Create Freestyle job in Jenkins | How to create build job in Jenkins to automate Java build and deployment of WAR into Tomcat

prem-requisites:

- **Java Project is setup in GitHub or your SCM**
- Jenkins is up and running

  Change Host Name to Jenkins
  sudo hostnamectl set-hostname Jenkins
  sudo apt update

  sudo apt install default-jdk -y

  sudo apt install maven -y

- Jenkins Setup

  Add Repository key to the system
  curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee \
    /usr/share/keyrings/jenkins-keyring.asc > /dev/null

  Append debian package repo address to the system

  echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \
    https://pkg.jenkins.io/debian binary/ | sudo tee \
    /etc/apt/sources.list.d/jenkins.list > /dev/null

  Update Ubuntu package

  sudo apt install jenkins -y

  Access Jenkins in web browser

- **Tomcat is up and running**

  Change Host Name to Tomcat
  sudo hostnamectl set-hostname Tomcat

  sudo apt update

- sudo apt-get install tomcat9 tomcat9-docs tomcat9-admin -y

- <mark>sudo cp -r /usr/share/tomcat9-admin/* /var/lib/tomcat9/webapps/ -v</mark>

- <mark>sudo vi /var/lib/tomcat9/conf/tomcat-</mark>

- <mark>add</mark>

- <mark><role rolename="manager-script"/>
  <user username="tomcat" password="password" roles="manager-script"/></mark>

  <mark>sudo systemctl restart tomcat9</mark>

•Make sure you <mark style="background:#00ff00">configure maven installation</mark> under Jenkins-->manage Jenkins-> Global Tool Configuration. under maven installation. enter <mark>Maven3</mark> as name, enter path of maven installation --> <mark>/usr/share/maven</mark> and uncheck install automatically option.

•Also <mark style="background:#00ff00">install **_deploy to_** _container_**, Jacoco** plugins under Jenkins</mark> --> Manage Jenkins --> Manage plug-ins

Click on Available, type Deploy to container, select it. enter Jacoco, select it. Click on Install without restart.

Click on without restart.

<mark>**_steps to automate MyWebApp project in Jenkins:_**</mark>

<mark>**1. Login to Jenkins. Click on New item.**</mark>

<mark>**2. Enter an item name --> select Free style project.**</mark>

<mark>**enter name as myFirstAutomateJob. click OK.**</mark>

<mark>**3. under source code mgmt, click git. enter Bitbucket URL or GitHub URL
Click on your repo, Copy the url from the browser. Paste the url as Repository URL below.**</mark>

<mark style="color:red">**Copy this project url**</mark>

<mark>**https://github.com/tahers755/devops-project-sample-java-app.git**</mark>

<mark>**Enter** <mark style="background:#00ff00">main</mark> **as branch specifier or which ever branch you want to check out.**</mark>

<mark>**4. select that from drop down.**</mark>
5. under build trigger click on poll scm, enter this value to check

for every 2 mins --> H/02 * * * *

**6. Build --> Add build step --> invoke top level maven targets →
      select Maven3 from drop down and goal as clean install**

7. Click on advanced, enter the path of POM file as --> MyWebApp/pom.xml

8. click on Add post build action, select Record Jacoco Code coverage report

9. click on Add post build action, select deploy war/ear to container

for WAR/EAR files enter as

**/*.war
 10. click on Add container , select Tomcat 9.x

 **11. click on add credentials, enter tomcat as user name and password as password.
 select it from drop down.**

12. tomcat url should be --> http://your_public_dns_name:8080