Jenkins Demo and class activities

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Installing Jenkins

1. Install Java
2. Download Jenkins:
   - Go to the official Jenkins website to download the Windows installer (.msi file). Jenkins provides a 32-bit and 64-bit installer, so choose the one that matches your system architecture.
   - Here's the download link: https://www.jenkins.io/download/

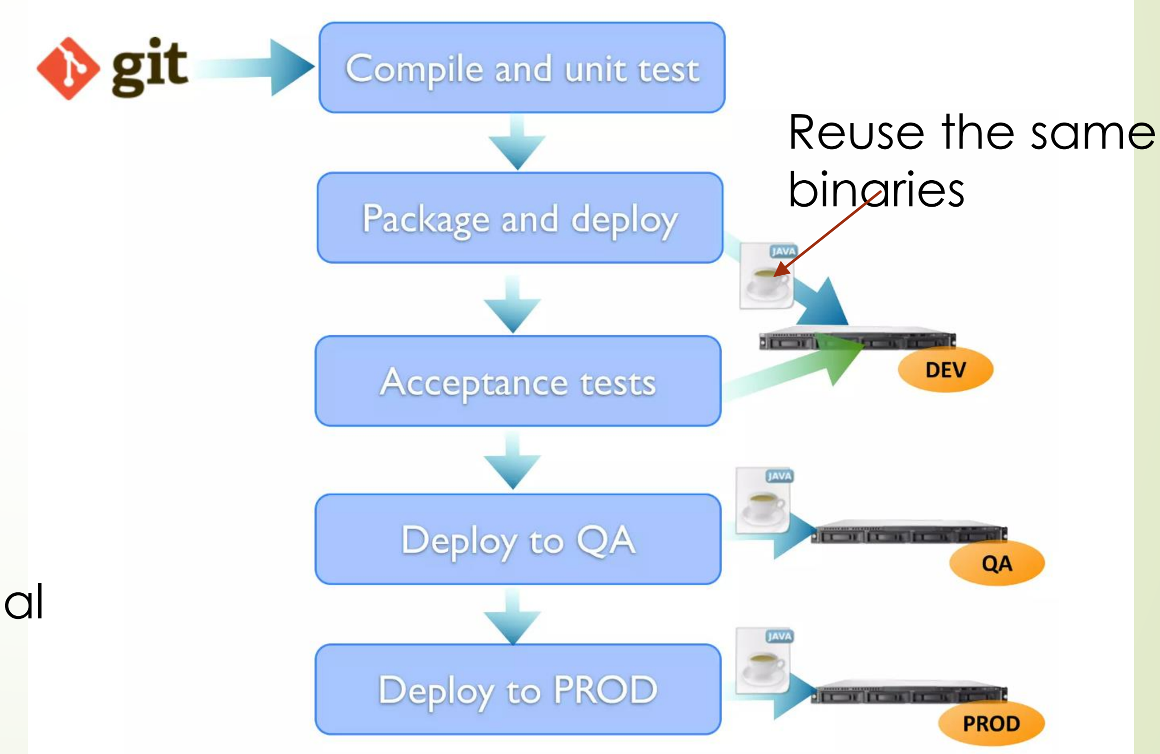
3. Follow the instructions and the proper configurations

Access Jenkins

1.Open a web browser and access Jenkins by navigating to http://localhost:8080
2.(or the port you specified during installation if different). If Jenkins is running as a service, you can access it using your computer's hostname or IP address.
2.Unlock Jenkins: To unlock Jenkins, follow the instructions displayed on the initial setup page.
3.You'll need to retrieve the initial admin password from the Jenkins installation directory (usually **C:\Program Files (x86)\Jenkins\secrets\initialAdminPassword**)and paste it into the setup wizard.
3.Install Additional Plugins (Optional): After unlocking Jenkins, you can choose to install additional plugins based on your specific needs.
4.Start Using Jenkins: Once Jenkins is set up and configured, you can start creating and configuring Jenkins jobs (pipelines) for your CI/CD processes.
That's it! You've successfully installed Jenkins on your Windows system, and you can now use it to automate your build, test, and deployment processes.

Principle of CI

1. Every build is a potential release
2. Eliminate manual bottlenecks
3. Automate wherever possible
4. Automatic test that you can trust

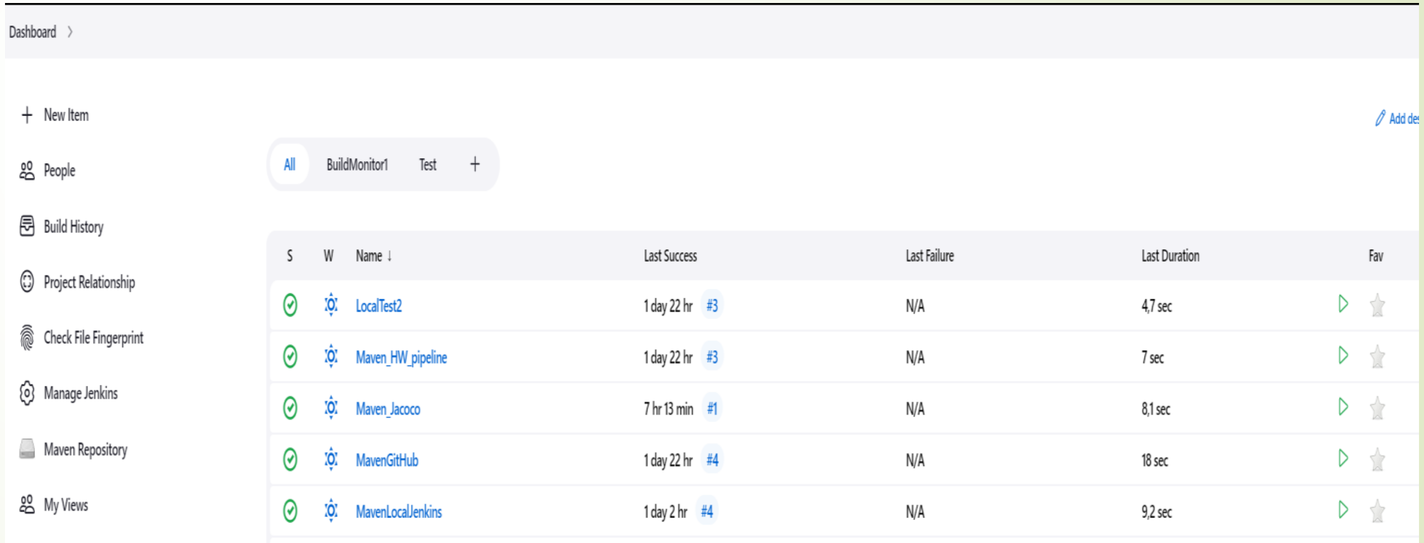


Reuse the same binaries

Each commit is a potential release

Why Jenkins?

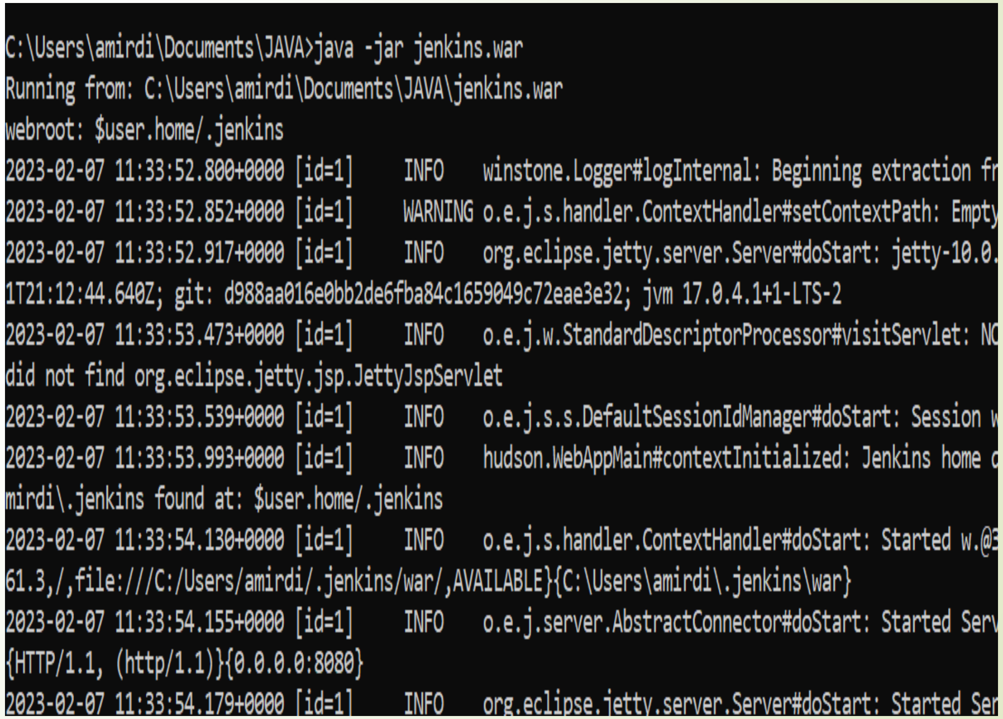
- Web-based admin
- Flexible
- Distributed build and test
- Provides a plug almost for all existing tools
  - Various artifact repos
  - Various triggers
  - Authentication System
  - Very rich set of reporting components



S	W	Name ↓	Last Success	Last Failure	Last Duration	Fav
✓	☼	LocalTest2	1 day 22 hr #3	N/A	4,7 sec	▷ ☆
✓	☼	Maven_HW_pipeline	1 day 22 hr #3	N/A	7 sec	▷ ☆
✓	☼	Maven_Jacoco	7 hr 13 min #1	N/A	8,1 sec	▷ ☆
✓	☼	MavenGitHub	1 day 22 hr #4	N/A	18 sec	▷ ☆
✓	☼	MavenLocalJenkins	1 day 2 hr #4	N/A	9,2 sec	▷ ☆

Run and download Jenkins

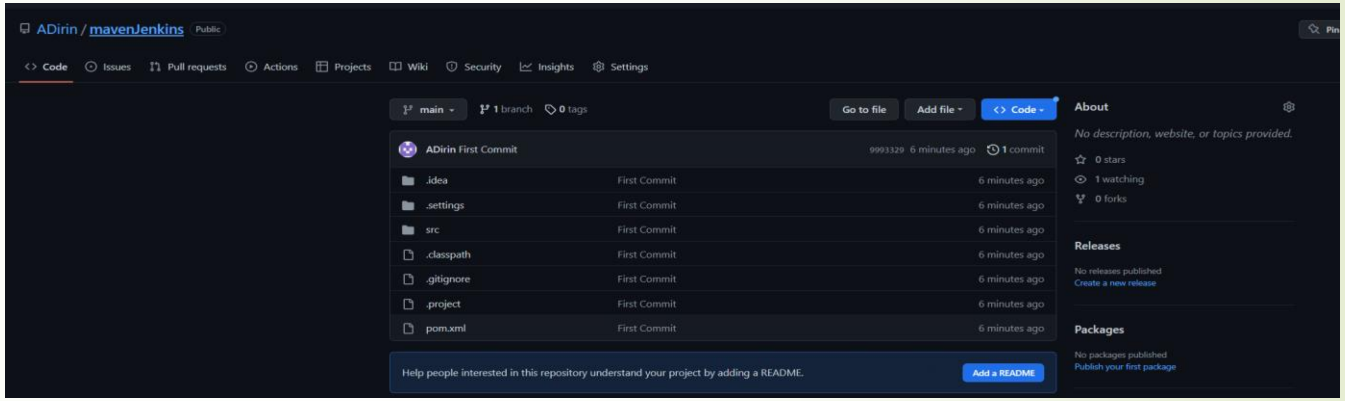
1. [Download Jenkins Generic Java package (.war)]()
2. Open up a terminal in the download directory
3. Run *java –jar Jenkins.war*
4. *Browse to [http://localhost:8080]()*
5. *Follow the instructions to complete the installation*



```
C:\Users\amirdi\Documents\JAVA>java -jar jenkins.war
Running from: C:\Users\amirdi\Documents\JAVA\jenkins.war
webroot: $user.home/.jenkins
2023-02-07 11:33:52.800+0000 [id=1]     INFO    winstone.Logger#logInternal: Beginning extraction fr
2023-02-07 11:33:52.852+0000 [id=1]     WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty
2023-02-07 11:33:52.917+0000 [id=1]     INFO    org.eclipse.jetty.server.Server#doStart: jetty-10.0.
1T21:12:44.640Z; git: d988aa016e0bb2de6fba84c1659049c72eae3e32; jvm 17.0.4.1+1-LTS-2
2023-02-07 11:33:53.473+0000 [id=1]     INFO    o.e.j.w.StandardDescriptorProcessor#visitServlet: NO
did not find org.eclipse.jetty.jsp.JettyJspServlet
2023-02-07 11:33:53.539+0000 [id=1]     INFO    o.e.j.s.s.DefaultSessionIdManager#doStart: Session w
2023-02-07 11:33:53.993+0000 [id=1]     INFO    hudson.WebAppMain#contextInitialized: Jenkins home d
mirdi\.jenkins found at: $user.home/.jenkins
2023-02-07 11:33:54.130+0000 [id=1]     INFO    o.e.j.s.handler.ContextHandler#doStart: Started w.@3
61.3,/,file:///C:/Users/amirdi/.jenkins/war/,AVAILABLE}{C:\Users\amirdi\.jenkins\war}
2023-02-07 11:33:54.155+0000 [id=1]     INFO    o.e.j.server.AbstractConnector#doStart: Started Serv
{HTTP/1.1, (http/1.1)}{0.0.0.0:8080}
2023-02-07 11:33:54.179+0000 [id=1]     INFO    org.eclipse.jetty.server.Server#doStart: Started Ser
```

Example of CICD pipeline with Maven

1. You need to have your Github repo with a Maven project



ADirin / mavenJenkins Public

ADirin First Commit 9993329 6 minutes ago 1 commit

.idea	First Commit	6 minutes ago
.settings	First Commit	6 minutes ago
src	First Commit	6 minutes ago
.classpath	First Commit	6 minutes ago
.gitignore	First Commit	6 minutes ago
.project	First Commit	6 minutes ago
pom.xml	First Commit	6 minutes ago

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

About

No description, website, or topics provided.

0 stars

1 watching

0 forks

Releases

No releases published

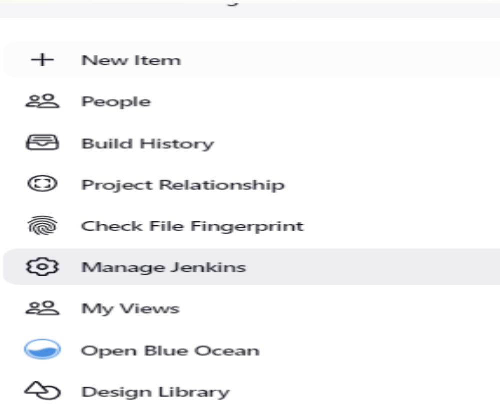
Create a new release

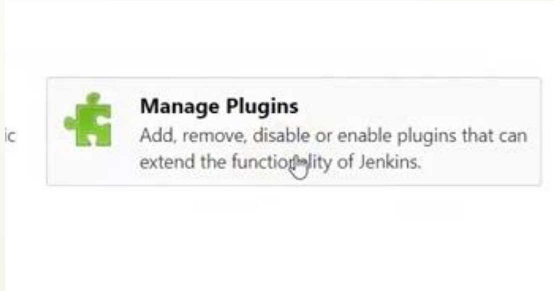
Packages

No packages published

Publish your first package

2. Maven Jenkins plugin
3. You have to manage Jenkins and add the plug-ins
4. Restart the Jenkins and then new item



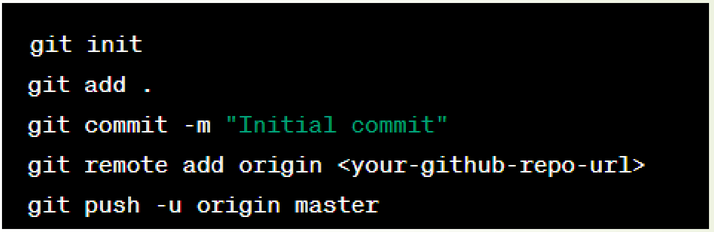


Manage Plugins

Add, remove, disable or enable plugins that can extend the functionality of Jenkins.

How to do class assignment

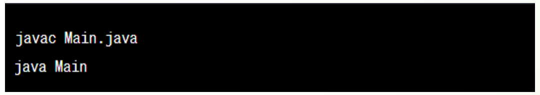
1. Create a Simple Java Application
2. Version control (GitHub)



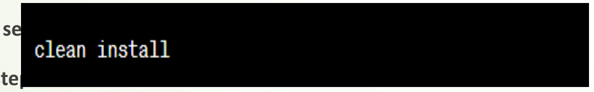
```
git init
git add .
git commit -m "Initial commit"
git remote add origin <your-github-repo-url>
git push -u origin master
```

3. Set Up Jenkins
   - Install Jenkins on your server or local machine. Follow the official Jenkins installation guide: Jenkins Installation

4. Create a Jenkins Job
   - Open Jenkins in your browser and create a new Freestyle Project.
   - Configure your Jenkins job:
     1. In the "Source Code Management" se
     2. In the "Build" section, add a build ste



```
javac Main.java
java Main
```



```
clean install
```

5. Save and build
   1. Save your Jenkins job configuration and trigger a build. Jenkins will fetch your code, compile it, and execute the Java application.

6. View Console output
   1. After the build is complete, check the console output to see the "Hello, Jenkins!" message.