# 소프트웨어공학 jenkins 데모 실습 과제

컴퓨터공학전공 B911151 이채린

jenkins.war 설치 -> cmd java -jar jenkins.war --httpPort=10001 실행

```
chaerin@chaelin-ui-MacBookPro  ~/Desktop  java -jar jenkins.war  --httpPort=9000
Running from: /Users/chaerin/Desktop/jenkins.war
webroot: /Users/chaerin/.jenkins/war
2023-05-26 08:10:39.419+0000 [id=1]    INFO    winstone.Logger#logInternal: Beginning extraction from war file
2023-05-26 08:10:41.446+0000 [id=1]    WARNING o.e.j.s.handler.ContextHandler#setContextPath: Empty contextPath
2023-05-26 08:10:41.562+0000 [id=1]    INFO    org.eclipse.jetty.server.Server#doStart: jetty-10.0.13; built: 2022-12-07T20:
13:20.134Z; git: 1c2636ea05c0ca8de1ffd6ca7f3a98ac084c766d; jvm 11.0.14+8-LTS-263
2023-05-26 08:10:42.148+0000 [id=1]    INFO    o.e.j.w.StandardDescriptorProcessor#visitServlet: NO JSP Support for /, did n
ot find org.eclipse.jetty.jsp.JettyJspServlet
2023-05-26 08:10:42.274+0000 [id=1]    INFO    o.e.j.s.s.DefaultSessionIdManager#doStart: Session workerName=node0
2023-05-26 08:10:43.115+0000 [id=1]    INFO    hudson.WebAppMain#contextInitialized: Jenkins home directory: /Users/chaerin/
.jenkins found at: $user.home/.jenkins
2023-05-26 08:10:44.912+0000 [id=1]    INFO    o.e.j.s.handler.ContextHandler#doStart: Started w.@3d37203b{Jenkins v2.387.3,
/,file:///Users/chaerin/.jenkins/war/,AVAILABLE}{/Users/chaerin/.jenkins/war}
2023-05-26 08:10:44.950+0000 [id=1]    INFO    o.e.j.server.AbstractConnector#doStart: Started ServerConnector@395b56bb{HTTP
/1.1, (http/1.1)}{0.0.0.0:9000}
2023-05-26 08:10:44.995+0000 [id=1]    INFO    org.eclipse.jetty.server.Server#doStart: Started Server@4409e975{STARTING}[10
.0.13,sto=0] @6558ms
2023-05-26 08:10:45.000+0000 [id=26]   INFO    winstone.Logger#logInternal: Winstone Servlet Engine running: controlPort=dis
abled
2023-05-26 08:10:45.409+0000 [id=33]   INFO    jenkins.InitReactorRunner$1#onAttained: Started initialization
2023-05-26 08:10:45.472+0000 [id=43]   INFO    jenkins.InitReactorRunner$1#onAttained: Listed all plugins
2023-05-26 08:10:46.995+0000 [id=37]   INFO    jenkins.InitReactorRunner$1#onAttained: Prepared all plugins
2023-05-26 08:10:47.013+0000 [id=33]   INFO    jenkins.InitReactorRunner$1#onAttained: Started all plugins
2023-05-26 08:10:47.041+0000 [id=33]   INFO    jenkins.InitReactorRunner$1#onAttained: Augmented all extensions
2023-05-26 08:10:47.411+0000 [id=31]   INFO    jenkins.InitReactorRunner$1#onAttained: System config loaded
2023-05-26 08:10:47.413+0000 [id=33]   INFO    jenkins.InitReactorRunner$1#onAttained: System config adapted
2023-05-26 08:10:47.414+0000 [id=32]   INFO    jenkins.InitReactorRunner$1#onAttained: Loaded all jobs
2023-05-26 08:10:47.419+0000 [id=37]   INFO    jenkins.InitReactorRunner$1#onAttained: Configuration for all jobs updated
2023-05-26 08:10:47.557+0000 [id=59]   INFO    hudson.util.Retrier#start: Attempt #1 to do the action check updates server
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.codehaus.groovy.vmplugin.v7.Java7$1 (file:/Users/chaerin/.jenkins/war/WEB-INF/lib/g
roovy-all-2.4.21.jar) to constructor java.lang.invoke.MethodHandles$Lookup(java.lang.Class,int)
WARNING: Please consider reporting this to the maintainers of org.codehaus.groovy.vmplugin.v7.Java7$1
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
2023-05-26 08:10:48.260+0000 [id=43]   INFO    jenkins.install.SetupWizard#init:
```

**Getting Started**

# Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log (**not sure where to find it?**) and this file on the server:

`/Users/chaerin/.jenkins/secrets/initialAdminPassword`

Please copy the password from either location and paste it below.

**Administrator password**

발급받은 비밀번호 입력 후 접속 성공

2. Jenkins의 manage jenkins 에서 시스템 설정, global tool config, manage plugins 등등을 둘러 보았으나 과제로 사진을 캡쳐하여 올리지 않습니다.

manage jenkins->global tool config -> JAVA_HOME, MAVEN_HOME 설정해 둡니다

3. 첫 번째 job을 free style job으로 만들어서 java --version, mvn --version 을 두 개의 build step으로 만들어서 빌드 해 성공하는지 봅니다.

```
Started by user 이채린
Running as SYSTEM
Building in workspace /Users/chaerin/.jenkins/workspace/FirstJob
[FirstJob] $ /bin/sh -xe /var/folders/65/k_31c1790955zqwrgv6x9yj00000gn/T/jenkins7817524309917187090.sh
+ java --version
java 11.0.14 2022-01-18 LTS
Java(TM) SE Runtime Environment 18.9 (build 11.0.14+8-LTS-263)
Java HotSpot(TM) 64-Bit Server VM 18.9 (build 11.0.14+8-LTS-263, mixed mode)
[FirstJob] $ /bin/sh -xe /var/folders/65/k_31c1790955zqwrgv6x9yj00000gn/T/jenkins8437290875758579189.sh
+ mvn --version
Apache Maven 3.9.2 (c9616018c7a021c1c39be70fb2843d6f5f9b8a1c)
Maven home: /opt/homebrew/Cellar/maven/3.9.2/libexec
Java version: 11.0.14, vendor: Oracle Corporation, runtime: /Library/Java/JavaVirtualMachines/jdk-
11.0.14.jdk/Contents/Home
Default locale: ko_KR, platform encoding: UTF-8
OS name: "mac os x", version: "13.3.1", arch: "x86_64", family: "mac"
+ git --version
git version 2.41.0
Finished: SUCCESS
```

4. 두 번째 free style job에서 cd to directory of pom.xml, mvn clean test 를 실행시켜 봅니다.

✅ 콘솔 출력

```
Started by user 이채린
Running as SYSTEM
Building in workspace /Users/chaerin/.jenkins/workspace/SecondJob
[SecondJob] $ /bin/sh -xe
/var/folders/65/k_31c1790955zqwrgv6x9yj00000gn/T/jenkins2805974143178292624.sh
+ cd /Users/chaerin/Desktop/selenium
+ mvn clean test
[INFO] Scanning for projects...
[INFO]
[INFO] -------------------------< org.example:swe >--------------------------
[INFO] Building swe 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- clean:3.2.0:clean (default-clean) @ swe ---
[INFO] Deleting /Users/chaerin/Desktop/selenium/target
[INFO]
[INFO] --- resources:3.3.0:resources (default-resources) @ swe ---
[INFO] Copying 0 resource
[INFO]
[INFO] --- compiler:3.10.1:compile (default-compile) @ swe ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- resources:3.3.0:testResources (default-testResources) @ swe ---
[INFO] skip non existing resourceDirectory /Users/chaerin/Desktop/selenium/src/test/resources
[INFO]
[INFO] --- compiler:3.10.1:testCompile (default-testCompile) @ swe ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to /Users/chaerin/Desktop/selenium/target/test-classes
[INFO] /Users/chaerin/Desktop/selenium/src/test/java/HwTest.java:
/Users/chaerin/Desktop/selenium/src/test/java/HwTest.java uses unchecked or unsafe operations.
[INFO] /Users/chaerin/Desktop/selenium/src/test/java/HwTest.java: Recompile with -Xlint:unchecked for
details.
```

```
[INFO] Running HwTest
6월 02, 2023 9:28:11 오후 org.openqa.selenium.manager.SeleniumManager getDriverPath
INFO: Applicable driver not found; attempting to install with Selenium Manager (Beta)
SLF4J: No SLF4J providers were found.
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See https://www.slf4j.org/codes.html#noProviders for further details.
Starting ChromeDriver 113.0.5672.63 (0e1a4471d5ae5bf128b1bd8f4d627c8cbd55f70c-refs/bran
heads/5672@{#912}) on port 16251
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on
ChromeDriver safe.
ChromeDriver was started successfully.
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 120.117 s - in H
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  02:08 min
[INFO] Finished at: 2023-06-02T21:30:12+09:00
[INFO] ------------------------------------------------------------------------
[WARNING]
[WARNING] Plugin validation issues were detected in 2 plugin(s)
[WARNING]
[WARNING]  * org.apache.maven.plugins:maven-compiler-plugin:3.10.1
[WARNING]  * org.apache.maven.plugins:maven-resources-plugin:3.3.0
[WARNING]
[WARNING] For more or less details, use 'maven.plugin.validation' property with one of
insensitive): [BRIEF, DEFAULT, VERBOSE]
[WARNING]
Finished: SUCCESS
```

5. maven plugin 에서 -> maven integration plugin을 설치하여 위와 동일한 내용의 job을 maven project 로 만들어 실행 해 봅니다.

| 이름 ↓ | 사용가능 |
|---|---|
| **Maven Integration plugin** 3.22<br>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.<br>Report an issue with this plugin | ✓ |

**Build**

Root POM  ?

/Users/chaerin/Desktop/selenium/pom.xml

Goals and options  ?

clean test

```
Started by user 이채린
Running as SYSTEM
Building in workspace /Users/chaerin/.jenkins/workspace/ThirdJob
Parsing POMs
Modules changed, recalculating dependency graph
Established TCP socket on 50337
[selenium] $ /Library/Java/JavaVirtualMachines/jdk-11.0.14.jdk/Contents/Home/bin/java -cp /Users/chaerin/.jenkins/plugins/maven-plugin/WEB-
INF/lib/maven35-agent-1.14.jar:/opt/homebrew/Cellar/maven/3.9.2/libexec/boot/plexus-classworlds-
2.7.0.jar:/opt/homebrew/Cellar/maven/3.9.2/libexec/conf/logging jenkins.maven3.agent.Maven35Main /opt/homebrew/Cellar/maven/3.9.2/libexec
/Users/chaerin/.jenkins/war/WEB-INF/lib/remoting-3107.v665000b_51092.jar /Users/chaerin/.jenkins/plugins/maven-plugin/WEB-INF/lib/maven35-
interceptor-1.14.jar /Users/chaerin/.jenkins/plugins/maven-plugin/WEB-INF/lib/maven3-interceptor-commons-1.14.jar 50337
<===[JENKINS REMOTING CAPACITY]===>channel started
Executing Maven:  -B -f /Users/chaerin/Desktop/selenium/pom.xml clean test
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< org.example:swe >--------------------------
[INFO] Building swe 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] --------------------------------[ jar ]---------------------------------
[INFO]
[INFO] --- clean:3.2.0:clean (default-clean) @ swe ---
[INFO] Deleting /Users/chaerin/Desktop/selenium/target
[INFO]
[INFO] --- resources:3.3.0:resources (default-resources) @ swe ---
[INFO] Copying 0 resource
[INFO]
[INFO] --- compiler:3.10.1:compile (default-compile) @ swe ---
```

6. 각자의 PC에 git이 설치되어 있지 않으면 git을 설치합니다.

```
chaerin@chaelin-ui-MacBookPro
git version 2.41.0
```

7. 각자의 github 계정에 Jenkins 데모를 위한 repository를 만들어 IntelliJ로 실습 해 보았던 Selenium JUnit test 프로젝트를 repository에 upload 합니다.
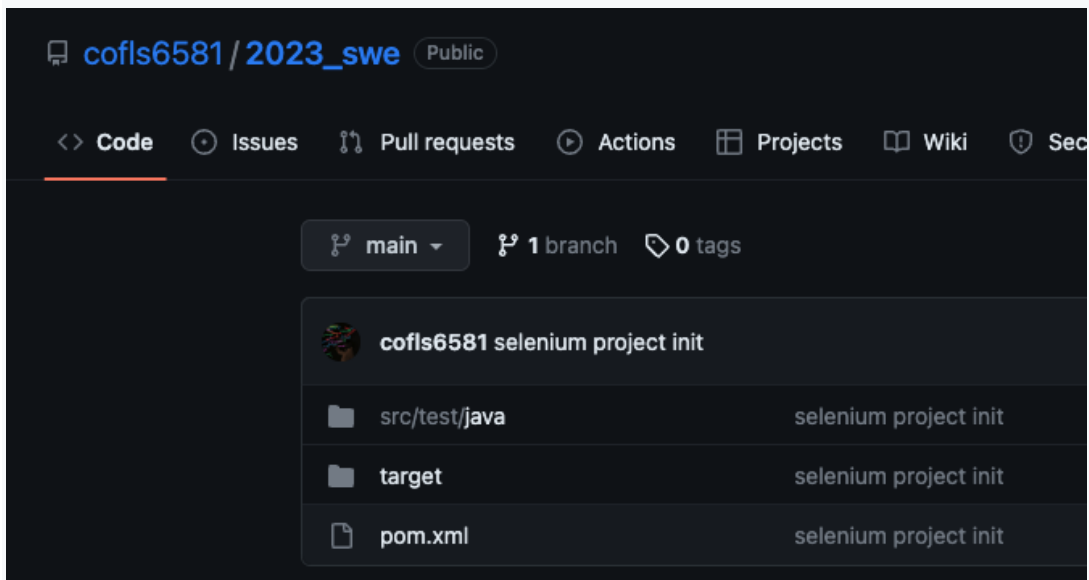


8. new item – Selenium Maven Github job을 만들고 –> source code management –> Git –> 각자의 repository url을 복사하여 git url에 입력 –> branch to build –> */main –> goals –> clean test –> apply & save –> build now 하여 console output 을 자세히 읽어 보고 각자의 PC의 ~/.jenkins/workspace/Selenium Maven Github 디렉토리를 확인 해 봅니다.

## ✅ 콘솔 출력

**Output**

**as plain text**

**수정**

**build '#1'**

**Data**

**sult**

**Artifacts**

**gerprints**

```
Started by user 이채린
Running as SYSTEM
Building in workspace /Users/chaerin/.jenkins/workspace/Selenium Maven Github job
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/cofls6581/2023_swe
 > git init /Users/chaerin/.jenkins/workspace/Selenium Maven Github job # timeout=10
Fetching upstream changes from https://github.com/cofls6581/2023_swe
 > git --version # timeout=10
 > git --version # 'git version 2.41.0'
 > git fetch --tags --force --progress -- https://github.com/cofls6581/2023_swe
+refs/heads/*:refs/remotes/origin/* # timeout=10
 > git config remote.origin.url https://github.com/cofls6581/2023_swe # timeout=10
 > git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
 > git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 219e9b284fee77dd6278e7928847071825285699 (refs/remotes/origin/main)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f 219e9b284fee77dd6278e7928847071825285699 # timeout=10
Commit message: "selenium project init"
First time build. Skipping changelog.
Parsing POMs
Discovered a new module org.example:swe swe
Modules changed, recalculating dependency graph
Established TCP socket on 50490
[Selenium Maven Github job] $ /Library/Java/JavaVirtualMachines/jdk-
11.0.14.jdk/Contents/Home/bin/java -cp /Users/chaerin/.jenkins/plugins/maven-plugin/WEB-
INF/lib/maven35-agent-1.14.jar:/opt/homebrew/Cellar/maven/3.9.2/libexec/boot/plexus-classworlds-
```

```
chaerin@chaelin-ui-MacBookPro    ~/.jenkins/workspace/Selenium Maven Github job
  ↳ 219e9b2 ±    ls
pom.xml  src    target
```