

Experiment-6

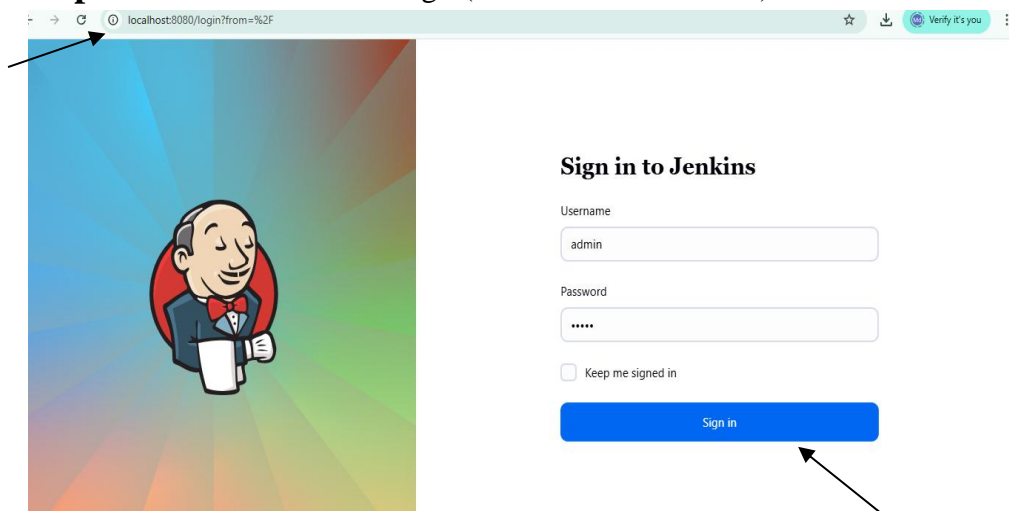
AIM:-Deploy the artifact on the Test Server

Softwares:Jenkins(port:8080),JDK 17 or 21,Tomcat 9 (port:9090),Gitbash

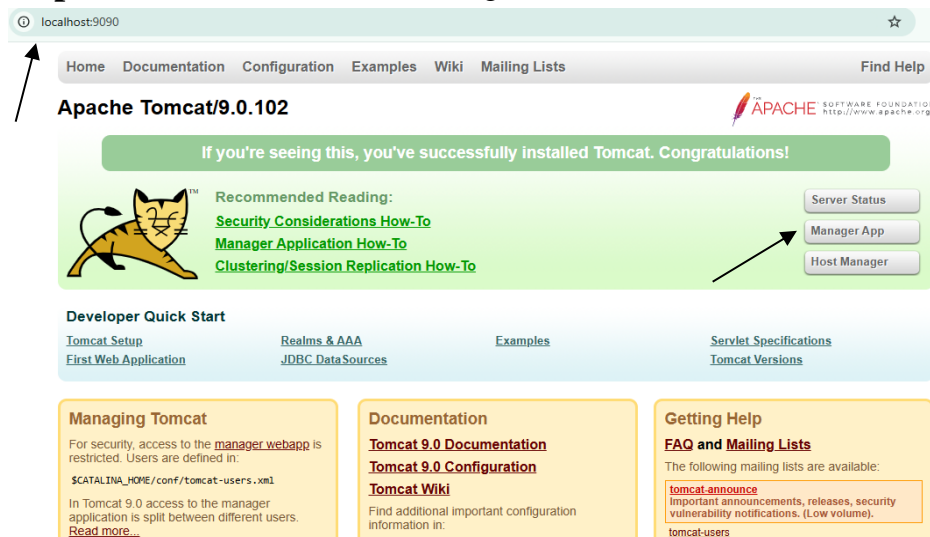
(Here we are creating one artifact war file. That war file we are deploy to test server(Tomcat server) using Jenkins Server)

(**Note:-**Images are purpose of understanding only don't paste it in records but output images paste it in output area)

Step1:-Lunch Jenkins and Login(Use AWS or Software)



Step2:-Lunch Tomcat Server and login(use AWS or Software)



Open Jenkins do following steps

Step 3:-Install plugins

Go to Manage Jenkins→Plugins→Install Plugin select verify Git→Go to Available plugins install Maven integration and Deploy to container install.

+ New Item

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

Dashboard > Manage Jenkins

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

(0 of 2 executors busy)

All

+

S

W

Name ↓

Last Success

La



deploy-war-tomcat

2 days 22 hr

#6

2 c



deploypipeline

2 days 22 hr

#11

2 c



week6

3 hr 47 min

#4

Ny

Warnings have been published for the following currently installed components:

[Go to plugin manager](#)

[Configure which of these warnings are shown](#)

[EDDSA API Plugin 0.3.0-13.v7cb_69ed68f00:](#)

[EdDSA implementation exhibits signature malleability](#)

A fix for this issue is available. Go to the [plugin manager](#) to update the plugin.

System Configuration



System

Configure global settings and paths.



Tools

Configure tools, their locations and automatic installers.



Plugins

Add, remove, disable or enable plugins that can extend the functionality of Jenkins.



Nodes

Add, remove, control and monitor the various nodes that Jenkins runs jobs on.



Clouds

Add, remove, and configure cloud instances to provision agents on-demand.



Appearance

Configure the look and feel of Jenkins

Dashboard > Manage Jenkins > Plugins

Plugins

Updates

Available plugins

Installed plugins

Advanced settings

Download progress

Q git

Name ↓

[Git client plugin](#) 6.1.2

Utility plugin for Git support in Jenkins

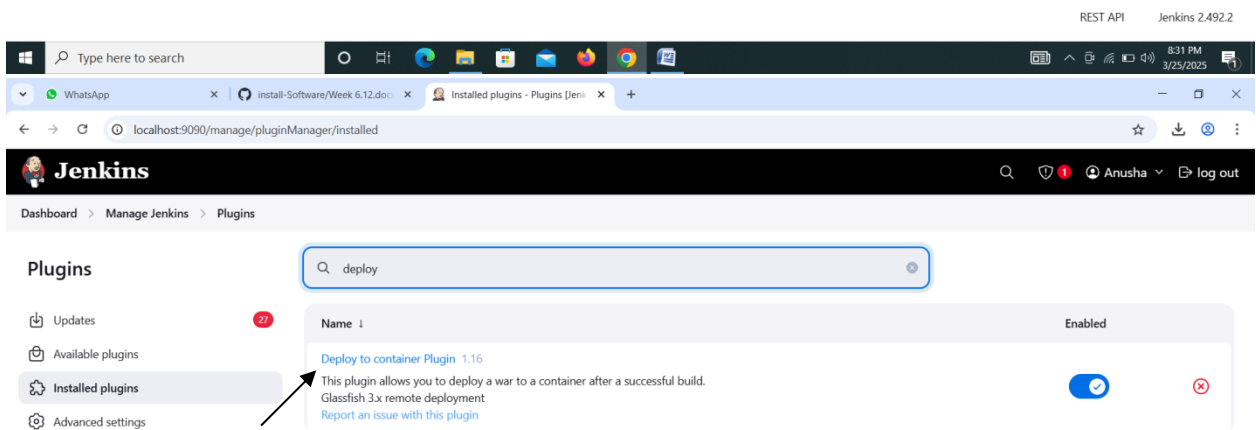
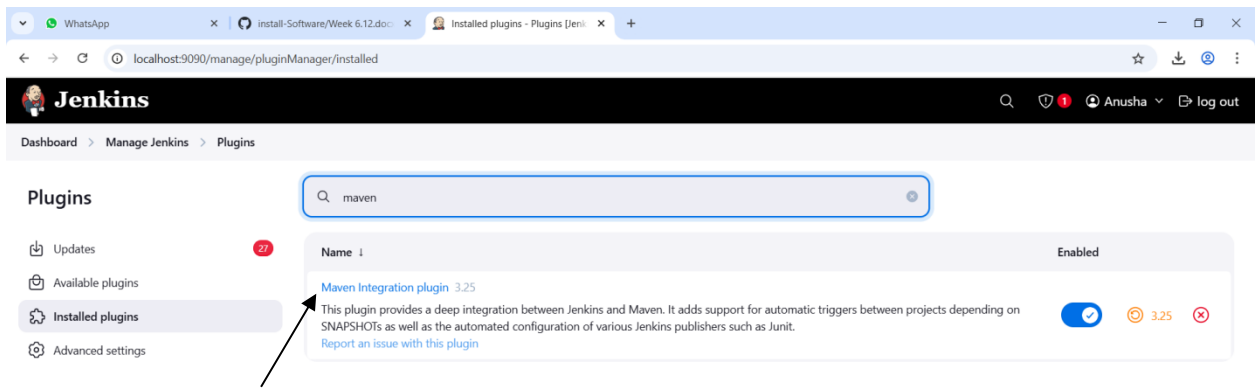
[Report an issue with this plugin](#)

[Git plugin](#) 5.7.0

This plugin integrates [Git](#) with Jenkins.

[Report an issue with this plugin](#)

Above picture three plugins are installed , If not showing please go to available plugins install it.



Step 4:-set up git path and maven installation in Tools

Go to manage Jenkins → Tools → In git installation select path(Git bash) if your using Jenkins software or AWS leave it → In maven Enter name Maven and default installation → Apply and Save.

WhatsApp | install-Software/Week 6.12.doc | Manage Jenkins [Jenkins] | +

localhost:9090/manage/

Jenkins

Dashboard > Manage Jenkins

+ New Item

- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins**
- My Views

Build Queue: No builds in the queue.

Build Executor Status: 0/2

Manage Jenkins

Search settings

Warnings have been published for the following currently installed components:
EDDSA API Plugin 0.3.0-13.v7cb_69ed68f00:
EdDSA implementation exhibits signature malleability
A fix for this issue is available. Go to the [plugin manager](#) to update the plugin.

Go to plugin manager | Configure which of these warnings are shown

System Configuration

- System**
Configure global settings and paths.
- Tools**
Configure tools, their locations and automatic installers.
- Nodes**
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.
- Clouds**
Add, remove, and configure cloud instances to provision agents on-demand.
- Plugins**
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.
- Appearance**
Configure the look and feel of Jenkins.

Security

localhost:9090/manage/ | Security | Credentials | Credential Providers

Type here to search

localhost:9090/manage/ | Tools [Jenkins] | +

localhost:9090/manage/configureTools/

Dashboard > Manage Jenkins > Tools

Git installations

Git

Name

Default

Path to Git executable ?

C:\Program Files\Git\bin\git.exe

☐ Install automatically ?

Add Git

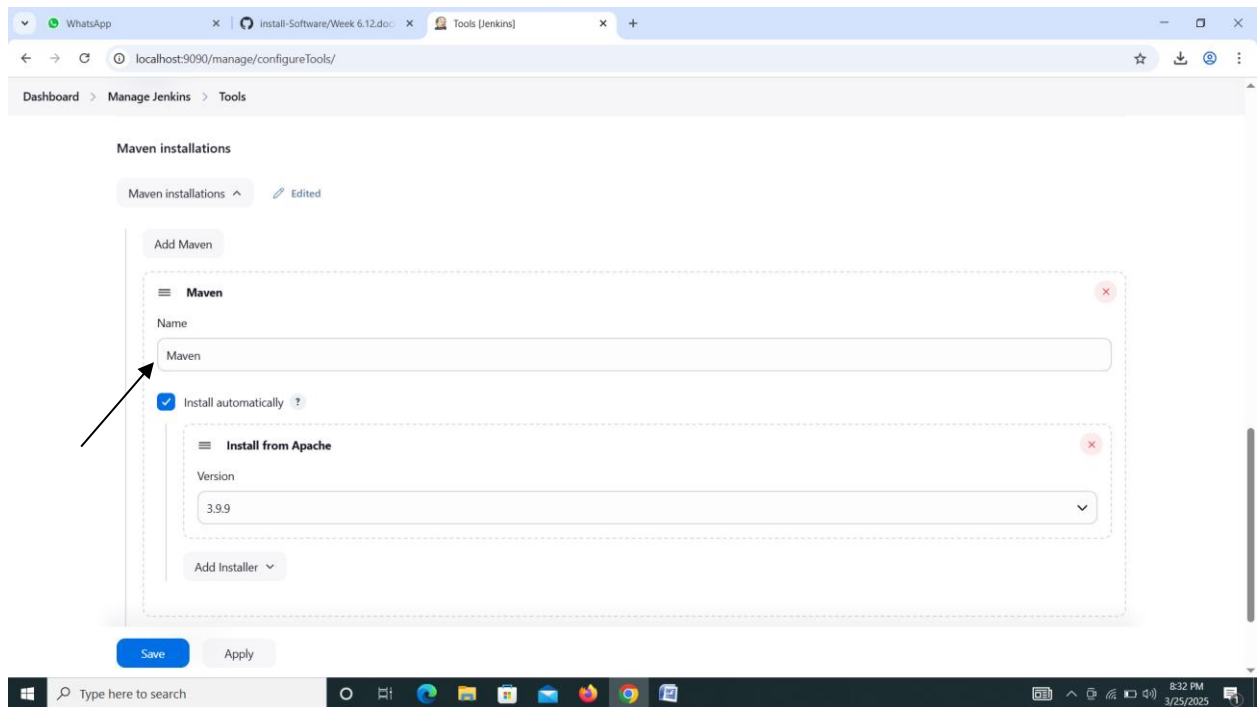
Gradle installations

Add Gradle

Save | Apply

Type here to search

8:32 PM 3/25/2025

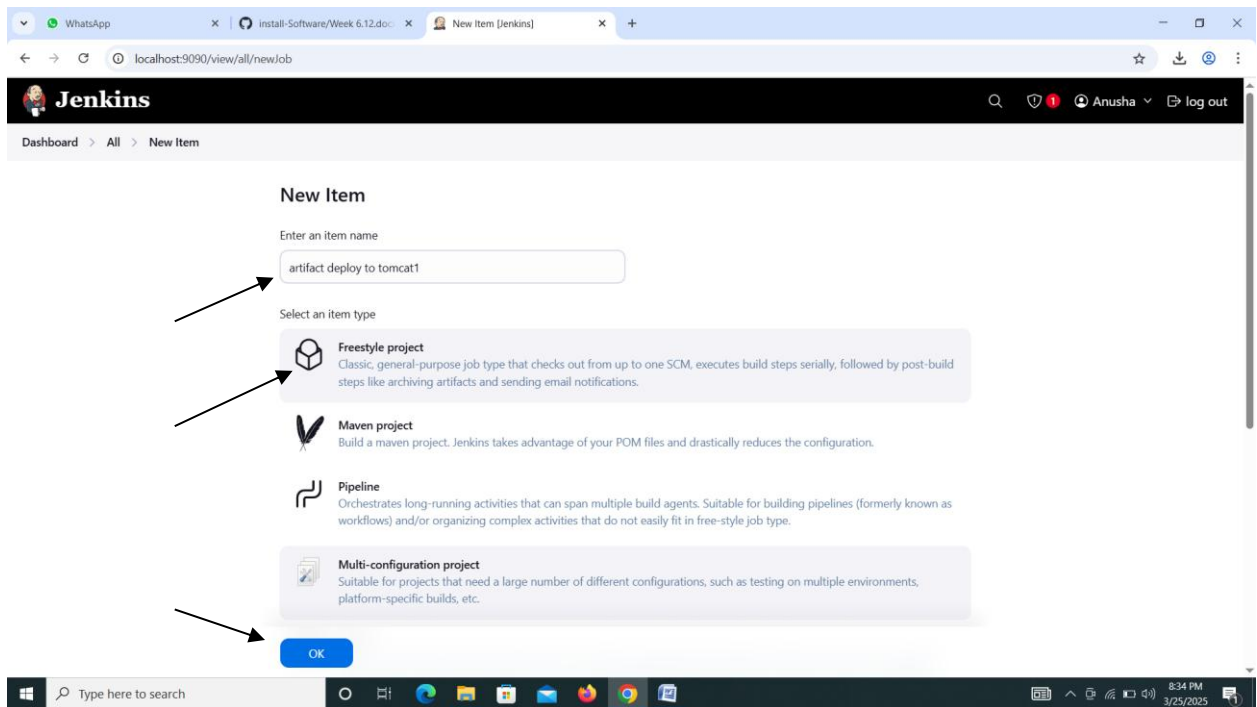


Step 5:-Creating New Job for deploy artifact in tomcat test server

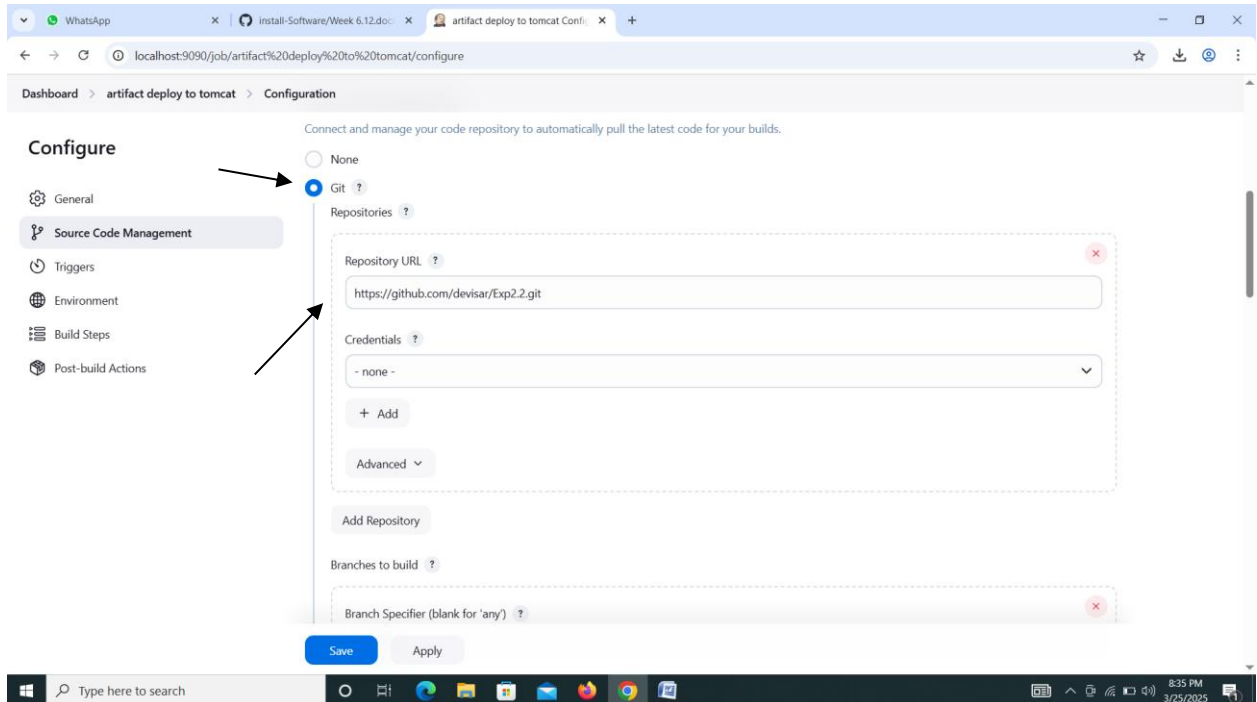
1. Create New Item → Enter name DeploytoTestServer → select freestyle project → click ok

The screenshot shows the Jenkins Dashboard. The 'New Item' button is highlighted with an arrow. The dashboard shows a list of builds with columns for Status, Name, Last Success, Last Failure, and Last Duration.

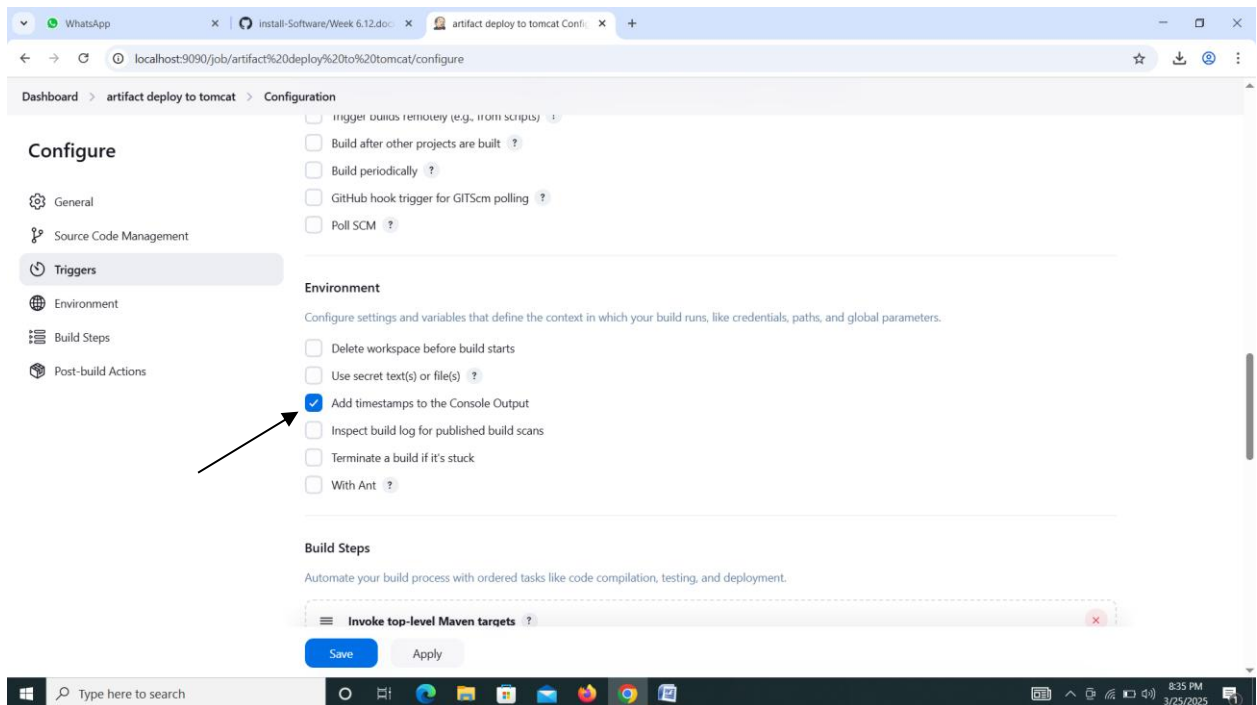
S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☁	artifact deploy to tomcat	7 days 4 hr #5	7 days 7 hr #4	14 sec
✓	☁	buildwar	26 days #6	26 days #5	1 min 9 sec
✓	☀	deploy2	6 days 5 hr #4	N/A	21 sec
✓	☁	deploy3pipeline	6 days 4 hr #11	6 days 4 hr #8	16 sec



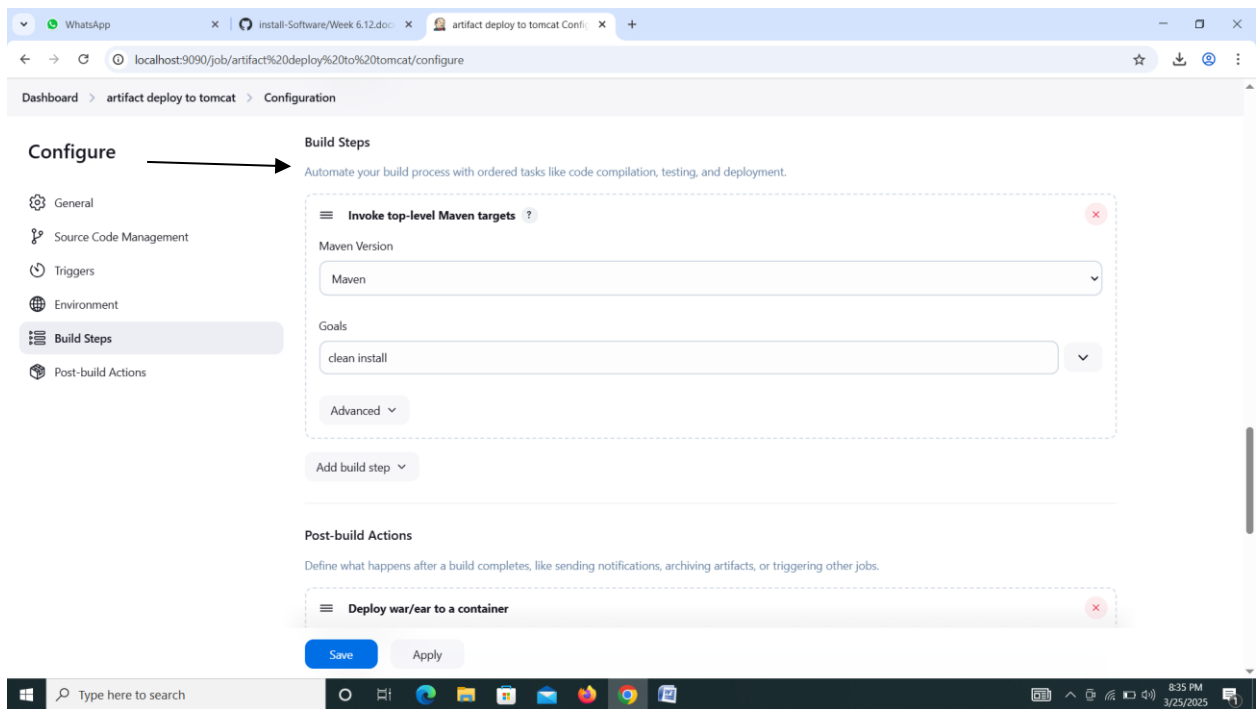
2. Select git → paste maven project url form Github → Must and should match branches



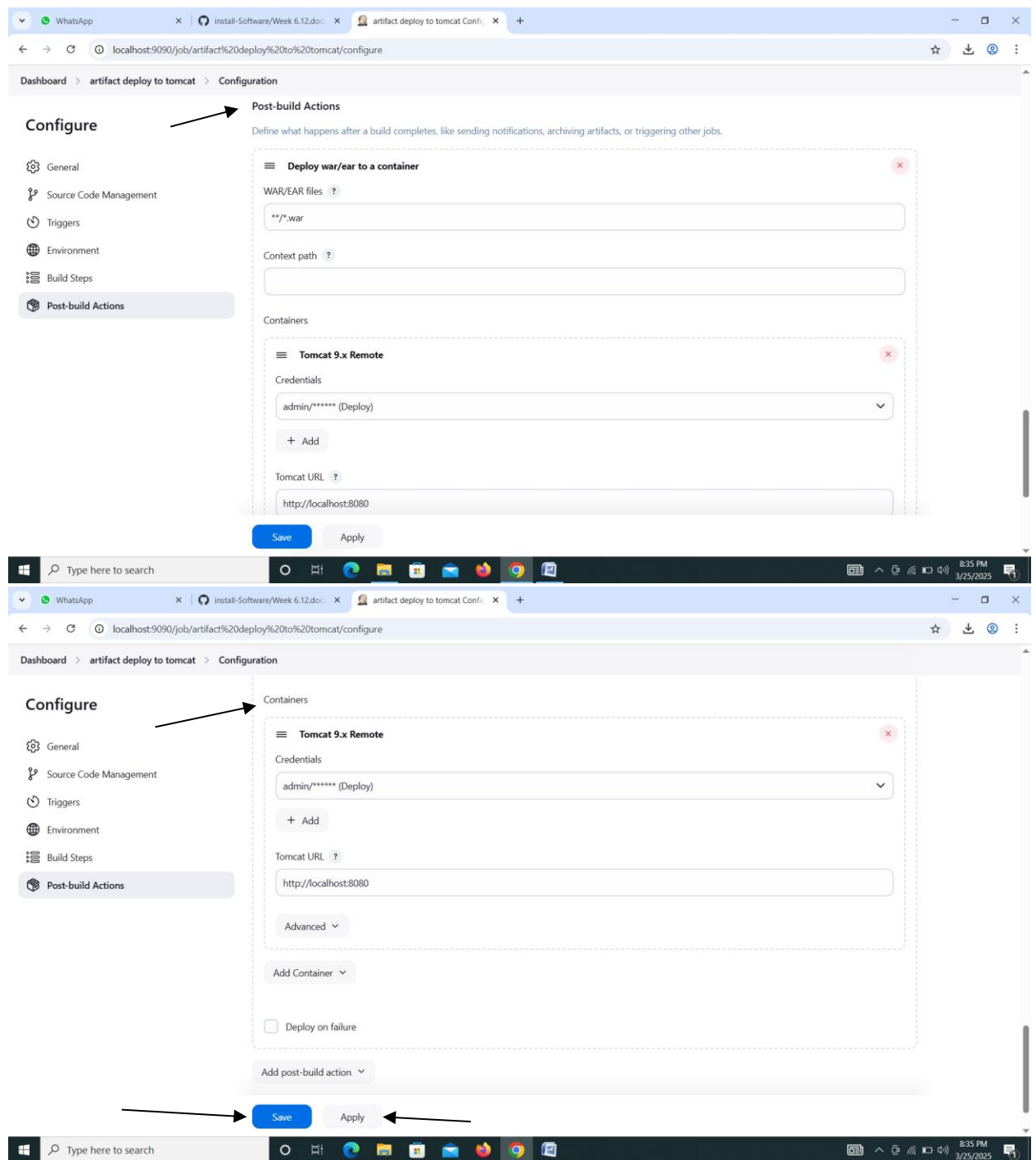
3. Go to Environment → Select Add timestamps to the Console Output



4. Go to Build Setups→Select **Invoke top-level Maven targets**→**Maven Version** enter **maven** →**Goals** **clean install**

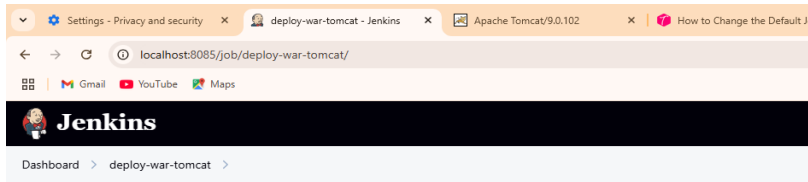


5. Go to Post-build Actions→Select **Deploy war/ear to a container**→**WAR/EAR** files enter ****/*.war**→select Containers **Tomcat 9.x Remote**→Add credentials like **username, password, Id and description.**-->**Tomcat URL** **http://localhost:9090** →**Apply and save.**



Step 6:- Build war File

1. Click Build now → Go to Build select console output now you got Successfully Finish.



- Status
- Changes
- Workspace
- Build Now
- Configure
- Delete Project
- Rename

deploy-war-tomcat

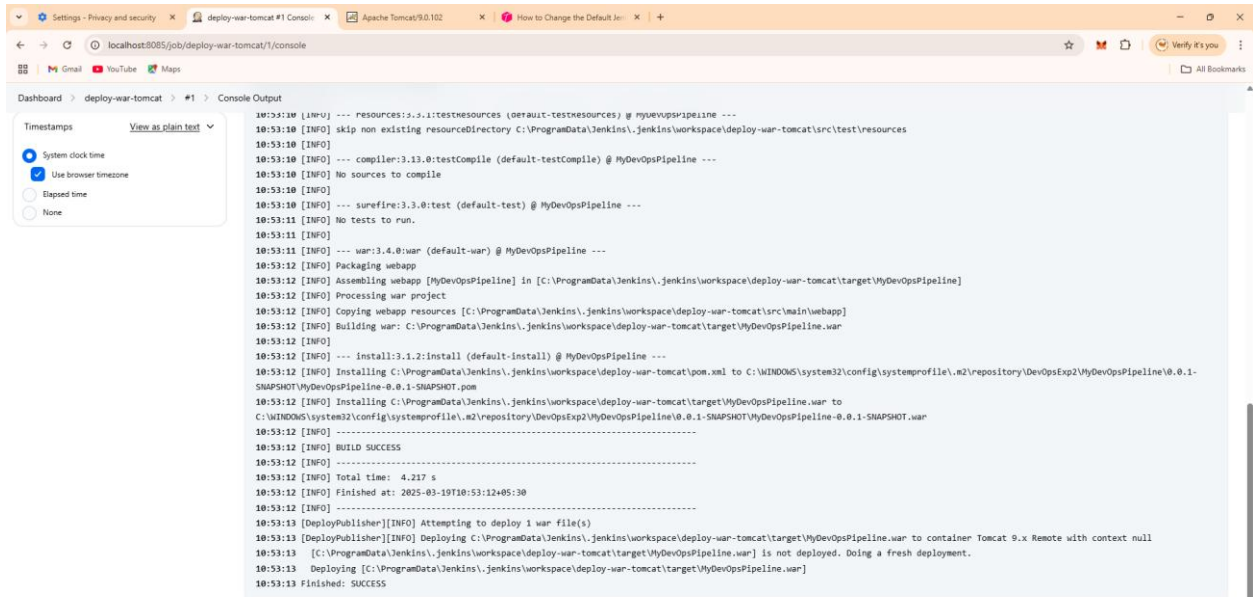
Permalinks

- Last build (#1), 5 days 0 hr ago
- Last stable build (#1), 5 days 0 hr ago
- Last successful build (#1), 5 days 0 hr ago
- Last completed build (#1), 5 days 0 hr ago

Builds

19 March 2025

✓ #1 10:53 am



Output:-

The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `localhost:8085/job/deploy-war-tomcat/`. The Jenkins logo and name are at the top. Below the navigation bar, the job name `deploy-war-tomcat` is displayed with a green checkmark icon. On the left sidebar, the 'Status' tab is selected. The main area shows 'Permalinks' for the build, including links for 'Last build (#1)', 'Last stable build (#1)', 'Last successful build (#1)', and 'Last completed build (#1)', all indicating they are 5 days 0 hr ago. Below this, the 'Builds' section shows a single build (#1) from 10:53 am on 19 March 2025, marked with a green checkmark.

The screenshot shows the Jenkins console output for the 'deploy-war-tomcat' job. The console output is displayed in a light blue box with a dark blue header. The output shows the following steps:

- 10:53:10 [INFO] skip non existing resourceDirectory C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\src\test\resources
- 10:53:10 [INFO] --- compiler:3.13.0:testCompile (default-testCompile) @ MyDevOpsPipeline ---
- 10:53:10 [INFO] No sources to compile
- 10:53:10 [INFO] --- surefire:3.3.0:test (default-test) @ MyDevOpsPipeline ---
- 10:53:11 [INFO] No tests to run.
- 10:53:11 [INFO] --- war:3.4.0:war (default-war) @ MyDevOpsPipeline ---
- 10:53:12 [INFO] Packaging webapp
- 10:53:12 [INFO] Assembling webapp [MyDevOpsPipeline] in [C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline]
- 10:53:12 [INFO] Processing war project
- 10:53:12 [INFO] Copying webapp resources [C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\src\main\webapp]
- 10:53:12 [INFO] Building war: C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline.war
- 10:53:12 [INFO] --- install:3.1.2:install (default-install) @ MyDevOpsPipeline ---
- 10:53:12 [INFO] Installing C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline.war to C:\WINDOWS\system32\config\systemprofile\.m2\repository\DevOpsExp2\MyDevOpsPipeline\0.0.1-SNAPSHOT\MyDevOpsPipeline-0.0.1-SNAPSHOT.war
- 10:53:12 [INFO] BUILD SUCCESS
- 10:53:12 [INFO] Total time: 4.217 s
- 10:53:12 [INFO] Finished at: 2025-03-19T10:53:12+05:30
- 10:53:12 [INFO] Attempting to deploy 1 war file(s)
- 10:53:13 [DeployPublisher][INFO] Deploying C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline.war to container Tomcat 9.x Remote with context null
- 10:53:13 [C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline.war] is not deployed. Doing a fresh deployment.
- 10:53:13 Deploying [C:\ProgramData\jenkins\jenkins\workspace\deploy-war-tomcat\target\MyDevOpsPipeline.war]
- 10:53:13 Finished: SUCCESS

localhost:9090/manager/html

Tomcat Web Application Manager

Message: OK

Manager

List Applications

HTML Manager Help

Manager Help

Server Status

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/MyDevOpsPipeline	None specified	Archetype Created Web Application	true	0	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/docs	None specified	Tomcat Documentation	true	0	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/examples	None specified	Servlet and JSP Examples	true	0	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/host-manager	None specified	Tomcat Host Manager Application	true	0	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>
/manager	None specified	Tomcat Manager Application	true	1	<div>Start Stop Reload Undeploy</div> <div>Expire sessions with idle ≥ 30 minutes</div>

Deploy

Deploy directory or WAR file located on server

Context Path:

Version (for parallel deployment):

XML Configuration file path:

WAR or Directory path:

Deploy

localhost:9090/MyDevOpsPipeline/

Hello Students12345

Hello Students12345

Experiment-7

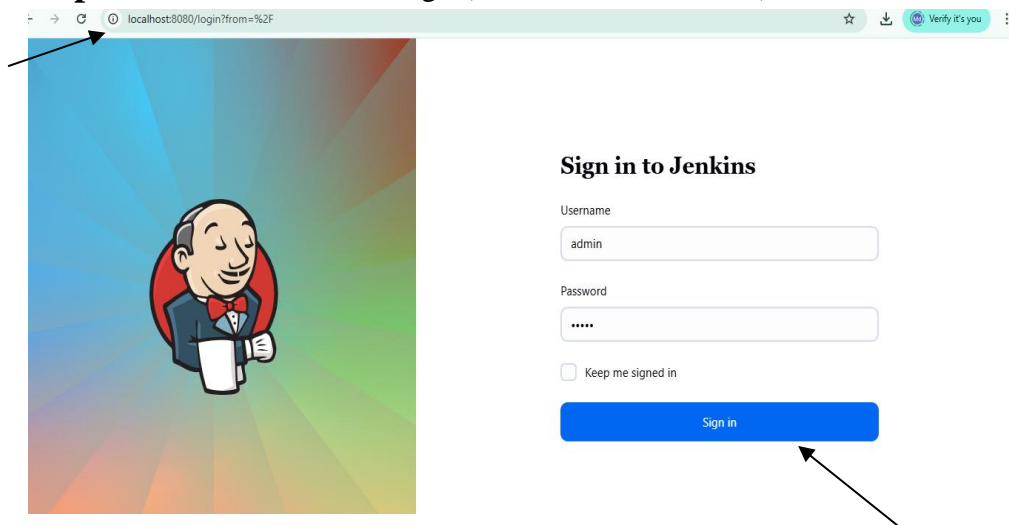
AIM:-Perform Automation using Jenkins.

Softwares:Jenkins(port:8080),JDK 17 or 21,Tomcat 9 (port:9090),Gitbash

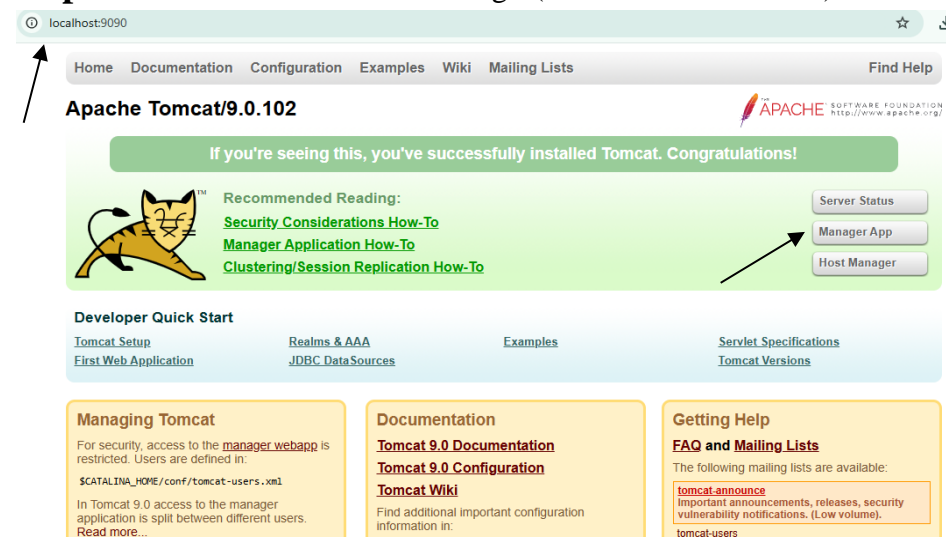
(Here we are creating one artifact war file. That war file we are deploy to test server(Tomcat server) using Jenkins Server)

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Step1:-Lunch Jenkins and Login(Use AWS or Software)



Step2:-Lunch Tomcat Server and login(use AWS or Software)



Open Jenkins do following steps

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+ New Item

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

Dashboard > Manage Jenkins

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

No builds in the queue.

Build Executor Status

(0 of 2 executors busy)

All

+

S

W

Name ↓

Last Success

La



deploy-war-tomcat

2 days 22 hr

#6

2 c



deploypipeline

2 days 22 hr

#11

2 c



week6

3 hr 47 min

#4

Ny

Warnings have been published for the following currently installed components:

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Appearance

Configure the look and feel of Jenkins

Dashboard > Manage Jenkins > Plugins

Plugins

Updates

Available plugins

Installed plugins

Advanced settings

Download progress

Q git

Name ↓

[Git client plugin](#) 6.1.2

Utility plugin for Git support in Jenkins

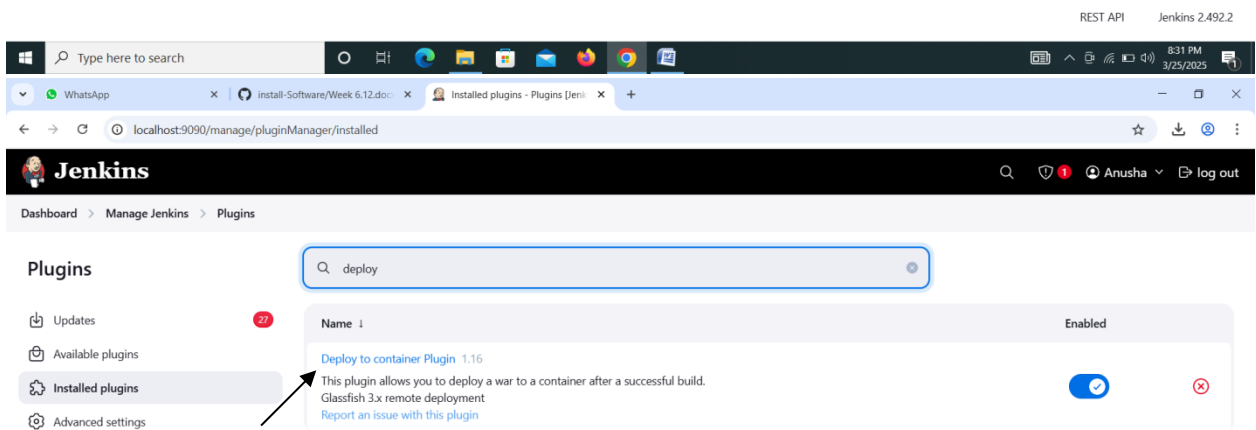
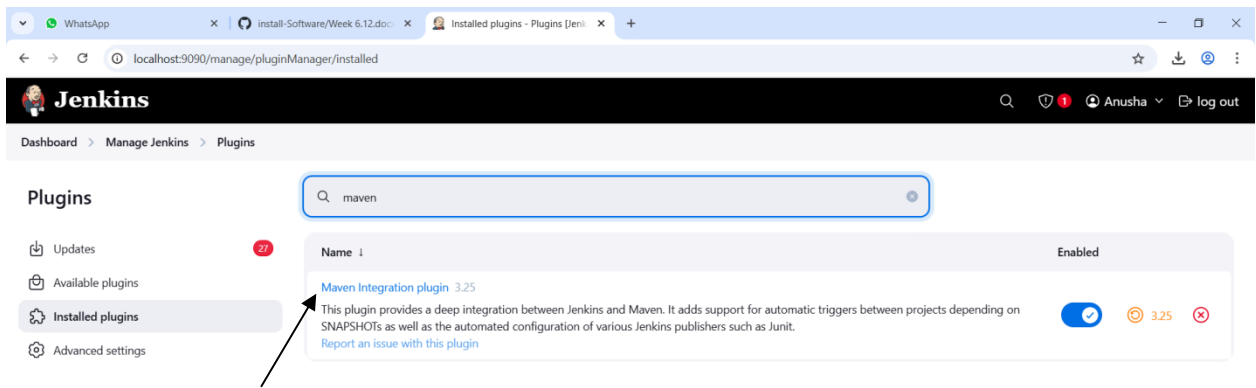
[Report an issue with this plugin](#)

[Git plugin](#) 5.7.0

This plugin integrates [Git](#) with Jenkins.

[Report an issue with this plugin](#)

Above picture three plugins are installed , If not showing please go to available plugins install



Step 4:-set up git path and maven installation in Tools

Go to manage Jenkins→Tools→In git installation select path(Git bash) if your using Jenkins software or AWS leave it →In maven Enter name Maven and default installation→Apply and Save.

WhatsApp | install-Software/Week 6.12.doc | Manage Jenkins [Jenkins] | +

localhost:9090/manage/

Jenkins

Dashboard > Manage Jenkins

+ New Item

- Build History
- Project Relationship
- Check File Fingerprint
- Manage Jenkins**
- My Views

Build Queue: No builds in the queue.

Build Executor Status: 0/2

Manage Jenkins

Search settings

Warnings have been published for the following currently installed components:
EDDSA API Plugin 0.3.0-13.v7cb_69ed68f00:
EdDSA implementation exhibits signature malleability
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Go to plugin manager | Configure which of these warnings are shown

System Configuration

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- Plugins**
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- Appearance**
Configure the look and feel of Jenkins.

Security

localhost:9090/manage/ | Security | Credentials | Credential Providers

Type here to search

localhost:9090/manage/ | Tools [Jenkins]

localhost:9090/manage/configureTools/

Dashboard > Manage Jenkins > Tools

Git installations

Git

Name

Default

Path to Git executable ?

C:\Program Files\Git\bin\git.exe

☐ Install automatically ?

Add Git

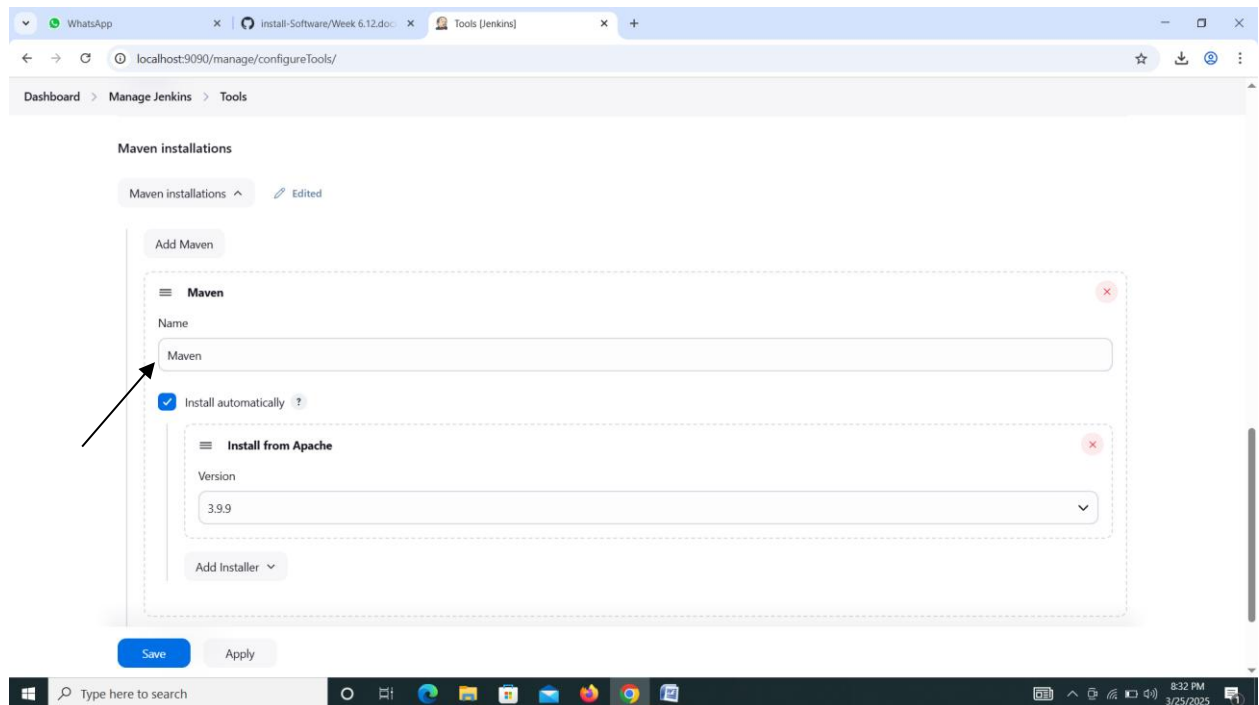
Gradle installations

Add Gradle

Save | Apply

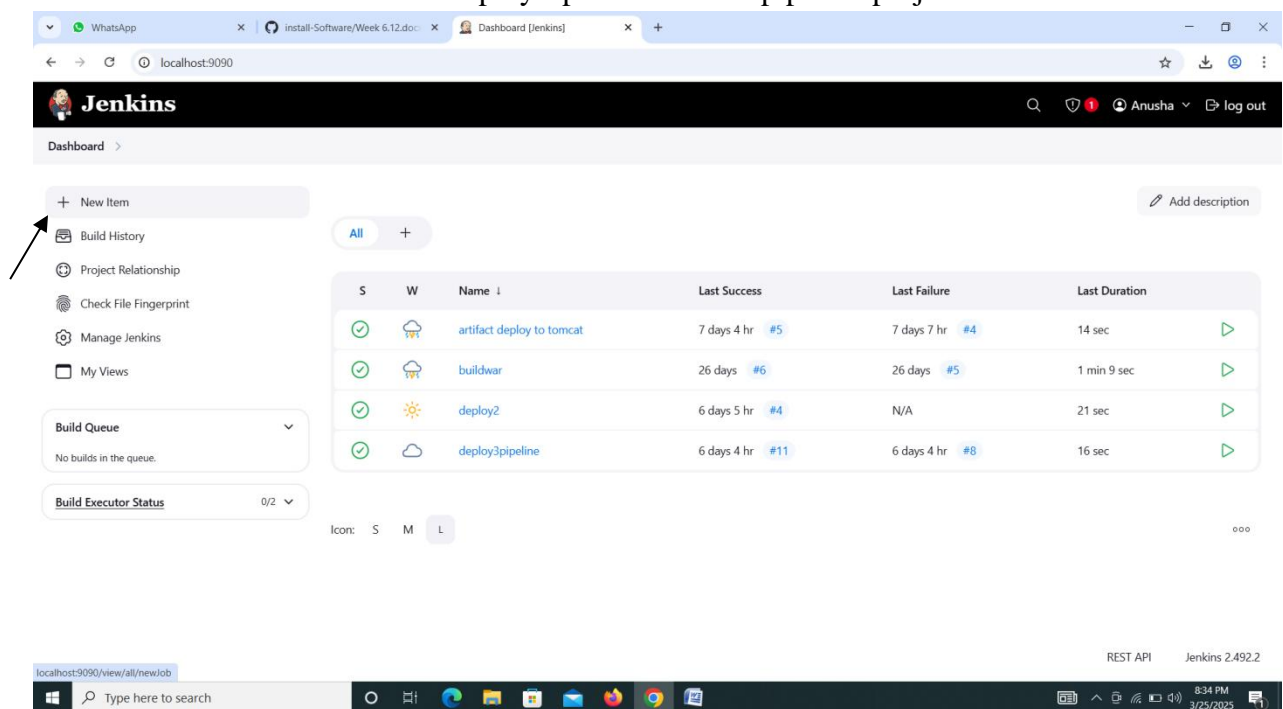
Type here to search

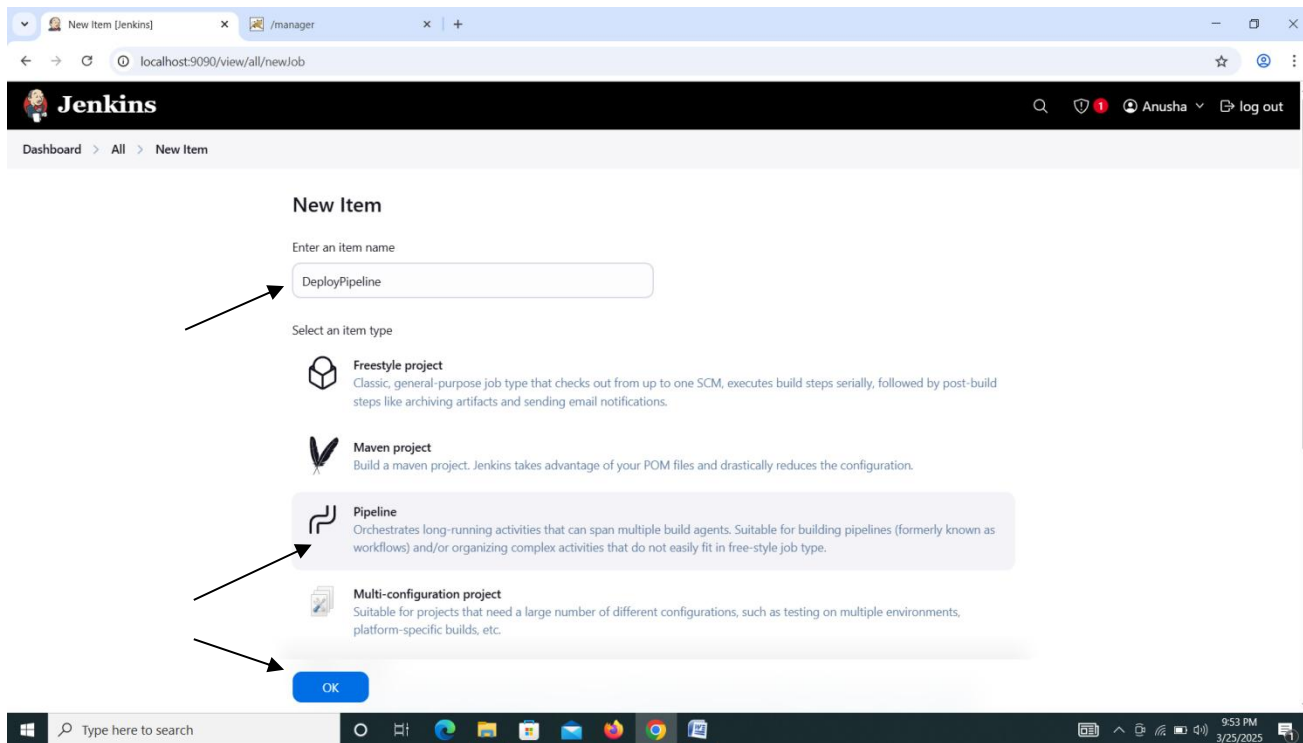
8:32 PM 3/25/2025



Step 5:-Creating New Job for deploy artifact in tomcat test server

6. Create New Item → Enter name DeployPipeline → select pipeline project → click ok





Step 2:-Copy paste below commands pipeline script

```

pipeline{
  agent any
  tools{
    maven 'Maven'
  }
  stages{
    stage('clone the repository'){
      steps{
        git url: 'https://github.com/devisar/Exp2.5.git'
      }
    }
    stage('Build the code'){
      steps{
        bat 'mvn clean install'
      }
    }
    stage('deploy to tomcat'){
      steps{
        deploy adapters: [tomcat9(credentialsId: 'Deploy', path: '', url:
'http://localhost:8080')], contextPath: null, war: '**/*.war'
      }
    }
  }
}

```

deploy3pipeline Config [Jenkins] x /manager

localhost:9090/job/deploy3pipeline/configure

Dashboard > deploy3pipeline > Configuration

Configure

- General
- Triggers
- Pipeline**
- Advanced

Pipeline

Define your Pipeline using Groovy directly or pull it from source control.

Definition

Pipeline script

Script ?

```
9  steps{
10     git url: 'https://github.com/devisar/Exp2.5.git'
11 }
12
13 stage('Build the code'){
14     steps{
15         bat 'mvn clean install'
16     }
17 }
18 stage('deploy to tomcat'){
19     steps{
20         deploy adapters: [tomcat9(credentialsId: 'Deploy', path: '', url: 'http://localhost:8080')], contextPath: null, war: '**/'
21     }
22 }
23
24 }
```

☒ Use Groovy Sandbox ?

[Pipeline Syntax](#)

Save Apply

Step 6:-deploy to tomcat you want to create pipeline script go to →pipeline syntax→Select in sample step deploy: Deploy war/ear to a container →enter war/ear files:**/*.war→Select Containers tomcat 9→select credentials tomcat user name and password. →Enter Tomcat Url like http://localhost:9090. →Click Generate Pipeline Script copy and paste it original pipeline deployment stage.

Selenium Grid x selenium123/pom.xml at m... x DeployPipelineWeek7 Config x Pipeline Syntax: Snippet Gen x Apache Tomcat/9.0.102 x + -

localhost:8080/job/DeployPipelineWeek7/pipeline-syntax/

Dashboard > DeployPipelineWeek7 > Pipeline Syntax

Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSDL

Steps

Sample Step

deploy: Deploy war/ear to a container

deploy

WAR/EAR files ?

**/*.war

Context path ?

Containers

Tomcat 9.x Remote

Credentials

deployer/***** (Deployer12345)

+ Add

Tomcat URL ?

http://localhost:9090

Advanced

82°F Haze

Selenium Grid x selenium123/pom.xml at m... x DeployPipelineWeek7 Config x Pipeline Syntax: Snippet Gen x Apache Tomcat/9.0.102 x + -

localhost:8080/job/DeployPipelineWeek7/pipeline-syntax/

Dashboard > DeployPipelineWeek7 > Pipeline Syntax

Containers

Tomcat 9.x Remote

Credentials

deployer/***** (Deployer12345)

+ Add

Tomcat URL ?

http://localhost:9090

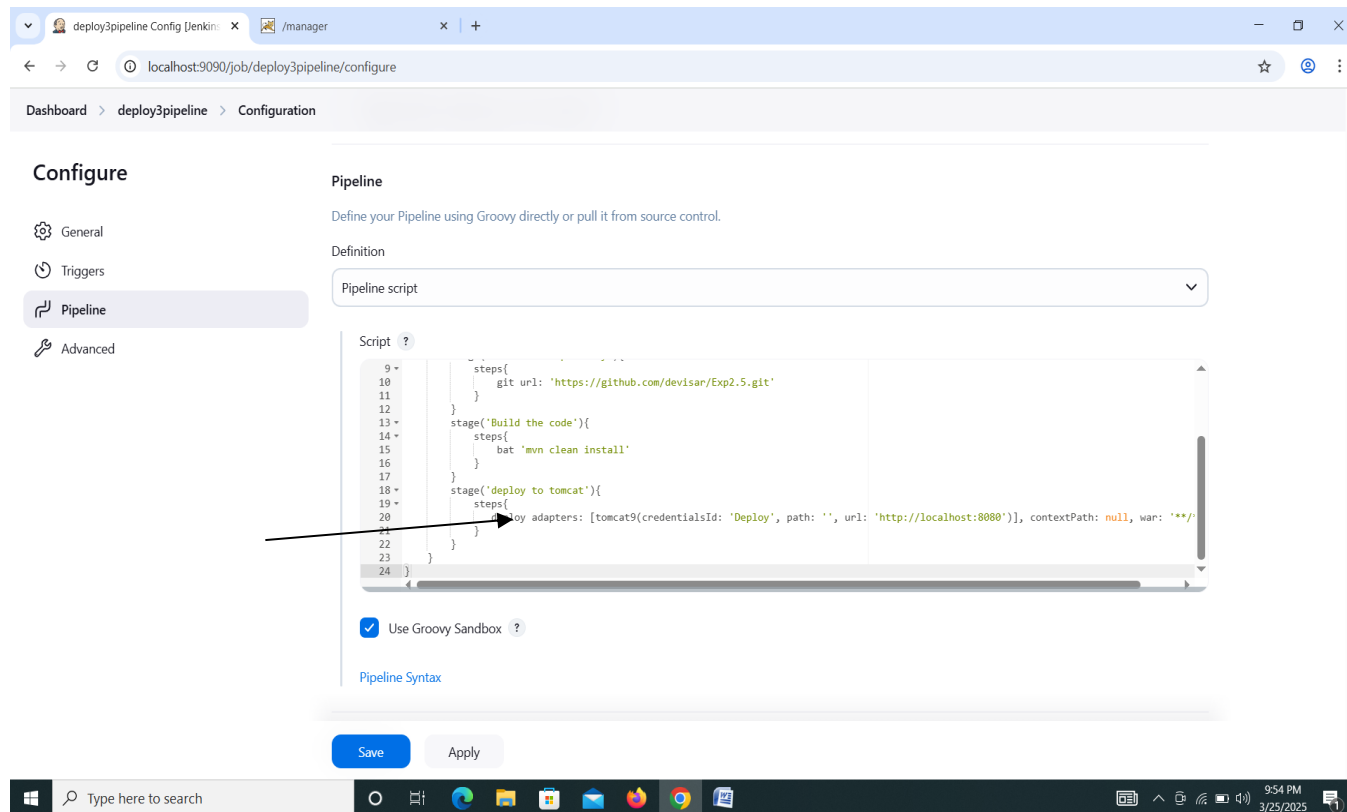
Advanced

Add Container

☒ Deploy on failure

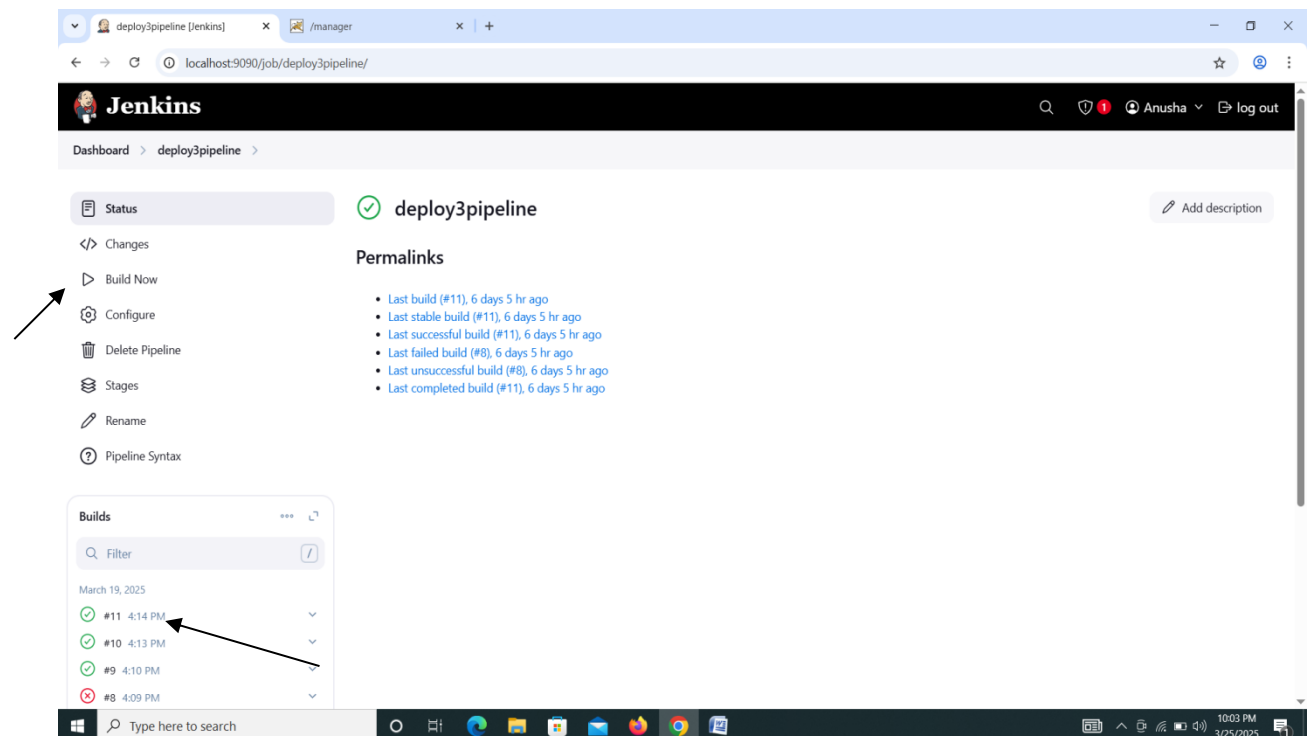
Generate Pipeline Script

deploy adapters: [tomcat9[credentialsId: 'Deployer12345', path: '', url: 'http://localhost:9090']], contextPath: null, war: '**/*.war'

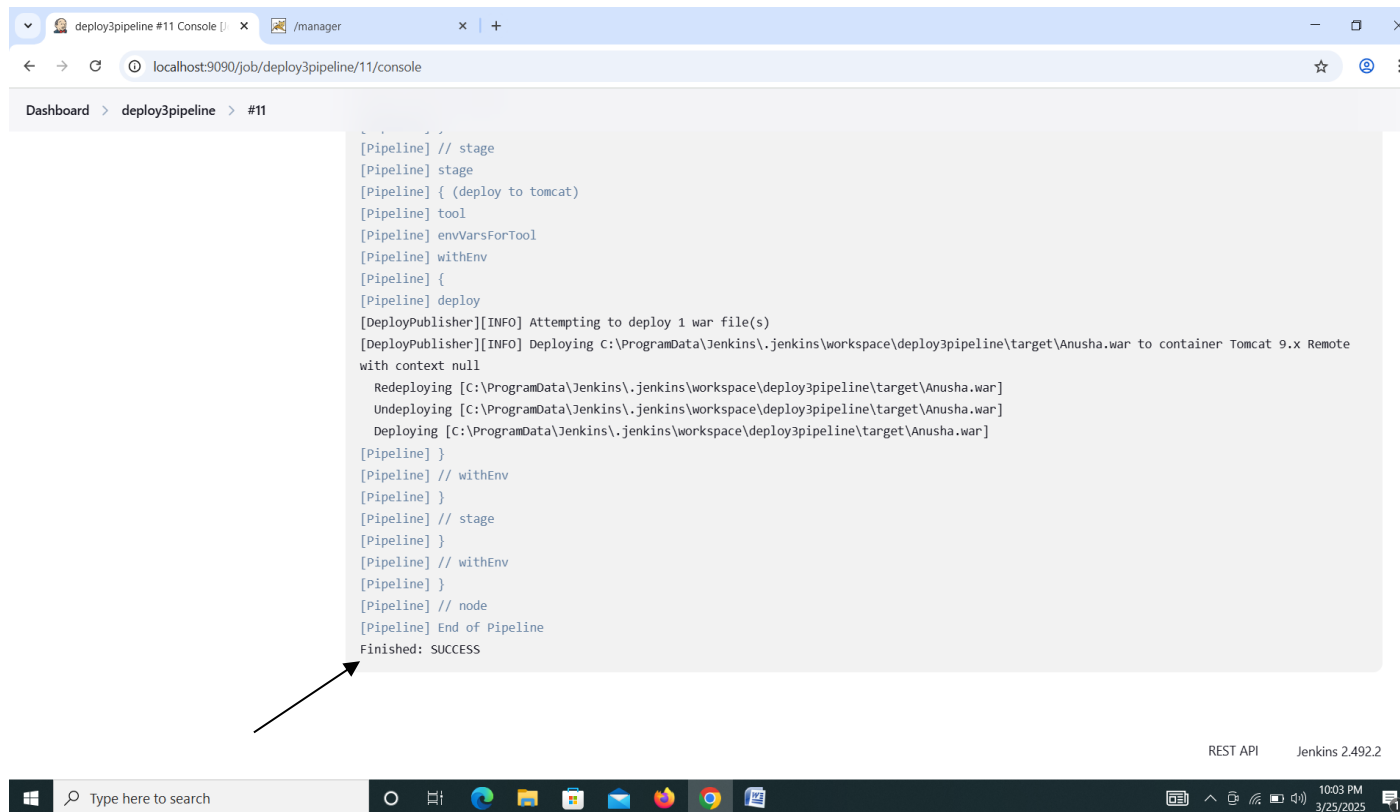


Step 7:- Build war File

2. Click Build now → Go to



Build select console output now you got Successfully Finish.



Output:-

Dashboard > deploy3pipeline >

Status

✓ deploy3pipeline

✎ Add description

🔗 Changes

▶ Build Now

⚙️ Configure

🗑️ Delete Pipeline

📁 Stages

✎ Rename

❓ Pipeline Syntax

Permalinks

- [Last build \(#11\), 6 days 5 hr ago](#)
- [Last stable build \(#11\), 6 days 5 hr ago](#)
- [Last successful build \(#11\), 6 days 5 hr ago](#)
- [Last failed build \(#8\), 6 days 5 hr ago](#)
- [Last unsuccessful build \(#8\), 6 days 5 hr ago](#)
- [Last completed build \(#11\), 6 days 5 hr ago](#)

Builds

🔍 Filter

March 19, 2025

✓ #11 4:14 PM

✓ #10 4:13 PM

✓ #9 4:10 PM

✗ #8 4:09 PM

Dashboard > deploy3pipeline > #11

```
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (deploy to tomcat)
[Pipeline] tool
[Pipeline] envVarsForTool
[Pipeline] withEnv
[Pipeline] {
[Pipeline] deploy
[DeployPublisher][INFO] Attempting to deploy 1 war file(s)
[DeployPublisher][INFO] Deploying C:\ProgramData\Jenkins\.jenkins\workspace\deploy3pipeline\target\Anusha.war to container Tomcat 9.x Remote
with context null
    Redeploying [C:\ProgramData\Jenkins\.jenkins\workspace\deploy3pipeline\target\Anusha.war]
    Undeploying [C:\ProgramData\Jenkins\.jenkins\workspace\deploy3pipeline\target\Anusha.war]
    Deploying [C:\ProgramData\Jenkins\.jenkins\workspace\deploy3pipeline\target\Anusha.war]
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```



Tomcat Web Application Manager

Message: OK

Manager			
List Applications	HTML Manager Help	Manager Help	Server Status

Applications					
Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/Anusha	None specified	Archetype Created Web Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/MyDevOpsPipeline	None specified	Archetype Created Web Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/manager	None specified	Tomcat Manager Application	true	0	Start Stop Reload Undeploy

Hello World!