

CICD ASSIGNMENT 2

R171218009

Integrating Git, Jenkins, Maven and Nexus

Start Jenkins using jenkins.war file

```
D:\A_semester_5\CICD>java -jar jenkins.war --httpPort=8081
Running from: D:\A_semester_5\CICD\jenkins.war
webroot: $user.home/.jenkins
2020-11-20 16:06:21.790+0000 [id=1] INFO org.eclipse.jetty.util.log.Log#initialized: Logging initialized
o org.eclipse.jetty.util.log.JavaUtilLog
2020-11-20 16:06:21.904+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war f
2020-11-20 16:06:21.942+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty context
2020-11-20 16:06:22.017+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-9.4.27.v20200
2020-02-27T18:37:21.340Z; git: a304fd9f351f337e7c0e2a7c28878dd536149c6c; jvm 1.8.0_261-b12
2020-11-20 16:06:22.812+0000 [id=1] INFO o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Sup
did not find org.eclipse.jetty.jsp.JettyJspServlet
2020-11-20 16:06:22.865+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: DefaultSessionIdM
rName=node0
2020-11-20 16:06:22.865+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: No SessionScaveng
g defaults
2020-11-20 16:06:22.869+0000 [id=1] INFO o.e.j.server.session.HouseKeeper#startScavenging: node0 Scav
660000ms
```

Open localhost:8081 on browser and login to Jenkins:



Welcome to Jenkins!

☐ Keep me signed in

In global tools configuration give path of jdk and maven installation in local machine

JDK

JDK installations

Add JDK

JDK

Name

java

JAVA_HOME

C:\Program Files\Java\jdk1.8.0_261

☐ Install automatically

Add JDK

List of JDK installations on this system

Maven

Maven installations

Add Maven

Maven

Name

F:\apache-maven-3.6.3

☒ Install automatically

Install from Apache

Version

3.6.3

Add Installer

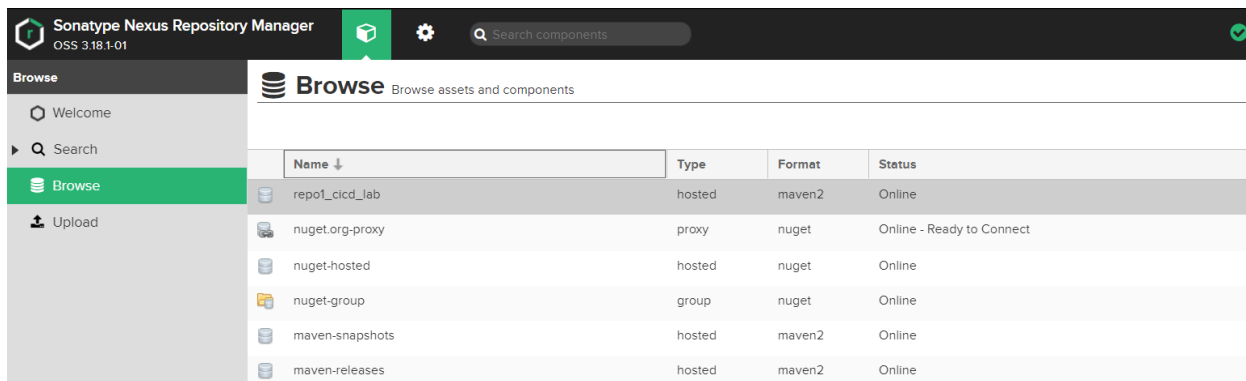
Default port for nexus is 8081, it can be changed in nexus-default file:

```
nexus-default - Notepad
File Edit Format View Help
## DO NOT EDIT - CUSTOMIZATIONS BELONG IN $data-
##
# Jetty section
application-port=8083
```

Start nexus, run 'nexus.exe /run' command

```
nexus\nexus-3.18.1-01\bin>nexus.exe /run
353+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus
126+0530 WARN [FelixStartLevel] *SYSTEM uk.org.lidalia.sy
amework class org.ops4j.pax.logging.slf4j.Slf4jLogger is n
on the console you will need to register it by calling reg
128+0530 INFO [FelixStartLevel] *SYSTEM uk.org.lidalia.sy
ing.slf4j registered; all classes within it or subpackages
```

Open nexus on browser (localhost:8083) and create a repository:



Create maven project

```
mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=app-on-nexus -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -Dinteract

he.maven:standalone-pom >-----
(No POM) 1
----[ pom ]-----

.2.0:generate (default-cli) > generate-sources @ standalone-pom >>>

.2.0:generate (default-cli) < generate-sources @ standalone-pom <<<

.2.0:generate (default-cli) @ standalone-pom ---
mode
-----
```






Add server tag in settings.xml file:

```
<server>
<id>assignment</id>
<username>admin</username>
<password>admin</password>
</server>
</servers>
```

Add distributionManager tag in pom.xml file:

```
<distributionManagement>
<snapshotRepository>
<id>assignment</id>
<name>jenkins_nexus_cicd_lab</name>
<url>http://localhost:8083/repository/repo1_cicd_lab/</url>
</snapshotRepository>
</distributionManagement>
```

Push the maven project to GitHub:

 AkanshA0 Create Jenkinsfile	53722b4 now
 src	commit 1
 target	commit 1
 Jenkinsfile	Create Jenkinsfile
 pom.xml	commit 1

Add Jenkinsfile to the maven project:

```
1  pipeline{
2      agent any
3      stages{
4          stage('Clean'){
5              steps{
6                  bat 'mvn clean'
7              }
8          }
9          stage('Deploy'){
10             steps{
11                 bat 'mvn deploy'
12             }
13         }
14     }
15 }
```

- In Jenkins, click on new Item
- Select pipeline project and give a name to the project
- In project pipeline configuration, select SCM, Git and fill the URL of GitHub repository of the maven project

Jenkins > assignment2 pipeline

General Build Triggers **Advanced Project Options** Pipeline

SCM: Git

Repositories:

Repository URL: <https://github.com/AkanshA0/nexus>

Credentials: - none -

Advanced...

Add Repository

Branches to build:

Branch Specifier (blank for 'any'): */master

Add Branch

Repository browser: (Auto)

Additional Behaviours: Add

Script Path: Jenkinsfile

Lightweight checkout: ☒

Pipeline Syntax

Save Apply

Click on Build Now

Console Output:

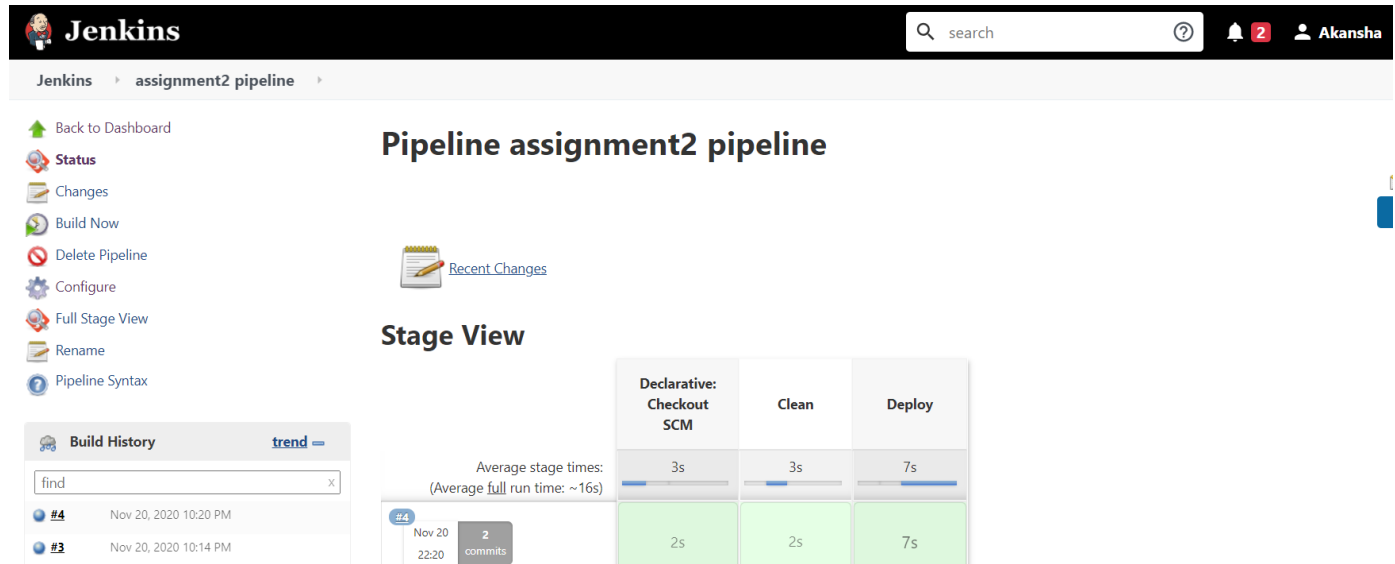
```

kB/s)
Uploading to assignment: http://localhost:8083/repository/repo1\_cicd\_lab/com/mycompany/app/app-nexus-jenkins/m
Progress (1): 292 B

Uploaded to assignment: http://localhost:8083/repository/repo1\_cicd\_lab/com/mycompany/app/app-nexus-jenkins/m
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 5.511 s
[INFO] Finished at: 2020-11-20T22:20:38+05:30
[INFO] -----
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS

```

Pipeline created in Jenkins:



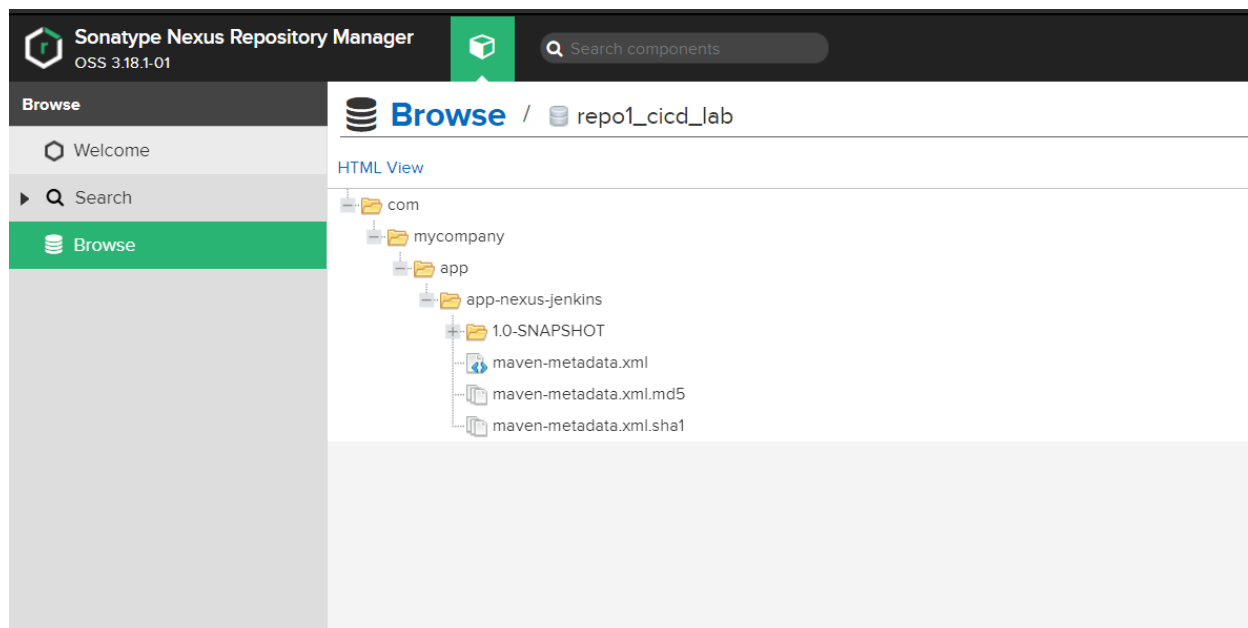
The Jenkins interface shows the 'assignment2 pipeline' configuration. The left sidebar contains navigation links: Back to Dashboard, Status, Changes, Build Now, Delete Pipeline, Configure, Full Stage View, Rename, and Pipeline Syntax. The main area displays the 'Pipeline assignment2 pipeline' title and a 'Recent Changes' section. Below this is the 'Stage View' table, which shows the stages and their durations. The table has three columns: Declarative: Checkout SCM, Clean, and Deploy. The rows show the average stage times and the average full run time. The stages are: Declarative: Checkout SCM (3s), Clean (3s), and Deploy (7s). The average full run time is ~16s. Below the table, there is a 'Build History' section showing the last two builds: #4 (Nov 20, 2020 10:20 PM) and #3 (Nov 20, 2020 10:14 PM).

Stage	Declarative: Checkout SCM	Clean	Deploy
Average stage times:	3s	3s	7s
Average full run time: ~16s			
#4	2s	2s	7s

Build History

Build	Time
#4	Nov 20, 2020 10:20 PM
#3	Nov 20, 2020 10:14 PM

Build generated and pushed to Nexus Server



The Sonatype Nexus Repository Manager interface shows the 'repo1_cicd_lab' repository. The left sidebar contains navigation links: Welcome, Search, and Browse. The main area displays the 'Browse' view for the 'repo1_cicd_lab' repository. The tree structure shows the following hierarchy: com > mycompany > app > app-nexus-jenkins > 1.0-SNAPSHOT. Under the '1.0-SNAPSHOT' directory, there are three files: maven-metadata.xml, maven-metadata.xml.md5, and maven-metadata.xml.sha1.

com

- mycompany
 - app
 - app-nexus-jenkins
 - 1.0-SNAPSHOT
 - maven-metadata.xml
 - maven-metadata.xml.md5
 - maven-metadata.xml.sha1