

Experiment 1

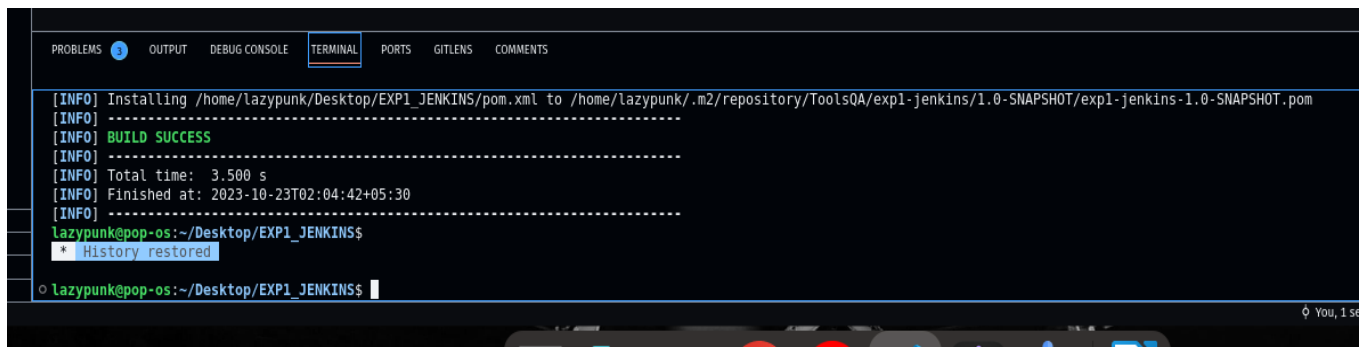
Setting Up a Jenkins Job for Maven Build

Aim

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

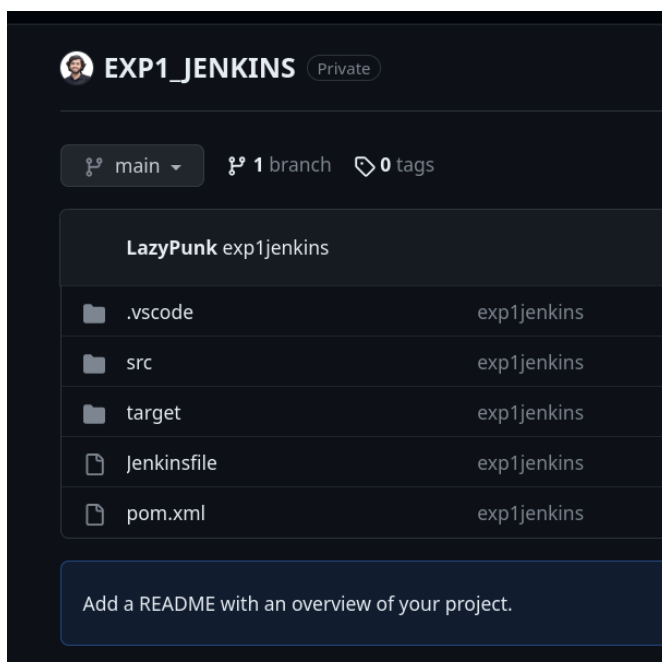
Steps

1. Create a maven project



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS COMMENTS
[INFO] Installing /home/lazypunk/Desktop/EXP1_JENKINS/pom.xml to /home/lazypunk/.m2/repository/ToolsQA/exp1-jenkins/1.0-SNAPSHOT/exp1-jenkins-1.0-SNAPSHOT.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 3.500 s
[INFO] Finished at: 2023-10-23T02:04:42+05:30
[INFO] -----
lazypunk@pop-os:~/Desktop/EXP1_JENKINS$
* History restored
o lazypunk@pop-os:~/Desktop/EXP1_JENKINS$
```

2. Create a github repository and push the code



3. Install and start Jenkins

PROBLEMS 3 OUTPUT DEBUG CONSOLE **TERMINAL** PORTS GITLENS COMMENTS

```
● lazypunk@pop-os:~/Desktop/EXP1_JENKINS$ jenkins --version
2.428
○ lazypunk@pop-os:~/Desktop/EXP1_JENKINS$
```

```

* Lazypunk@pop-os: ~/Desktop/EXPI_JENKINS$ jenkins
Running from: /usr/share/java/jenkins.war
webroot: /home/lazypunk/.jenkins/war
2023-10-22 20:47:17.323+0000 [id=1] INFO winstone.Logger#logInternal: Beginning extraction from war file
2023-10-22 20:47:17.378+0000 [id=1] WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
2023-10-22 20:47:17.447+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStart: jetty-10.0.17; built: 2023-10-17T00:00:00
2023-10-22 20:47:17.472+0000 [id=1] INFO org.eclipse.jetty.server.Server#doStop: Stopped Server@51931956
2023-10-22 20:47:17.473+0000 [id=1] INFO winstone.Logger#logInternal: Jetty shutdown successfully
java.io.IOException: Failed to start Jetty
    at winstone.Launcher.<init>(Launcher.java:209)
    at winstone.Launcher.main(Launcher.java:496)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
    at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.base/java.lang.reflect.Method.invoke(Method.java:566)
    at executable.Main.main(Main.java:351)
Caused by: java.io.IOException: Failed to bind to 0.0.0.0/0.0.0.0:8080
    at org.eclipse.jetty.server.ServerConnector.openAcceptChannel(ServerConnector.java:344)
    at org.eclipse.jetty.server.ServerConnector.open(ServerConnector.java:304)
    at org.eclipse.jetty.server.Server.lambda$doStart$0(Server.java:402)
    at java.base/java.util.stream.ForEachOps$ForEachOp$OfRef.accept(ForEachOps.java:183)

```

4. Go to manage Jenkins and check if the maven plugin is installed or not. Manage Jenkins -> plugins -> installed plugins -> check for maven

Maven Integration plugin 3.23 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pipeline Maven Integration Plugin 1345.va_0ef5530a_Sca_ This plugin provides integration with Pipeline, configures maven environment to use within a pipeline job by calling sh mvn or bat mvn. The selected maven installation will be configured and prepended to the path. Report an issue with this plugin	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pipeline Maven Plugin API 1345.va_0ef5530a_Sca_ Pipeline Maven Plugin API	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

- a. Creating a maven project pipeline named CICD-LAB-1

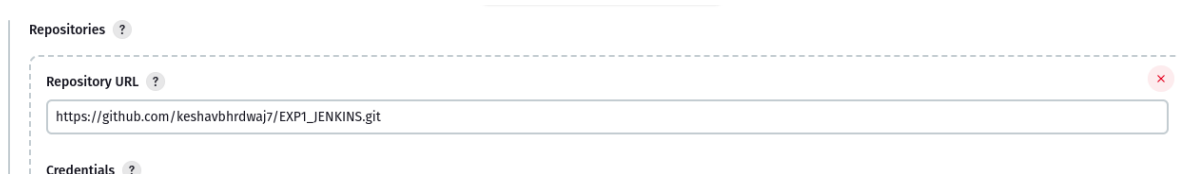
Enter an item name

CICD-LAB-1

» Required field

b. Configuring the pipeline

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



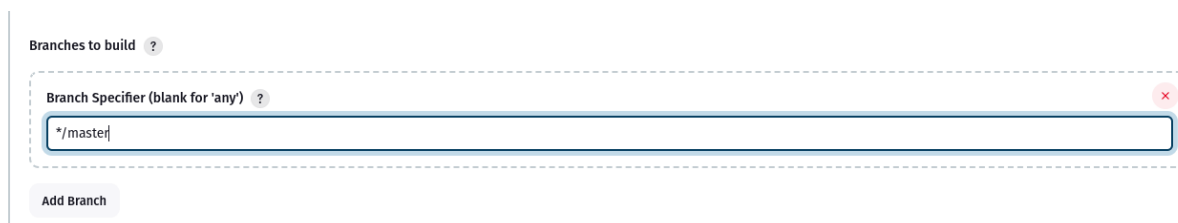
Repositories ?

Repository URL ? ✕

https://github.com/keshabhirdwaj7/EXP1_JENKINS.git

Credentials ?

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

Add Branch

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



Goals and options ?

install

Advanced ▾


iv. Save the changes





Save Apply

6. Execute the build

✓ #2 (Oct 23, 2023, 2:39:57 AM)

 No changes.

 Started by user [Keshav Bhardwaj](#)

 **Revision:** 93efbbebd4775245047185ae9683c8e1dc7a4ecd
Repository: https://github.com/keshavbhrdwaj7/EXP1_JENKINS.git

- refs/remotes/origin/main

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

Schedule ?

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

Would last have run at Monday, October 23, 2023 at 2:41:54 AM India Standard Time; would next run at Monday, October 23, 2023 at 2:41:54 AM India Standard Time.

8. Make changes to the project.

Here i am adding a new operator , eg. modulus.

```
public static int modulus(int a, int b) throws ArithmeticException {
    if (b == 0) {
        throw new ArithmeticException("Modulus by zero is not allowed.");
    }
    return a % b;
}
```

9. Committing and Pushing the changes

```
Everything up-to-date
• lazypunk@pop-os:~/Desktop/EXP1_JENKINS$ git commit -m "update in exp 1"
[main 1d1f8dd] update in exp 1
Committer: LazyPunk <lazypunk@pop-os.localdomain>
Your name and email address were configured automatically based
```

Pushing

```
rewrite target/test-classes/ToolsQA/AppTest.class (98%)
• lazypunk@pop-os:~/Desktop/EXP1_JENKINS$ git push
Enumerating objects: 57, done.
Counting objects: 100% (57/57), done.
Delta compression using up to 16 threads
Compressing objects: 100% (17/17), done.
Writing objects: 100% (30/30), 5.47 KiB | 1.82 MiB/s, done.
Total 30 (delta 5), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (5/5), completed with 5 local objects.
To https://github.com/keshavbhrdwaj7/EXP1_JENKINS.git
 93efbbe..1d1f8dd main -> main
```

10. An automated build is triggered

✓ #3 (Oct 23, 2023, 2:49:42 AM)



Changes

1. update in exp 1 ([details](#) / [githubweb](#))



Started by user [Keshav Bhardwaj](#)



Revision: 1d1f8dd8d0bc5f3e04077b3f68d83a6450dd7d23

Repository: https://github.com/keshavbhrdwaj7/EXP1_JENKINS.git

- refs/remotes/origin/main