EXPERIMENT – 2

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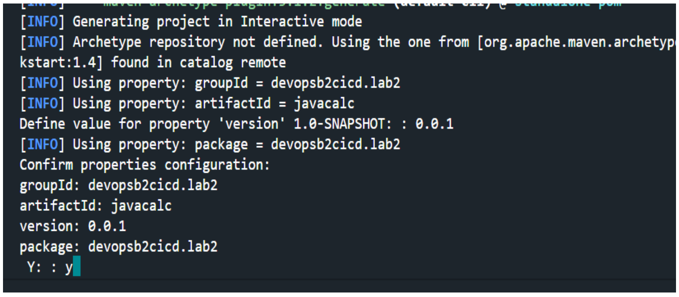
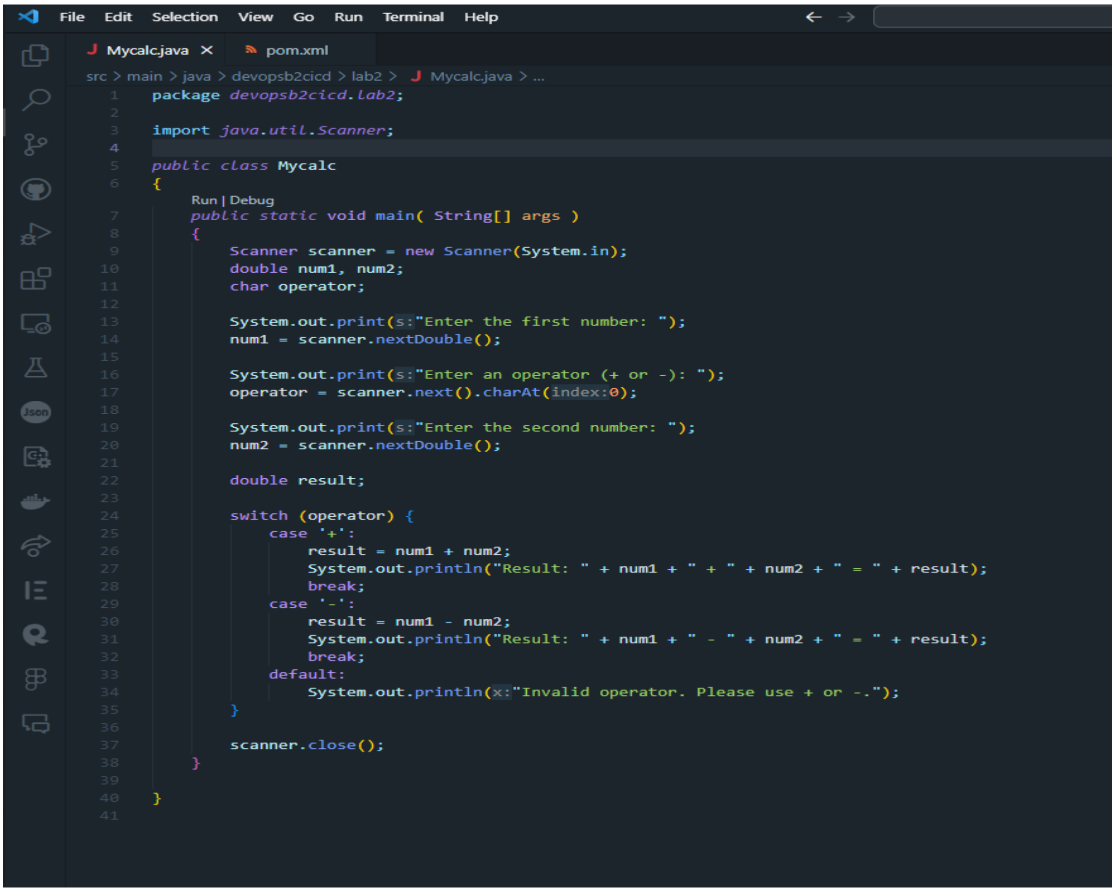
Batch – 2 [DevOps Non-Hons]
SAP ID- 500094093
Subject – Continuous Integration and Continuous Delivery Lab

Aim: Creating a Jenkins Pipeline with a Jenkins file.

1] Create a Maven Project in vscode.



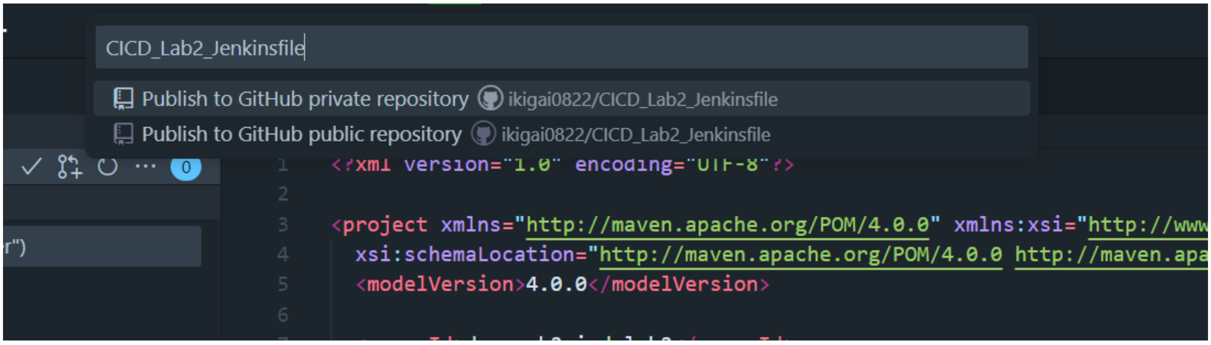
```
[INFO] --- maven-archetype-plugin:3.1.2:generate (default-cli) @ standalone-pom
[INFO] Generating project in Interactive mode
[INFO] Archetype repository not defined. Using the one from [org.apache.maven.archetyp
kstart:1.4] found in catalog remote
[INFO] Using property: groupId = devopsb2cicd.lab2
[INFO] Using property: artifactId = javacalc
Define value for property 'version' 1.0-SNAPSHOT: : 0.0.1
[INFO] Using property: package = devopsb2cicd.lab2
Confirm properties configuration:
groupId: devopsb2cicd.lab2
artifactId: javacalc
version: 0.0.1
package: devopsb2cicd.lab2
 Y: : y
```



File Edit Selection View Go Run Terminal Help
Mycalc.java ×
pom.xml
src > main > java > devopsb2cicd > lab2 > Mycalc.java > ...

```java
package devopsb2cicd.lab2;

import java.util.Scanner;

public class Mycalc
{
    Run | Debug
    public static void main( String[] args )
    {
        Scanner scanner = new Scanner(System.in);
        double num1, num2;
        char operator;

        System.out.print(s:"Enter the first number: ");
        num1 = scanner.nextDouble();

        System.out.print(s:"Enter an operator (+ or -): ");
        operator = scanner.next().charAt(index:0);

        System.out.print(s:"Enter the second number: ");
        num2 = scanner.nextDouble();

        double result;

        switch (operator) {
            case '+':
                result = num1 + num2;
                System.out.println("Result: " + num1 + " + " + num2 + " = " + result);
                break;
            case '-':
                result = num1 - num2;
                System.out.println("Result: " + num1 + " - " + num2 + " = " + result);
                break;
            default:
                System.out.println(x:"Invalid operator. Please use + or -.");
        }

        scanner.close();
    }

}
```

2] Make a repo name as “CICD-Lab2_Jenkinsfile” and Push project on github.

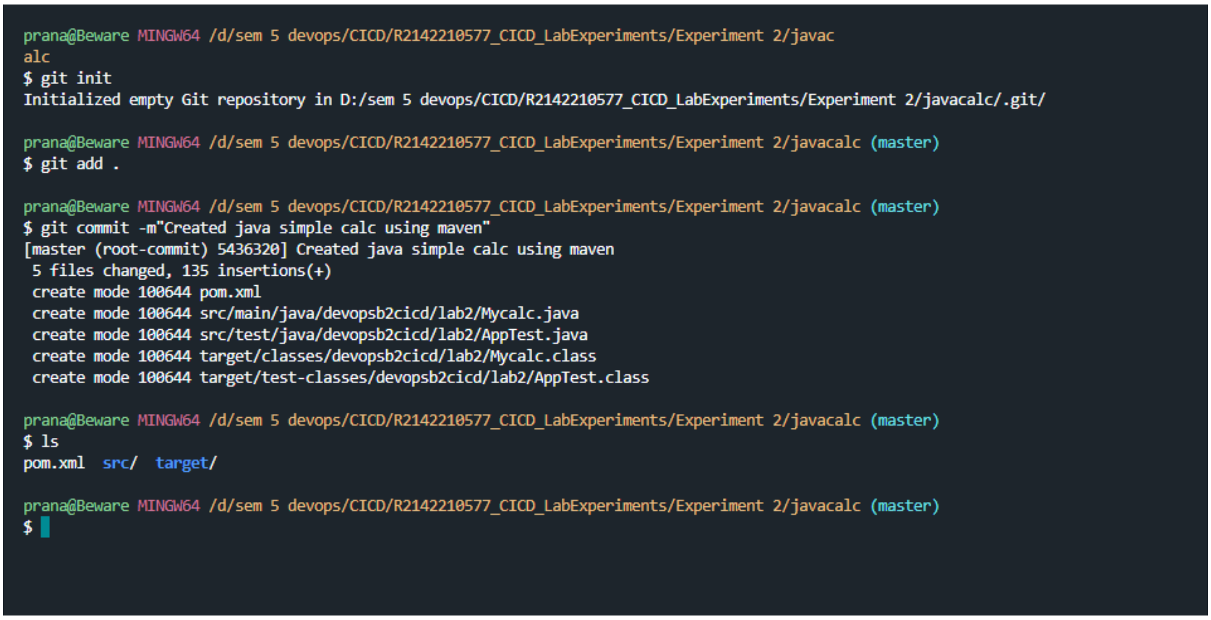


CICD_Lab2_Jenkinsfile

Publish to GitHub private repository ikigai0822/CICD_Lab2_Jenkinsfile

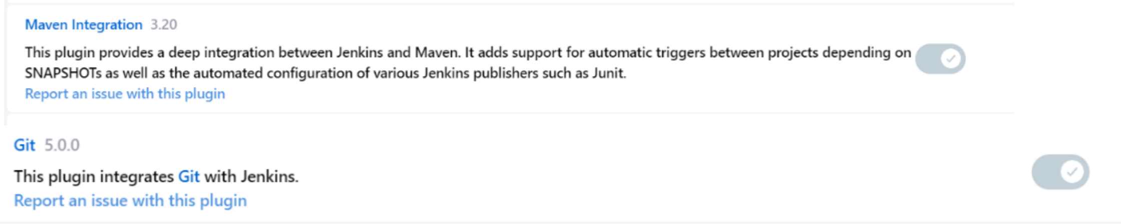
Publish to GitHub public repository ikigai0822/CICD_Lab2_Jenkinsfile

```
<?xml version="1.0" encoding="UTF-8"?>

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apa
  <modelVersion>4.0.0</modelVersion>
```



```
prana@Beware MINGW64 /d/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javac
alc
$ git init
Initialized empty Git repository in D:/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javacalc/.git/

prana@Beware MINGW64 /d/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javacalc (master)
$ git add .

prana@Beware MINGW64 /d/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javacalc (master)
$ git commit -m"Created java simple calc using maven"
[master (root-commit) 5436320] Created java simple calc using maven
 5 files changed, 135 insertions(+)
 create mode 100644 pom.xml
 create mode 100644 src/main/java/devopsb2cicd/lab2/Mycalc.java
 create mode 100644 src/test/java/devopsb2cicd/lab2/AppTest.java
 create mode 100644 target/classes/devopsb2cicd/lab2/Mycalc.class
 create mode 100644 target/test-classes/devopsb2cicd/lab2/AppTest.class

prana@Beware MINGW64 /d/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javacalc (master)
$ ls
pom.xml  src/  target/

prana@Beware MINGW64 /d/sem 5 devops/CICD/R2142210577_CICD_LabExperiments/Experiment 2/javacalc (master)
$ 
```

3] Add Maven integration and Git plugin in Jenkins , configure repo and make a build



Maven Integration 3.20

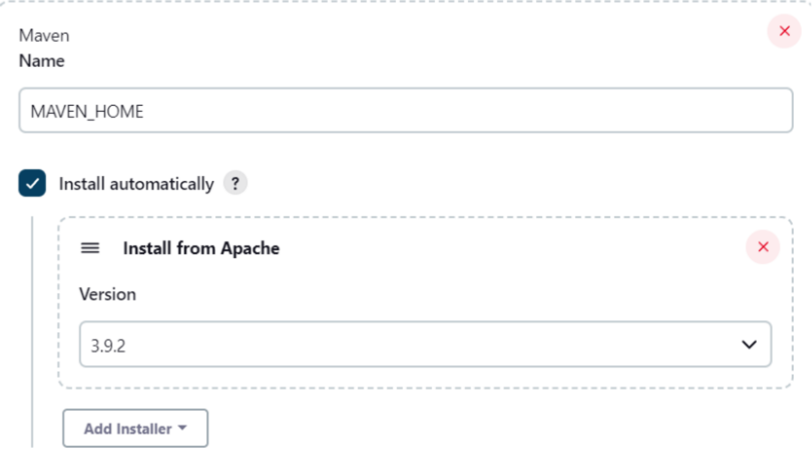
This plugin provides a deep integration between Jenkins and Maven. It adds support for automatic triggers between projects depending on SNAPSHOTs as well as the automated configuration of various Jenkins publishers such as Junit.

Report an issue with this plugin

Git 5.0.0

This plugin integrates Git with Jenkins.

Report an issue with this plugin



Maven

Name

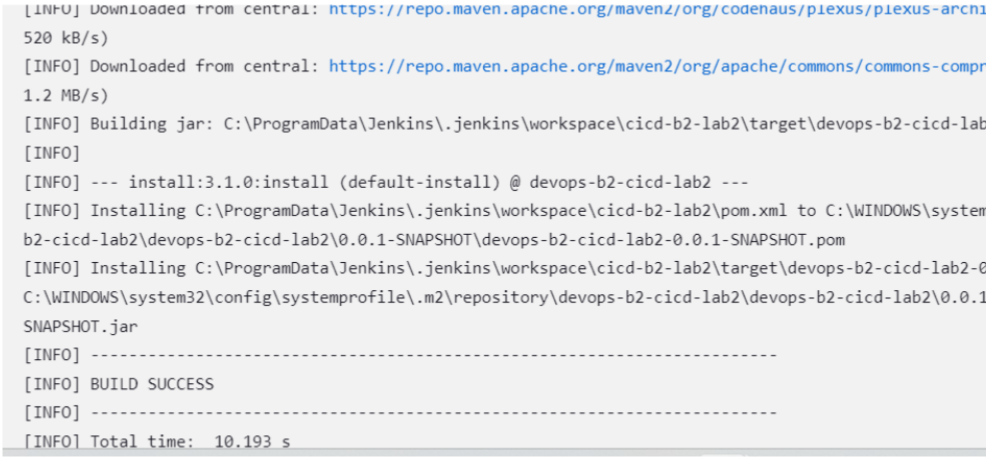
MAVEN_HOME

☑ Install automatically ?

Install from Apache

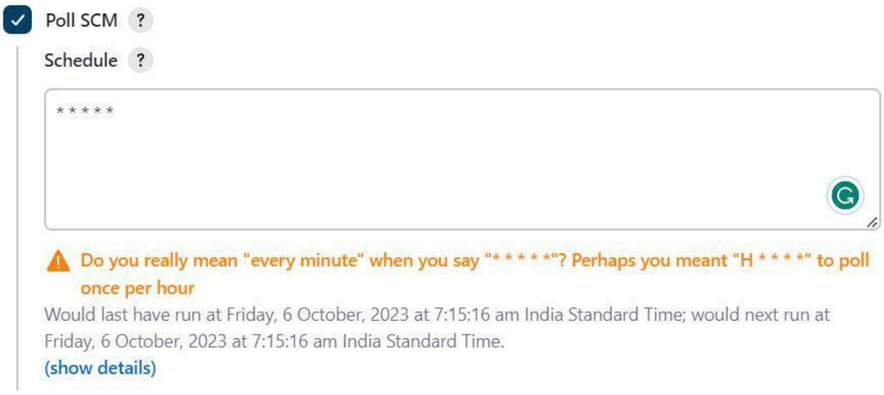
Version

3.9.2



```
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archi
520 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compr
1.2 MB/s)
[INFO] Building jar: C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\target\devops-b2-cicd-lab
[INFO]
[INFO] --- install:3.1.0:install (default-install) @ devops-b2-cicd-lab2 ---
[INFO] Installing C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\pom.xml to C:\WINDOWS\system
b2-cicd-lab2\devops-b2-cicd-lab2\0.0.1-SNAPSHOT\devops-b2-cicd-lab2-0.0.1-SNAPSHOT.pom
[INFO] Installing C:\ProgramData\Jenkins\.jenkins\workspace\cicd-b2-lab2\target\devops-b2-cicd-lab2-0
C:\WINDOWS\system32\config\systemprofile\.m2\repository\devops-b2-cicd-lab2\devops-b2-cicd-lab2\0.0.1
SNAPSHOT.jar
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  10.193 s
```

4] edit the code ,add mul funcion and add poll scm in jenkins configuration then again commit and push it.



☑ Poll SCM ?

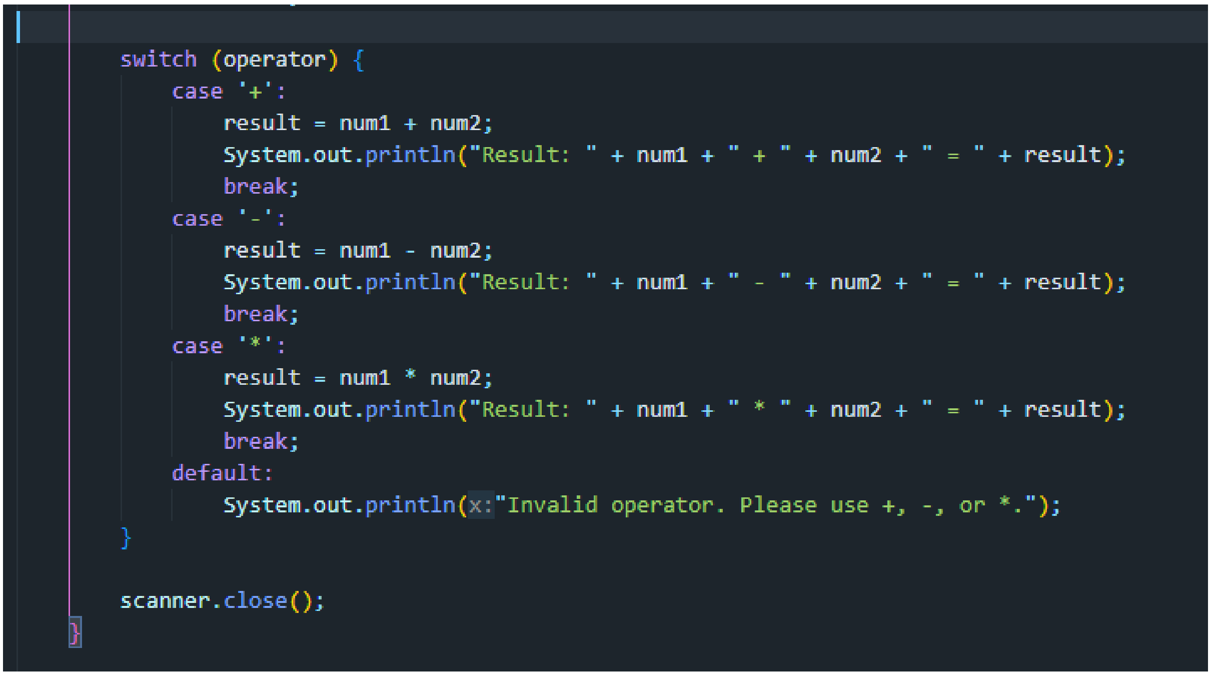
Schedule ?

```
* * * * *
```

Do you really mean "every minute" when you say "* * * * *"? Perhaps you meant "H * * * *" to poll once per hour

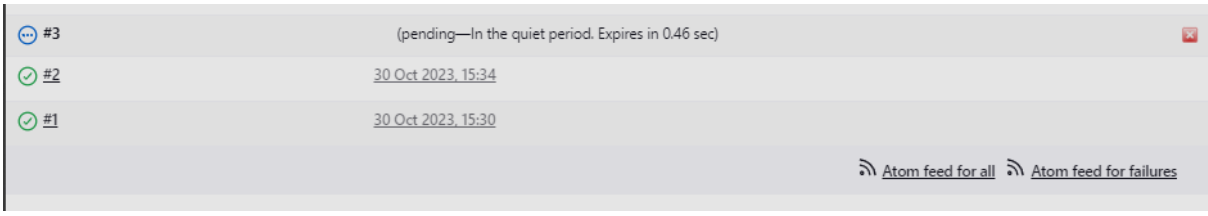
Would last have run at Friday, 6 October, 2023 at 7:15:16 am India Standard Time; would next run at Friday, 6 October, 2023 at 7:15:16 am India Standard Time.

(show details)



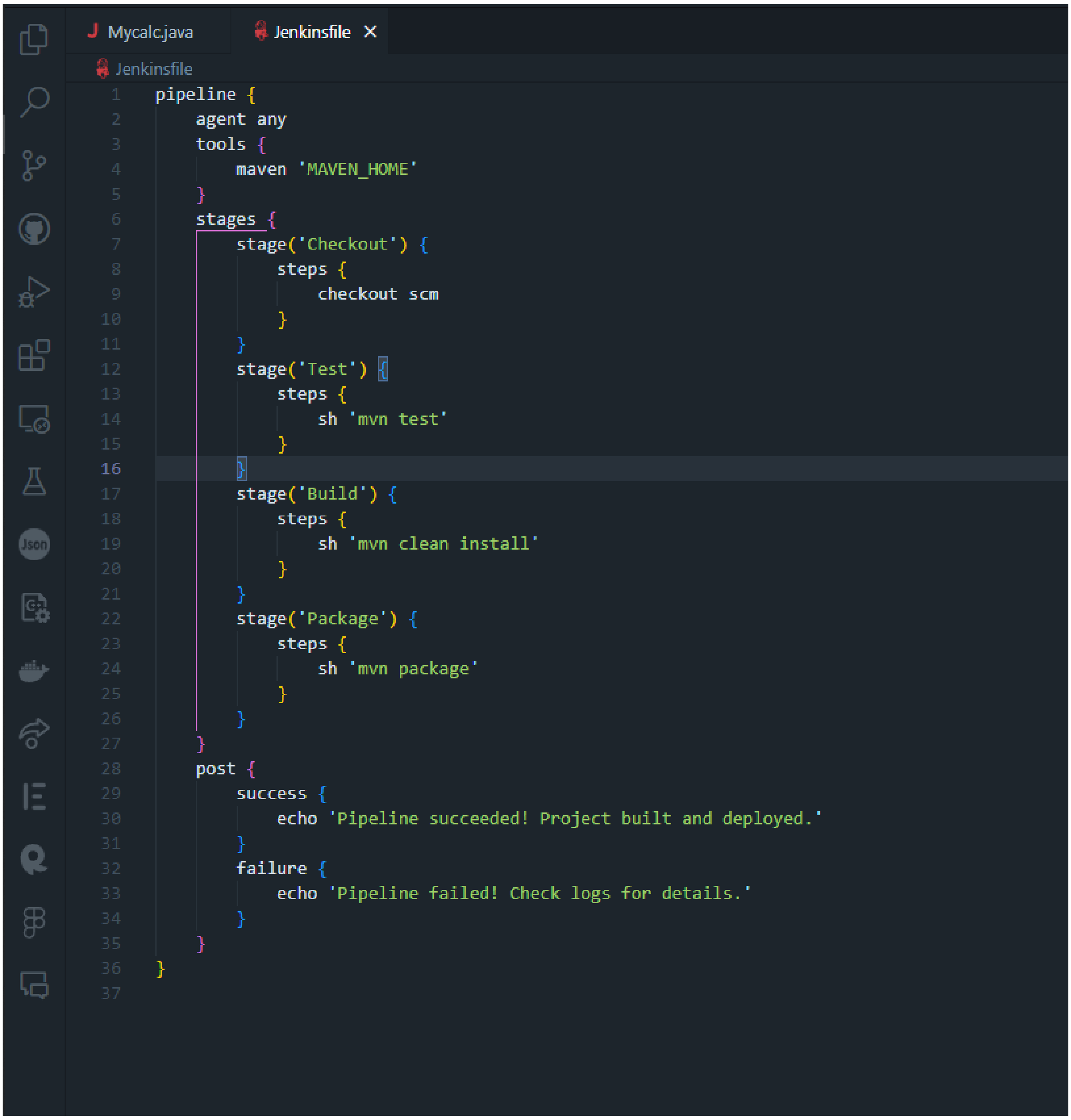
```
        switch (operator) {
            case '+':
                result = num1 + num2;
                System.out.println("Result: " + num1 + " + " + num2 + " = " + result);
                break;
            case '-':
                result = num1 - num2;
                System.out.println("Result: " + num1 + " - " + num2 + " = " + result);
                break;
            case '*':
                result = num1 * num2;
                System.out.println("Result: " + num1 + " * " + num2 + " = " + result);
                break;
            default:
                System.out.println(x:"Invalid operator. Please use +, -, or *.");
        }

        scanner.close();
    }
```

(New Automated Build)



```
#3    (pending—In the quiet period. Expires in 0.46 sec)
#2    30 Oct 2023, 15:34
#1    30 Oct 2023, 15:30
                              Atom feed for all   Atom feed for failures
```

5] Add Jenkins file then commit and push it , In Jenkins make pipeline add configure it. When you create a pipeline. The pipeline will start.



```
pipeline {
    agent any
    tools {
        maven 'MAVEN_HOME'
    }
    stages {
        stage('Checkout') {
            steps {
                checkout scm
            }
        }
        stage('Test') {
            steps {
                sh 'mvn test'
            }
        }
        stage('Build') {
            steps {
                sh 'mvn clean install'
            }
        }
        stage('Package') {
            steps {
                sh 'mvn package'
            }
        }
    }
    post {
        success {
            echo 'Pipeline succeeded! Project built and deployed.'
        }
        failure {
            echo 'Pipeline failed! Check logs for details.'
        }
    }
}
```