

School of Computer Science

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES DEHRADUN, UTTARAKHAND

Continuous Integration and
Continuous Delivery Lab

Lab File
(2023-2024
)

for

5th Semester

Submitted To:

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Submitted By:

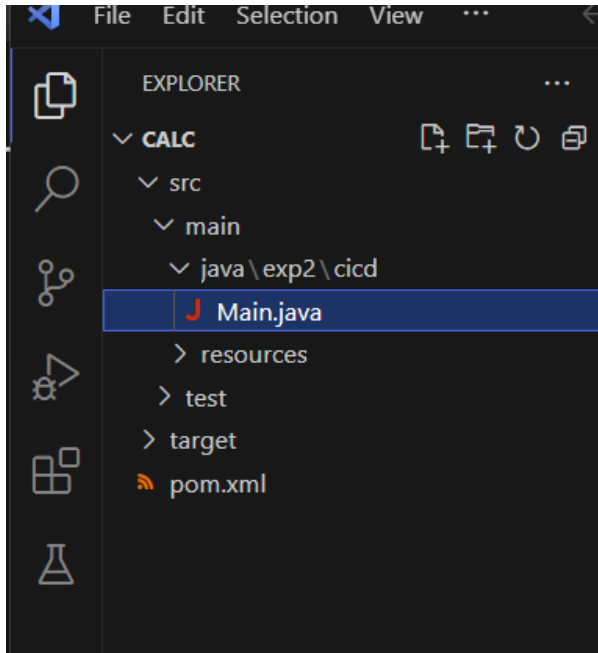
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B2- Devops (Non-Hons)

LAB EXERCISE - 2

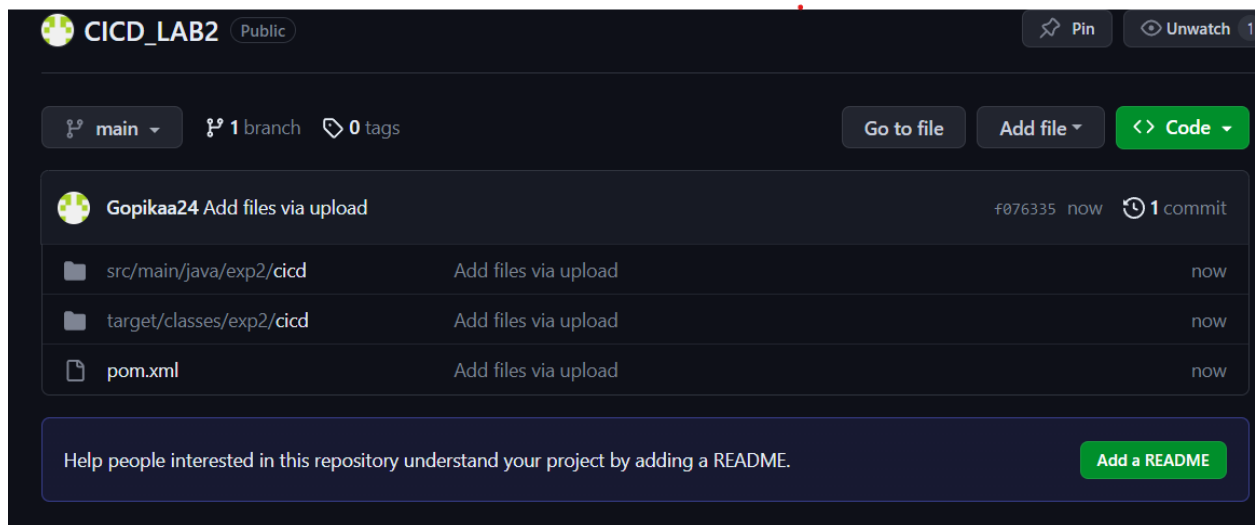
Aim: Creating a Jenkins Pipeline with a Jenkins file.

1] Create a Maven Project in vscode

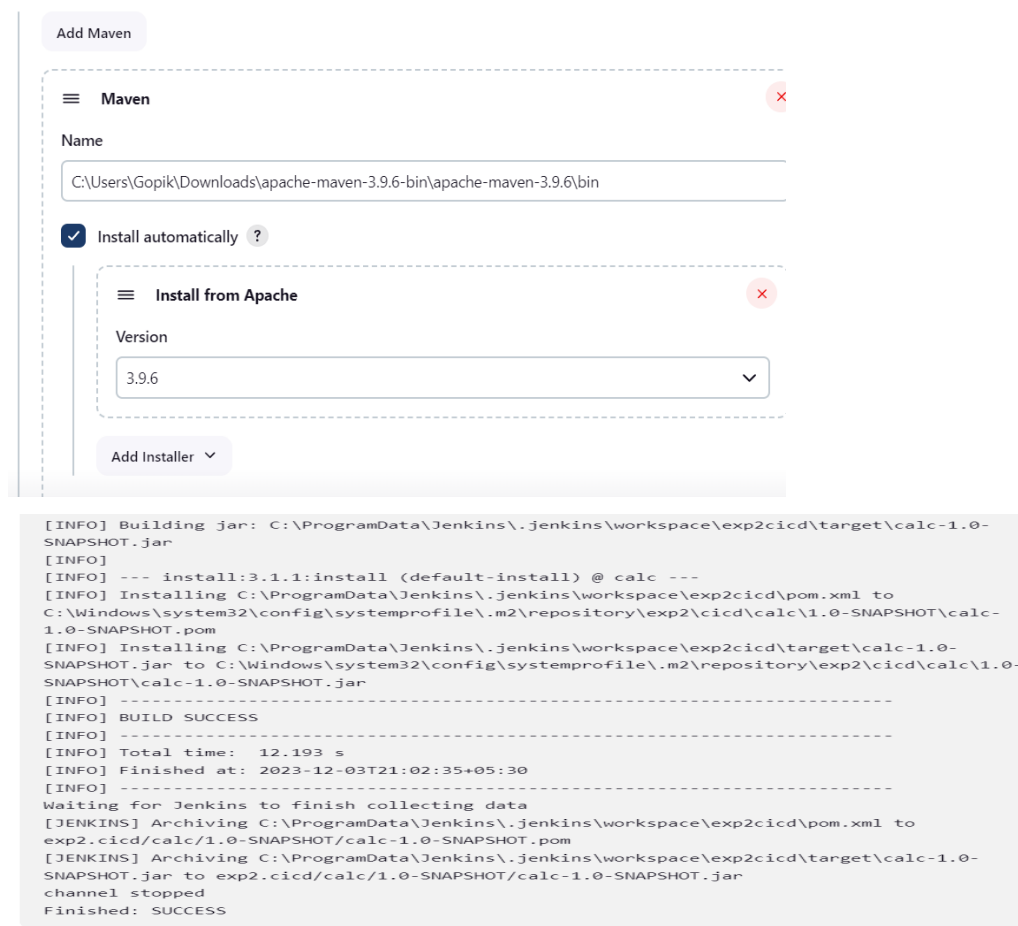


```
J Main.java 9+ x
src > main > java > exp2 > cicd > J Main.java
1  public static void main( String[] args )
2  {
3      Scanner scanner = new Scanner(System.in);
4      double num1, num2;
5      char operator;
6
7      System.out.print("Enter the first number: ");
8      num1 = scanner.nextDouble();
9
10     System.out.print("Enter an operator (+, -, or *): ");
11     operator = scanner.next().charAt(0);
12
13     System.out.print("Enter the second number: ");
14     num2 = scanner.nextDouble();
15
16     double result;
17
18     switch (operator) {
19         case '+':
20             result = num1 + num2;
21             System.out.println("Result: " + num1 + " + " + num2 + " = " + result);
22             break;
23         case '-':
24             result = num1 - num2;
25             System.out.println("Result: " + num1 + " - " + num2 + " = " + result);
26             break;
27         case '*':
28             result = num1 * num2;
29             System.out.println("Result: " + num1 + " * " + num2 + " = " + result);
30             break;
31         default:
32             System.out.println("Invalid operator. Please use +, -, or *.");
33     }
34
35     scanner.close();
```

2] Make a repo name as “CICD-Lab2_Jenkinsfile” and add the files



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



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

```
Scanner scanner = new Scanner(System.in);
double num1, num2;
char operator;

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

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

System.out.print("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("Invalid operator. Please use +, -, or *.");
}
```

✓ #3



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✓ #2

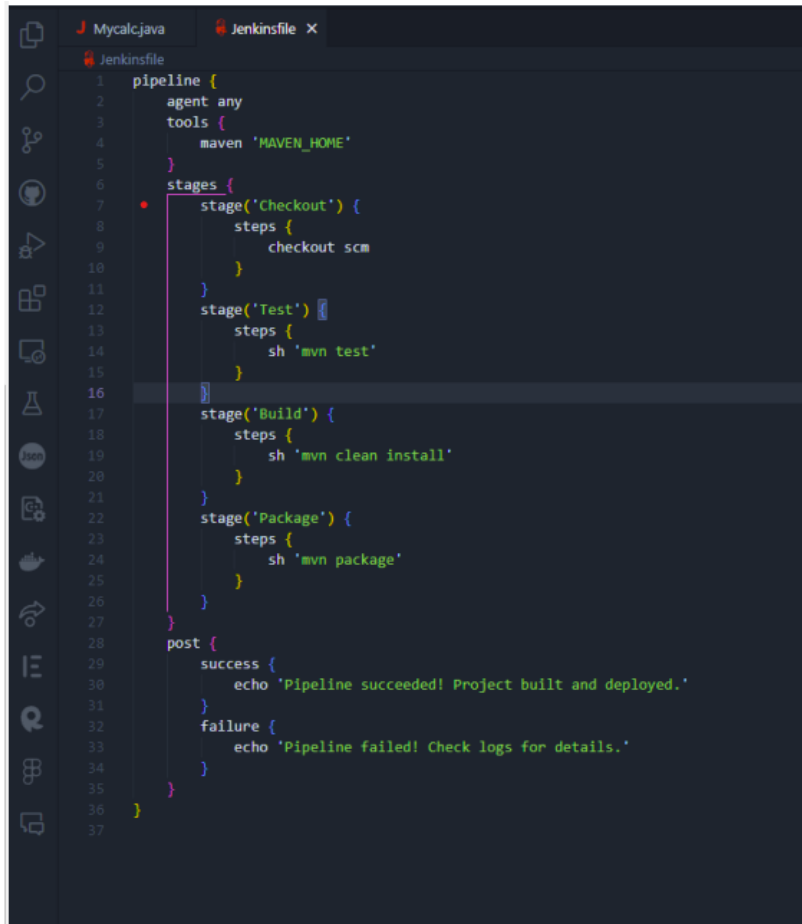
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✗ #1

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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.

A screenshot of a code editor showing a Jenkinsfile. The editor has a dark theme and a sidebar on the left with various icons. The Jenkinsfile is a YAML document defining a CI/CD pipeline. It starts with a 'pipeline' block containing an 'agent' (any), 'tools' (maven), and 'stages'. The stages are 'Checkout', 'Test', 'Build', and 'Package', each with specific steps. A 'post' block at the end handles success and failure messages. The file is named 'Jenkinsfile' and is located in a directory named 'Mycalcjava'.

```
1 pipeline {
2   agent any
3   tools {
4     maven 'MAVEN_HOME'
5   }
6   stages {
7     stage('Checkout') {
8       steps {
9         checkout scm
10      }
11    }
12    stage('Test') {
13      steps {
14        sh 'mvn test'
15      }
16    }
17    stage('Build') {
18      steps {
19        sh 'mvn clean install'
20      }
21    }
22    stage('Package') {
23      steps {
24        sh 'mvn package'
25      }
26    }
27  }
28  post {
29    success {
30      echo 'Pipeline succeeded! Project built and deployed.'
31    }
32    failure {
33      echo 'Pipeline failed! Check logs for details.'
34    }
35  }
36 }
37
```