

# Deploying a project through Jenkins of web application server in tomcat

Step : Creating 2 instance

- Creating a Ec2 instance for Jenkins
- Creating a Ec2 instance for Tomcat
- Connect tomcat to Jenkins and deploy

Ec2 of Jenkins

Enable 8080 port for accessing Jenkins inside of network in security group

Install java-17 and install maven(build) then install Jenkins

```
[ sudo wget -O /etc/yum.repos.d/jenkins.repo \ https://pkg.jenkins.io/redhat-stable/jenkins.repo
```

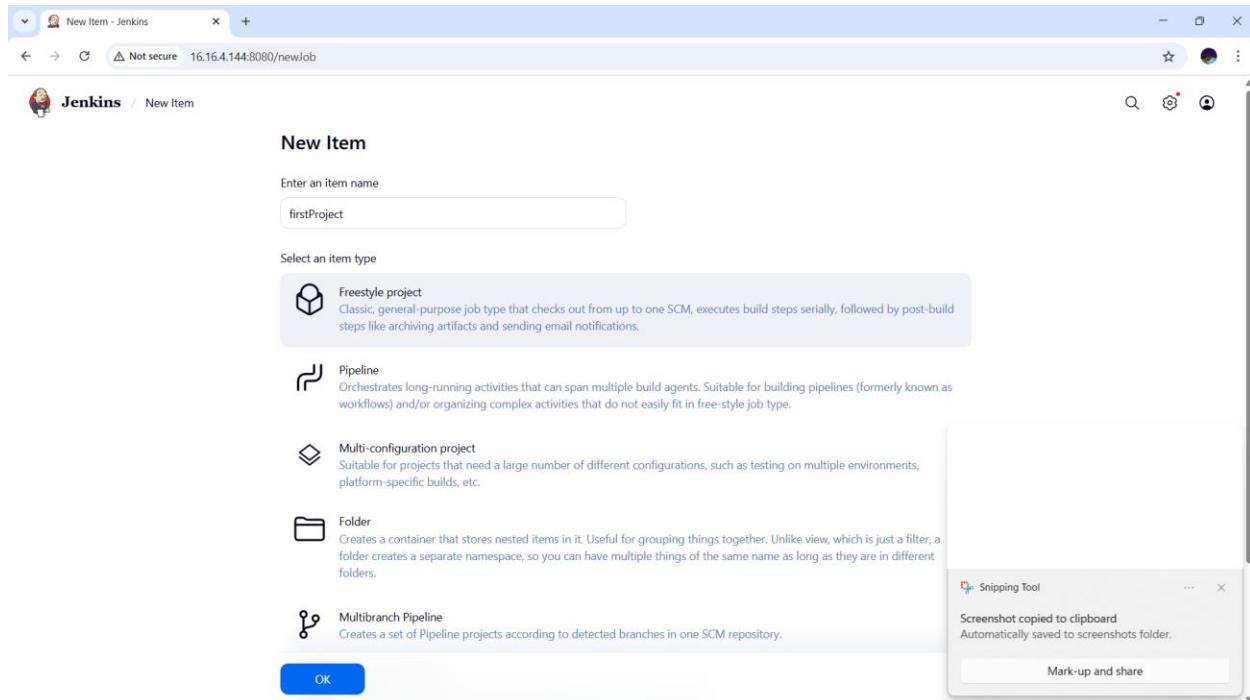
```
sudo yum install java-17 git -y  
sudo yum install maven -y  
sudo systemctl enable Jenkins  
sudo systemctl start Jenkins  
sudo systemctl status jenkins
```

```
]
```

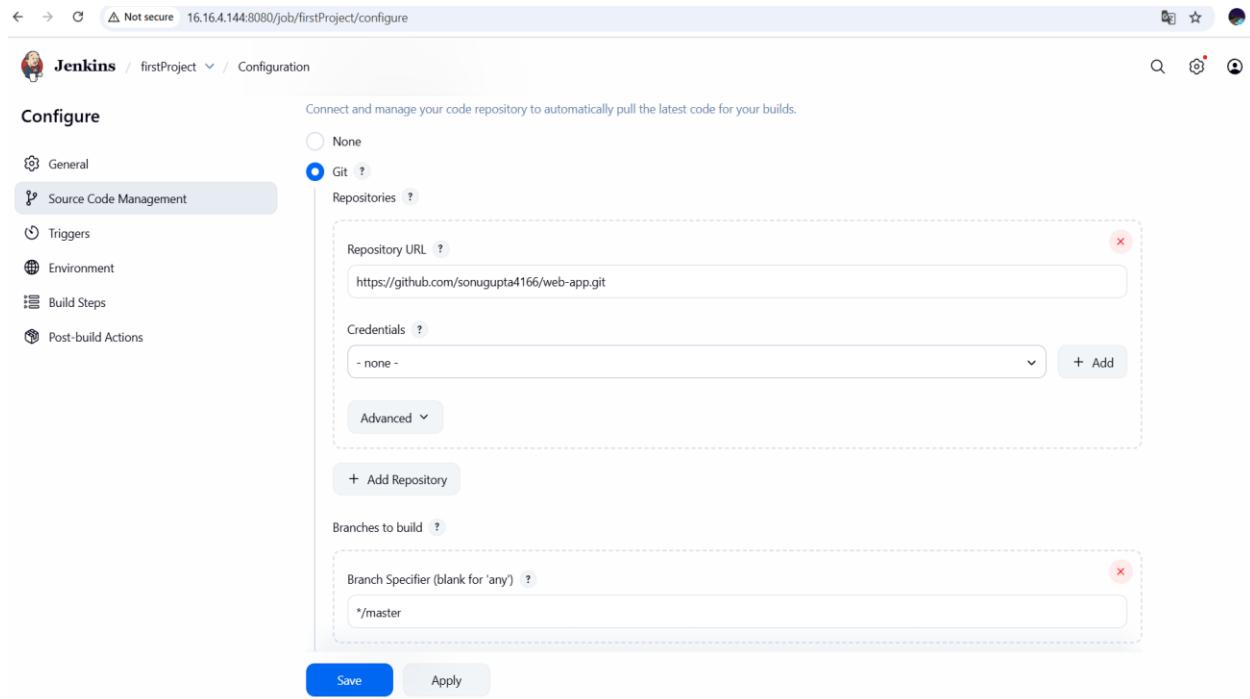
Enable 8080 port from anywhere

- Copy ip peste in browser with 8080 (<http://16.171.181.213:8080>)
- Password give for initial ( `/var/lib/Jenkins/secrets/initialAdminPassword` )
- After giving initial password create **Username and password also Email**
- **Install plugging**
- Install plugging of build Maven
- Also install plugging Deploy Container

Create a free style project



Add github repository in it



## Install plugin of Deploy to Container

The screenshot shows the Jenkins 'Manage Jenkins' interface under the 'Plugins' section. The left sidebar lists navigation options: 'Updates', 'Available plugins', 'Installed plugins', 'Advanced settings', and 'Download progress'. The 'Download progress' tab is currently selected. The main content area displays a table of installed plugins with their status. All listed plugins have a green checkmark icon and the word 'Success' next to them. The listed plugins include:

Plugin	Status
Trilead API	Success
SSH Build Agents	Success
Matrix Authorization Strategy	Success
LDAP	Success
jsoup API	Success
Email Extension	Success
Mailer	Success
Theme Manager	Success
Dark Theme	Success
Loading plugin extensions	Success
Dev Tools Symbols API	Success
Javadoc	Success
JSch dependency	Success
Maven Integration	Success
Loading plugin extensions	Success
Deploy to container	Success
Loading plugin extensions	Success

Below the table, there are two links: 'Go back to the top page' and 'Restart Jenkins when installation is complete and no jobs are running'.

## Install plugin of maven

The screenshot shows the Jenkins 'Manage Jenkins' interface under the 'Plugins' section. The left sidebar lists navigation options: 'Updates', 'Available plugins', 'Installed plugins', 'Advanced settings', and 'Download progress'. The 'Download progress' tab is currently selected. The main content area displays a table of plugins being prepared for download. The 'Preparation' column lists the tasks being checked: 'Checking internet connectivity', 'Checking update center connectivity', and 'Success'. The main table lists the following plugins and their status:

Plugin	Preparation	Status
commons-lang3 v3.x Jenkins API	• Checking internet connectivity • Checking update center connectivity • Success	Success
Ionicons API		Success
Folders		Success
OWASP Markup Formatter		Success
ASM API		Success
JSON Path API		Success
Structs		Success
Pipeline: Step API		Success
commons-text API		Success
Token Macro		Success
Build Timeout		Success
bouncycastle API		Success
Credentials		Success
Plain Credentials		Success
Variant		Success
SSH Credentials		Success
Credentials Binding		Success
SCM API		Success
Pipeline: API		Success
Timestamper		Success

Select Build step :Invoke top-level Maven targets

And fill the details

The screenshot shows the Jenkins 'Configure' screen for a job named 'git to jenkins'. The left sidebar has tabs for General, Source Code Management, Triggers, Environment, Build Steps (which is selected and highlighted in grey), and Post-build Actions. The main area is titled 'Automate your build process with ordered tasks like code compilation, testing, and deployment.' A dashed box highlights the 'Invoke top-level Maven targets' step. Inside this box, the 'Goals' field contains 'clean package'. Below it is an 'Advanced' dropdown and a '+ Add build step' button. At the bottom of the page, under 'Post-build Actions', there is a '+ Add post-build action' button, and at the very bottom are 'Save' and 'Apply' buttons.

## 2 Ec2 for tomcat

Enable 8080 port for accessing Jenkins inside of network in security group

- Connect ec2 instance
- Download tomcat server
- [ wget <https://dlcdn.apache.org/tomcat/tomcat-9/v9.0.112/bin/apache-tomcat-9.0.112.tar.gz> ]

```
Tar -zvxf apache-tomcat-9.0.112.tar.gz  
mv apache-tomcat-9.0.112.tar.gz tomcat  
sudo yum install locate  
cd tom  
cd bin  
bash startup.sh  
cd ..  
locate context.xml  
cd conf  
vi context.xml (# Edit value remove line 21 and 22 add our IP for instance)  
sudo updatedb  
cd
```

```

Edit role name
Edit manager-gui and manager script ( for accessing file inside of server )
cd bin
bash startup.sh
username
password
sign in ]

```

Add plugin deploy in container

Then select post build action

Jenkins / git-jenkins-tomcat / Configuration

**Post-build Actions**

Define what happens after a build completes, like sending notifications, archiving artifacts, or triggering other jobs.

**Configure**

- General
- Source Code Management
- Triggers
- Environment
- Build Steps
- Post-build Actions**

**Deploy war/ear to a container**

WAR/EAR files ?  
target/\*.war

Context path ?  
git-jenkins-tomcat

Containers

**Tomcat 9.x Remote**

Credentials  
tomcat/\*\*\*\*\*

**Save** **Apply**

Jenkins / git-jenkins-tomcat / Configuration

**Configure**

- General
- Source Code Management
- Triggers
- Environment
- Build Steps
- Post-build Actions**

**Containers**

**Tomcat 9.x Remote**

Credentials  
tomcat/\*\*\*\*\*

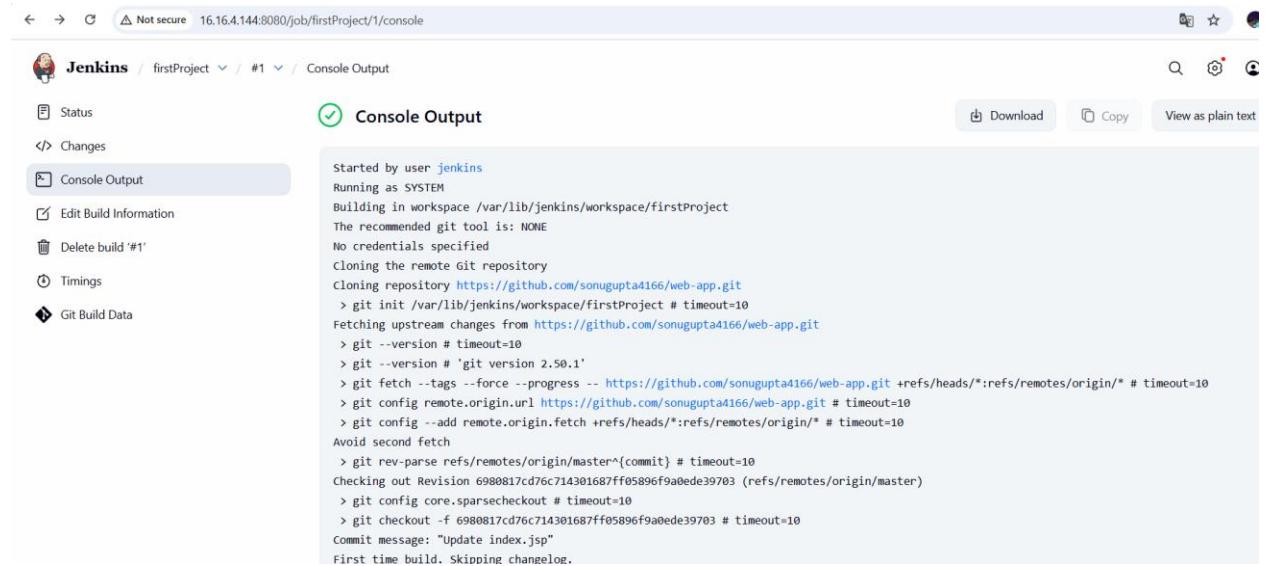
Tomcat URL ?  
http://13.236.134.248:8080/manager/text

Advanced ▾

+ Add Container

**Save** **Apply**

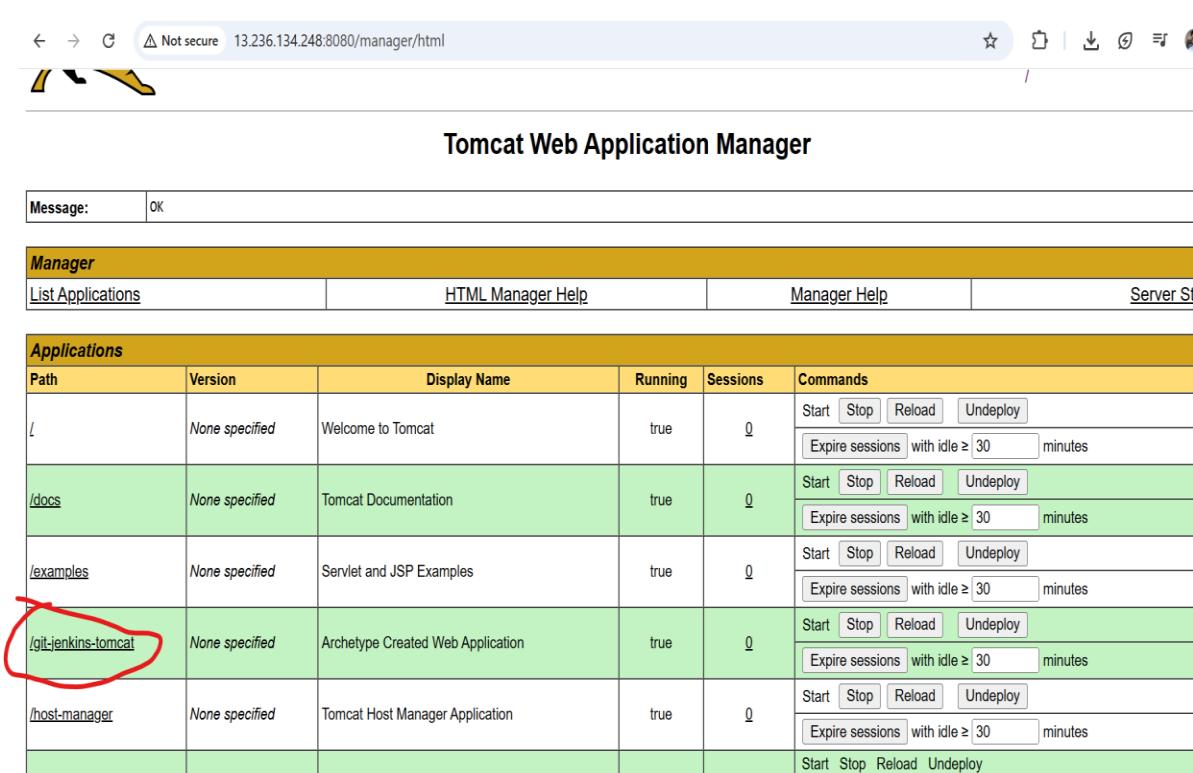
Then click on Build now



The screenshot shows the Jenkins interface for a job named 'firstProject'. The build number is #1. The 'Console Output' tab is selected. The output window displays the command-line logs of the build process, which includes cloning a Git repository from GitHub and performing a clean build.

```
Started by user jenkins
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/firstProject
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
  Cloning repository https://github.com/sonugupta4166/web-app.git
    > git init /var/lib/jenkins/workspace/firstProject # timeout=10
Fetching upstream changes from https://github.com/sonugupta4166/web-app.git
  > git --version # timeout=10
  > git --version # 'git version 2.50.1'
  > git fetch --tags --force --progress -- https://github.com/sonugupta4166/web-app.git +refs/heads/*:refs/remotes/origin/*
  > git config remote.origin.url https://github.com/sonugupta4166/web-app.git # timeout=10
  > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/*
Avoid second fetch
  > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 6980817cd76c714301687ff05896f9aaede39703 (refs/remotes/origin/master)
  > git config core.sparsecheckout # timeout=10
  > git checkout -f 6980817cd76c714301687ff05896f9aaede39703 # timeout=10
Commit message: "Update index.jsp"
First time build. Skipping changelog.
```

# After deploy our web in Jenkins using Tomcat server



The screenshot shows the Tomcat Web Application Manager interface. It lists several deployed applications under the 'Applications' section. One application, '/git-jenkins-tomcat', is circled in red. The table columns include Path, Version, Display Name, Running status, Sessions count, and a set of commands (Start, Stop, Reload, Undeploy) along with session expiration settings.

Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	<button>Start</button> <button>Stop</button> <button>Reload</button> <button>Undeploy</button> <input type="button" value="Expire sessions"/> with idle ≥ 30 minutes
/docs	None specified	Tomcat Documentation	true	0	<button>Start</button> <button>Stop</button> <button>Reload</button> <button>Undeploy</button> <input type="button" value="Expire sessions"/> with idle ≥ 30 minutes
/examples	None specified	Servlet and JSP Examples	true	0	<button>Start</button> <button>Stop</button> <button>Reload</button> <button>Undeploy</button> <input type="button" value="Expire sessions"/> with idle ≥ 30 minutes
/git-jenkins-tomcat	None specified	Archetype Created Web Application	true	0	<button>Start</button> <button>Stop</button> <button>Reload</button> <button>Undeploy</button> <input type="button" value="Expire sessions"/> with idle ≥ 30 minutes
/host-manager	None specified	Tomcat Host Manager Application	true	0	<button>Start</button> <button>Stop</button> <button>Reload</button> <button>Undeploy</button> <input type="button" value="Expire sessions"/> with idle ≥ 30 minutes