

## CI-CD ASSIGNMENT 2

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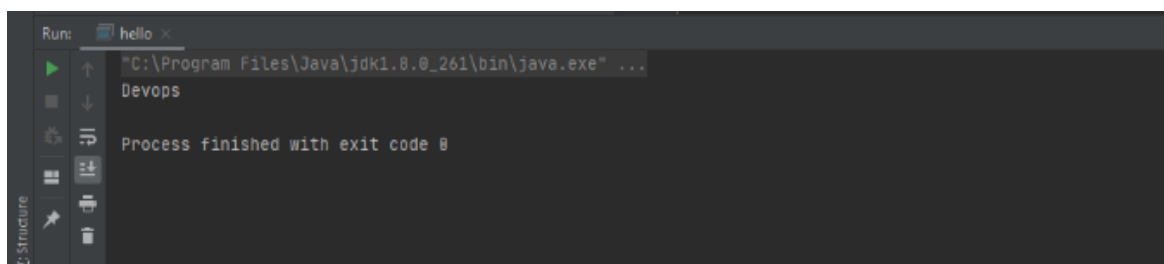
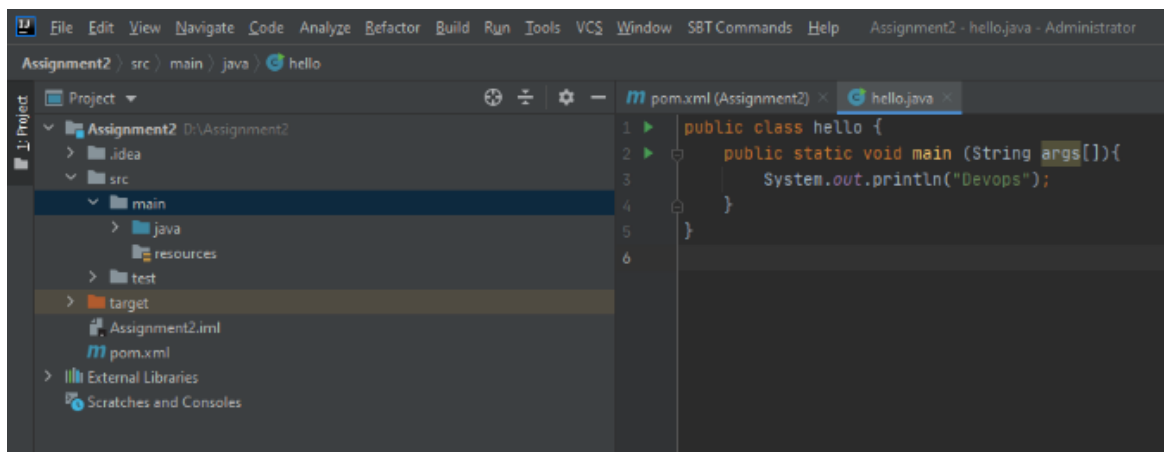
**AIM:** Perform following steps using Git, Jenkins, Maven and Nexus and create a pdf file including step by step screenshots.

**Step 1:** Create a Maven project using Eclipse

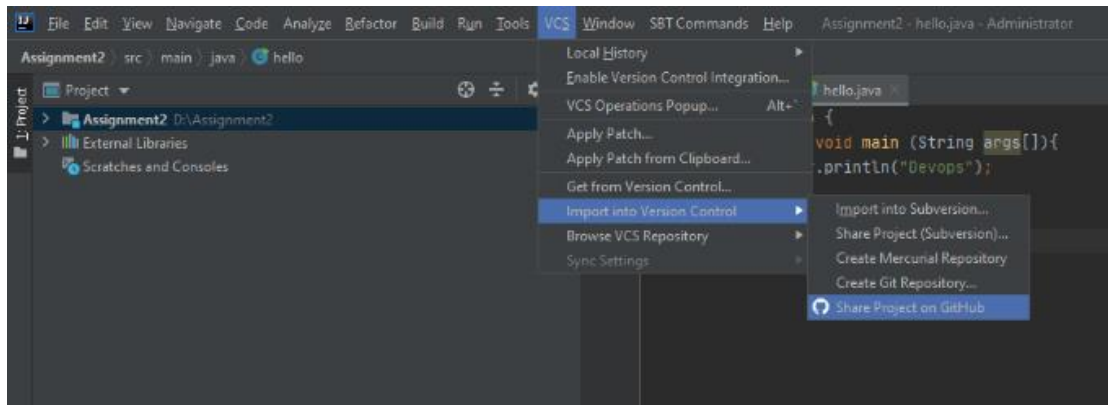
**Step2:** Push the same running project on GitHub using Eclipse or IDE.

**Step 3:** Create a Jenkins Pipeline to generate build and push the generated build on Nexus Server using Jenkinsfile in GitHub.

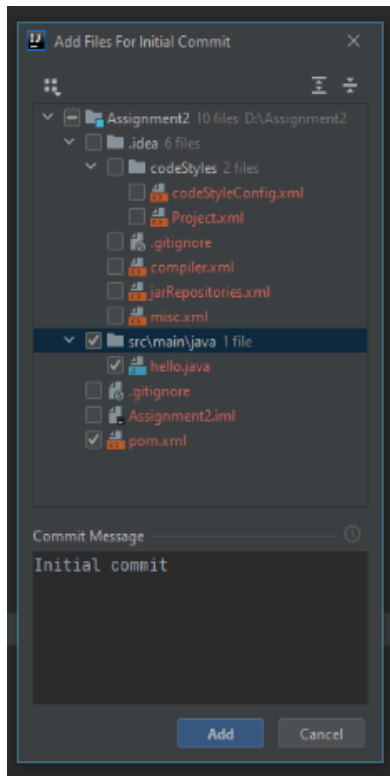
**Step 1)** Create a Maven project using Eclipse or IDE



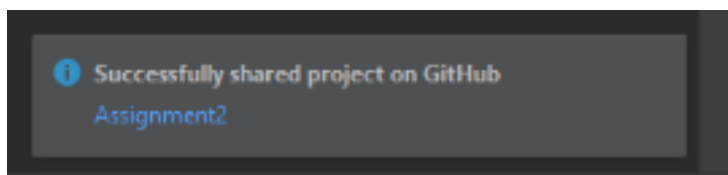
## Step2) Push the same running project on GitHub using Eclipse or IDE



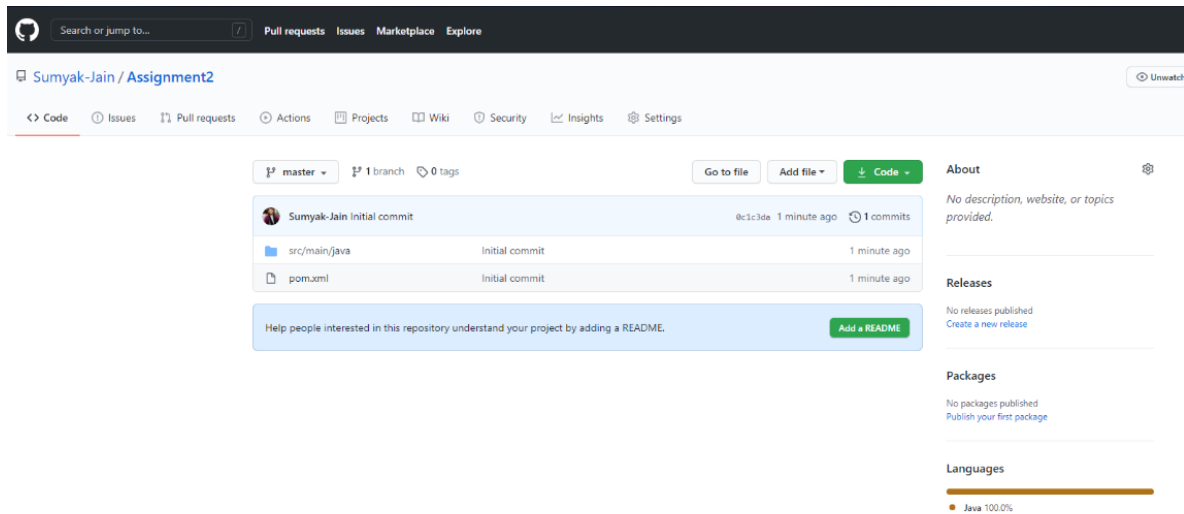
Select files which you want to push and commit



After successful push message will occur



You can now check on github!



**Step 3)** Create a Jenkins Pipeline to generate build and push the generated build on Nexus Server using Jenkinsfile in GitHub.

### 3.1) open Jenkins

Using the command at the location of your Jenkins folder

```
java -jar jenkins.war -httpPort=8383
```

```
Administrator Command Prompt - java -jar jenkins.war --httpPort=8383
Microsoft Windows [Version 10.0.18363.1082]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\WINDOWS\system32>cd jenkins

C:\jenkins>java -jar jenkins.war --httpPort=8383
Error: Could not find or load main class jar
Caused by: java.lang.ClassNotFoundException: jar

C:\jenkins>java -jar jenkins.war --httpPort=8383
Running from: D:\jenkins\jenkins.war
Webroot: %user.home%\jenkins
020-10-06 05:05:05.625+0000 [id=1] INFO org.eclipse.jetty.util.log.Log#initialized: Logging initialized @1112ms
020-10-06 05:05:05.710+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
020-10-06 05:05:05.750+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
020-10-06 05:05:05.840+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-9.4.30.v20200611; built:
020-06-11T12:34:51.929Z; git: 271836e4c1f4612f12b7bb13ef5a92a927634b0d; jvm 11.0.8+10-LTS
020-10-06 05:05:06.930+0000 [id=1] INFO o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /,
did not find org.eclipse.jetty.jsp.JettyJspServlet
020-10-06 05:05:07.000+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: DefaultSessionIdManager worke
Name=node0
020-10-06 05:05:07.000+0000 [id=1] INFO o.e.j.s.s.DefaultSessionIdManager#doStart: No SessionScavenger set, usin
defaults
020-10-06 05:05:07.000+0000 [id=1] INFO o.e.j.server.session.HouseKeeper#startScavenging: node0 Scavenging every
660000ms
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by com.thoughtworks.xstream.core.util.Fields (file:/C:/Users/GAUBAV/.jenkins/war/WEB-INF/
```

### 3.2) open nexus server

Using the command at the location of your nexus folder bin

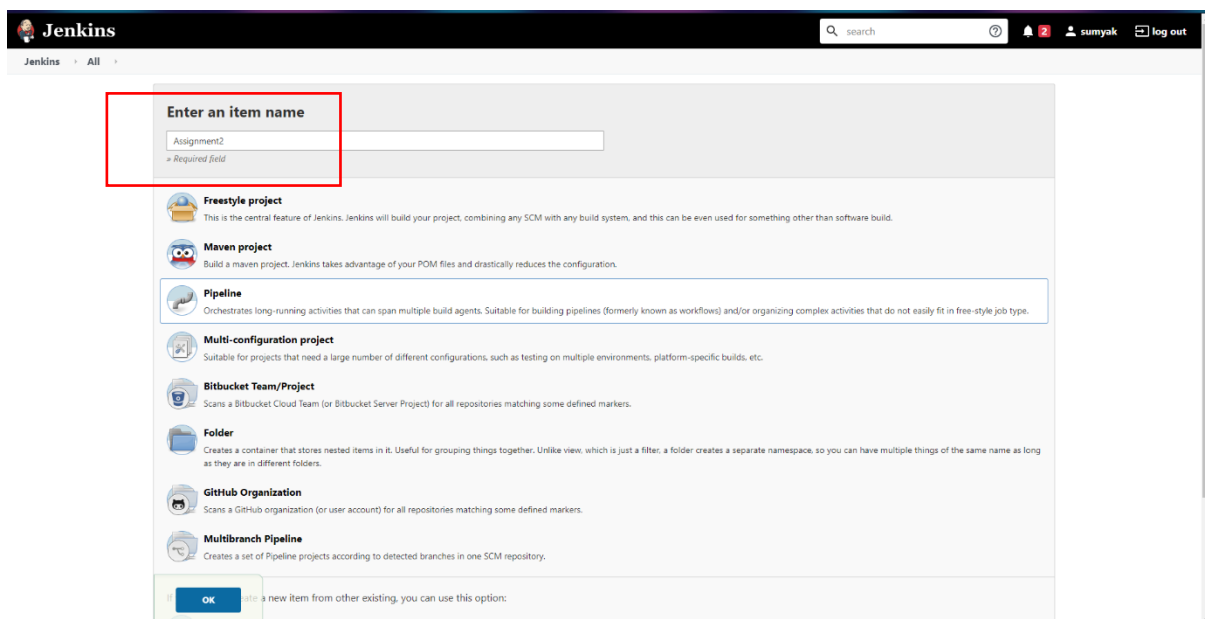
nexus.exe /run

```
Administrator: Command Prompt
D:\nexus>cd D:\nexus\nexus-3.18.1-01\bin
D:\nexus\nexus-3.18.1-01\bin>nexus.exe /run
2020-11-18 02:44:29,725+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus.pax.logging.NexusLogActivator
- start
2020-11-18 02:44:31,376+0530 WARN [FelixStartLevel] *SYSTEM uk.org.lidalia.sysoutslf4j.context.SysOutOverSLF4
JInitialiser - Your logging framework class org.ops4j.pax.logging.slf4j.Slf4jLogger is not known - if it needs
access to the standard println methods on the console you will need to register it by calling registerLogging
SystemPackage
2020-11-18 02:44:31,377+0530 INFO [FelixStartLevel] *SYSTEM uk.org.lidalia.sysoutslf4j.context.SysOutOverSLF4
J - Package org.ops4j.pax.logging.slf4j registered; all classes within it or subpackages of it will be allowed
to print to System.out and System.err
2020-11-18 02:44:31,381+0530 INFO [FelixStartLevel] *SYSTEM uk.org.lidalia.sysoutslf4j.context.SysOutOverSLF4
J - Replaced standard System.out and System.err PrintStreams with SLF4JPrintStreams
2020-11-18 02:44:31,383+0530 INFO [FelixStartLevel] *SYSTEM uk.org.lidalia.sysoutslf4j.context.SysOutOverSLF4
J - Redirected System.out and System.err to SLF4J for this context
2020-11-18 02:44:31,388+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus.bootstrap.ConfigurationBuilder
- Properties:
2020-11-18 02:44:31,388+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus.bootstrap.ConfigurationBuilder
- application-host='0.0.0.0'
2020-11-18 02:44:31,388+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus.bootstrap.ConfigurationBuilder
- application-port='8081'
2020-11-18 02:44:31,389+0530 INFO [FelixStartLevel] *SYSTEM org.sonatype.nexus.bootstrap.ConfigurationBuilder

2020-11-18 02:48:31,944+0530 INFO [jetty-main-1] *SYSTEM org.sonatype.nexus.repository.httpbridge.internal.Vi
ewServlet - Initialized
2020-11-18 02:48:31,984+0530 INFO [jetty-main-1] *SYSTEM org.eclipse.jetty.server.handler.ContextHandler - St
arted o.e.j.w.WebAppContext@4c7a2578{Sonatype Nexus,,file:///D:/nexus/nexus-3.28.0-01/public/,AVAILABLE}
2020-11-18 02:48:32,062+0530 INFO [jetty-main-1] *SYSTEM org.eclipse.jetty.server.AbstractConnector - Started
ServerConnector@5ffad4bd{HTTP/1.1, (http/1.1)}{0.0.0.0:8081}
2020-11-18 02:48:32,063+0530 INFO [jetty-main-1] *SYSTEM org.eclipse.jetty.server.Server - Started @38701ms
2020-11-18 02:48:32,064+0530 INFO [jetty-main-1] *SYSTEM org.sonatype.nexus.bootstrap.jetty.JettyServer -

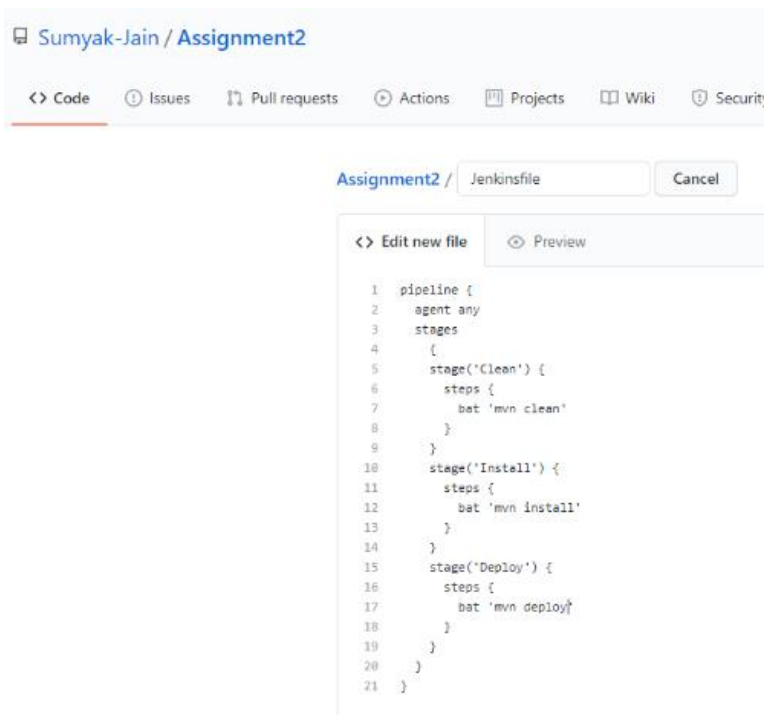
-----
Started Sonatype Nexus OSS 3.28.0-01
-----
```

### 3.3) make a pipeline project on Jenkins



### 3.4) write a Jenkins pipeline script to do all your given task and save it as Jenkinsfile on your same github repository

```
pipeline
{
    agent any
    stages
    {
        stage('Clean') {
            steps {
                bat 'mvn clean'
            }
        }
        stage('Install') {
            steps {
                bat 'mvn install'
            }
        }
        stage('Deploy') {
            steps {
                bat 'mvn deploy'
            }
        }
    }
}
```



**3.5) give your Github repository URL and select Jenkinsfile for script and click SAVE**

Jenkins » Assignment2 »

General Build Triggers Advanced Project Options **Pipeline**

### Pipeline

Definition Pipeline script from SCM

SCM Git

Repositories

Repository URL

Credentials  [Add](#)

[Advanced...](#)

[Add Repository](#)

Branches to build

Branch Specifier (blank for 'any')

[Add Branch](#)

Repository browser (Auto)

Additional Behaviours [Add](#)

Script Path

Lightweight checkout ☒

[Pipeline Syntax](#)

[Save](#) [Apply](#)

## 3.6) BUILD your pipeline

On a successful run of your pipeline you will get this

Jenkins

Assignment2

#2

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Git Build Data

No Tags

Open Blue Ocean

Thread Dump

Pause/resume

Replay

Pipeline Steps

Workspaces

Console Output

Started by user sumyak

Obtained Jenkinsfile from git <https://github.com/Sumyak-Jain/Assignment2.git>

Running in Durability level: MAX\_SURVIVABILITY

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\Users\GAURAV\.jenkins\workspace\Assignment2

[Pipeline] {

[Pipeline] stage

[Pipeline] { (Declarative: Checkout SCM)

[Pipeline] checkout

No credentials specified

> D:\Git\bin\git.exe rev-parse --is-inside-work-tree # timeout=10

Fetching changes from the remote Git repository

> D:\Git\bin\git.exe config remote.origin.url <https://github.com/Sumyak-Jain/Assignment2.git> # timeout=10

Fetching upstream changes from <https://github.com/Sumyak-Jain/Assignment2.git>

> D:\Git\bin\git.exe --version # timeout=10

> git --version # 'git version 2.27.0.windows.1'

> D:\Git\bin\git.exe fetch --tags --force --progress -- <https://github.com/Sumyak-Jain/Assignment2.git> +refs/heads/\*

> D:\Git\bin\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10

> D:\Git\bin\git.exe rev-parse "refs/remotes/origin/origin/master^{commit}" # timeout=10

Checking out Revision add2bd2f757a58778446792c6ddccb83300a5ec3 (refs/remotes/origin/master)

> D:\Git\bin\git.exe config core.sparsecheckout # timeout=10

> D:\Git\bin\git.exe checkout -f add2bd2f757a58778446792c6ddccb83300a5ec3 # timeout=10

Commit message: "Update pom.xml"

First time build. Skipping changelog.

[Pipeline] }

[Pipeline] // stage

[Pipeline] withEnv

[Pipeline] {

[Pipeline] stage

[Pipeline] { (Clean)

[Pipeline] bat

C:\Users\GAURAV\.jenkins\workspace\Assignment2>mvn clean

[INFO] Scanning for projects...

[INFO]

[INFO] -----< org.example:Assignment2 >-----

[INFO] Building Assignment2 1.0-SNAPSHOT

[INFO] -----[ jar ]-----

[INFO]

[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Assignment2 ---

[INFO] -----

[INFO] BUILD SUCCESS

[INFO] -----

[INFO] Total time: 0.310 s

[INFO] Finished at: 2020-11-18T03:06:22+05:30

[INFO] -----

[WARNING] The requested profile "profile1" could not be activated because it does not exist.

[Pipeline] }

[Pipeline] }

[Pipeline] End of Pipeline

Finished: SUCCESS

Jenkins

Assignment2

#2

[Pipeline] stage

[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Assignment2 ---

[INFO] No sources to compile

[INFO]

[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Assignment2 ---

[INFO] No tests to run.

[INFO]

[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Assignment2 ---

[INFO]

[INFO] --- maven-install-plugin:2.4:install (default-install) @ Assignment2 ---

[INFO] Installing C:\Users\GAURAV\.jenkins\workspace\Assignment2\target\Assignment2-1.0-SNAPSHOT.jar to C:\Users\GAURAV\.m2\repository\org\example\Assignment2\1.0-SNAPSHOT\Assignment2-1.0-SNAPSHOT.jar

[INFO] Installing C:\Users\GAURAV\.jenkins\workspace\Assignment2\pom.xml to C:\Users\GAURAV\.m2\repository\org\example\Assignment2\1.0-SNAPSHOT\Assignment2-1.0-SNAPSHOT.pom

[INFO] --- maven-deploy-plugin:2.7:deploy (default-deploy) @ Assignment2 ---

Downloading from jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/1.0-SNAPSHOT/maven-metadata.xml>

Uploading to jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/1.0-SNAPSHOT/Assignment2-1.0-20201117.213628-1.jar> (2.0 kB at 7.5 kB/s)

Uploading to jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/1.0-SNAPSHOT/Assignment2-1.0-20201117.213628-1.com> (785 B at 7.8 kB/s)

Progress (1): 785 B

Downloaded from jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/maven-metadata.xml>

Uploading to jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/1.0-SNAPSHOT/maven-metadata.xml>

Progress (1): 766 B

Uploading to jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/maven-metadata.xml> (766 B at 12 kB/s)

Progress (1): 280 B

Uploading to jenkins: <http://localhost:8081/repository/jenkins/org/example/Assignment2/maven-metadata.xml> (280 B at 4.6 kB/s)

[INFO] -----

[INFO] BUILD SUCCESS

[INFO] -----

[INFO] Total time: 2.675 s

[INFO] Finished at: 2020-11-18T03:06:28+05:30

[INFO] -----

[WARNING] The requested profile "profile1" could not be activated because it does not exist.

[Pipeline] }

[Pipeline] // stage

[Pipeline] }

[Pipeline] // withEnv

[Pipeline] }

[Pipeline] }

[Pipeline] End of Pipeline

Finished: SUCCESS

you can see the pipeline view for your pipeline also

✓ **Assignment2\_2**

Branch: — 13s No changes  
Commit: — a few seconds ago Started by user sumyak

Start Clean Install Deploy End

Deploy - 4s  
✓ > mvn deploy — Windows Batch Script

**3.7) you can now check nexus server for your build artifact**

**Sonatype Nexus Repository Manager**  
OSS 3.28.0-01

Browse / jenkins

HTML View

- org
  - example
    - Assignment2
      - 1.0-SNAPSHOT
        - maven-metadata.xml
        - maven-metadata.xml.md5
        - maven-metadata.xml.sha1



