

# Experiment 1

## Setting Up a Jenkins Job

### for Maven Build

## Aim

Create a Jenkins job that builds a Maven project using Jenkins and triggers the build on changes in the version control repository.

## Steps

1. Create a maven project

a. Create the project

```
[INFO] project created from Old (1.x) Archetype in dir: /home/ayroid/Documents/Work/College/SEM5/Subjects/cicd/lab/Hite
shSir/exp1/exp1-jenkins
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 3.387 s
[INFO] Finished at: 2023-08-30T15:13:21+05:30
[INFO] -----
→ exp1
```

b. Create a package mypkg inside src/main/java/ and add myCalculator.java file

```
GNU nano 7.2 myCalculator.java
package mypkg;

public class myCalculator {
    public int add(int a, int b) {
        return a + b;
    }

    public int subtract(int a, int b) {
        return a - b;
    }

    public static void main(String[] args) {
        myCalculator myCalc = new myCalculator();
        System.out.println(myCalc.add(1, 2));
        System.out.println(myCalc.subtract(1, 2));
    }
}
```

b. In the project run git init command

```
→ exp1-jenkins git init
```

c. Link the local repository and the remote repository

```
→ exp1-jenkins git:(master) × git remote add origin https://github.com/Ayroid/exp1-jenkins.git
→ exp1-jenkins git:(master) ×
```

#### d. Add, Commit and Push the project

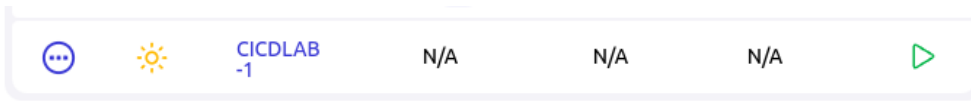
```
→ expl-jenkins git:(master) ✕ git add .
→ expl-jenkins git:(master) ✕ git commit -m "Project Initialized"
[master (root-commit) 56f9e9b] Project Initialized
3 files changed, 69 insertions(+)
create mode 100644 pom.xml
create mode 100644 src/main/java/ToolsQA/App.java
create mode 100644 src/test/java/ToolsQA/AppTest.java
→ expl-jenkins git:(master) git push --set-upstream origin master
Username for 'https://github.com': Ayroid
Password for 'https://Ayroid@github.com':
Enumerating objects: 12, done.
Counting objects: 100% (12/12), done.
Delta compression using up to 12 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (12/12), 1.28 KiB | 1.28 MiB/s, done.
Total 12 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Ayroid/exp1-jenkins.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
→ expl-jenkins git:(master) □
```

### 3. Install and start Jenkins

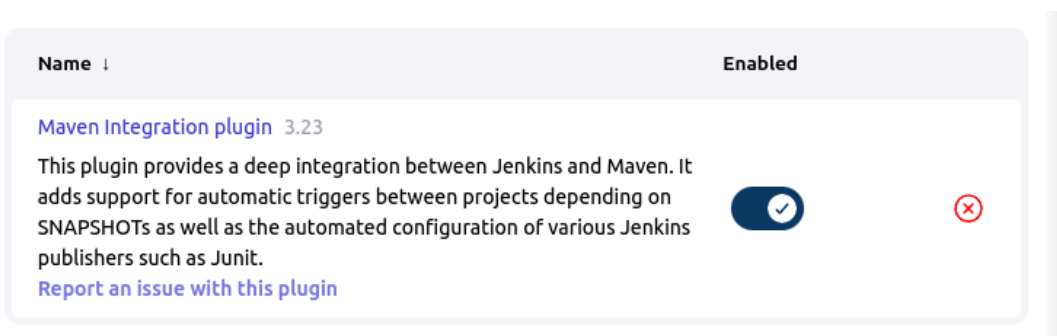
```
→ expl-jenkins git:(master) jenkins --version
2.414.1
→ expl-jenkins git:(master) □
```

#### 4. Create Jenkins job to clone GitHub project and make a build

##### a. Creating a maven project pipeline named CICDLAB-1

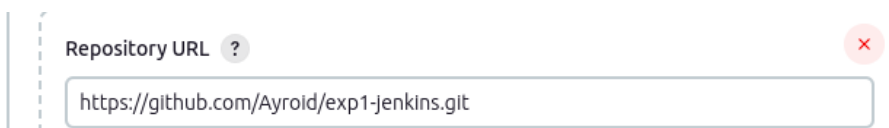


##### b. Installing maven integration plugin - Dashboard > Manage Jenkins > Plugins > Available plugins > Maven Integration plugin



##### c. Configuring the pipeline

###### i. Provide GitHub repository url in Dashboard > CICDLAB-1 > Configuration > Source Code Management > Git > Repositories > Repository URL



###### ii. Specify the branch in Dashboard > CICDLAB-1 > Configuration > Source Code Management > Git > Branches to build > Branch Specifier

Branches to build ?

Branch Specifier (blank for 'any') ?

\*/master

- iii. Specify Build Goal in Dashboard > CICDLAB-1 > Configuration > Build > Goals and options

Goals and options ?

Install

- iv. Save the changes

## 5. Execute the build

Status

 **Build #1 (30 Aug 2023, 17:10:09)**

Keep this build forever

</> Changes

Add description

Started 37 sec ago  
Took **6.7 sec**

## 6. Add Build Trigger for automated builds by scheduling them in Dashboard > CICDLAB-1 > Configuration > Build Triggers > Poll SCM > Schedule

☒ Poll SCM ?

Schedule ?

\*\*\*\*\*

## 6. Make changes to the project

```
public static int power(int a, int b) {
    int result = 1;
    for (int i = 0; i < b; i++) {
        result *= a;
    }
    return result;
}
```

## 7. Commit and Push the changes

```
+ expl-jenkins git:(master) x git add .
+ expl-jenkins git:(master) x git commit -m "Added power calculation method"
[master 00ccf4d] Added power calculation method
2 files changed, 9 insertions(+)
+ expl-jenkins git:(master) git push
Username for 'https://github.com': Ayroid
Password for 'https://Ayroid@github.com':
Enumerating objects: 21, done.
```

8. An automated build is triggered

Dashboard > CICDLAB-1 > #2

#### Status

**</> Changes**

#### Console Output

 [Edit Build Information](#)

 Delete build '#2'

 Polling Log Git Build Data

#### Test Result

 Redeploy Artifacts See Fingerprints

[← Previous Build](#)



✔ Build #2 (30 Aug 2023, 17:20:12)

Keep this build forever

Started 25 sec ago

Took 6.4 sec

 Add description



## Changes

### 1. Added power calculation method ([details](#) / [githubweb](#))



### Started by an SCM change



**Revision:** 00ccf4d6f3c7462831f08a1e5739b21aaaf94da8

**Repository:** <https://github.com/Ayroid/exp1-jenkins.git>

- refs/remotes/origin/master



**Test Result** (no failures)

## Module Builds



exp1-jenkins

2.9 sec