256:c09aa27ed01e385b35baf202dfd7bbb8bb7b4eda4f8668737ffcbfe5e308411c
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker build -t javamavenapp
[+] Building 1.6s (7/7) FINISHED
=> [Internal] load build definition from Dockerfile
=> => transferring dockerfile: 367B
=> [Internal] load metadata for docker.io/library/tomcat:9.0
=> [Internal] load .dockerignore
=> => transferring context: 2B
=> [Internal] load build context
=> => transferring context: 111.53kB
=> CACHED [1/2] FROM docker.io/library/tomcat:9.0@sha256:84762095b73442ac961de80503044307201026093fc1f0047d410f901c1b7674
=> [2/2] COPY target/preeti-webapp.war /usr/local/tomcat/webapps/
=> exporting to image
=> => exporting layers
=> => writing image sha256:8771d31893c3ffd016379f869d7e8efc8db485b3f3fe9bb0d020f1cb708c3fd2
=> => naming to docker.io/library/javamavenapp
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker run -d -p 9000:8080 --name javamaven_container javamavenapp:latest
2312855f1795670aecd13b6a75519b5881833dce3e9d6e5b8894e8232e6d7a1
ubuntu@ip-172-31-4-53:~/java-mavenapp$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
2312855f179 javamavenapp:latest "catalina.sh run" 3 seconds ago Up 2 seconds 0.0.0.0:9000->8080/tcp, [::]:9000->8080/tcp javamaven_container

```

```
ubuntu@ip-172-31-4-53: ~/java-mavenapp
Caused: java.io.IOException: Failed to bind to 0.0.0.0/0.0.0.0:8080
at Jenkins Main ClassLoader//org.eclipse.jetty.server.ServerConnector.openAcceptChannel(ServerConnector.java:344)
at Jenkins Main ClassLoader//org.eclipse.jetty.server.ServerConnector.openAcceptChannel(ServerConnector.java:349)
at Jenkins Main ClassLoader//org.eclipse.jetty.server.ServerConnector.open(ServerConnector.java:313)
at Jenkins Main ClassLoader//org.eclipse.jetty.server.Server.lambda$doStart$0(Server.java:571)
at java.base/java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:183)
at java.base/java.util.stream.ReferencePipeline$3$1.accept(ReferencePipeline.java:197)
at java.base/java.util.stream.ReferencePipeline$2$1.accept(ReferencePipeline.java:179)
at java.base/java.util.Spliterators$ArraySpliterator.forEachRemaining(Spliterators.java:992)
at java.base/java.util.stream.AbstractPipeline.copyInto(AbstractPipeline.java:509)
at java.base/java.util.stream.AbstractPipeline.wrapAndCopyInto(AbstractPipeline.java:499)
at java.base/java.util.stream.ForEachOps$ForEachOp.evaluateSequential(ForEachOps.java:150)
at java.base/java.util.stream.ForEachOps$ForEachOp$OfRef.evaluateSequential(ForEachOps.java:173)
at java.base/java.util.stream.AbstractPipeline.evaluate(AbstractPipeline.java:234)
at java.base/java.util.stream.ReferencePipeline.forEach(ReferencePipeline.java:596)
at Jenkins Main ClassLoader//org.eclipse.jetty.server.Server.doStart(Server.java:567)
at Jenkins Main ClassLoader//org.eclipse.jetty.util.component.AbstractLifecycle.start(AbstractLifecycle.java:93)
at Jenkins Main ClassLoader//winstone.Launcher.<init>(Launcher.java:188)
Caused: java.io.IOException: Failed to start Jetty
at Jenkins Main ClassLoader//winstone.Launcher.<init>(Launcher.java:192)
at Jenkins Main ClassLoader//winstone.Launcher.main(Launcher.java:488)
at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:77)
at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.base/java.lang.reflect.Method.invoke(Method.java:569)
at executable.Main.main(Main.java:335)
ubuntu@ip-172-31-4-53:~/java-mavenapp$ sudo su - jenkins
su: invalid option -- 'j'
Try 'su --help' for more information.
ubuntu@ip-172-31-4-53:~/java-mavenapp$ sudo su - jenkins
jenkins@ip-172-31-4-53:~$ docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
javamavenapp        latest      7915f4fe482d  8 minutes ago 469MB
preetis18/javamavenapp latest      7915f4fe482d  8 minutes ago 469MB
jenkins@ip-172-31-4-53:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                    NAMES
d49e364172f2   preetis18/javamavenapp:latest "catalina.sh run"    8 minutes ago Up 8 minutes    0.0.0.0:9000->8080/tcp, [::]:9000->8080/tcp   javamavenapp_container
jenkins@ip-172-31-4-53:~$
```



Thanks for viewing!

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