

Roll No: 242466

Date Of Performance: 12/09/2025

Aim: To understand Continuous Integration by installing and configuring Jenkins with Maven to set up a build job

```
=====
```

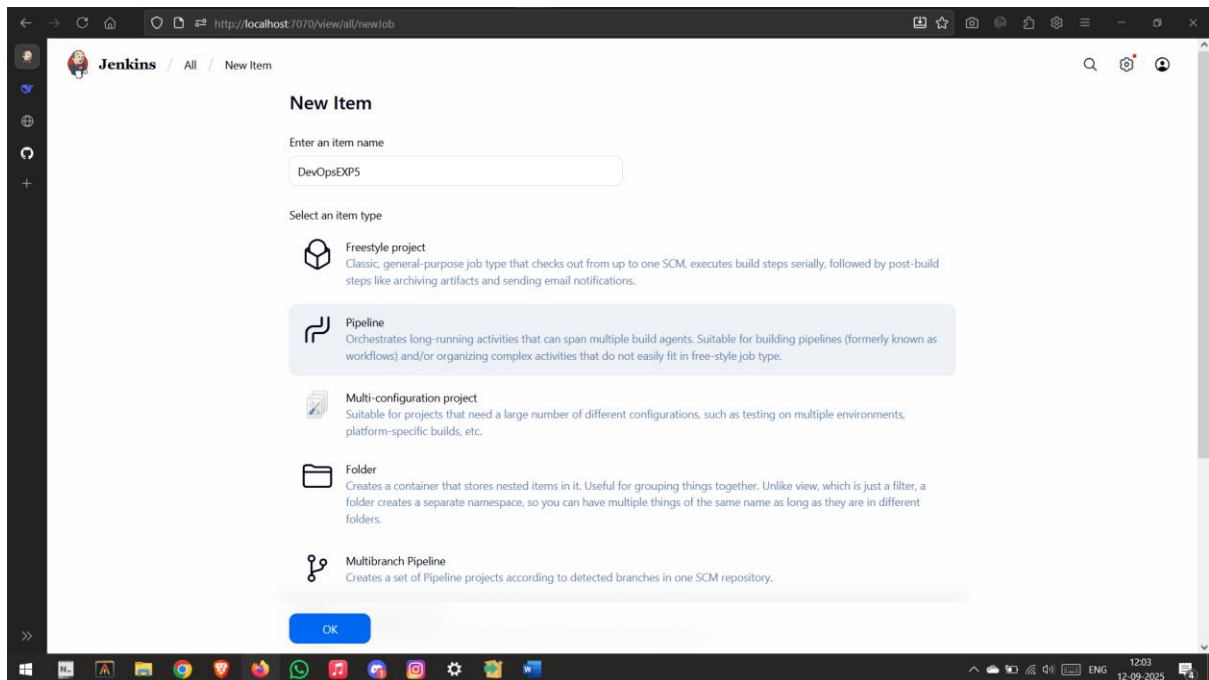
```
|  
|                                     :?  
|                                7PPPS~  
|                               :?. ^7BQQQ~  
|                               .JG~ ^?YG#8GBBP5J~  
|                               7QBQGGSY~..^?S6S!  
|                               :Q#?: :JSPGY:5JL IPG~  
|                               JGY..JV7JBQBQ~PQGP: 7&?  
|                               :: &J ~@QJBQB7JB6JPQP~7 ~@?  
|                               ?6SJBB :BBGPPPJ ..^BGT7&OT ?@~  
|                               7QBQBJ ^YSGPB^ .JHQBOP :@QB~  
|                               ~PQB ?QBQBJ! .YSJJ!! ^QBQ#  
|                               ~B#..B&T7BY.I~ ?&###K&~ 5#~YG  
|                               .BG :^PQBQ^QBGTJBQB#~ 7&~ :?  
|                               .PB~ 15#Q-QQBQ?~?..YP  
|                               !GP!. ^?A:J?!:' ^YHQS  
|                               ~YP5J!^.....~SGQBQY  
|                               !?7!~  
|                               :?  
|                                     :?  
|=====
```

```
----- Device Specifications -----  
  
Device Name : GhouladGadget  
Processor : AMD Ryzen 5 5500U with Radeon Graphics 2.10 GHz  
Installed RAM : 24.0 GB (23.4 GB usable)  
Device ID : 3DA8B6D9-1B63-4917-BECA-4DC376BF54D6  
Product ID : 80356-24677-39908-AADEM  
System Type : 64-bit operating system, x64-based processor  
  
----- Windows -----  
  
Edition : Windows 10 Home Single Language  
Version : 22H2  
Installed on : 26-05-2025  
OS Build : 19045.2965  
Experience : Windows Feature Experience Pack 1000.19041.1000.0
```

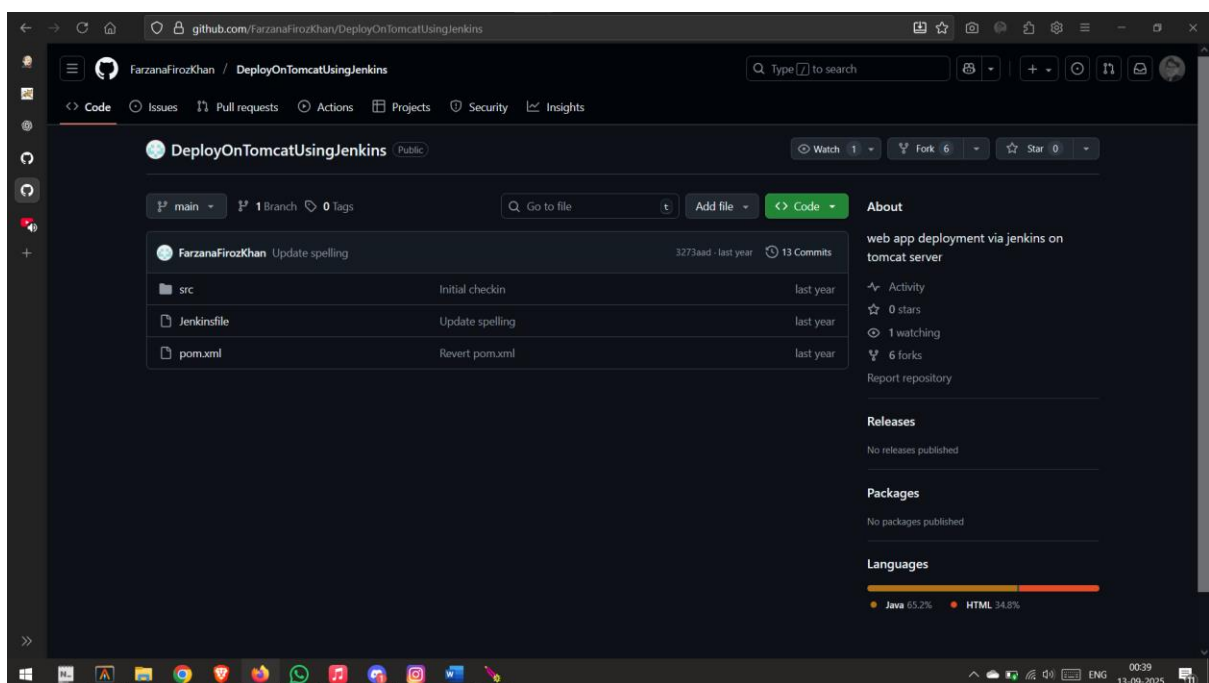
```
Abdurrahman Qureshi@DESKTOP-H2RVSMQ MINGW64 ~/Downloads  
$ java -jar jenkins.war  
Running from: C:\Users\Abdurrahman Qureshi\Downloads\jenkins.war  
webroot: C:\Users\Abdurrahman Qureshi\.jenkins\war  
2025-09-12 19:26:44.585+0000 [id=1] INFO winstone.Logger$logInternal: Beginning extraction from war file  
2025-09-12 19:26:44.731+0000 [id=1] WARNING o.e.j.ee9.nested.ContextHandler$setContextPath: Empty contextPath  
2025-09-12 19:26:44.896+0000 [id=1] INFO org.eclipse.jetty.server.Server$doStart: jetty-12.0.23; built: 2025-07-02T14:02:02  
.445Z; git: 81ae11977f9ccee53c974ee126cc31d0c8a533a; jvm 17.0.12+8-LTS-286  
o.e.j.e.w.StandardDescriptorProcessor$visitServlet: NO JSP Support for /, did not  
find org.eclipse.jetty.eejsp.JettyJspServlet  
2025-09-12 19:26:46.461+0000 [id=1] INFO o.e.s.DefaultSessionIdManager$doStart: Session workerName=node0  
2025-09-12 19:26:47.063+0000 [id=1] INFO hudson.WebAppMain#contextInitialized: Jenkins home directory: c:\Users\Abdurrahman  
Qureshi\.jenkins found at $user.home/.jenkins
```

```
=====
```

## Launching Jenkins Server



## Creating New Item



## Copying Repository link

## Pom.xml:

```
<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>com.mcnz.rps.web</groupId>
  <artifactId>roshambo</artifactId>
  <version>1.0</version>
  <packaging>war</packaging>

  <name>roshambo web application</name>
  <url>http://www.mcnz.com</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>
  </dependencies>

  <build>
    <finalName>roshambo</finalName>
    <pluginManagement><!-- lock down plugins versions to avoid using Maven defaults
(may be moved to parent pom) -->
      <plugins>
        <plugin>
          <artifactId>maven-clean-plugin</artifactId>
          <version>3.0.0</version>
        </plugin>
        <!-- see http://maven.apache.org/ref/current/maven-core/default-
bindings.html#Plugin_bindings_for_war_packaging -->
        <plugin>
          <artifactId>maven-resources-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        <plugin>
          <artifactId>maven-compiler-plugin</artifactId>
          <version>3.8.1</version>
        </plugin>
      </plugins>
    </pluginManagement>
  </build>
</project>
```

```

        <configuration>
            <source>8</source> <!-- Set to 8 or later -->
            <target>8</target> <!-- Set to 8 or later -->
        </configuration>
    </plugin>
    <plugin>
        <groupId>org.apache.maven.plugins</groupId>
        <artifactId>maven-surefire-plugin</artifactId>
        <version>3.0.0</version>
    </plugin>
    <plugin>
        <artifactId>maven-war-plugin</artifactId>
        <version>3.2.0</version>
    </plugin>
    <plugin>
        <artifactId>maven-install-plugin</artifactId>
        <version>2.5.2</version>
    </plugin>
    <plugin>
        <artifactId>maven-deploy-plugin</artifactId>
        <version>2.8.2</version>
    </plugin>

    <plugin>
        <groupId>org.apache.tomcat.maven</groupId>
        <artifactId>tomcat7-maven-plugin</artifactId>
        <version>2.2</version>
        <configuration>
            <server>maven-tomcat-war-deployement-server</server>
            <url>http://localhost:6060/manager/text</url>
            <path>/rps</path>
        </configuration>
    </plugin>

</plugins>
</pluginManagement>
</build>
</project>

```

## JenkinsFile:

```

pipeline {
    agent any

    tools {
        jdk 'JDK17'
        maven 'MAVEN3'
    }

    environment {

```

```

    WAR_FILE = 'target/roshambo.war'
    TOMCAT_URL = 'http://localhost:6060'
    TOMCAT_USER = 'qarq90'
    TOMCAT_PASSWORD = 'qwertyuiop'
}

stages {
    stage('Checkout') {
        steps {
            git branch: 'main', url:
'https://github.com/FarzanaFirozKhan/DeployOnTomcatUsingJenkins.git'
        }
    }

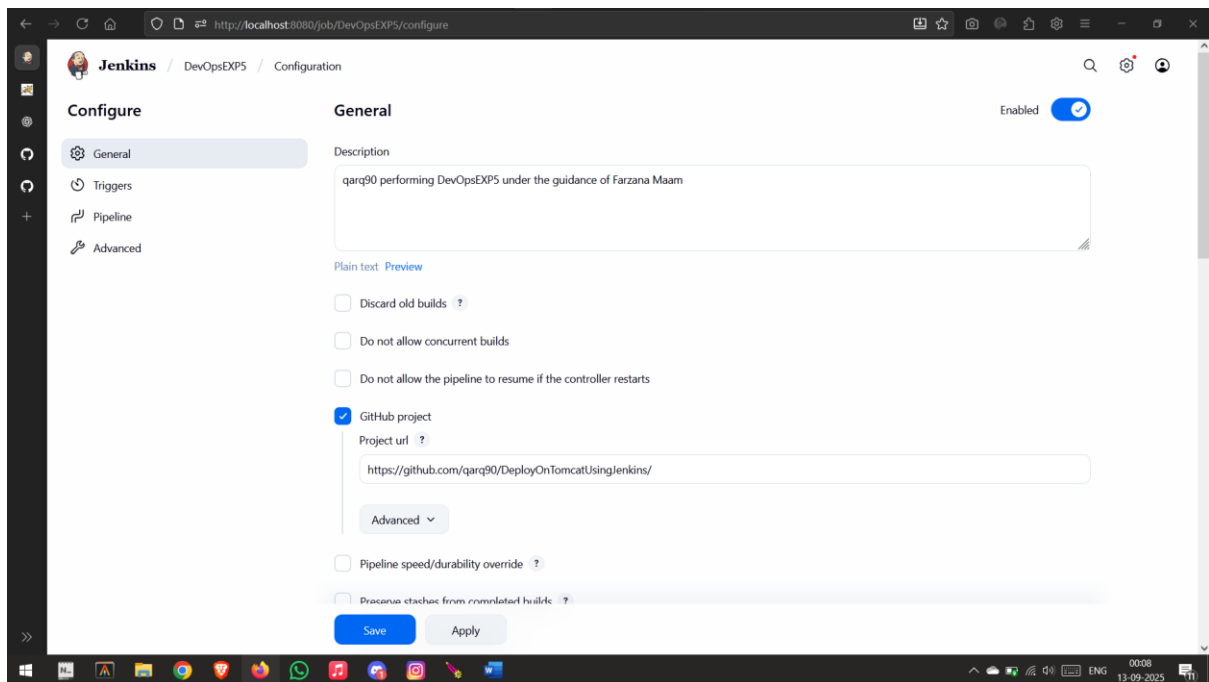
    stage('Clean Project') {
        steps {
            bat "mvn clean"
        }
    }

    stage('Build Project') {
        steps {
            bat "mvn package"
        }
    }

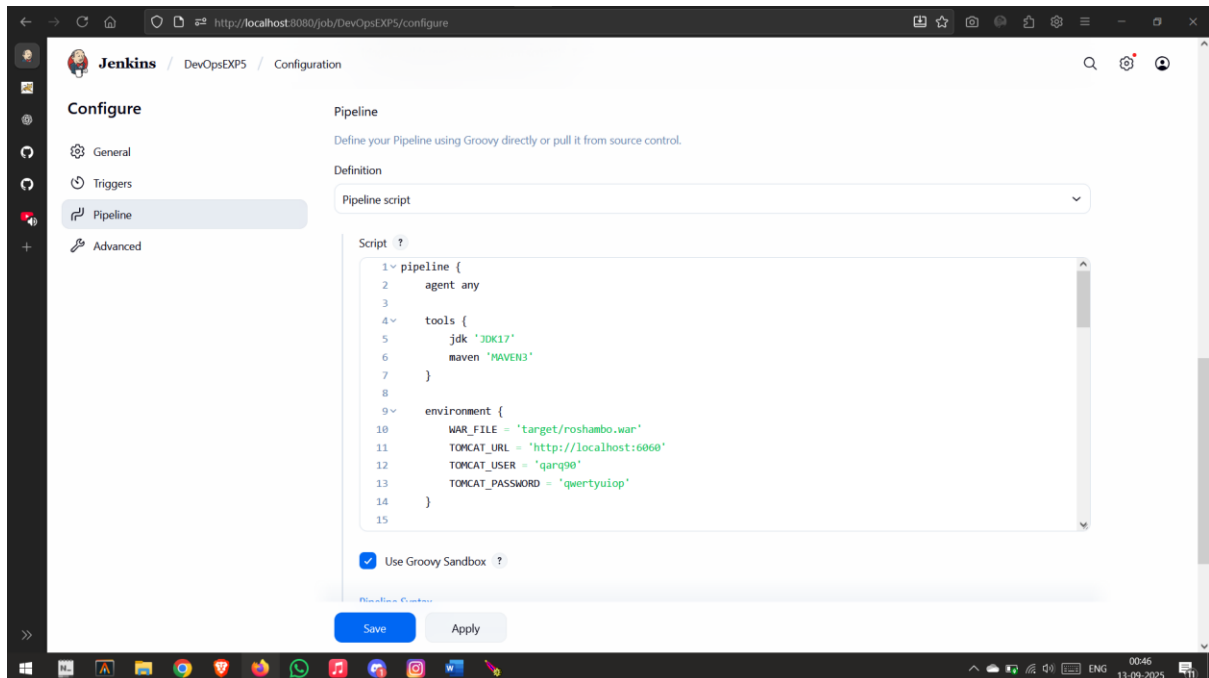
    stage('Deploy to Tomcat') {
        steps {
            script {
                def warFilePath = "${WORKSPACE}/${WAR_FILE}"
                if (fileExists(warFilePath)) {
                    bat """
                        curl --upload-file "${warFilePath}" ^
                        --user ${TOMCAT_USER}:${TOMCAT_PASSWORD} ^
                        "${TOMCAT_URL}/manager/text/deploy?path=/roshambo&update=true"
                    """
                } else {
                    error('WAR file not found! Build might have failed.')
                }
            }
        }
    }

    post {
        always {
            echo 'Build completed'
        }
    }
}

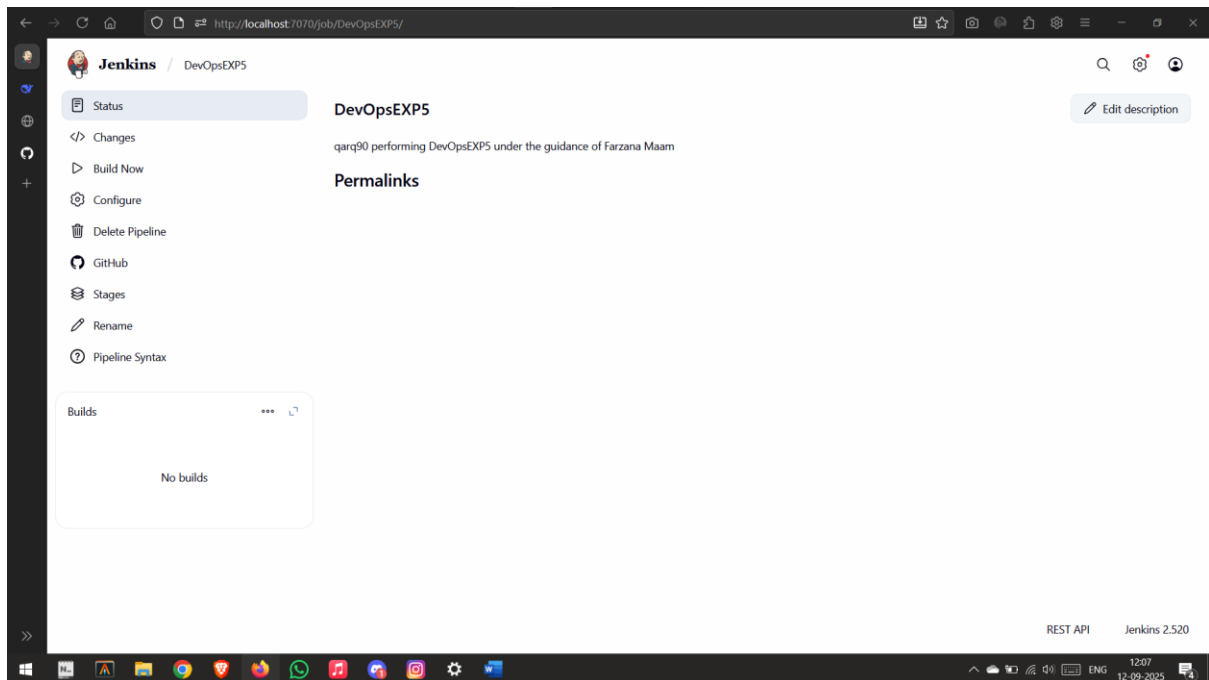
```



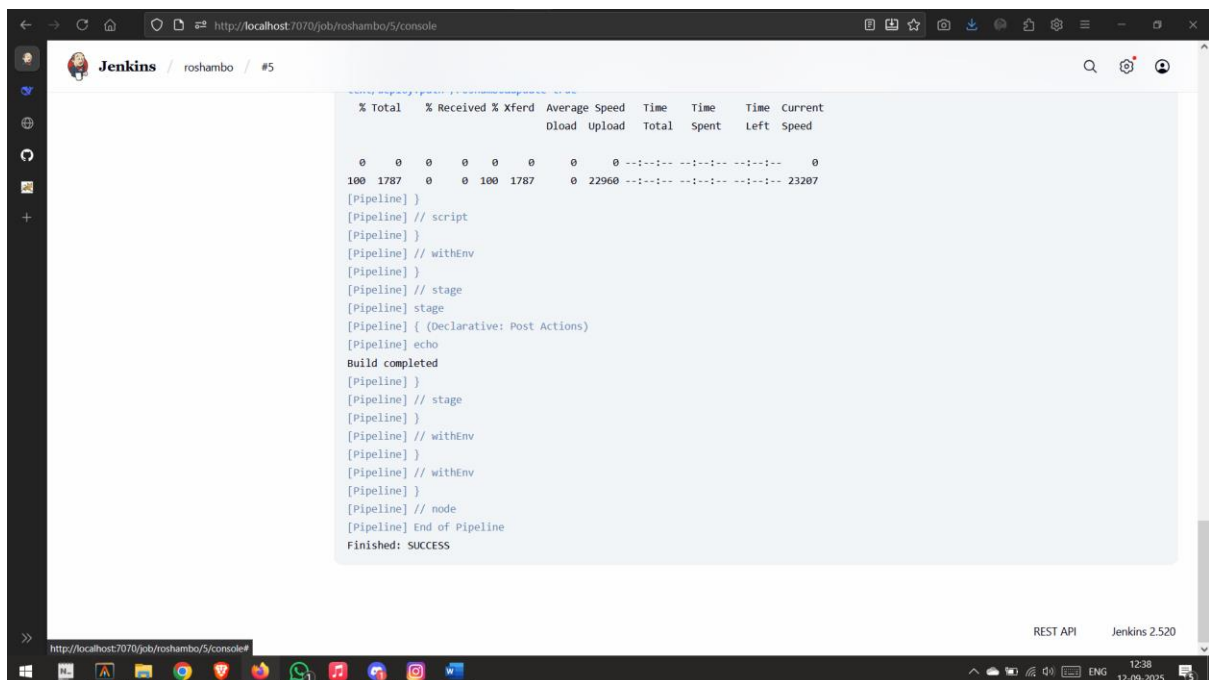
Configuring New Item



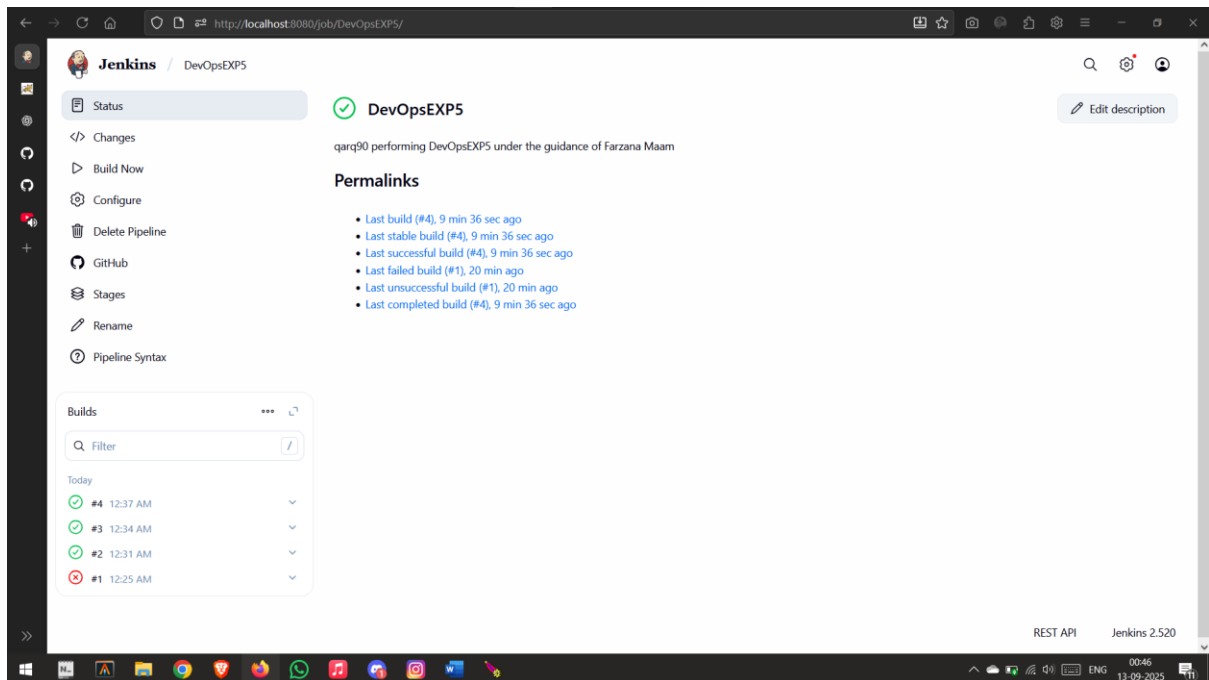
Adding the Pipeline Script



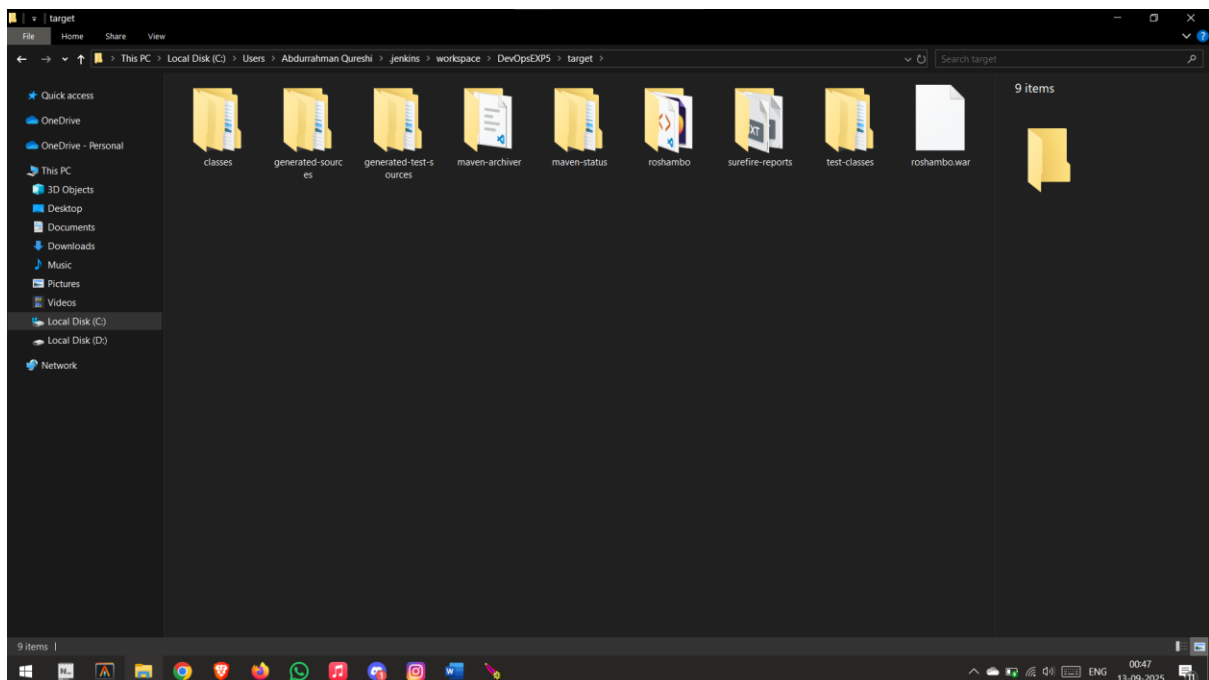
Item Configured



Build Complete

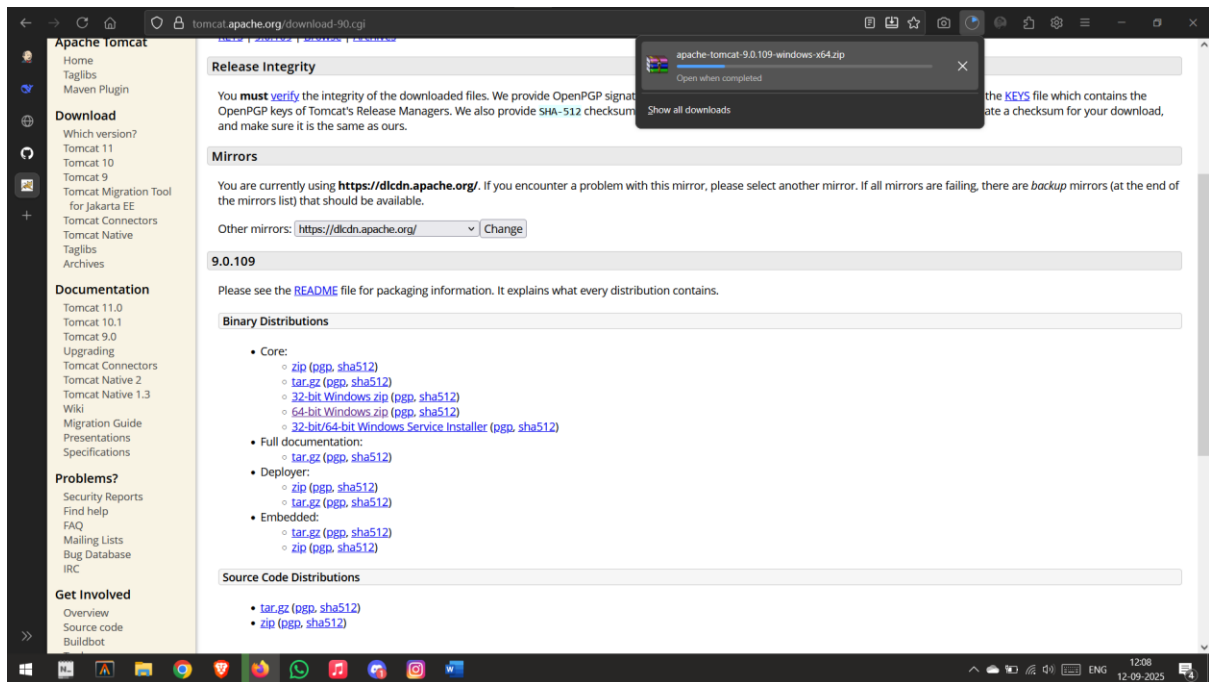


Item Build Successful

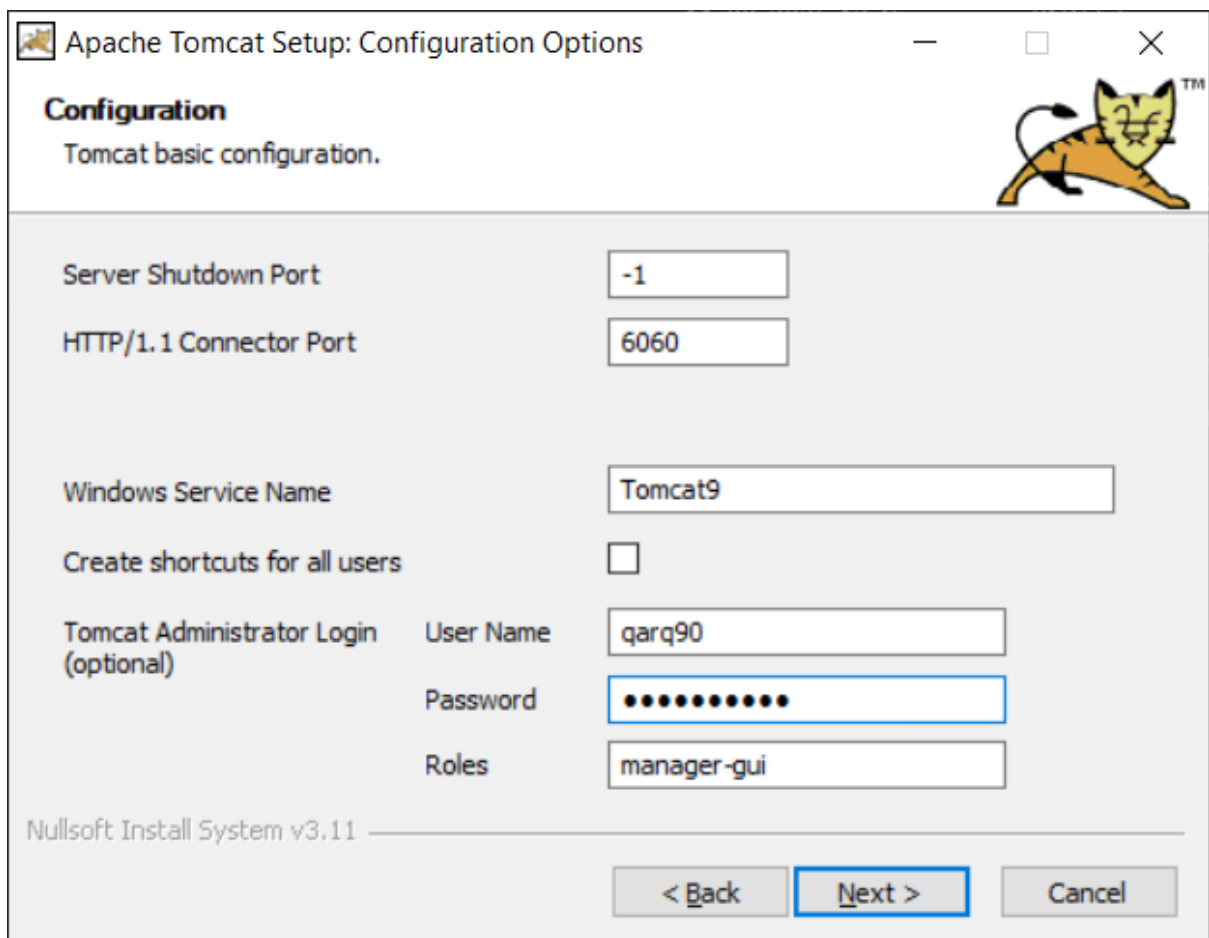


.war File Generated

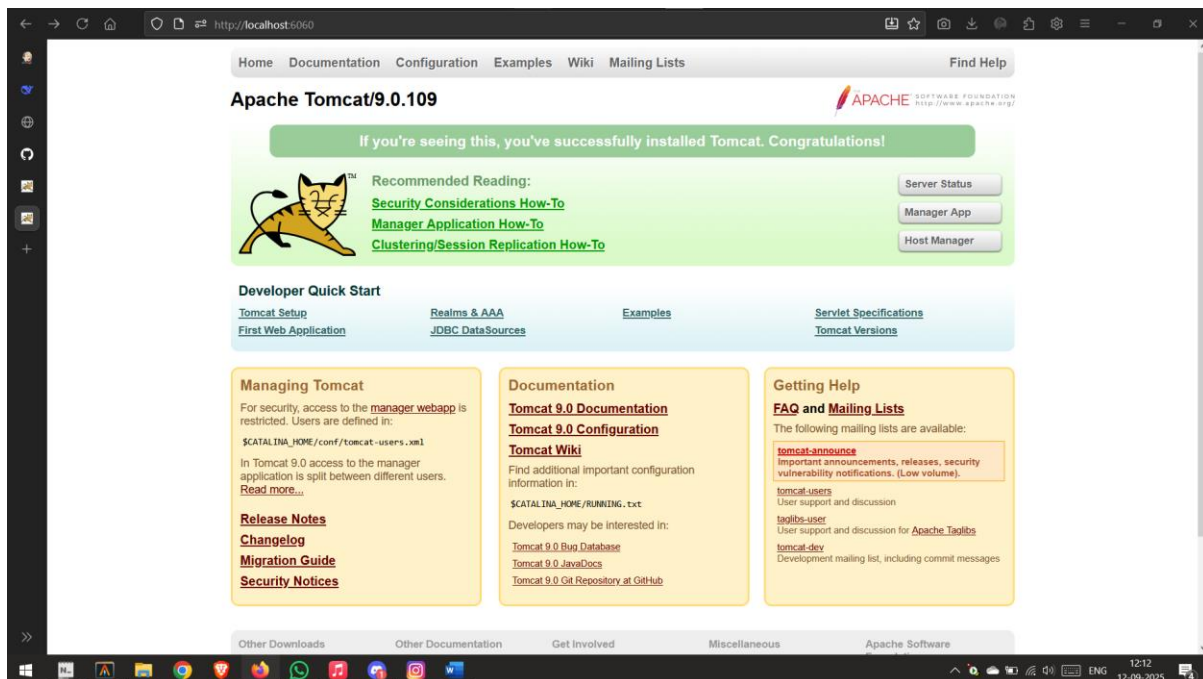
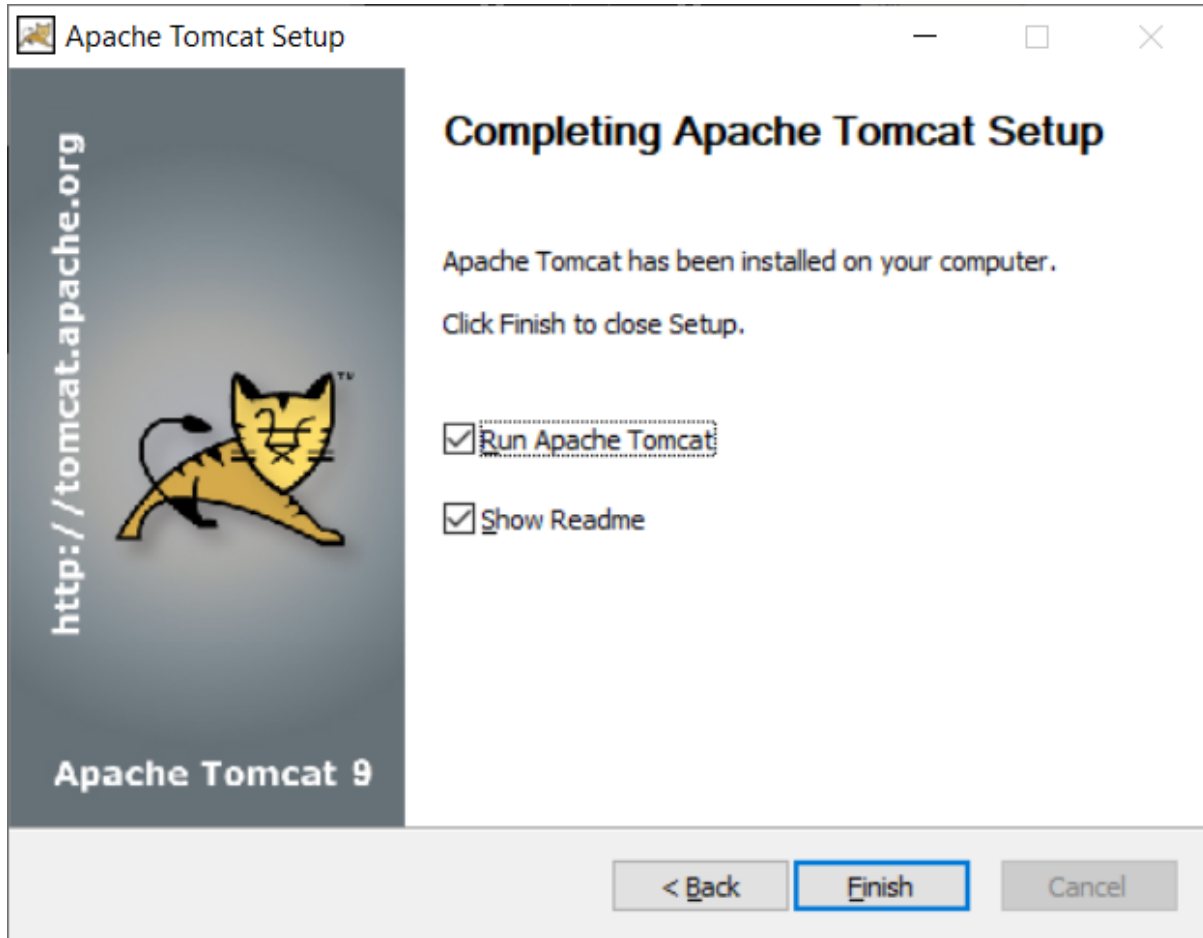




## Downloading Tomcat Installer



## Setting up Tomcat Server



Tomcat Setup Complete

## Tomcat-users.xml:

```
<?xml version='1.0' encoding='cp1252'?>
```

```
<!--
```

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```
-->
```

```
<tomcat-users xmlns="http://tomcat.apache.org/xml"
```

```
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```
xsi:schemaLocation="http://tomcat.apache.org/xml tomcat-users.xsd"
```

```
version="1.0">
```

```
<role rolename="manager-gui"/>
```

```
<role rolename="manager-script"/>
```

```
<role rolename="manager-status"/>
```

```
<role rolename="manager-jmx"/>
```

```
<user username="qarq90" password="qwertyuiop" roles="manager-gui,manager-script" />
```

```
<!--
```

By default, no user is included in the "manager-gui" role required to operate the "/manager/html" web application. If you wish to use this app, you must define such a user - the username and password are arbitrary.

Built-in Tomcat manager roles:

- manager-gui - allows access to the HTML GUI and the status pages
- manager-script - allows access to the HTTP API and the status pages
- manager-jmx - allows access to the JMX proxy and the status pages
- manager-status - allows access to the status pages only

The users below are wrapped in a comment and are therefore ignored. If you wish to configure one or more of these users for use with the manager web application, do not forget to remove the `<!-- ... -->` that surrounds them. You will also need to set the passwords to something appropriate.

-->

<!--

`<user username="admin" password="<must-be-changed>" roles="manager-gui"/>`

`<user username="robot" password="<must-be-changed>" roles="manager-script"/>`

-->

<!--

The sample user and role entries below are intended for use with the examples web application. They are wrapped in a comment and thus are ignored when reading this file. If you wish to configure these users for use with the examples web application, do not forget to remove the `<!-- ... -->` that surrounds them. You will also need to set the passwords to something appropriate.

-->

<!--

`<role rolename="tomcat"/>`

`<role rolename="role1"/>`

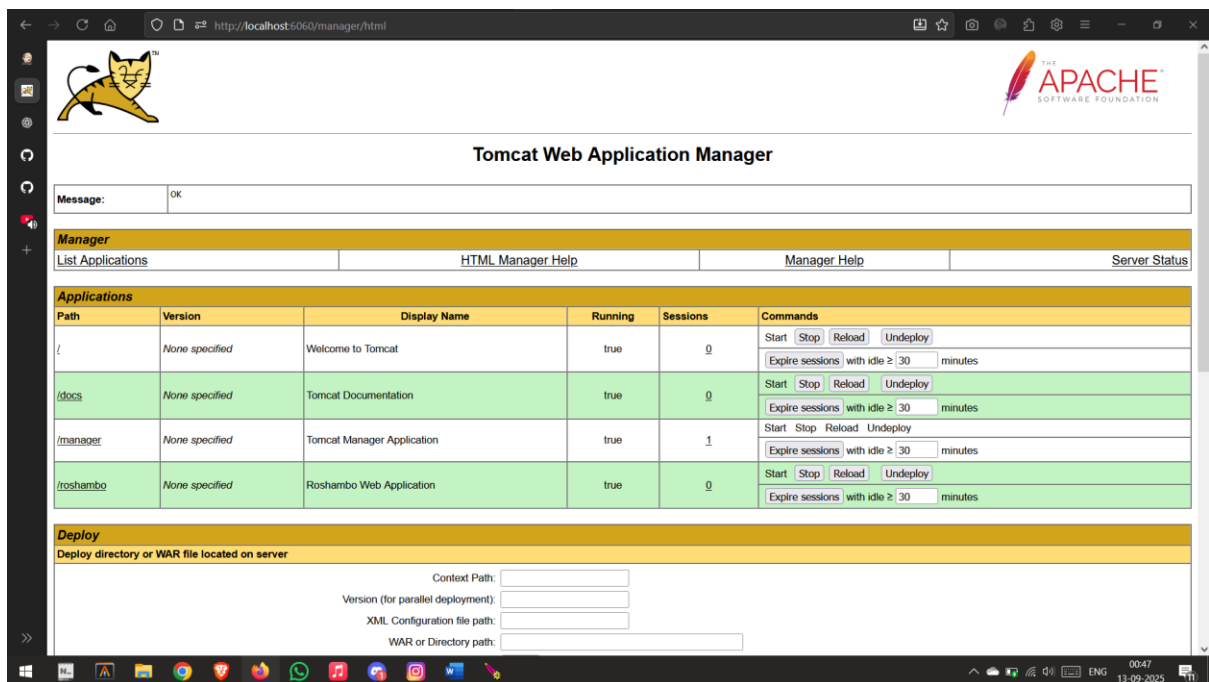
`<user username="tomcat" password="<must-be-changed>" roles="tomcat"/>`

`<user username="both" password="<must-be-changed>" roles="tomcat,role1"/>`

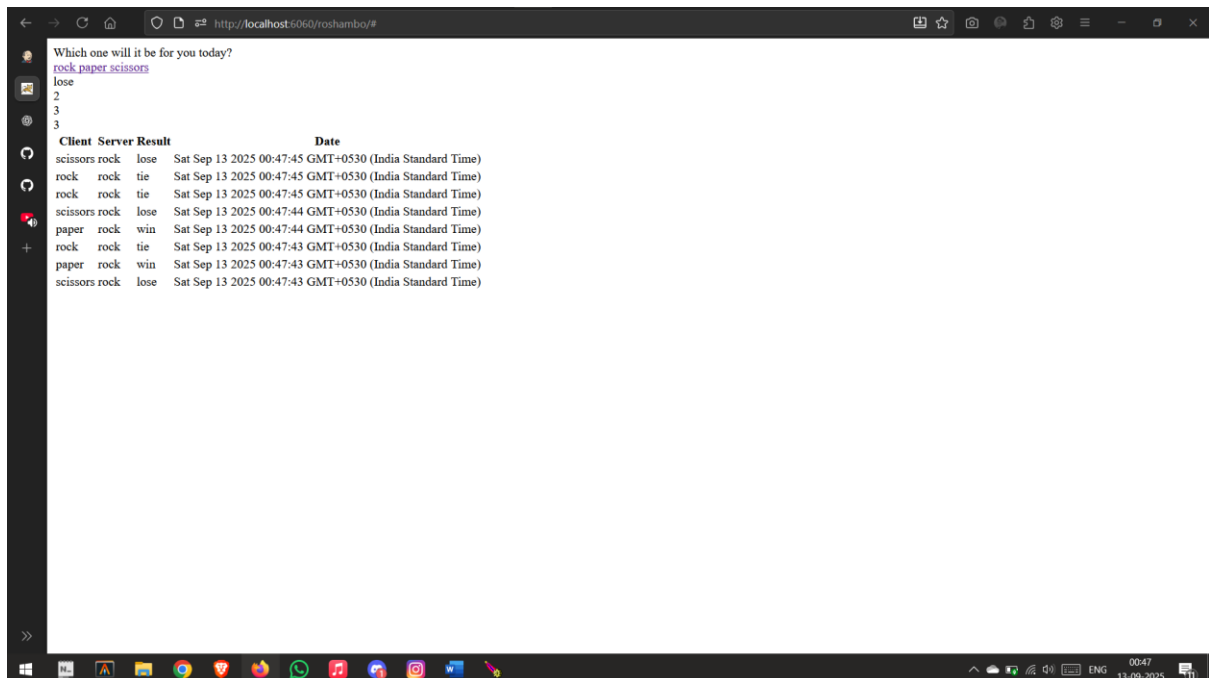
`<user username="role1" password="<must-be-changed>" roles="role1"/>`

-->

`</tomcat-users>`



Tomcat Server App Manager Opened



Project Deployed Successfully