



CONTINUOUS INTEGRATION AND CONTINUOUS DEPLOYMENT LAB

Experiment 3

for

5th Semester

Submitted To

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EXPERIMENT 3

Maven Build using GitHub Actions

Aim

Set up a GitHub Actions workflow to automatically build a Maven project whenever changes are pushed to a GitHub repository.

Steps

1. Create a maven project
 - a. Create the project

```
[INFO] --- jar:3.1.0:jar (default-jar) @ cicd.lab3 ---
[INFO] Building jar: C:\Users\hp\eclipse-workspace\cicd.lab3\target\myclass.jar
[INFO]
[INFO] --- install:3.1.1:install (default-install) @ cicd.lab3 ---
[INFO] Installing C:\Users\hp\eclipse-workspace\cicd.lab3\pom.xml to C:\Users\hp\.m2\repository\devops\b
[INFO] Installing C:\Users\hp\eclipse-workspace\cicd.lab3\target\myclass.jar to C:\Users\hp\.m2\reposito
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 3.128 s
[INFO] Finished at: 2023-12-01T01:53:36+05:30
[INFO] -----
```

- b. Create a package DevOps inside src/main/java/ and add App.java file

```
+ CICD-EXP3 git:(master) cd src/main/java/DevOps
+ DevOps git:(master) cat App.java
package DevOps;

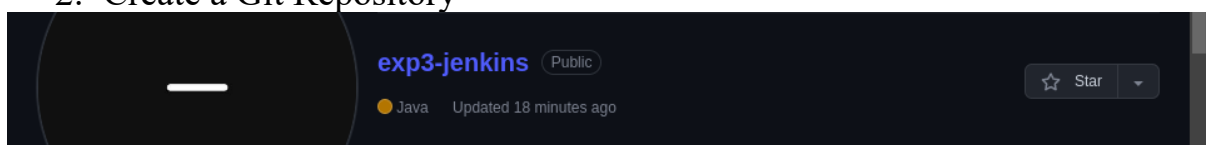
public class App {
    public void greetings() {
        System.out.println("Hello World!");
    }

    public static void main(String[] args) {
        App app = new App();
        app.greetings();
    }
}
+ DevOps git:(master) █
```

- c. Configure the pom.xml

```
<properties>
  <maven.compiler.source>17</maven.compiler.source>
  <maven.compiler.target>17</maven.compiler.target>
</properties>
```

2. Create a Git Repository

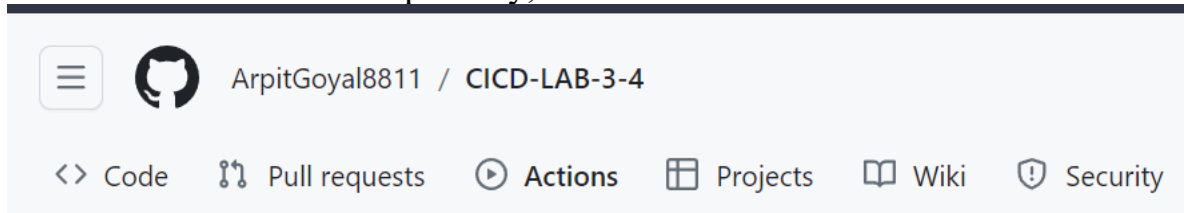


3. Commit and Push the changes on GitHub

```
+ DevOps git:(master) git add .
+ DevOps git:(master) x git commit -m "Initial Commit"
[master 5c76713] Initial Commit
1 file changed, 1 insertion(+), 5 deletions(-)
+ DevOps git:(master) x git push
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
```

4. Setup GitHub workflow for the project

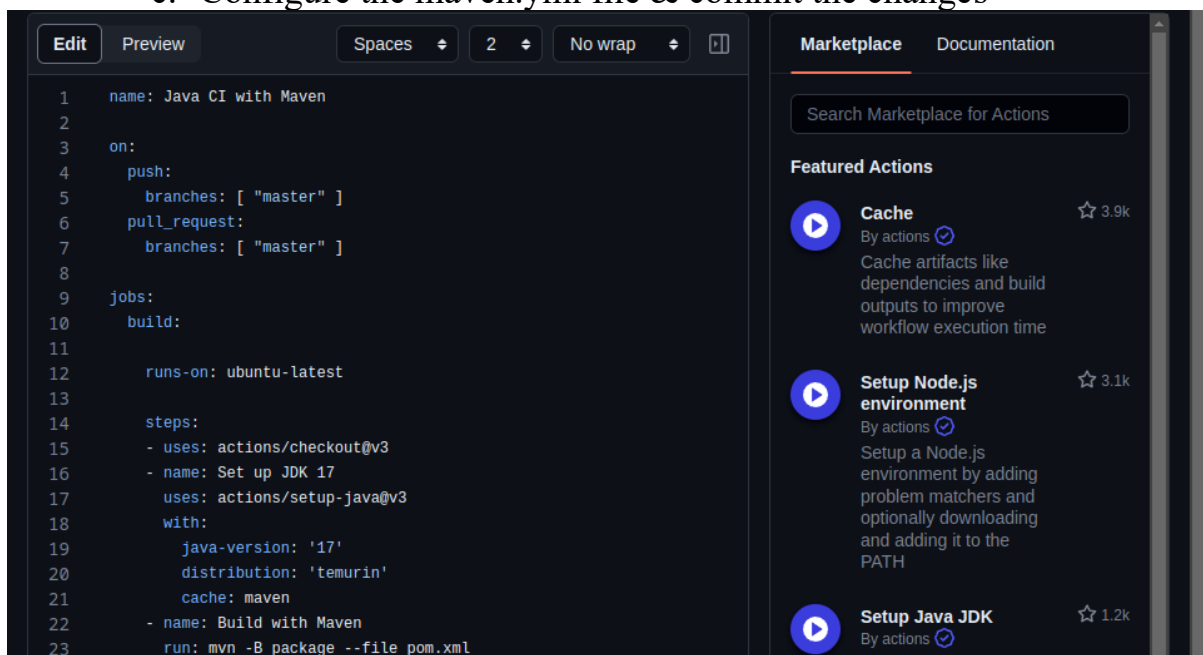
a. On GitHub repository, Go to Actions tab



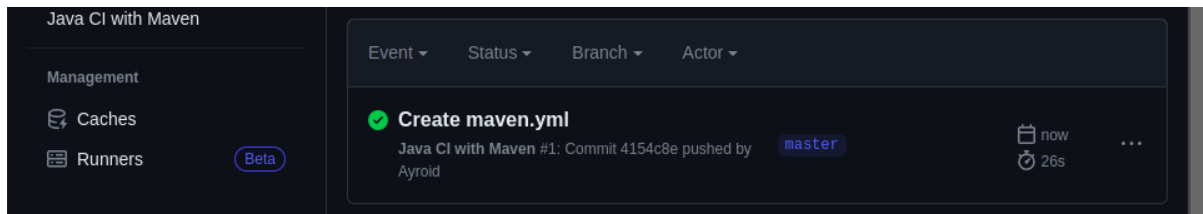
b. Select Java with Maven and click on Configure



c. Configure the maven.yml file & commit the changes



d. An automatic build will be triggered



5. Pull the updated code on local machine

```
+ CICD-EXP3 git:(master) ✗ git pull
Updating 5c76713..4154c8e
Fast-forward
 .github/workflows/maven.yml | 23 ++++++
 1 file changed, 23 insertions(+)
 create mode 100644 .github/workflows/maven.yml
+ CICD-EXP3 git:(master) ✗
```

6. Update the source code and push it on GitHub

```
+ CICD-EXP3 git:(master) ✗ git add .
+ CICD-EXP3 git:(master) ✗ git commit -m "Updated Source Code"
[master 24e3edf] Updated Source Code
 3 files changed, 10 insertions(+), 2 deletions(-)
+ CICD-EXP3 git:(master) ✗ git push
Enumerating objects: 23, done.
Counting objects: 100% (23/23), done.
```

7. Another automatic build will be triggered

