Assignment 2
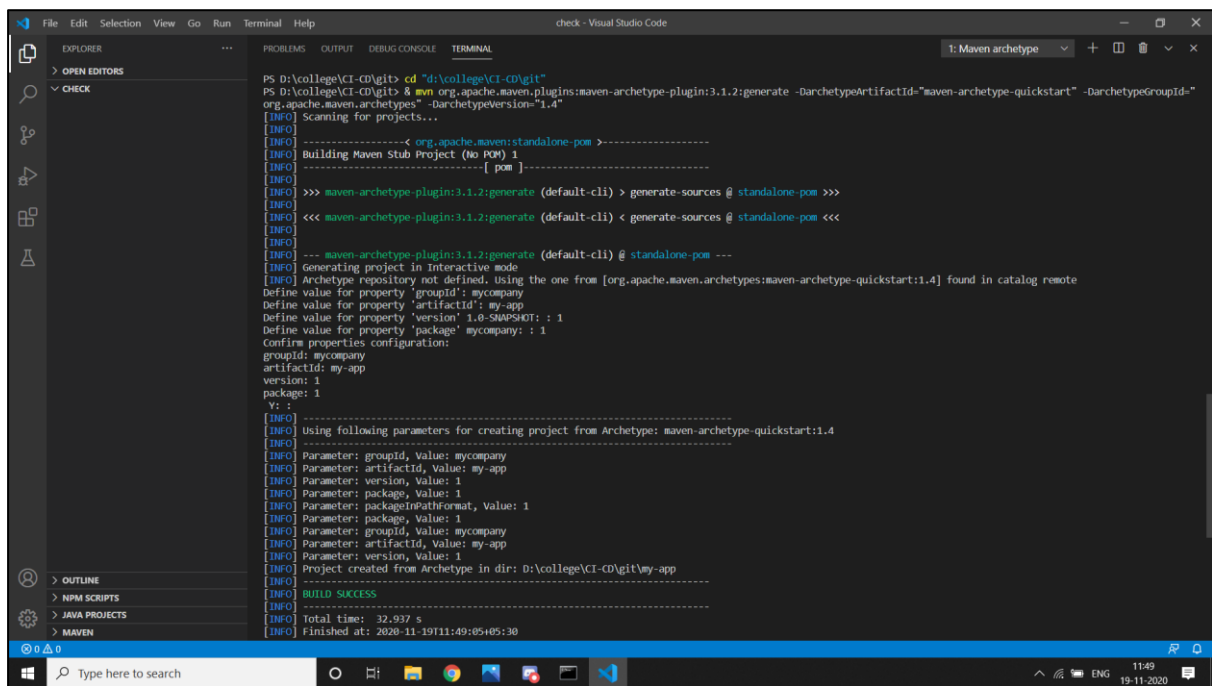
Aim: Perform following steps using Git, Jenkins, Maven and Nexus and create a pdf file including step by step screenshots.
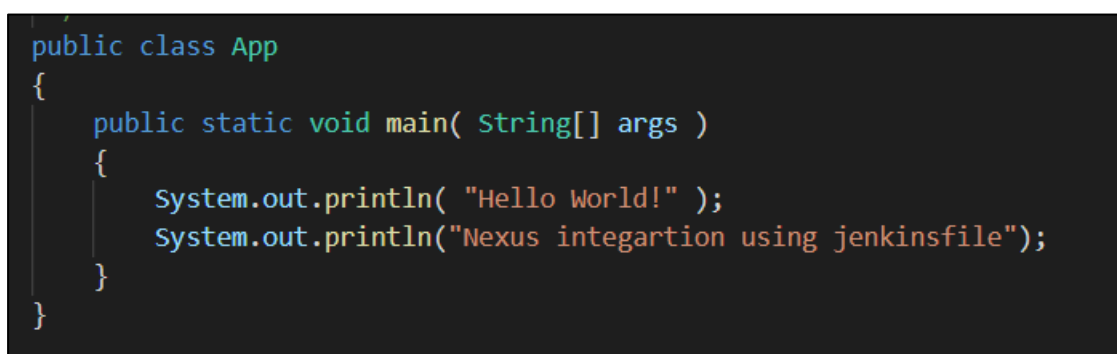
Step 1: Create a Maven project using Eclipse/IDE.

Create the project in VS code in the following way:

Now that the project has been created then open the folder and add the code in src/main. The code contains the following:

```java
public class App
{
    public static void main( String[] args )
    {
        System.out.println( "Hello World!" );
        System.out.println("Nexus integartion using jenkinsfile");
    }
}
```

Step 2: Push the same running project on GitHub using Eclipse or IDE.

Pushing the code to github in the following way:
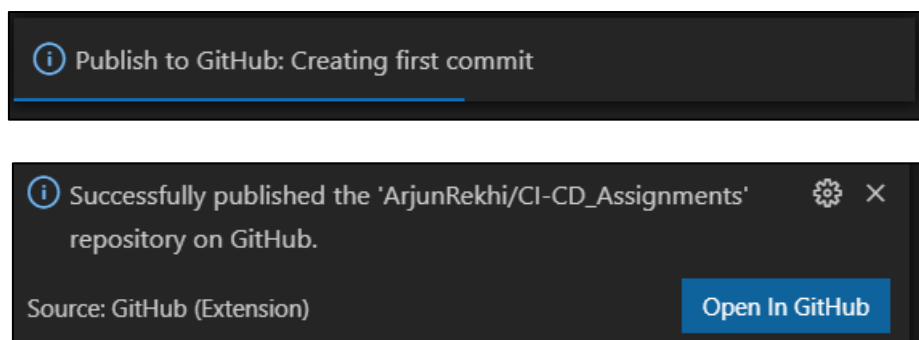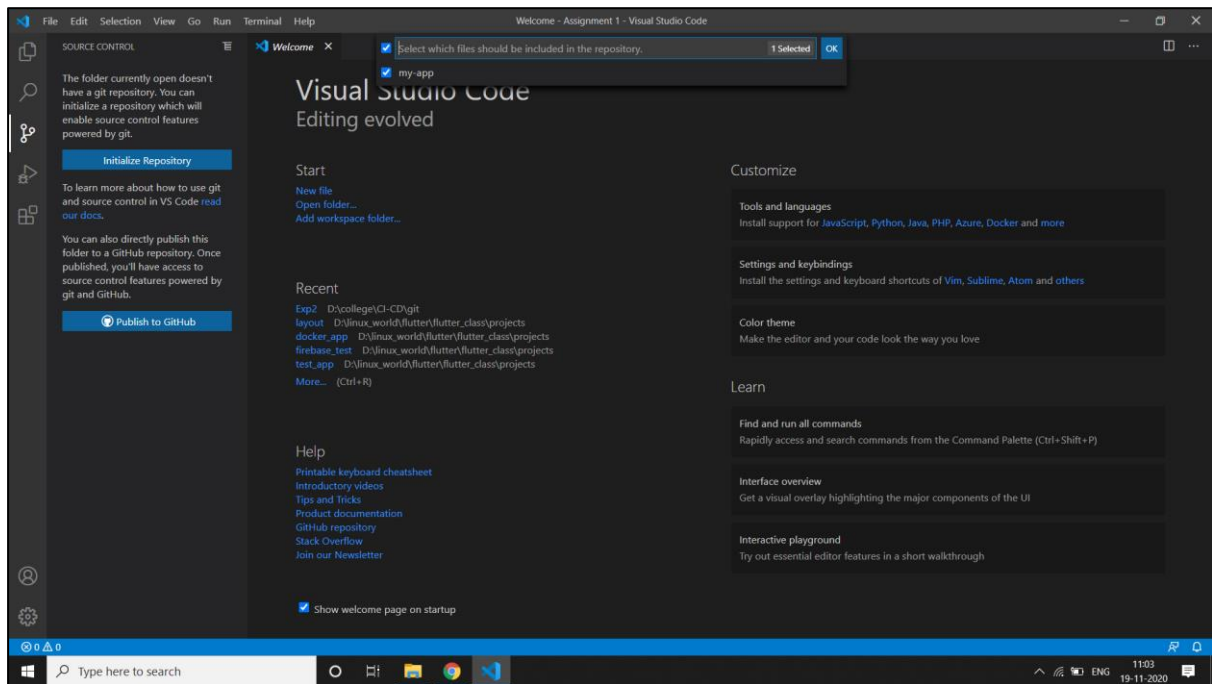
Now that the project has been created, creating the Jenkinsfile to create to deploy the code on the nexus server.

Step 3: Create a Jenkins Pipeline to generate build Jenkinsfile code and pushing the code on github

```
pipeline{
                agent any
                stages{
                    stage('build'){
                      steps{
                      bat 'mvn -f C:/Users/ARJUN/.jenkins/workspace/Assignment1/my-
        app install'
                      }
                    }

                    stage('test'){
                      steps{
                      echo 'Test Stage'
                     }
                    }
                    stage('deploy'){
                      steps{
                      bat 'mvn -f C:/Users/ARJUN/.jenkins/workspace/Assignment1/my-
        app deploy'
                      }
                    }
                 }
             }
```

The following code will first copy the code from github to its local workspace and will then build the code using the 'mvn install' command, here I have used –f option as the pom.xml file is located in another destination. The 'mvn deploy' command will upload this code on the nexus server.

Now also push this code to github. After pushing the code onto github the repository will look like the following:

Step 4: Push the generated build on Nexus Server using Jenkinsfile in GitHub.

Configuring a Jenkins job that fill fetch the jenkinsfile from github and then run it and upload the code on the nexus server.

Click on build now to run the job and upload the code on the nexus server.
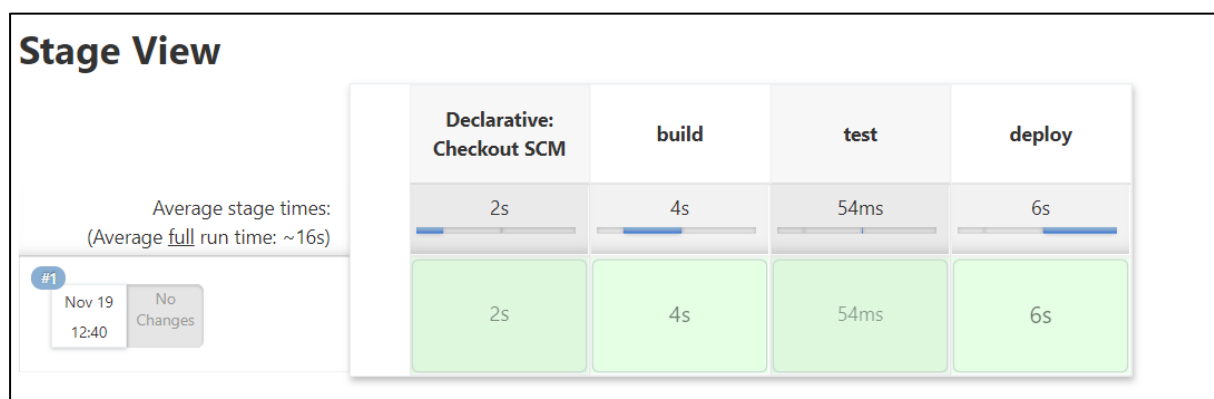
Output as seen in Console output:

Console Output

```
Started by user Arjun Rekhi
Obtained Jenkinsfile from git https://github.com/ArjunRekhi/maven-jenkins.git
Running in Durability level: MAX_SURVIVABILITY
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\Users\ARJUN\.jenkins\workspace\Assignment 1
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
 > git.exe rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
 > git.exe config remote.origin.url https://github.com/ArjunRekhi/maven-jenkins.git # timeout=10
Fetching upstream changes from https://github.com/ArjunRekhi/maven-jenkins.git
 > git.exe --version # timeout=10
 > git --version # 'git version 2.27.0.windows.1'
 > git.exe fetch --tags --force --progress -- https://github.com/ArjunRekhi/maven-jenkins.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision ed5a4df72c168a309d479fb7fafbd2a3710d4676 (refs/remotes/origin/master)
 > git.exe config core.sparsecheckout # timeout=10
 > git.exe checkout -f ed5a4df72c168a309d479fb7fafbd2a3710d4676 # timeout=10
Commit message: "Create Jenkinsfile"
First time build. Skipping changelog.
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (build)
[Pipeline] bat

C:\Users\ARJUN\.jenkins\workspace\Assignment 1>mvn -f C:/Users/ARJUN/.jenkins/workspace/Assi/my-app install
```

```
Downloaded from CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/maven-metadata.xml (767 B at 6.6 kB/s)
Uploading to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/my-app-1.0-20201119.071032-5.jar
Progress (1): 2.9 kB

Uploaded to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/my-app-1.0-20201119.071032-5.jar (2.9 kB at 29 kB/s)
Uploading to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/my-app-1.0-20201119.071032-5.pom
Progress (1): 3.3 kB

Uploaded to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/my-app-1.0-20201119.071032-5.pom (3.3 kB at 33 kB/s)
Downloading from CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/maven-metadata.xml
Progress (1): 281 B

Downloaded from CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/maven-metadata.xml (281 B at 14 kB/s)
Uploading to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/maven-metadata.xml
Progress (1): 767 B

Uploaded to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/1.0-SNAPSHOT/maven-metadata.xml (767 B at 1.6 kB/s)
Uploading to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/maven-metadata.xml
Progress (1): 281 B

Uploaded to CI-CD: http://localhost:8081/repository/CI-CD/com/mycompany/app/my-app/maven-metadata.xml (281 B at 669 B/s)
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  4.535 s
[INFO] Finished at: 2020-11-19T12:40:33+05:30
[INFO] ------------------------------------------------------------------------
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

At the end of this job the code will be uploaded on the nexus server and the same can be verified on the nexus dashboard.

Output on the nexus dashboard:

Submitted by:

Arjun Rekhi

500068109

R171218028