

**School of Computer Science**

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES  
DEHRADUN, UTTARAKHAND**



**Continuous Integration and Continuous Delivery  
Lab**

**Lab File  
(2023-2024)**

**for**

**5<sup>th</sup> Semester**

**Submitted To:**

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B2- Devops (Non-Hons)

## EXPERIMENT – 3 and 4

### Aim: Maven Build using GitHub Actions

1] Push our file on git repo name as CICD-lab3 which contain class file,dockerfile,pom.xml file and so on.

```
dell@DESKTOP-2185RE6 MINGW64 ~/eclipse-workspace/devops-b2-cicd-lab1
$ git init
Initialized empty Git repository in C:/Users/dell/eclipse-workspace/devops-b2-ci
cd-lab1/.git/

dell@DESKTOP-2185RE6 MINGW64 ~/eclipse-workspace/devops-b2-cicd-lab1 (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    .classpath
    .project
    .settings/
    pom.xml
    src/
    target/

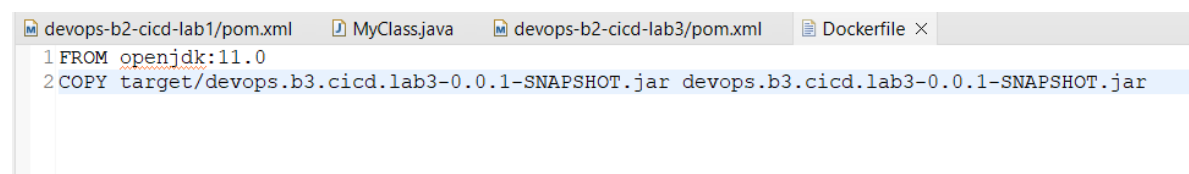
nothing added to commit but untracked files present (use "git add" to track)

dell@DESKTOP-2185RE6 MINGW64 ~/eclipse-workspace/devops-b2-cicd-lab1 (master)
$ git add .

dell@DESKTOP-2185RE6 MINGW64 ~/eclipse-workspace/devops-b2-cicd-lab1 (master)
$ git commit -m "first Version"
[master (root-commit) 2aa0d21] first Version
10 files changed, 122 insertions(+)
create mode 100644 .classpath
create mode 100644 .project
create mode 100644 .settings/org.eclipse.jdt.core.prefs
create mode 100644 .settings/org.eclipse.m2e.core.prefs
create mode 100644 pom.xml
create mode 100644 src/main/java/mypkg/MyCalculator.java
create mode 100644 target/classes/META-INF/MANIFEST.MF
create mode 100644 target/classes/META-INF/maven/devops-b2-cicd-lab1/devops-b2-
cicd-lab1/pom.properties
create mode 100644 target/classes/META-INF/maven/devops-b2-cicd-lab1/devops-b2-
cicd-lab1/pom.xml
create mode 100644 target/classes/mypkg/MyCalculator.class

dell@DESKTOP-2185RE6 MINGW64 ~/eclipse-workspace/devops-b2-cicd-lab1 (master)
$ git remote add origin https://github.com/Arman-Bisht/CiCD-b2-lab1.git
```

Docker file



```
devops-b2-cicd-lab1/pom.xml  MyClass.java  devops-b2-cicd-lab3/pom.xml  Dockerfile ×
1 FROM openjdk:11.0
2 COPY target/devops.b3.cicd.lab3-0.0.1-SNAPSHOT.jar devops.b3.cicd.lab3-0.0.1-SNAPSHOT.jar
```

## MyClass.java file

```
devops-b2-cicd-lab1/pom.xml  MyClass.java x  devops-b2-cicd-lab3/pom.xml  Dockerfile
1 package devops.b2.cicd.lab3;
2
3 public class MyClass {
4     public void greeting()
5     {
6         System.out.println("Hello GitHub Actions");
7     }
8     public void testMsg()
9     {
10        System.out.println("This is Test Message");
11    }
12
13    public static void main(String[] args) {
14        MyClass ob = new MyClass();
15        ob.greeting();
16    }
17
18 }
19
```

## Pom.xml file

```
devops-b2-cicd-lab1/pom.xml  MyClass.java  devops-b2-cicd-lab3/pom.xml x  Dockerfile
1 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/
2     <modelVersion>4.0.0</modelVersion>
3     <groupId>devops.b2.cicd.lab3</groupId>
4     <artifactId>devops.b3.cicd.lab3</artifactId>
5     <version>0.0.1-SNAPSHOT</version>
6
7     <properties>
8         <maven.compiler.source>1.8</maven.compiler.source>
9         <maven.compiler.target>1.8</maven.compiler.target>
10    </properties>
11 </project>
```

|                                    |                 |                |
|------------------------------------|-----------------|----------------|
| .github/workflows                  | Create cicd.yml | 34 minutes ago |
| .settings                          | first commit    | 44 minutes ago |
| src/main/java/devops/b2/cicd/lab3  | first commit    | 44 minutes ago |
| target/classes/devops/b2/cicd/lab3 | first commit    | 44 minutes ago |
| .classpath                         | first commit    | 44 minutes ago |
| .project                           | first commit    | 44 minutes ago |
| Dockerfile                         | first commit    | 44 minutes ago |
| pom.xml                            | first commit    | 44 minutes ago |

Help people interested in this repository understand your project by adding a README.

[Add a README](#)

**2] Create a GitHub Actions Workflow name as cicd.yml and click on commit and push changes.**

```

Code Blame 26 lines (26 loc) · 672 Bytes Code 55% faster with GitHub Copilot
1   name: Java CI with Maven
2   on:
3     push:
4       branches: [ "main" ]
5     pull_request:
6       branches: [ "main" ]
7   jobs:
8     build:
9       runs-on: ubuntu-latest
10      steps:
11        - uses: actions/checkout@v3
12        - name: Set up JDK 17
13          uses: actions/setup-java@v3
14          with:
15            java-version: '17'
16            distribution: 'temurin'
17            cache: maven
18        - name: Build with Maven
19          run: mvn -B package --file pom.xml
20        - name: Docker Build and Push
21          uses: mr-smithers-excellent/docker-build-push@v6
22          with:
23            image: shashwat007/cicd-b2
24            registry: docker.io
25            username: ${ secrets.DOCKER_USERNAME }}
26            password: ${ secrets.DOCKER_PASSWORD }}

```


**3] Check the Workflow Status in that you will notice that our build has been completed and build images have been visible in our docker hub .**

The screenshot shows the GitHub Actions interface for a workflow named "Java CI with Maven". The workflow is in a "Completed" state, indicated by a green checkmark and the text "Create cicd.yml #1". The "Jobs" section shows a single job named "build" which is also completed. A detailed view of the "build" job is shown on the right, listing the steps: "Set up job", "Run actions/checkout@v3", "Set up JDK 17", "Build with Maven", "Docker Build and Push", "Post Set up JDK 17", "Post Run actions/checkout@v3", and "Complete job". The job status is "succeeded 36 minutes ago in 33s".

**4] Build image in docker hub**

### Description

This repository does not have a description 

 Last pushed: 35 minutes ago

### Tags

This repository contains 1 tag(s).

| Tag  | OS  | Type  | Pulled | Pushed         |
|--|---|-------|--------|----------------|
|  main-8afc163 |  | Image | ---    | 35 minutes ago |

## EXPERIMENT – 4

**Aim : - Docker build and push using Github actions.**

### 5] Add Docker Hub Credentials to GitHub Secrets

#### Actions secrets and variables

Secrets and variables allow you to manage reusable configuration data. Secrets are **encrypted** and are used for sensitive data. [Learn more about encrypted secrets](#). Variables are shown as plain text and are used for **non-sensitive** data. [Learn more about variables](#).

Anyone with collaborator access to this repository can use these secrets and variables for actions. They are not passed to workflows that are triggered by a pull request from a fork.

Secrets

Variables


New repository secret

Environment secrets



Manage environments


There are no secrets for this repository's environments.

Repository secrets



 DOCKER\_PASSWORD

Updated 2 weeks ago

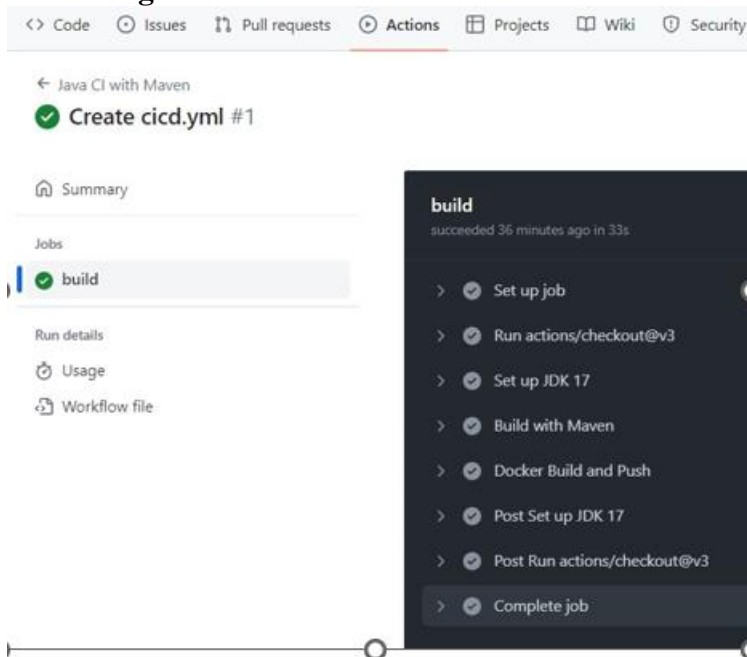
 DOCKER\_USERNAME

Updated 2 weeks ago

### 6] Commit and Push Changes

7] Check the Workflow Status in that you will notices that our build has been completed and build images has been visible in our docker hub .



4] Build image in docker hub and docker command in a public view.

