

JENKINS 04

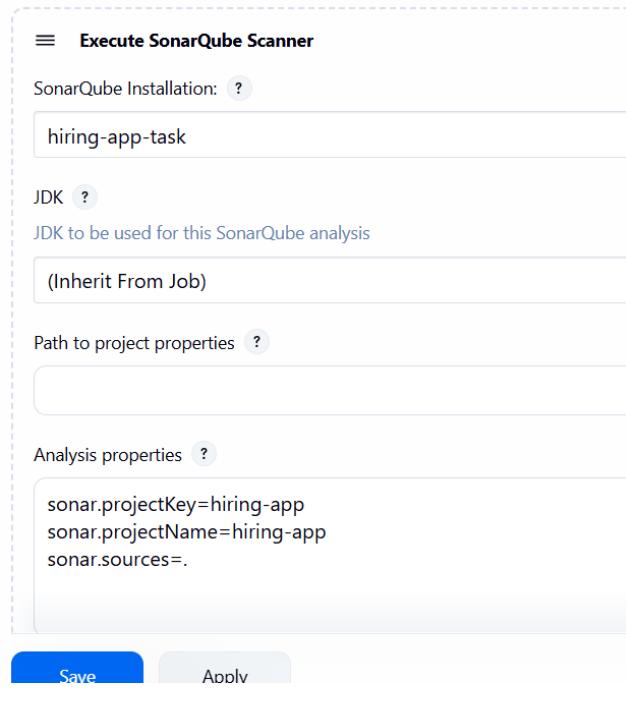
1. Setup Jenkins CICD pipeline using freestyle job using Docker containers using below

code. <https://github.com/betawins/hiring-app.git> Stages:

- Git Clone
 - SonarQube Integration
 - Maven Compilation
 - Nexus Artifactory
 - Slack Notification
 - Deploy On tomcat
-
- Launch Jenkins server and sonar server,
 - Create a new token from sonarqube
 - Add token in credentials in Jenkins
 - Add add that credentials to job > configure > build steps
 -

Build Steps

Automate your build process with ordered tasks like code compilation, testing, ↴



The screenshot shows the 'Execute SonarQube Scanner' configuration page. It includes fields for SonarQube Installation (set to 'hiring-app-task'), JDK (set to '(Inherit From Job)'), Path to project properties (empty), Analysis properties (containing 'sonar.projectKey=hiring-app', 'sonar.projectName=hiring-app', and 'sonar.sources='), and Save/Apply buttons.

Execute SonarQube Scanner

SonarQube Installation: ?

hiring-app-task

JDK ?

JDK to be used for this SonarQube analysis

(Inherit From Job)

Path to project properties ?

Analysis properties ?

sonar.projectKey=hiring-app
sonar.projectName=hiring-app
sonar.sources=.

Save Apply

- Copy readme , code for sonar analysis

The screenshot shows a GitHub repository interface. At the top, there's a table of recent commits:

File	Action	Date
README.md	Update README.md	last year Mar 1, 2024, 9:26 PM GMT+5:30
Untitled Diagram.drawio	Added Untitled Diagram.drawio	2 years ago
jenkinsfile-cicd	Create jenkinsfile-cicd	2 years ago
pom.xml	Update pom.xml	2 years ago

Below the table is the README file content:

```
sonar.projectKey=Test
sonar.sources=.
```

- Paste it in sonar build steps properties
- Add maven
- Job >> build steps
- Add invoke top level maven targets
- Add maven version
- Add goal > enter ‘clean install’

The screenshot shows the Jenkins job configuration for the 'Invoke top-level Maven targets' step. It includes fields for Maven Version (set to MVN_HOME) and Goals (set to clean install). There's also an Advanced dropdown and a 'Add build step' button. Below this, there's a Post-build Actions section with a note about what happens after a build completes.

Invoke top-level Maven targets

Maven Version: MVN_HOME

Goals: clean install

Advanced ▾

+ Add build step

Post-build Actions
Define what happens after a build completes, like sending notifications, archiving artifacts, or triggering other

- Maven successful

hiring-app-task

 Add descrip



SonarQube

SonarQube Quality Gate

Test Passed

server-side processing: Success

Permalinks

- [Last build \(#6\), 2 min 8 sec ago](#)
- [Last stable build \(#6\), 2 min 8 sec ago](#)
- [Last successful build \(#6\), 2 min 8 sec ago](#)
- [Last failed build \(#5\), 3 min 51 sec ago](#)
- [Last unsuccessful build \(#5\), 3 min 51 sec ago](#)
- [Last completed build \(#6\), 2 min 8 sec ago](#)
- Now for nexus
- Launch an instance for nexus
- Install java 17

```
Complete!
[ec2-user@ip-172-30-0-230 ~]$ java --version
openjdk 17.0.17 2025-10-21 LTS
OpenJDK Runtime Environment Corretto-17.0.17.10.1 (build 17.0.17+10-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.17.10.1 (build 17.0.17+10-LTS, mixed
mode, sharing)
[ec2-user@ip-172-30-0-230 ~]$ █
```

i-01b0a0f1890e860ce (nexus-server)

PublicIPs: 54.163.200.189 PrivateIPs: 172.30.0.230

- Install nexus
- Tar the file
- Now, go to cd /opt
- Ls
- Find nexus
- Cd nexus

- Ls
- Find bin
- Cd bin
- Ls
- Find nexus.rc
- Now edit the file
- Vi nexus.rc
- Edit and add ----- run_as_user="ec2-user"
- Now, start the nexus
- ./nexus start

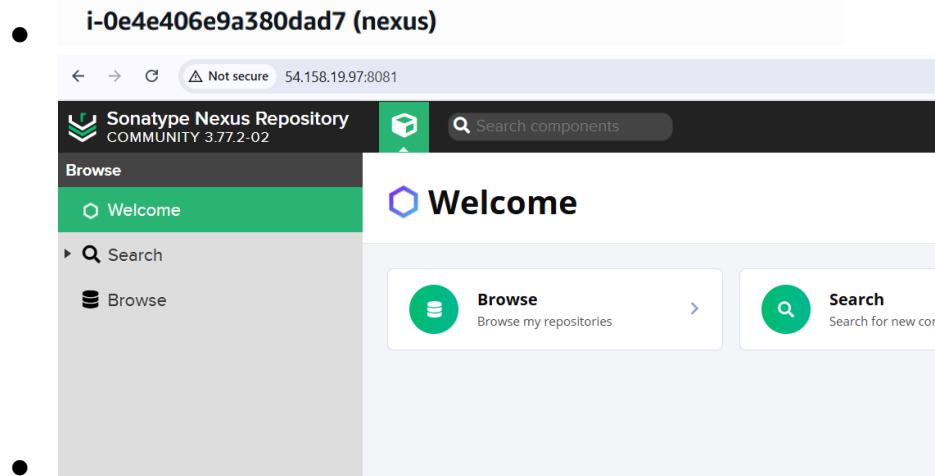
```
[ec2-user@ip-172-30-0-230 bin]$ ./nexus start
Starting nexus
[ec2-user@ip-172-30-0-230 bin]$ cat nexus.rc
run_as_user="ec2-user"
[ec2-user@ip-172-30-0-230 bin]$ ./nexus start
Starting nexus
[ec2-user@ip-172-30-0-230 bin]$ █
```

i-01b0a0f1890e860ce (nexus-server)

PublicIPs: 54.163.200.189 PrivateIPs: 172.30.0.230

- [REDACTED]
- Add permission to run as ec2-user
- sudo chown -R ec2-user:ec2-user /opt/nexus-3.68.0-04
- sudo chown -R ec2-user:ec2-user /opt/sonatype-work
- verify by ll in cd /opt location
- run nexus from ec2 – user
- location
- cd /opt
- cd nexus
- cd bin
- ./nexus start

```
cd /opt/nexus/bin
./nexus start
./nexus status
Last login: Sat Nov 22 06:36:01 UTC 2025 on pts/2
[ec2-user@ip-172-30-0-58 ~]$ ./nexus start
-bash: ./nexus: No such file or directory
[ec2-user@ip-172-30-0-58 ~]$ ls
[ec2-user@ip-172-30-0-58 ~]$ cd /opt
[ec2-user@ip-172-30-0-58 opt]$ ls
aws  nexus  nexus-3.77.2-02-unix.tar.gz  sonatype-work
[ec2-user@ip-172-30-0-58 opt]$ cd nexus/
[ec2-user@ip-172-30-0-58 nexus]$ ls
NOTICE.txt  PRO-LICENSE.txt  deploy  lib      system
OSS-LICENSE.txt  bin        etc      public
[ec2-user@ip-172-30-0-58 nexus]$ cd bin/
[ec2-user@ip-172-30-0-58 bin]$ ls
contrib  nexus  nexus.rc  nexus.vmoptions
[ec2-user@ip-172-30-0-58 bin]$ ./nexus start
Starting nexus
[ec2-user@ip-172-30-0-58 bin]$ ./nexus status
nexus is running.
[ec2-user@ip-172-30-0-58 bin]$ █
```



- Now go to jenkins
- Plugins
- Install nexus artifacts

/ Plugins

Search: nexus art

Install Name ↓ Released

Nexus Artifact Uploader 2.15
Artifact Uploaders

This plugin to upload the artifact to Nexus Repository.

This plugin is up for adoption! We are looking for new maintainers. Visit our [Adopt a Plugin](#) initiative for more information.

6 days 13 hr ago

- Now go to job
- Configure
- Buils steps
- Add nexus artifacts
- Find version
- Group id from pom file in the repo

Nexus URL ?
54.158.19.97:8081/

Credentials
admin/***** (nexus)

GroupId
in.javahome

Version
0.1

Repository ?
Repository must not be empty

Artifacts
+ Add

- Now ,go to nexus setting
- Create repo
- Add maven 2 hosted

Recipe ↑
gitlfs (hosted)
go (group)
go (proxy)
helm (hosted)
helm (proxy)
huggingface (proxy)
maven2 (group)
maven2 (hosted)
maven2 (proxy)
npm (group)
npm (hosted)
npm (proxy)
nuget (group)
nuget (hosted)
nuget (proxy)
p2 (proxy)
pypi (group)
pypi (hosted)
pypi (proxy)

- Repo created

Repositories / **hiring-app**

Delete repository **Rebuild index**

Settings

Name: hiring-app

Format: maven2

Type: hosted

URL: http://54.158.19.97:8081/repository/hiring-app/

Online: If checked, the repository accepts incoming requests

Maven 2

Version policy:
Snapshot

Layout policy:
Validate that all paths are maven artifact or metadata paths
Permissive

Content Disposition:
Add Content-Disposition header as 'Attachment' to disable some content from being inline in a browser.
Inline

Storage

- Blob store:**
- Now , artifact sections**

- **Blob store:**
- **Now , artifact sections**

Jenkins / hiring-app-task / Configuration

Artifacts

Artifact

ArtifactId: hiring

Type: ! Type must not be empty

Classifier:

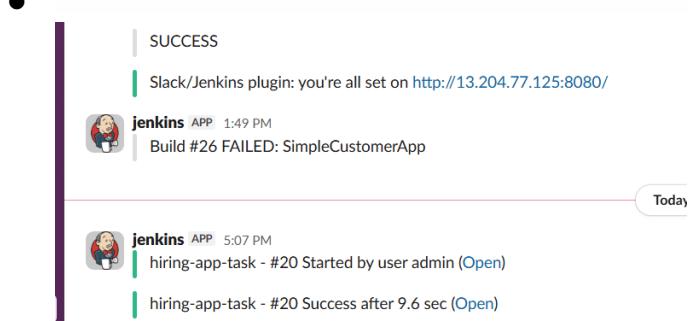
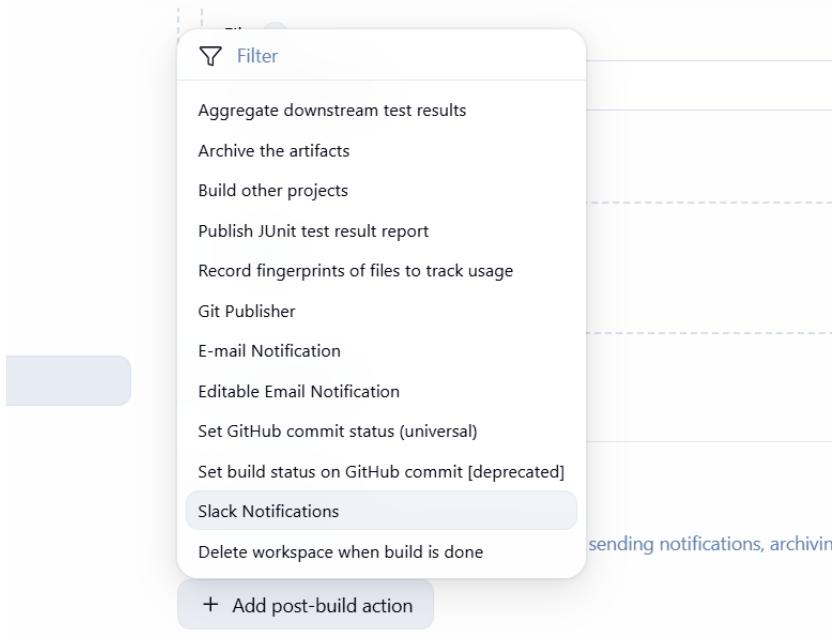
File: ! File must not be empty

- Artifact id can be seen in github repo > pom file.
- For file give location ,
- Give -----
- Repository: hiring-app
- GroupId: in.javahome
- ArtifactId: hiring
- Version: 0.1-SNAPSHOT
- Packaging: war
- File: target/hiring.war
- Edited pom file and add version - 0.1-SNAPSHOT

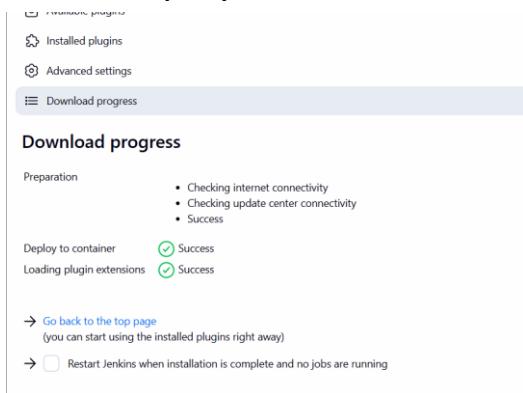
The screenshot displays two side-by-side Jenkins project pages. The left page shows the Jenkins interface for the 'hiring-app-task' project, featuring a sidebar with options like Status, Changes, Workspace, Build Now, Configure, Delete Project, SonarQube, Rename, and Credentials. The main area shows a green checkmark icon indicating the build has passed, and a SonarQube Quality Gate section with a green 'Passed' status and a 'Success' message for server-side processing. The right page shows the SonarQube interface for the 'hiring-app' component, with a search bar at the top. Below it, the 'Browse' section shows the 'hiring' component structure under 'javahome'. The 'HTML View' section displays a detailed tree view of the '0.1-SNAPSHOT' release, including files like '0.1-20251122.113413-1.war', 'maven-metadata.xml', and their corresponding checksum files (.md5 and .sha1).

- Added slack

task ▾ / Configuration



-
- Deployment on apache tomcat
- Go to manage Jenkins > pulgins
- Install deploy to containers



- Launch an instance for tomcat ,
- Install java 11

- Install apache tomcat
- At cd /opt location
- Tar xvf apache
- Now. Find files of xml
- Edit all 4 files and commit them in server using
- Vi editor
- Restart tomcat
- Create a user
- Using
- : Goto tomcat home directory and Add below users to conf/tomcat-user.xml file

```

<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>
<role rolename="manager-status"/>
<user username="admin" password="admin" roles="manager-
gui, manager-script, manager-jmx,
manager-status"/>
<user username="deployer" password="deployer"
roles="manager-script"/>
<user username="tomcat" password="s3cret" roles="manager-
gui"/>
```

- ```
-->
<Context antiResourceLocking="false" >
 <!-- <Valve className="org.apache.catalina.valves.RemoteCIDRValve"
 allow="127.0.0.0/8,::1/128" /> -->[]
</Context>
~
~
```
- In the build steps add

Containers

≡ **Tomcat 9.x Remote**

Credentials

deployer/\*\*\*\*\*\*/ (tomcat-credentials) + Add

Tomcat URL ?

http://54.160.128.136:8080/

Advanced ▾

+ Add Container

Deploy on failure



- Build now



#21 (Nov 22, 2025, 12:13:20 PM)

Add description

Keep this build forever



Started by user admin

Started 4 min 46 sec ago  
Took 9.5 sec on built-in



This run spent:

- 2 ms waiting;
- 9.5 sec build duration;
- 9.5 sec total from scheduled to completion.



**Revision:** da3bf3bc0df105212fe22e53b606e53025cffdf8  
**Repository:** git@github.com:kamal-kkk/hiring-app.git

- refs/remotes/origin/main



No changes.



- Deployed.



- 2 . Setup a Jenkins CI/CD pipeline using Declarative pipeline using feature-1.1 branch. [https://github.com/betawins/sabear\\_simplecutomerapp/tree/feature-1.1](https://github.com/betawins/sabear_simplecutomerapp/tree/feature-1.1)

- - Git Clone
  - SonarQube Integration
  - Maven Compilation
  - Nexus Artifactory
  - Slack Notification
  - Deploy On tomcat
- Git clone .
- Add script
- Give git url

Jenkins / declarative pipe / Configuration

Configure

General Triggers Pipeline Advanced

Definition Pipeline script

Script ?

```
1< pipeline {
2 agent any
3
4 tools {
5 maven "MVN_HOME"
6 }
7
8 stages {
9 stage('Build') {
10 steps {
11 git 'https://github.com/betawins/sabear_simplecutomerapp.git'
12
13 sh "mvn -Dmaven.test.failure.ignore=true clean package"
14 }
15 }
16 }
17}
```

Use Groovy Sandbox ?

## declaritive pipe



Last Successful Artifacts

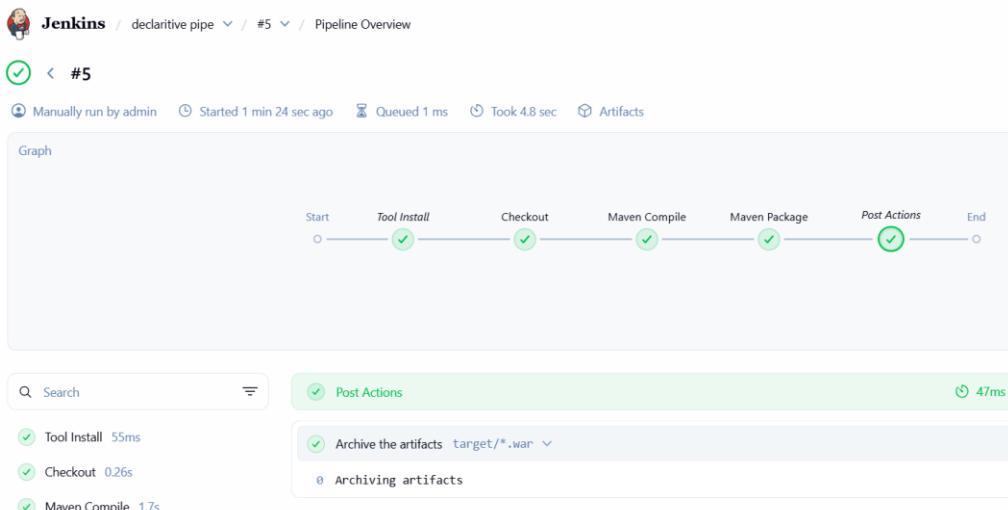
SimpleCustomerApp-3-SNAPSHOT.war 1.39 KiB 

### Permalinks

- [Last build \(#3\), 3 min 19 sec ago](#)
- [Last stable build \(#3\), 3 min 19 sec ago](#)
- [Last successful build \(#3\), 3 min 19 sec ago](#)
- [Last failed build \(#2\), 4 min 57 sec ago](#)
- [Last unsuccessful build \(#2\), 4 min 57 sec ago](#)
- [Last completed build \(#3\), 3 min 19 sec ago](#)

- 
- Now, sonarqube integration.
- B. mavencompilation.
- Add mvn
- pipeline {
  - agent any
- 
- tools {
  - maven "MVN\_HOME"
  - }
- 
- stages {
  - 
  - stage('Checkout') {
    - steps {
      - git  
[https://github.com/betawins/sabear\\_simplecutomerapp.git](https://github.com/betawins/sabear_simplecutomerapp.git)
  - }
  - }
- 
- stage('Maven Compile') {
  - steps {

- sh "mvn clean compile"
- }
- }
- 
- stage('Maven Package') {
- steps {
- sh "mvn -Dmaven.test.failure.ignore=true package"
- }
- }
- }
- }
- 
- post {
- success {
- archiveArtifacts 'target/\*.war'
- }
- }
- }
- }



- Maven successfully done.

- SonarQube Integration
- Go to pipeline syntax
- Select



This **Snippet Generator** will help you learn the Pipeline Script code which can be used in a step you are interested in from the list, configure it, click **Generate Pipeline Script**, and copy the resulting script statement that would call the step with that configuration. You may copy and paste your script, or pick up just the options you care about. (Most parameters are optional, leaving them at default values.)

## Steps

### Sample Step

archiveArtifacts: Archive the artifacts

withCredentials: Bind credentials to variables

withEnv: Set environment variables

withGradle: WithGradle

withSonarQubeEnv: Prepare SonarQube Scanner environment

wrap: General Build Wrapper

writeFile: Write file to workspace

ws: Allocate workspace

— Advanced/Deprecated —

archive: Archive artifacts

•

• pipeline {

•     agent any

•

•     tools {

•         maven "MVN\_HOME"

•     }

•

•     stages {

•

•         stage('Checkout') {

•             steps {

```
• git
'https://github.com/betawins/sabear_simplecutomerapp.git'
• }
• }
•
• stage('Maven Compile') {
• steps {
• sh "mvn clean compile"
• }
• }
•
• stage('Maven Package') {
• steps {
• sh "mvn -Dmaven.test.failure.ignore=true package"
• }
• }
•
• stage('SonarQube Analysis') {
• steps {
• withSonarQubeEnv('sonarqube') {
• sh """
• /opt/sonar-scanner/bin/sonar-scanner \
• -Dsonar.projectKey=sabear_app \
• -Dsonar.sources=src \
• -Dsonar.exclusions=**/*.java \
• -Dsonar.host.url=$SONAR_HOST_URL \
• -Dsonar.login=$SONAR_AUTH_TOKEN
• """
• }
• }
• }
```

- }
- }
- }
- 
- post {
 - success {
 - archiveArtifacts 'target/\*.war'
- }
- }
- }
- Build now
  - Previous build

 #10 (Nov 24, 2025, 10:28:09 AM)

 Add description

Keep this build forever



[Build Artifacts](#)

 [SimpleCustomerApp-10-SNAPSHOT.war](#) 1.39 KiB  [view](#)

Started 32 sec ago

Took 11 sec



Started by user [admin](#)



This run spent:

- 4 ms waiting;
- 11 sec build duration;
- 11 sec total from scheduled to completion.



**Revision:** 9be96d5661cf61f49c0b8d076dc20d2b09624f4e

**Repository:** [https://github.com/betawins/sabear\\_simplecutomerapp.git](https://github.com/betawins/sabear_simplecutomerapp.git)

- refs/remotes/origin/master



No changes.

- 
- **Now , nexus artifactory.**
- **Pipeline sysntax**
- **Select artifact uploader**
- **Give nexus repo details**
- **Group id**
- **Path**
- **Version**

- url
- generate script
- add script in configuration
- pipeline {
  - agent any
  - 
  - tools {
    - maven "MVN\_HOME"
  - }
  - 
  - stages {
    - 
    - stage('Checkout') {
      - steps {
        - git  
['https://github.com/betawins/sabear\\_simplecutomerapp.git'](https://github.com/betawins/sabear_simplecutomerapp.git)
      - }
      - }
      - 
      - stage('Maven Compile') {
        - steps {
          - sh "mvn clean compile"
        - }
        - }
      - 
      - stage('Maven Package') {
        - steps {
          - sh "mvn -Dmaven.test.failure.ignore=true package"
        - }

```
• }
•
•
• stage('SonarQube Analysis') {
• steps {
• withSonarQubeEnv('sonarqube') {
• sh """
• /opt/sonar-scanner/bin/sonar-scanner \
• -Dsonar.projectKey=sabear_app \
• -Dsonar.sources=src \
• -Dsonar.java.binaries=. \
• -Dsonar.host.url=http://54.91.139.228:9000 \
• -Dsonar.token=${SONAR_AUTH_TOKEN}
• """
• }
• }
• }
•
• stage('Upload to Nexus') {
• steps {
• script {
•
• nexusArtifactUploader(
• nexusVersion: 'nexus3',
• protocol: 'http',
• nexusUrl: '18.215.163.196:8081',
• repository: 'simple-customerapp',
• credentialsId: 'nexus-admin',
• groupId: 'com.javatpoint',
• version: "${BUILD_NUMBER}-SNAPSHOT",
•)
• }
• }
• }
• }
```

- artifacts: [[  
•     artifactId: 'SimpleCustomerApp',  
•     classifier: "",  
•     file: "target/SimpleCustomerApp-  
•     \${BUILD\_NUMBER}-SNAPSHOT.war",  
•     type: 'war'  
•     ]]  
•     )  
•     }  
•     }  
•     }  
•     }  
•     }  
• Build now .



#15 (Nov 24, 2025, 10:44:40 AM)



Started by user [admin](#)



This run spent:

- 10 ms waiting;
- 12 sec build duration;
- 12 sec total from scheduled to completion.



**Revision:** 9be96d5661cf61f49c0b8d076dc20d2b09624f4e

**Repository:** [https://github.com/betawins/sabear\\_simplecutomerapp.git](https://github.com/betawins/sabear_simplecutomerapp.git)

- refs/remotes/origin/master



No changes.

-

- Added script to deploy in tomcat
- pipeline {
- agent any
- 
- environment {
- MVN\_HOME = "/opt/apache-maven-3.9.11"
- SONAR\_SCANNER = "/opt/sonar-scanner/bin/sonar-scanner"
- SONARQUBE\_ENV = "sonarqube"
- 
- 
- NEXUS\_CREDS = credentials('nexus-admin')
- TOMCAT\_CREDS = credentials('tomcat-credentials')
- SONAR\_TOKEN = credentials('token')
- }
- 
- stages {
- 
- stage('Declarative: Tool Install') {
- steps {
- echo "Tools Loaded"
- }
- }
- 
- stage('Checkout') {
- steps {
- git url:  
'https://github.com/betawins/sabear\_simplecutomerapp.git',  
branch: 'master'
- }

```
• }
•
• stage('Maven Compile') {
• steps {
• sh "${MVN_HOME}/bin/mvn clean compile"
• }
• }
•
• stage('Maven Package') {
• steps {
• sh "${MVN_HOME}/bin/mvn -Dmaven.test.failure.ignore=true package"
• }
• }
•
• stage('SonarQube Analysis') {
• steps {
• withCredentials([string(credentialsId: 'token', variable: 'SONAR_TOKEN')])
• withSonarQubeEnv('sonarqube') {
• sh """
• ${SONAR_SCANNER} \
• -Dsonar.projectKey=sabear_app \
• -Dsonar.sources=src \
• -Dsonar.host.url=http://54.91.139.228:9000 \
• -Dsonar.token=${SONAR_TOKEN} \
• -Dsonar.exclusions=**/*.*java
• """
• }
• }
• }
• }
• }
```

```
• }
• }
• }
•
• stage('Upload to Nexus') {
• steps {
• nexusArtifactUploader artifacts: [
• artifactId: 'SimpleCustomerApp',
• classifier: '',
• file: "target/SimpleCustomerApp-
• ${BUILD_NUMBER}-SNAPSHOT.war",
• type: 'war'
•],
• credentialsId: 'nexus-admin',
• groupId: 'com.javatpoint',
• nexusUrl: '18.215.163.196:8081',
• nexusVersion: 'nexus3',
• protocol: 'http',
• repository: 'simple-customerapp',
• version: "1.0-${BUILD_NUMBER}-SNAPSHOT"
• }
• }
•
• stage('Deploy to Tomcat') {
• steps {
• deploy adapters: [
• tomcat9(
• credentialsId: 'tomcat-credentials',
• url: "http://3.90.252.33:8080"
```

- )
  - ],
  - contextPath: 'SimpleCustomerApp',
  - war: "target/SimpleCustomerApp-\${BUILD\_NUMBER}-SNAPSHOT.war"
  - }
  - }
  - }
  - }
- 

| <b>Applications</b> |                       |                   |
|---------------------|-----------------------|-------------------|
| <b>Path</b>         | <b>Version</b>        | <b>Dis</b>        |
| /                   | <i>None specified</i> | Welcome to Tomcat |
| /SimpleCustomerApp  | <i>None specified</i> |                   |

3 . Setup a Jenkins CICD pipeline using Scripted pipeline using feature-1.1

branch. [https://github.com/betawins/sabear\\_simplecutomerapp/tree/feature-1.1](https://github.com/betawins/sabear_simplecutomerapp/tree/feature-1.1)

gstages:

- Git Clone
- SonarQube Integration
- Maven Compilation
- Nexus Artifactory
- Slack Notification
- Deploy On tomcat

- Git clone >
- Create a pipeline job
- Add scripted.
- node {
- def mvnHome
- stage('Preparation') { // for display purposes
- // Get some code from a GitHub repository
- git 'git@github.com:kamal-kkk/sabear\_simplecutomerapp.git'
- }
- }

 #3 (Nov 24, 2025, 2:10:50 PM)

Add description
Keep this build forever

---



Started by user [admin](#)

Started 2 min 51 sec ago  
Took [0.5 sec](#)

---



This run spent:

- 6 ms waiting;
- 0.5 sec build duration;
- 0.5 sec total from scheduled to completion.

---



**Revision:** 9be96d5661cf61f49c0b8d076dc20d2b09624f4e  
**Repository:** git@github.com:kamal-kkk/sabear\_simplecutomerapp.git

- [refs/remotes/origin/master](#)

---

 No changes.

- 
- B. maven compilation.
- Add script
- node {
- stage('Preparation') {
- git branch: 'master',
- url: 'git@github.com:kamal-kkk/sabear\_simplecutomerapp.git'
- }
-

- stage('Build') {
- sh 'mvn clean package'
- }
- }

 #6 (Nov 24, 2025, 2:25:18 PM)

 Add description

Keep this build forever



Started by user [admin](#)

Started 1 min 2 sec ago

Took [14 sec](#)



This run spent:

- 4 ms waiting;
- 14 sec build duration;
- 14 sec total from scheduled to completion.



**Revision:** 9be96d5661cf61f49c0b8d076dc20d2b09624f4e

**Repository:** git@github.com:kamal-kkk/sabear\_simplecutomerapp.git

- refs/remotes/origin/master



No changes.

- 
- Sonarqube.
- node {
- 
- stage('Preparation') {
- git branch: 'master',
- url: 'git@github.com:kamal-kkk/sabear\_simplecutomerapp.git'
- }
- 
- stage('Build') {
- sh 'mvn clean package'
- }
- 
- stage('SonarQube Analysis') {

```
● withSonarQubeEnv('sonarqube') {
● sh ""
● mvn org.sonarsource.scanner.maven:maven-
● plugin:3.9.1.2184:sonar \
● -Dsonar.projectKey=SimpleCustomerApp \
● -Dsonar.sources=src \
● -Dsonar.java.binaries=target
● ""
● }
● }
● }
```

✓ #8 (Nov 24, 2025, 2:32:04 PM)

Add description

Keep this build forever



Started by user admin

Started 41 sec ago  
Took 11 sec



This run spent:

- 5 ms waiting;
- 11 sec build duration;
- 11 sec total from scheduled to completion.



Revision: 9be96d5661cf61f49c0b8d076dc20d2b09624f4e  
Repository: git@github.com:kamal-kkk/sabear\_simplecutomerapp.git

- refs/remotes/origin/master



</> No changes.

- 
- Add nexus
- node {
  - 
  - stage('Checkout') {
    - git branch: 'master',
    - url: 'git@github.com:kamal-kkk/sabear\_simplecutomerapp.git'
  - }

- ```
•     stage('Build') {
•         sh 'mvn clean package'
•     }
•
•     stage('SonarQube Analysis') {
•         withSonarQubeEnv('sonarqube') {
•             sh """
•                 mvn org.sonarsource.scanner.maven:sonar-maven-
• plugin:3.9.1.2184:sonar \
•                     -Dsonar.projectKey=SimpleCustomerApp \
•                     -Dsonar.sources=src \
•                     -Dsonar.java.binaries=target
•             """
•         }
•     }
•
•     stage('Upload to Nexus') {
•         withCredentials([usernamePassword(
•             credentialsId: 'nexus-admin',
•             usernameVariable: 'NEXUS_USER',
•             passwordVariable: 'NEXUS_PASS'
•         )]) {
•
•             sh """
•                 WAR_FILE=$(ls target/*.war)
•                 VERSION=$(grep -m1 "<version>" pom.xml | sed -e
• "s/<[^>]*>/\//g" | xargs)
•             """
•         }
•     }
• }
```

- echo "Uploading WAR file: \$WAR_FILE"
- echo "Detected version: \$VERSION"
-
- curl -v -u \$NEXUS_USER:\$NEXUS_PASS \
--upload-file "\$WAR_FILE" \
http://18.215.163.196:8081/repository/simple-
- customerapp/com/javatpoint/SimpleCustomerApp/\$VERSION/SimpleCustomerApp-\$VERSION.war
- ""
- }
- }
-
- }
-

Console Output

 Download

 Copy

[View as plain text](#)

```

Started by user admin
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/scripted
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Checkout)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
> /usr/bin/git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/scripted/.git #
timeout=10
Fetching changes from the remote Git repository
> /usr/bin/git config remote.origin.url git@github.com:kamal-kkk/sabear_simplecutomerapp.git # timeout=10
Fetching upstream changes from git@github.com:kamal-kkk/sabear_simplecutomerapp.git
> /usr/bin/git --version # timeout=10
> git --version # 'git version 2.50.1'
> /usr/bin/git fetch --tags --force --progress -- pit@pit@github.com:kamal-kkk/sabear_simplecutomerapp.git # timeout=10

```

- E. add slack
- Give channel name,
- node {

- try {
-
- stage('Checkout') {
- git branch: 'master',
- url: 'git@github.com:kamal-kkk/sabear_simplecutomerapp.git'
- }
-
- stage('Build') {
- sh 'mvn clean package'
- }
-
- stage('SonarQube Analysis') {
- withSonarQubeEnv('sonarqube') {
- sh ''
- mvn org.sonarsource.scanner.maven:maven-maven-plugin:3.9.1.2184:sonar \
• -Dsonar.projectKey=SimpleCustomerApp \
• -Dsonar.sources=src \
• -Dsonar.java.binaries=target
• '''
- }
- }
-
- stage('Upload to Nexus') {
- withCredentials([usernamePassword(
• credentialsId: 'nexus-admin',
• usernameVariable: 'NEXUS_USER',
• passwordVariable: 'NEXUS_PASS'

```
•     })]

•   }

•     sh """
•       WAR_FILE=$(ls target/*.war)
•       VERSION=$(grep -m1 "<version>" pom.xml | sed -e
•         "s/<[^>]*>//g" | xargs)
• 

•     curl -v -u $NEXUS_USER:$NEXUS_PASS \
•           --upload-file "$WAR_FILE" \
•           http://18.215.163.196:8081/repository/simple-
•             customerapp/com/javatpoint/SimpleCustomerApp/$VERSION/S
•               impleCustomerApp-$VERSION.war
• 

•   """

•   }
• }

• // On SUCCESS
• slackSend(
•   channel: '#jenkins-integration',
•   color: 'good',
•   message: "SUCCESS: Job '${env.JOB_NAME}' Build
•     #${env.BUILD_NUMBER} 🎉"
•   )
• 

• } catch (err) {
• 

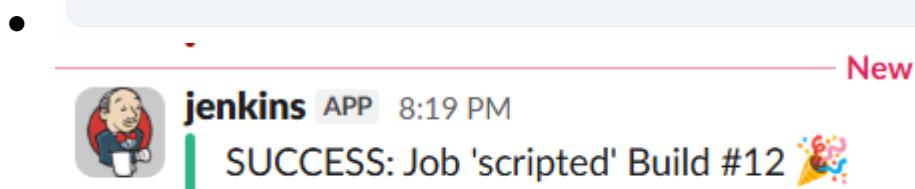
• // On FAILURE
• slackSend(
•   channel: '#jenkins-integration',
```

- color: 'danger',
- message: "FAILED: Job '\${env.JOB_NAME}' Build
#\${env.BUILD_NUMBER} ❌"
-)
- throw err
-
- }
- }

```

100 1421    0      0 100 1421      0   161k --:--- --:--- --:--- --:--- 173k
* Connection #0 to host 18.215.163.196 left intact
[Pipeline] }
[Pipeline] // withCredentials
[Pipeline] }
[Pipeline] // stage
[Pipeline] slackSend
Slack Send Pipeline step running, values are - baseUrl: <empty>, teamDomain:
techiehorizon, channel: #jenkins-integration, color: good, botUser: false,
tokenCredentialId: slack, notifyCommitters: false, iconEmoji: <empty>, username:
<empty>, timestamp: <empty>
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

```



-

6. write sample skeleton of pipeline.

- **1. Scripted Pipeline – Basic Skeleton**
- node {
-
- stage('Checkout') {
- // git checkout

- }
 -
 - stage('Build') {
 - // build commands
 - }
 -
 - stage('Test') {
 - // run tests
 - }
 -
 - stage('Deploy') {
 - // deploy code
 - }
 -
 - }
 - **2 . Declarative Pipeline – Basic Skeleton**
 - pipeline {
 - agent any
 -
 - stages {
 -
 - stage('Checkout') {
 - steps { }
 - }
 -
 - stage('Build') {
 - steps { }
 - }
-

```
•     stage('Test') {
•         steps { }
•     }
•
•     stage('Deploy') {
•         steps { }
•     }
•
• }
•
• post {
•     success {
•         // success notification
•     }
•     failure {
•         // failure notification
•     }
• }
• }
• 3 . CI/CD Pipeline – Full Skeleton (Git → Build → Test → Sonar
→ Deploy)
• pipeline {
•     agent any
•
•     stages {
•
•         stage('Checkout') {
•             steps { }
•         }
•     }
• }
```

-
- stage('Build') {
 - steps { }
 - }
-
- stage('Unit Tests') {
 - steps { }
 - }
-
- stage('SonarQube') {
 - steps { }
 - }
-
- stage('Package') {
 - steps { }
 - }
-
- stage('Upload to Nexus') {
 - steps { }
 - }
-
- stage('Deploy to Tomcat') {
 - steps { }
 - }
-
- }
- }

- 7 .. Create a parameterized job in Jenkins. <https://github.com/betawins/spring3-mvc-maven-xml-hello-world-1.git>
- Create a job ,
- Add pipeline
- >> configure > this project is parameterized.

The screenshot shows the Jenkins 'Configure' screen for a job named 'spring3-parameterized-job'. The 'General' tab is selected. On the right, under 'This project is parameterized', the checkbox is checked. Below it, a 'Choice Parameter' section is expanded, showing a 'Name' field containing 'BRANCH' and a 'Choices' field containing 'master'.

-
- Add choice parameter.

This is a detailed view of the 'Choice Parameter' configuration dialog. It shows a 'Name' field with 'BRANCH' and a 'Choices' field with 'master'.

- Ad version
- String parameter

≡ **String Parameter** ?

Name ?
BUILD_VERSION

Default Value ?
1.0.0

Description ?

●

- Add script add ssh key git sync
- Run the job
-

script ?

```
1~ node {  
2  
3~   stage('Checkout') {  
4     echo "Checking out branch: ${params.BRANCH}"  
5  
6     git branch: params.BRANCH,  
7         credentialsId: 'git-sync', // << use this one  
8         url: 'git@github.com:kamal-kkk/spring3-mvc-maven-xml-hello-world-1.git'  
9   }  
10  
11~   stage('Build') {  
12     echo "Using version: ${params.BUILD_VERSION}"  
13  
14     sh ""
```

Save Apply

●

Console Output

```
Started by user admin
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/spring3-parameterized-job
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Checkout)
[Pipeline] echo
Checking out branch: master
[Pipeline] git
The recommended git tool is: NONE
Warning: CredentialId "git-sync" could not be found.
> /usr/bin/git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/spring3-parameterized-
Fetching changes from the remote Git repository
> /usr/bin/git config remote.origin.url git@github.com:kamal-kkk/spring3-mvc-maven-xml-hello
```

- 8 . setup one slave machine for Jenkins.
- Launch an instance
- Using linux
- Install java
- sudo dnf install java-17-amazon-corretto -y
- Launch a new server (Linux).
- Install Java (required by Jenkins agent):
- sudo dnf install java-17-amazon-corretto -y
- Create a directory for Jenkins agent:
- mkdir /home/ec2-user/jenkins-agent
- _____
-  **2. Add SSH Key to Jenkins Slave**
 - On the **Jenkins Master**, generate SSH key (if not created):
 - ssh-keygen -t rsa
 - Copy the public key to the slave:
 - ssh-copy-id ec2-user@SLAVE-IP
 - (Or manually paste the key inside:
/home/ec2-user/.ssh/authorized_keys)

```

agent jenkins
[ec2-user@ip-172-30-0-199 ~]$ cd agent/
[ec2-user@ip-172-30-0-199 agent]$ ls
[ec2-user@ip-172-30-0-199 agent]$ ls
[ec2-user@ip-172-30-0-199 agent]$ ssh-keygen -t rsa -b 4096 -f ~/.ssh/jenkins_slave_key -N ""
Generating public/private rsa key pair.
Your identification has been saved in /home/ec2-user/.ssh/jenkins_slave_key
Your public key has been saved in /home/ec2-user/.ssh/jenkins_slave_key.pub
The key fingerprint is:
SHA256:9rv0/yq4BSH0ZQ/K8W5QVQEfxOT0WHkVkdGtikqdu9E ec2-user@ip-172-30-0-199.ec2.internal
The key's randomart image is:
+---[RSA 4096]---+
|          .o +*/0@|
|          + @Bo|
|          * +.+|
|          = |
|         S o . +|
|         o =.. +|
|         . ..+Eo . .|
|         . o.o . o|
|         .+.....|
+---[SHA256]---+
[ec2-user@ip-172-30-0-199 agent]$ cat ~/.ssh/jenkins_slave_key.pub >> ~/.ssh/authorized_keys

```

- _____
- _____
- **3. Add the Slave Node in Jenkins**

- Go to Jenkins UI → **Manage Jenkins**
- Click **Manage Nodes & Clouds**
- Click **New Node**
- Give a name:
slave1
- Choose **Permanent Agent** → OK

kins / Manage Jenkins  / Nodes

Nodes

S	Name ↓	Architecture	Clock Difference
	Built-In Node	Linux (amd64)	In sync
	node-001		N/A
	slave-01		N/A
	slave-02		N/A
Data obtained		8 min 48 sec	8 min 48 sec

- Icon: S M L
- _____
- **4. Configure the New Slave Node**
- Fill the following:

- **1. Remote root directory**
- Example:
 - /home/ec2-user/jenkins-agent
- **2. Labels**
- (optional)
 - Example:
 - build
 - linux
- **3. Launch Method**
- Choose:
 -  **Launch agents via SSH**
 - Then fill:
 - **Host:** SLAVE-IP
 - **Credentials:** select your SSH key
(Add new credentials if not created)
 - Click **Save**
 - _____
-  **5. Jenkins will Connect Automatically**
- If everything is correct, you will see:
 -  **Agent connected**
 -  **Online**
- Now the slave is ready to run jobs.