UNIVERSITY OF PETROLEUM & ENERGY STUDIES

Dehradun

CONTINOUS INTEGRATION
AND
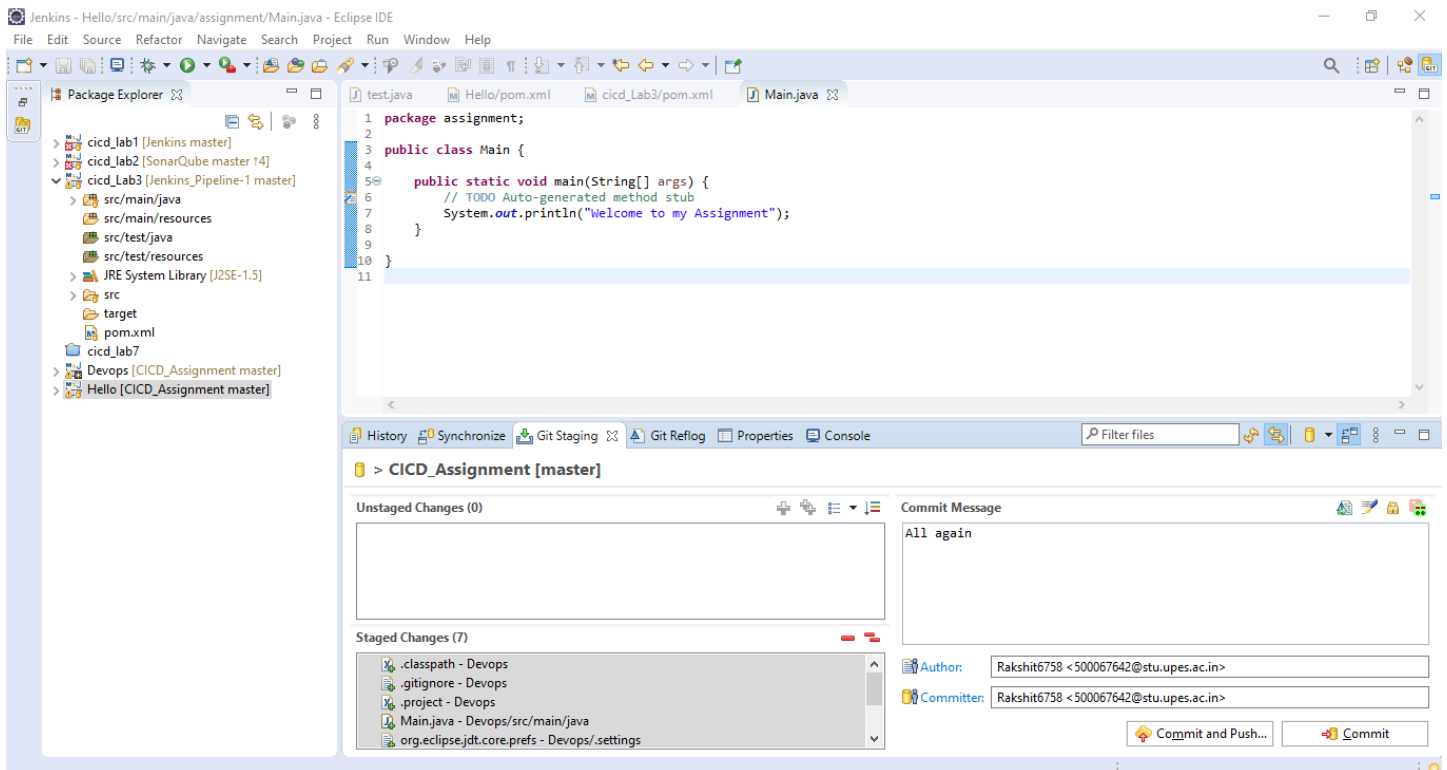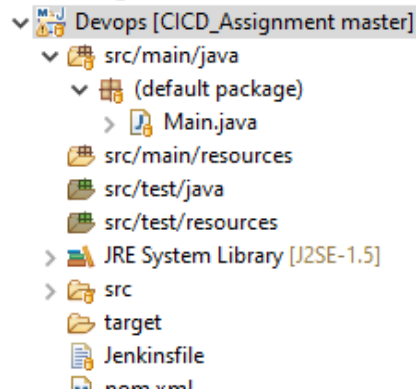# CONTINOUS DELIVERY

Assignment-2

Name: Rakshit Kapoor

Course: B. TECH CSE DevOps (2018-22)

Roll no.: R171218082

Sapid: 500067642

Assignment

Step 1: Create a maven project using Eclipse
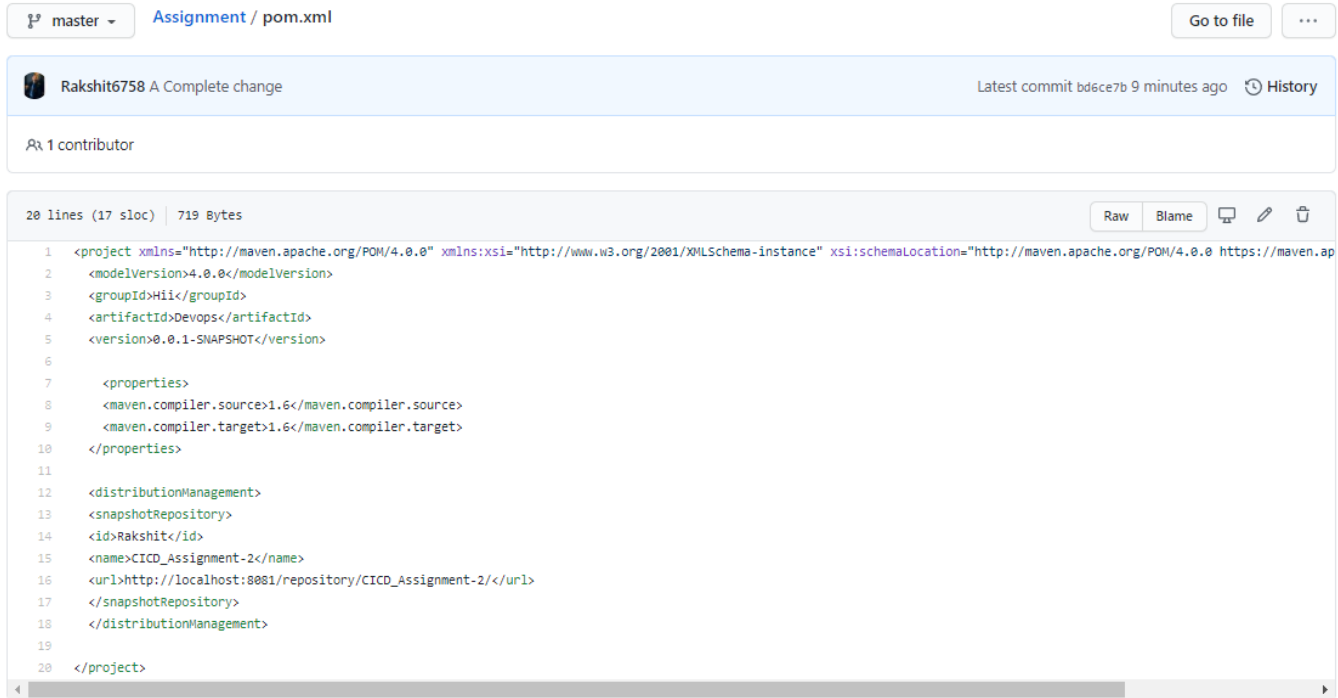
Step 2: Push the project to GitHub using eclipse.

Step 3: Create a Jenkinsfile on GitHub and make changes to pom.xml file.

Step 4: Start Jenkins server using **java -jar Jenkins.war** on command line and type **localhost:8080** on the browser to start Jenkins server.

Step 5: Start Nexus server using **nexus.exe /run** on command line and type **localhost:8081** on the browser to start Jenkins server.

Step 6: Click on new item and provide the name and select pipeline

Jenkins

search 🔔 **2** 👤 Rakshit Kapoor log out

Jenkins ▸ All ▸

Enter an item name

CICD-Assignment2

» Required field

Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Maven project
Build a maven project. Jenkins takes advantage of your POM files and drastically reduces the configuration.
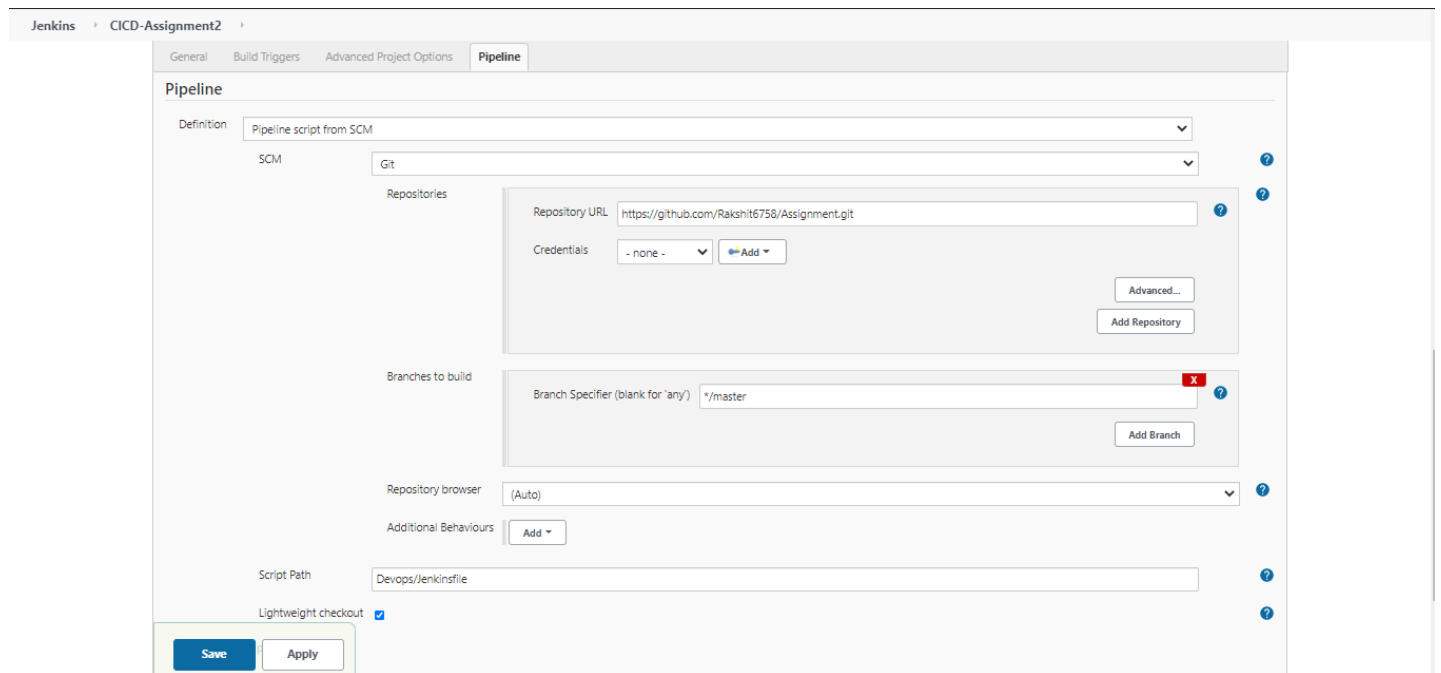
Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

OK

et Team/Project
tbucket Cloud Team (or Bitbucket Server Project) for all repositories matching some defined markers.

Step 7: Provide the path of the repository and Jenkinsfile as well and click on save.

Step 8: Click on build now and see the results at console output.

```
C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2>mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] ----------------------------< Hii:Devops >-----------------------------
[INFO] Building Devops 0.0.1-SNAPSHOT
[INFO] --------------------------------[ jar ]--------------------------------
[INFO]
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Devops ---
[INFO] Deleting C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\target
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  0.720 s
[INFO] Finished at: 2020-11-20T18:29:55+05:30
[INFO] ------------------------------------------------------------------------
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (test)
[Pipeline] bat

C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2>mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] ----------------------------< Hii:Devops >-----------------------------
[INFO] Building Devops 0.0.1-SNAPSHOT
[INFO] --------------------------------[ jar ]--------------------------------
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Devops ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Devops ---
[INFO] No sources to compile
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Devops ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Devops ---
```

```
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  2.991 s
[INFO] Finished at: 2020-11-20T18:30:02+05:30
[INFO] ------------------------------------------------------------------------
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (deploy)
[Pipeline] bat

C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2>mvn deploy
[INFO] Scanning for projects...
[INFO]
[INFO] ----------------------------< Hii:Devops >-----------------------------
[INFO] Building Devops 0.0.1-SNAPSHOT
[INFO] --------------------------------[ jar ]--------------------------------
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Devops ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:compile (default-compile) @ Devops ---
[INFO] No sources to compile
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Devops ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ Devops ---
[INFO] No sources to compile
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Devops ---
[INFO] No tests to run.
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Devops ---
[WARNING] JAR will be empty - no content was marked for inclusion!
[INFO] Building jar: C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\target\Devops-0.0.1-SNAPSHOT.jar
[INFO]
```
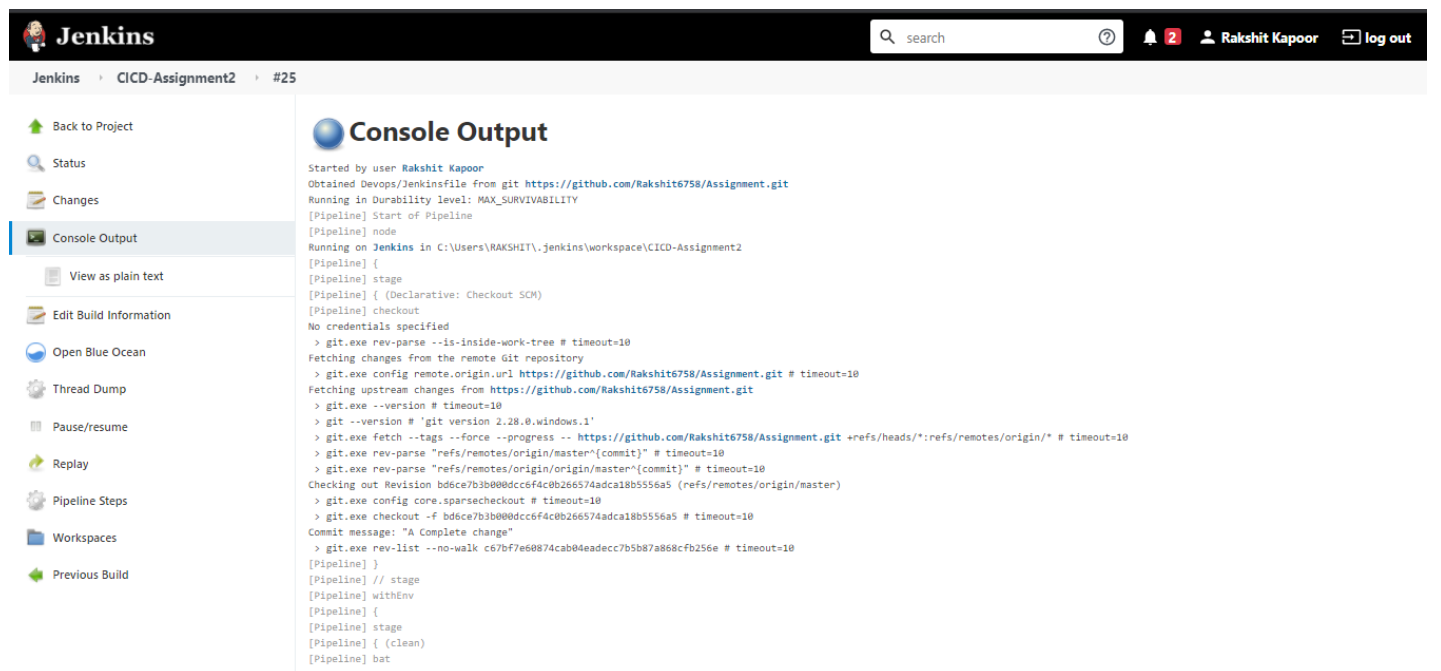
```
SNAPSHOT.jar
[INFO] Installing C:\Users\RAKSHIT\.jenkins\workspace\CICD-Assignment2\pom.xml to C:\Users\RAKSHIT\.m2\repository\Hii\Devops\0.0.1-SNAPSHOT\Devops-0.0.1-SNAPSHOT.pom
[INFO]
[INFO] --- maven-deploy-plugin:2.7:deploy (default-deploy) @ Devops ---
Downloading from Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/maven-metadata.xml
Uploading to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/Devops-0.0.1-20201120.130012-1.jar

Uploaded to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/Devops-0.0.1-20201120.130012-1.jar (1.4 kB at 3.8 kB/s)
Uploading to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/Devops-0.0.1-20201120.130012-1.pom
Progress (1): 738 B

Uploaded to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/Devops-0.0.1-20201120.130012-1.pom (738 B at 2.3 kB/s)
Downloading from Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/maven-metadata.xml
Uploading to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/maven-metadata.xml
Progress (1): 759 B

Uploaded to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/0.0.1-SNAPSHOT/maven-metadata.xml (759 B at 2.4 kB/s)
Uploading to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/maven-metadata.xml
Progress (1): 269 B

Uploaded to Rakshit: http://localhost:8081/repository/CICD_Assignment-2/Hii/Devops/maven-metadata.xml (269 B at 1.1 kB/s)
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  6.517 s
[INFO] Finished at: 2020-11-20T18:30:13+05:30
[INFO] ------------------------------------------------------------------------
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

REST API   Jenkins 2.253

Jenkins   search ?   🔔 **2**   👤 **Rakshit Kapoor**   ⎋ **log out**

Jenkins › CICD-Assignment2 ›

🔺 Back to Dashboard

🔍 Status

📝 Changes

🔵 Build Now

⚙️ Configure

🚫 Delete Pipeline

🔍 Full Stage View

🔵 Open Blue Ocean

📝 Rename

❓ Pipeline Syntax

Pipeline CICD-Assignment2

📝 add description

Disable Project

📝 Recent Changes

Stage View

	Declarative: Checkout SCM	clean	test	deploy
Average stage times: (Average full run time: ~33s)	3s	7s	6s	11s
#25 Nov 20 18:29 2 commits	4s	5s	6s	10s
#24 Nov 20 18:28 No Changes				
#23 Nov 20 18:14 No Changes	2s	6s	5s	8s
#22 Nov 20 18:11 No Changes	2s	6s	5s	12s

📋 **Build History**	**trend** ∧
find	X

🔵 #25   Nov 20, 2020, 6:29 PM
🔴 #24   Nov 20, 2020, 6:28 PM
🔵 #23   Nov 20, 2020, 6:14 PM
🔵 #22   Nov 20, 2020, 6:11 PM

Step 9: The generated build gets pushed on the nexus server as well as.