

Introduction to Maven





Agenda

- Apache Maven
- Objectives
- Repository
- How to Maven
- Project Object Model
- Command Line
- Maven Central

Maven

- What is Apache Maven?
 - Apache Maven is a software management and comprehension tool for java development

Maven

- Objectives
 - Dependency Management
 - Compile Source Code
 - Run Unit Test
 - Build Project
 - Deploy Code

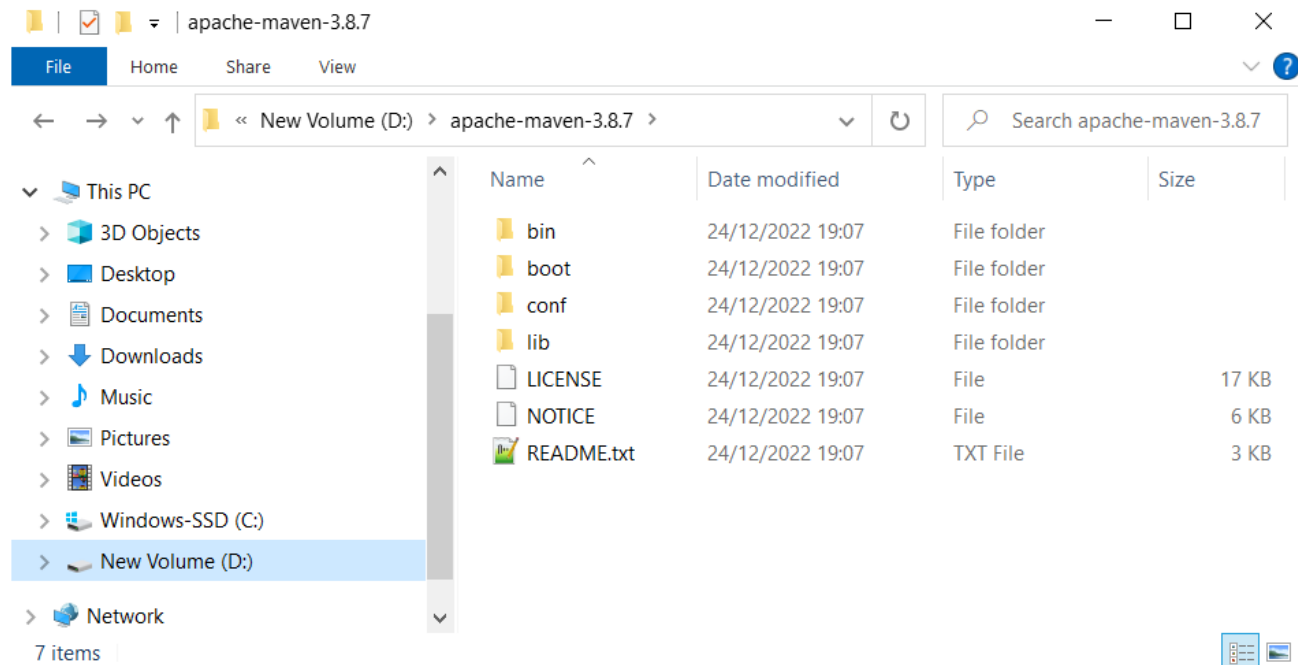


Maven

- Repository
 - Central Repository
 - maven repository or internet repository
 - Remote Repository
 - organization repository
 - Local Repository
 - client repository (cache into .m2 folder under user home directory)

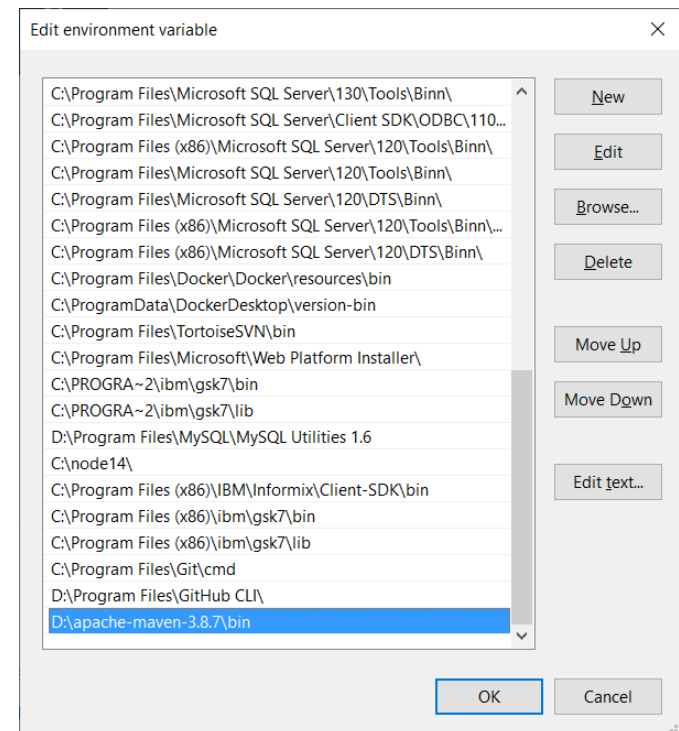
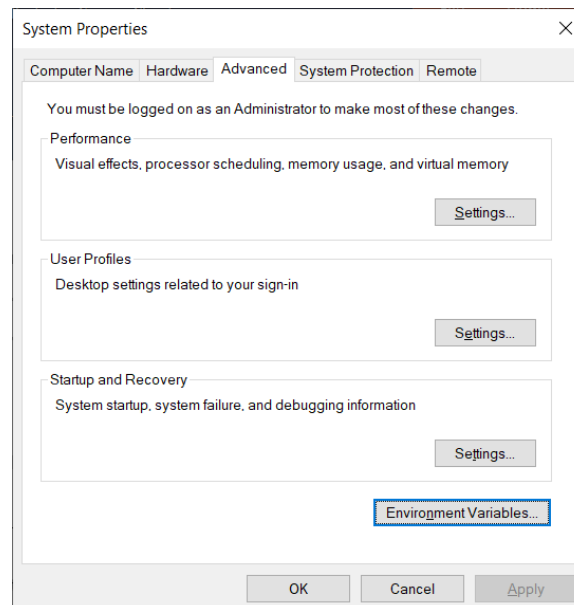
Maven

- How To Maven
 - Go to <https://maven.apache.org>
 - Download & Install
 - ex. apache-maven-3.8.7-bin.zip



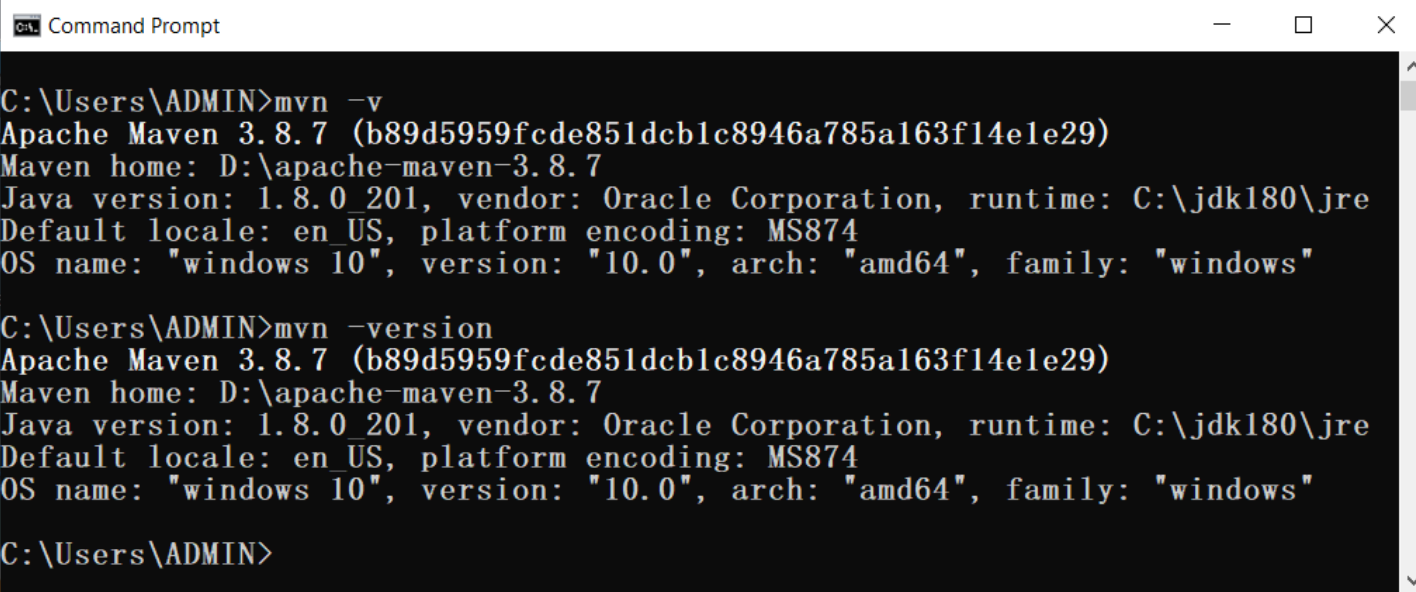
Maven

- How To Maven
 - Setting Environment
 - Settings -> System -> About -> Advanced System Setting -> Advanced -> Environment Variables



Maven

- How To Maven
 - Examine
 - mvn -v or mvn --version



```
Command Prompt

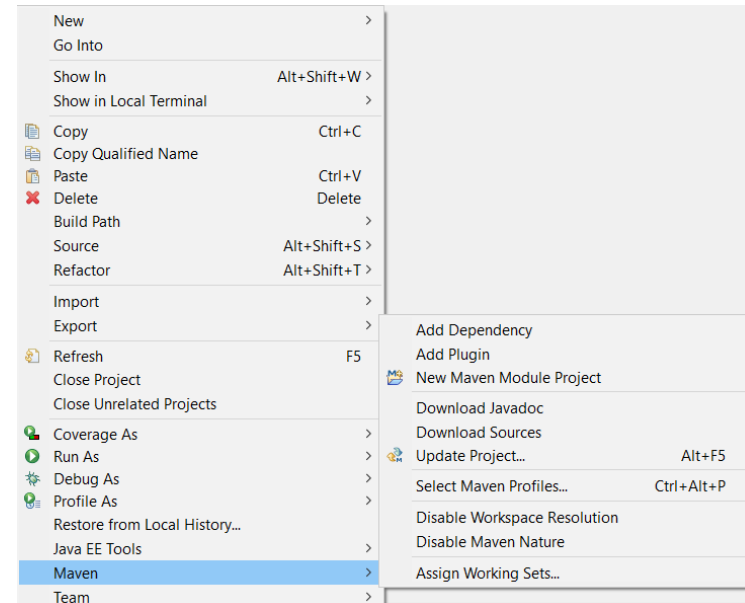
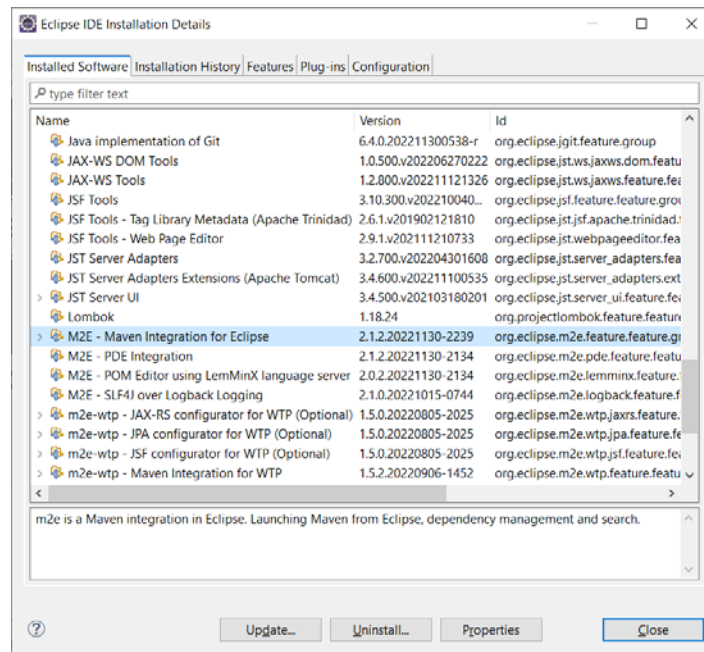
C:\Users\ADMIN>mvn -v
Apache Maven 3.8.7 (b89d5959fcde851dcb1c8946a785a163f14ele29)
Maven home: D:\apache-maven-3.8.7
Java version: 1.8.0_201, vendor: Oracle Corporation, runtime: C:\jdk180\jre
Default locale: en_US, platform encoding: MS874
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\ADMIN>mvn --version
Apache Maven 3.8.7 (b89d5959fcde851dcb1c8946a785a163f14ele29)
Maven home: D:\apache-maven-3.8.7
Java version: 1.8.0_201, vendor: Oracle Corporation, runtime: C:\jdk180\jre
Default locale: en_US, platform encoding: MS874
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\ADMIN>
```

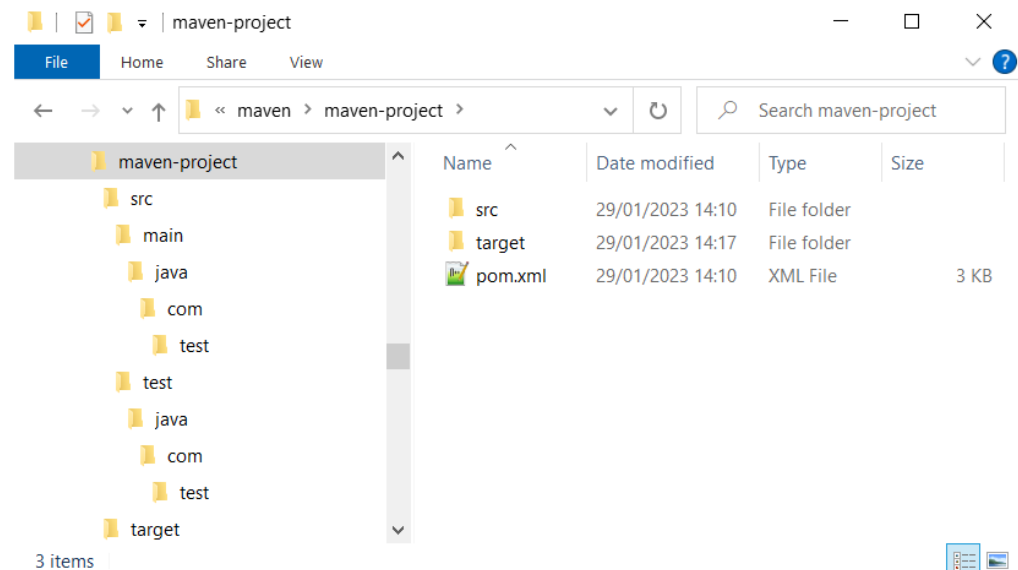

Maven

- How To Maven
 - IDE Plugin



Maven

- Project Structure
 - src folder – keep java file
 - target folder – keep class file
 - pom.xml – configuration file



Maven

- Project Object Model
 - pom.xml configuration file - I

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd"
<modelVersion>4.0.0</modelVersion>

<groupId>com.test</groupId>
<artifactId>maven-project</artifactId>
<version>1.0-SNAPSHOT</version>

<packaging>jar</packaging>

<name>maven-project</name>
<url>http://www.example.com</url>

<properties>
<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
<maven.compiler.source>1.8</maven.compiler.source>
<maven.compiler.target>1.8</maven.compiler.target>
</properties>

<dependencies>
<dependency>
<groupId>junit</groupId>
<artifactId>junit</artifactId>
<version>4.11</version>
<scope>test</scope>
</dependency>
</dependencies>
```

Project Information

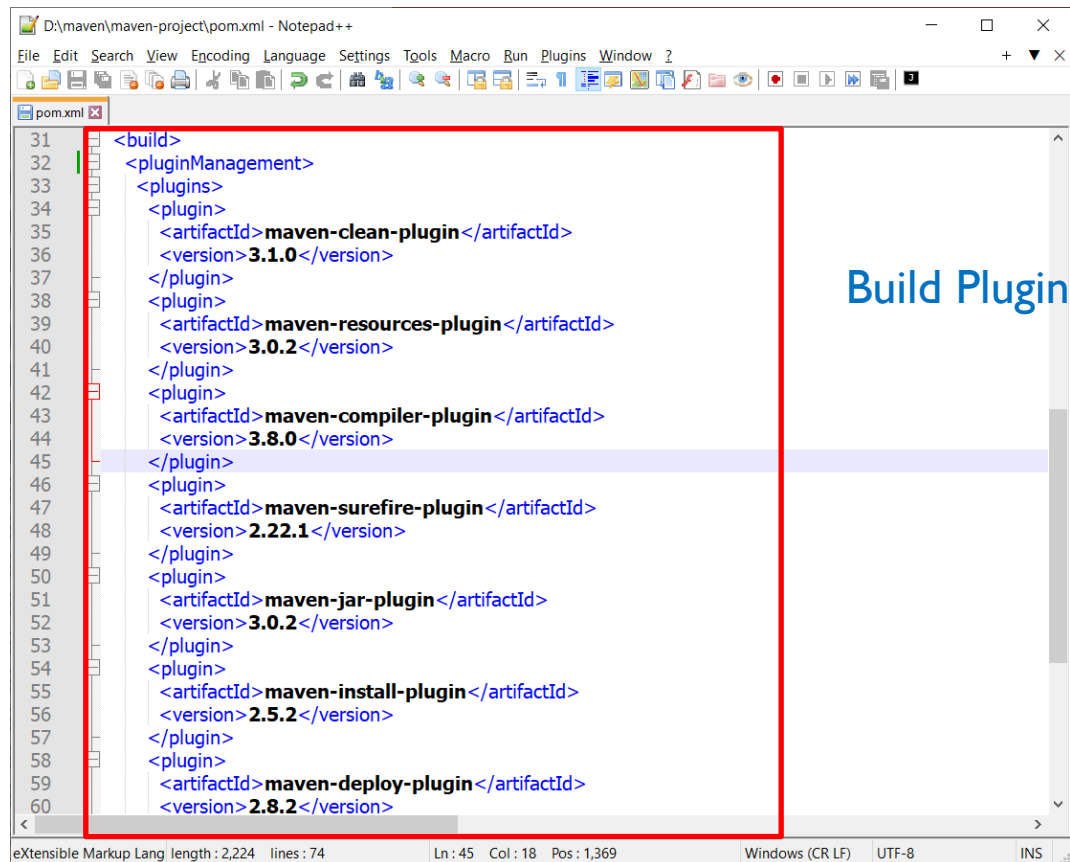
Output Result

Properties

Dependencies

Maven

- Project Object Model
 - pom.xml configuration file - II



```
31 <build>
32   <pluginManagement>
33     <plugins>
34       <plugin>
35         <artifactId>maven-clean-plugin</artifactId>
36         <version>3.1.0</version>
37       </plugin>
38       <plugin>
39         <artifactId>maven-resources-plugin</artifactId>
40         <version>3.0.2</version>
41       </plugin>
42       <plugin>
43         <artifactId>maven-compiler-plugin</artifactId>
44         <version>3.8.0</version>
45       </plugin>
46       <plugin>
47         <artifactId>maven-surefire-plugin</artifactId>
48         <version>2.22.1</version>
49       </plugin>
50       <plugin>
51         <artifactId>maven-jar-plugin</artifactId>
52         <version>3.0.2</version>
53       </plugin>
54       <plugin>
55         <artifactId>maven-install-plugin</artifactId>
56         <version>2.5.2</version>
57       </plugin>
58       <plugin>
59         <artifactId>maven-deploy-plugin</artifactId>
60         <version>2.8.2</version>
```

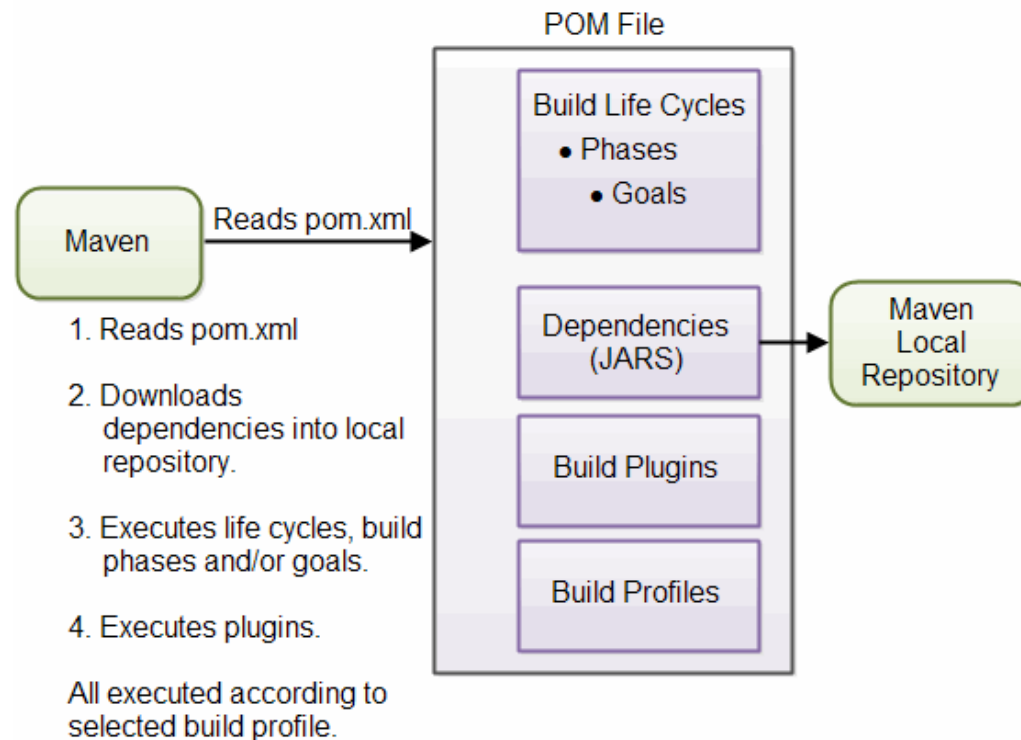
Build Plugins

Maven

- Project Object Model
 - Project Information
 - groupId – name space or project package
 - artifactId – unique application name
 - version – current version of artifact
 - Output Result – jar/war/ear
 - Properties – project configurations
 - Dependencies – project libraries
 - Build
 - plugins – requirement plugins

Maven

- Project Object Model
 - Life Cycle



Maven

- Command Line

Command	Description
mvn archetype:generate	Create new maven project
mvn compile	Compile java source code files
mvn test	Run test classes
mvn clean	Delete all class files
mvn package	Build jar/war file
mvn install	Build jar file and register to local repository (.m2 folder)

Maven

- Command Line
 - mvn archetype:generate
 - jar package

```
Command Prompt - mvn archetype:generate

D:\maven>mvn archetype:generate
[INFO] Scanning for projects...
[INFO]
[INFO] -----< org.apache.maven:standalone-pom >-----
[INFO] Building Maven Stub Project (No POM) 1
[INFO] -----[ pom ]-----
[INFO]
[INFO] >>> maven-archetype-plugin:3.2.0:generate (default-cli) > generate-sources @ standalone-pom >>>
[INFO]
[INFO] <<< maven-archetype-plugin:3.2.0:generate (default-cli) < generate-sources @ standalone-pom <<<
[INFO]
[INFO] --- maven-archetype-plugin:3.2.0:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Interactive mode
[INFO] No archetype defined. Using maven-archetype-quickstart (org.apache.maven.archetypes:maven-archetype-quickstart:1.0)
Choose archetype:
1: remote -> am.ik.archetype:elm-spring-boot-blank-archetype (Blank multi project for Spring Boot + Elm)
2: remote -> am.ik.archetype:graalvm-blank-archetype (Blank project for GraalVM)
3: remote -> am.ik.archetype:graalvm-springmvc-blank-archetype (Blank project for GraalVM + Spring MVC)
4: remote -> am.ik.archetype:graalvm-springwebflux-blank-archetype (Blank project for GraalVM + Spring MVC)
5: remote -> am.ik.archetype:maven-reactjs-blank-archetype (Blank Project for React.js)
6: remote -> am.ik.archetype:msgpack-rpc-jersey-blank-archetype (Blank Project for Spring Boot + Jersey)
7: remote -> am.ik.archetype:mvc-1.0-blank-archetype (MVC 1.0 Blank Project)
8: remote -> am.ik.archetype:spring-boot-blank-archetype (Blank Project for Spring Boot)
9: remote -> am.ik.archetype:spring-boot-docker-blank-archetype (Docker Blank Project for Spring Boot)
10: remote -> am.ik.archetype:spring-boot-gae-blank-archetype (GAE Blank Project for Spring Boot)
11: remote -> am.ik.archetype:spring-boot-jersey-blank-archetype (Blank Project for Spring Boot + Jersey)
12: remote -> am.ik.archetype:spring-fu-jafu-blank-archetype (Blank project for Vanilla Spring WebFlux.fn)
13: remote -> am.ik.archetype:vanilla-spring-webflux-fn-blank-archetype (Blank project for Vanilla Spring WebFlu
```


Maven

- Command Line
 - mvn archetype:generate
 - war package

```
Command Prompt - mvn archetype:generate
3215: remote -> us.fatehi:schemacrawler-archetype-maven-project (-)
3216: remote -> us.fatehi:schemacrawler-archetype-plugin-command (-)
3217: remote -> us.fatehi:schemacrawler-archetype-plugin-dbconnector (-)
3218: remote -> us.fatehi:schemacrawler-archetype-plugin-lint (-)
3219: remote -> ws.osiris:osiris-archetype (Maven Archetype for Osiris)
3220: remote -> xyz.luan.generator:xyz-gae-generator (-)
3221: remote -> xyz.luan.generator:xyz-generator (-)
3222: remote -> za.co.absa.hyperdrive:component-archetype (-)
3223: remote -> za.co.absa.hyperdrive:component-archetype_2.11 (-)
3224: remote -> za.co.absa.hyperdrive:component-archetype_2.12 (-)
Choose a number or apply filter (format: [groupId:]artifactId, case sensitive contains): 2005: 2010
Choose org.apache.maven.archetypes:maven-archetype-webapp version:
1: 1.0-alpha-1
2: 1.0-alpha-2
3: 1.0-alpha-3
4: 1.0-alpha-4
5: 1.0
6: 1.3
7: 1.4
Choose a number: 7:
Define value for property 'groupId': com.web
Define value for property 'artifactId': web1
Define value for property 'version' 1.0-SNAPSHOT: :
Define value for property 'package' com.web: :
Confirm properties configuration:
groupId: com.web
artifactId: web1
version: 1.0-SNAPSHOT
package: com.web
Y: : Y_
```

Maven

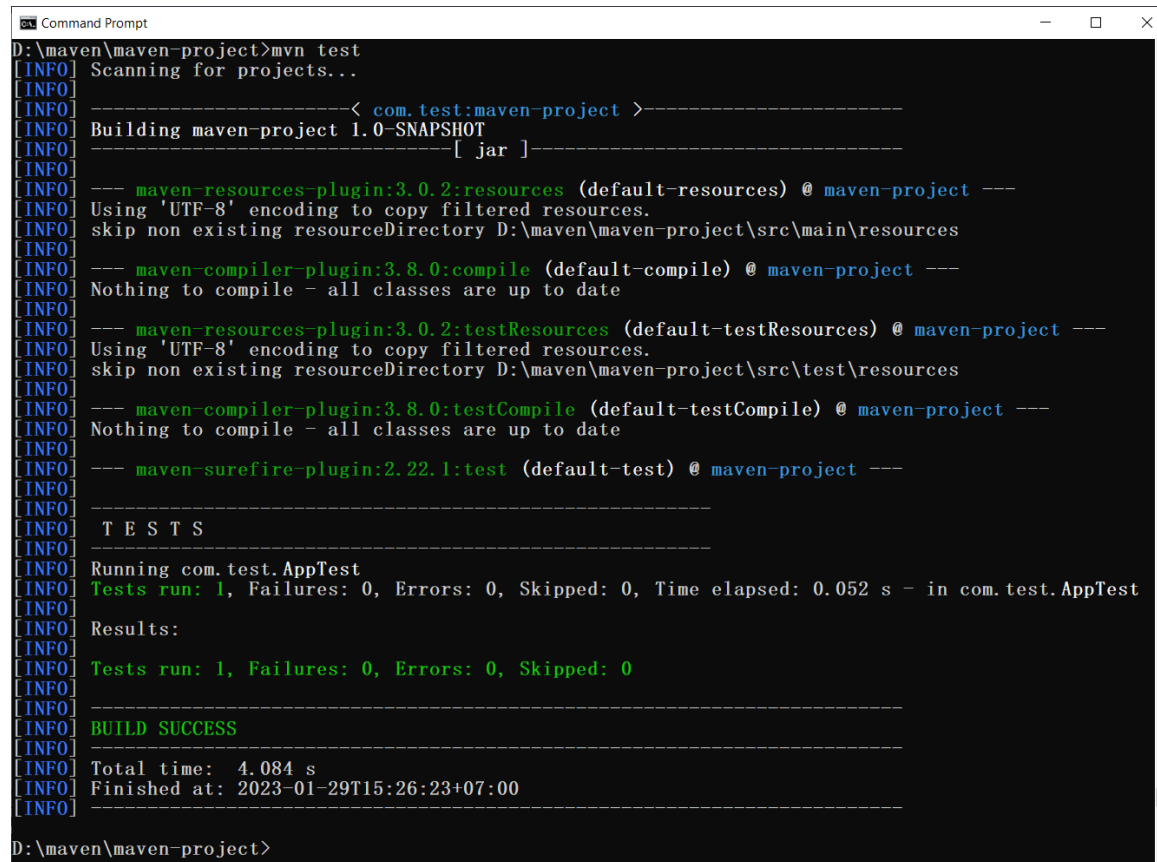
- Command Line
 - mvn compile

```
Command Prompt

D:\maven\maven-project>mvn compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.test:maven-project >-----
[INFO] Building maven-project 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-project ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\maven\maven-project\target\classes
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 1.966 s
[INFO] Finished at: 2023-01-29T14:17:09+07:00
[INFO]
D:\maven\maven-project>
```

Maven

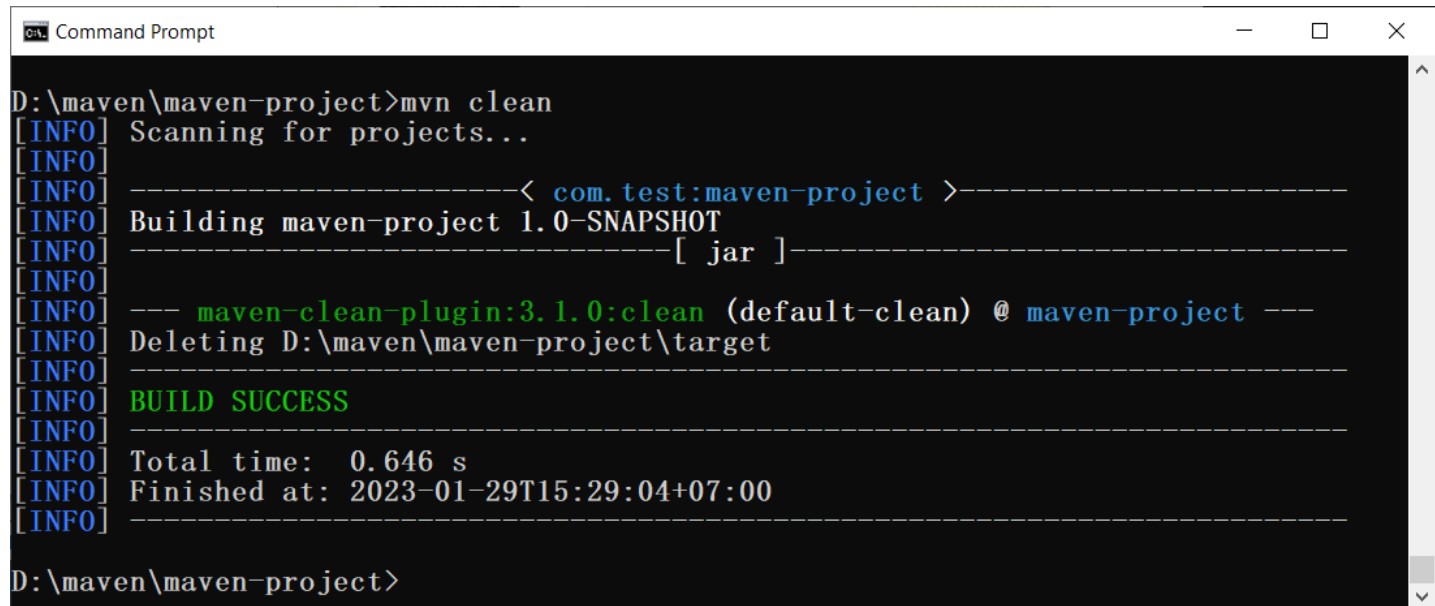
- Command Line
 - mvn test



```
D:\maven\maven-project>mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.test:maven-project >-----
[INFO] Building maven-project 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-project ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ maven-project ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ maven-project ---
[INFO]
[INFO] T E S T S
[INFO]
[INFO] Running com.test.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.052 s - in com.test.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 4.084 s
[INFO] Finished at: 2023-01-29T15:26:23+07:00
[INFO]
D:\maven\maven-project>
```

Maven

- Command Line
 - mvn clean



```
Command Prompt

D:\maven\maven-project>mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.test:maven-project >-----
[INFO] Building maven-project 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:3.1.0:clean (default-clean) @ maven-project ---
[INFO] Deleting D:\maven\maven-project\target
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.646 s
[INFO] Finished at: 2023-01-29T15:29:04+07:00
[INFO]
D:\maven\maven-project>
```

Maven

- Command Line
 - mvn package

```
Command Prompt
D:\maven\maven-project>mvn package
[INFO] Scanning for projects...
[INFO]
[INFO] < com.test:maven-project >
[INFO] Building maven-project 1.0-SNAPSHOT
[INFO] [ jar ]
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-project ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\maven\maven-project\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ maven-project ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\maven\maven-project\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ maven-project ---
[INFO]
[INFO] T E S T S
[INFO]
[INFO] Running com.test.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.041 s - in com.test.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ maven-project ---
[INFO] Building jar: D:\maven\maven-project\target\maven-project-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 5.219 s
```

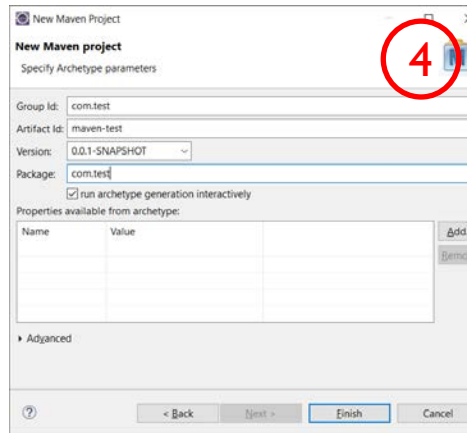
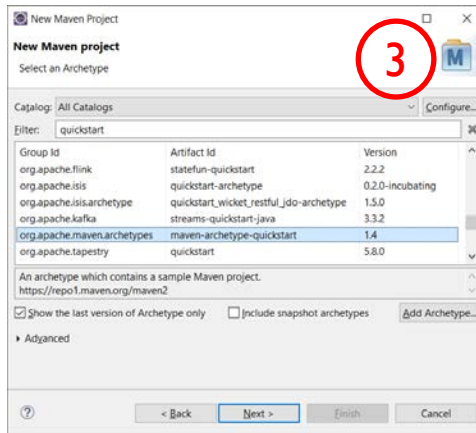
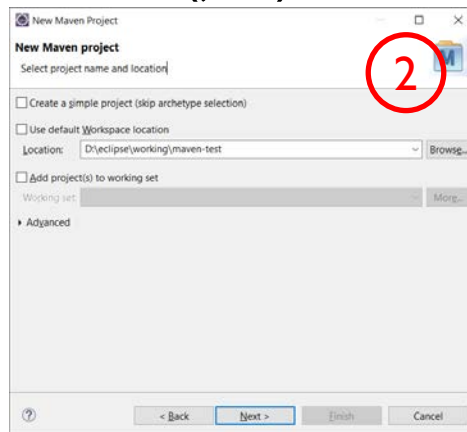
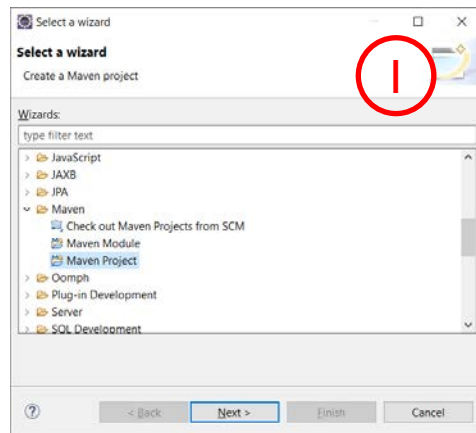
Maven

- Command Line
 - mvn install

```
Command Prompt
D:\maven\maven-project>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.test:maven-project >-----
[INFO] Building maven-project 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ maven-project ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ maven-project ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\maven\maven-project\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ maven-project ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ maven-project ---
[INFO]
[INFO] T E S T S
[INFO]
[INFO] Running com.test.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.044 s - in com.test.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ maven-project ---
[INFO]
[INFO] --- maven-install-plugin:2.5.2:install (default-install) @ maven-project ---
[INFO] Installing D:\maven\maven-project\target\maven-project-1.0-SNAPSHOT.jar to C:\Users\ADMIN\.m2\repository\com\test\maven-project\1.0-SNAPSHOT\maven-project-1.0-SNAPSHOT.jar
[INFO] Installing D:\maven\maven-project\pom.xml to C:\Users\ADMIN\.m2\repository\com\test\maven-project\1.0-SNAPSHOT\maven-project-1.0-SNAPSHOT.pom
[INFO]
```

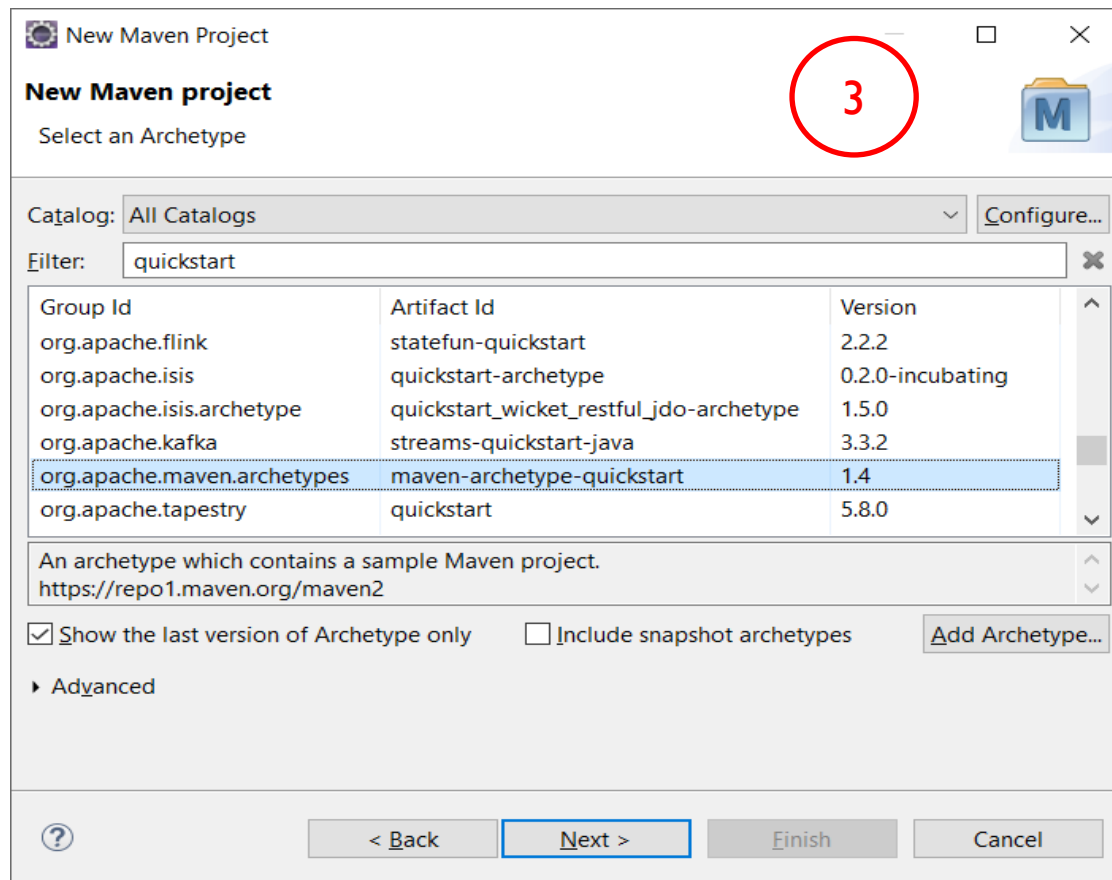
Maven

- Eclipse IDE Plugin
 - File -> New -> Other (jar)



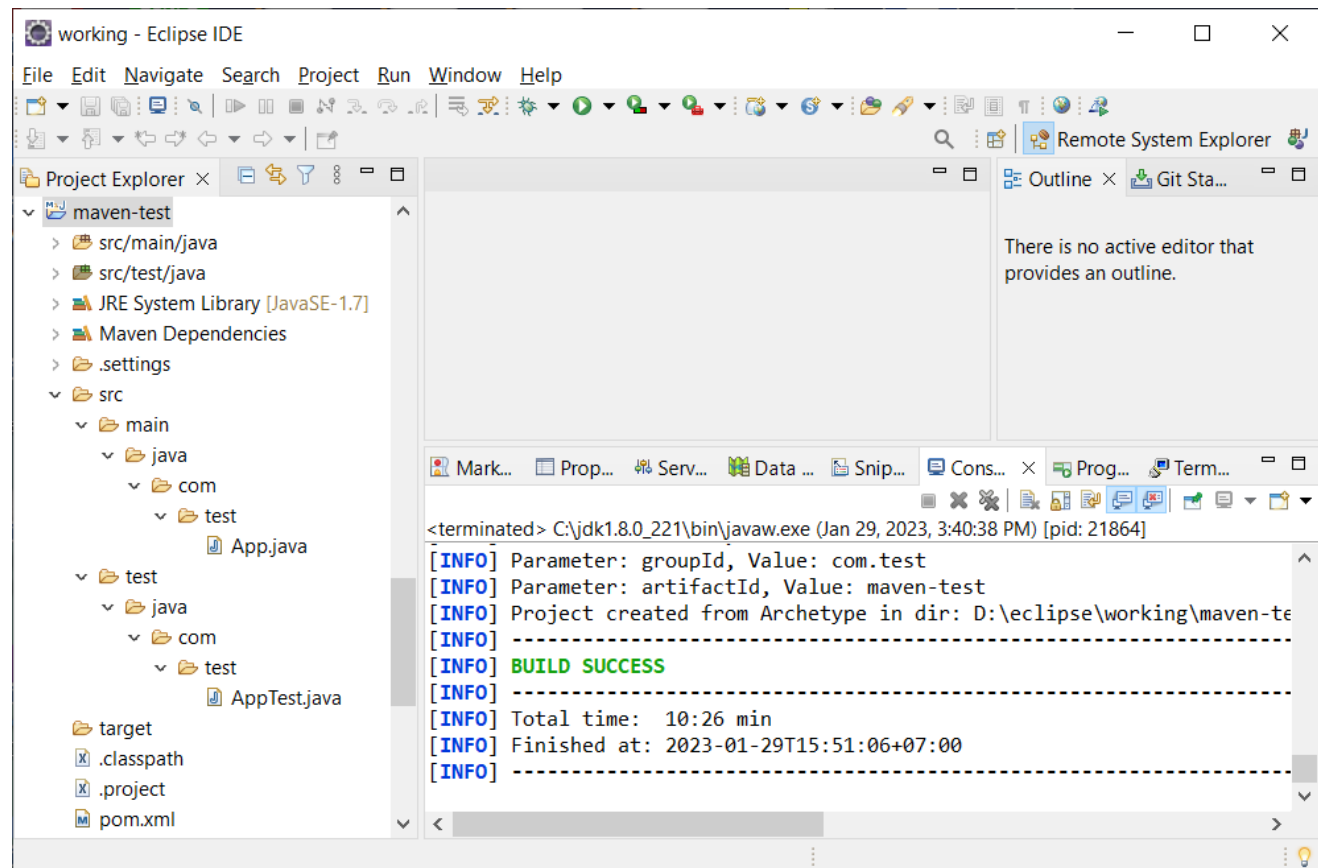
Maven

- Eclipse IDE Plugin
 - File -> New -> Other (jar)



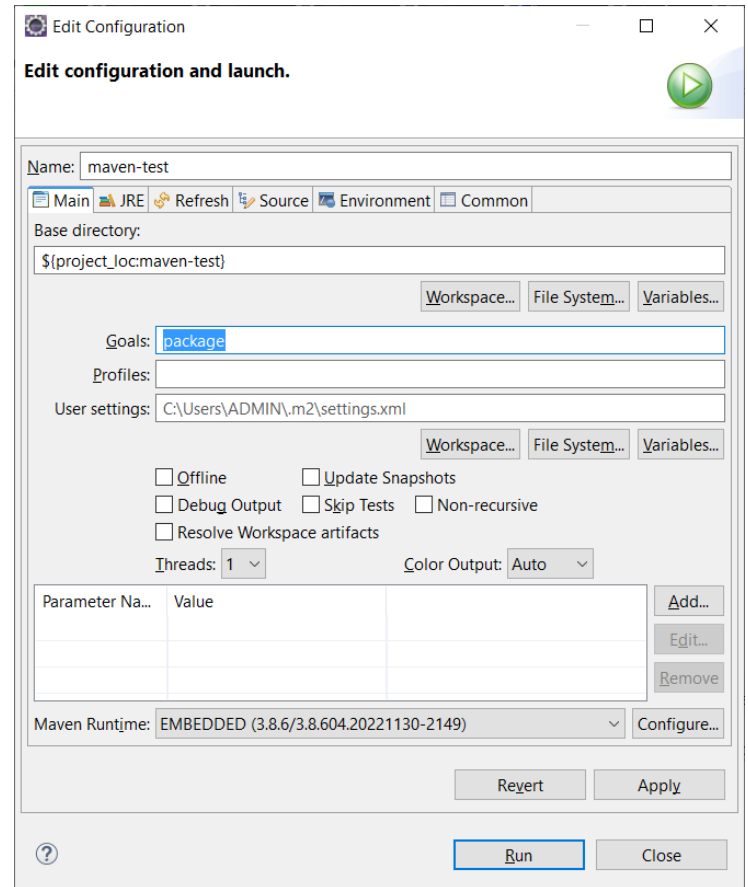
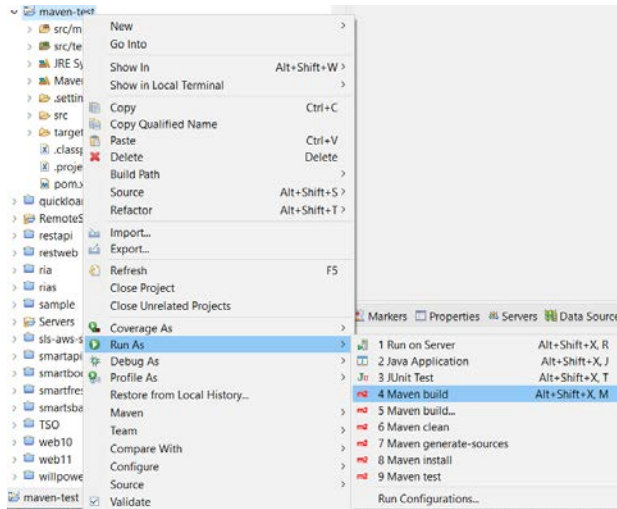
Maven

- Eclipse IDE Plugin
 - java project



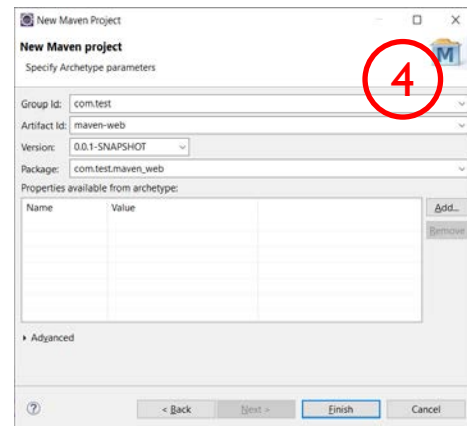
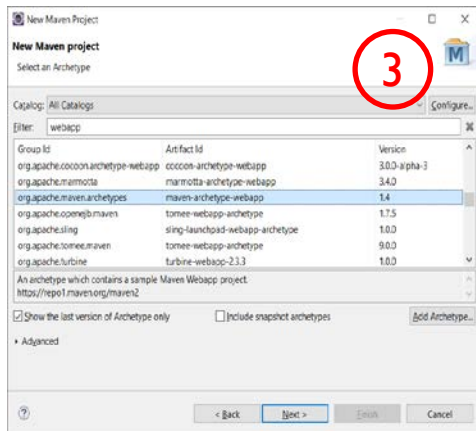
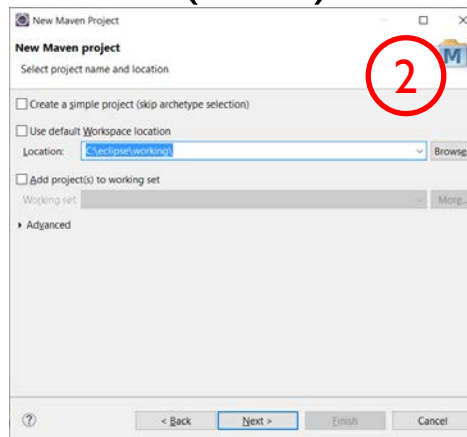
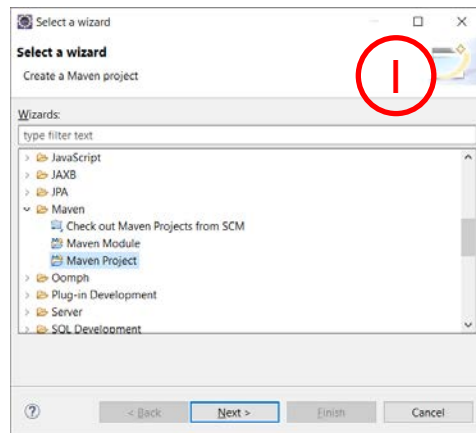
Maven

- Eclipse IDE Plugin
 - build



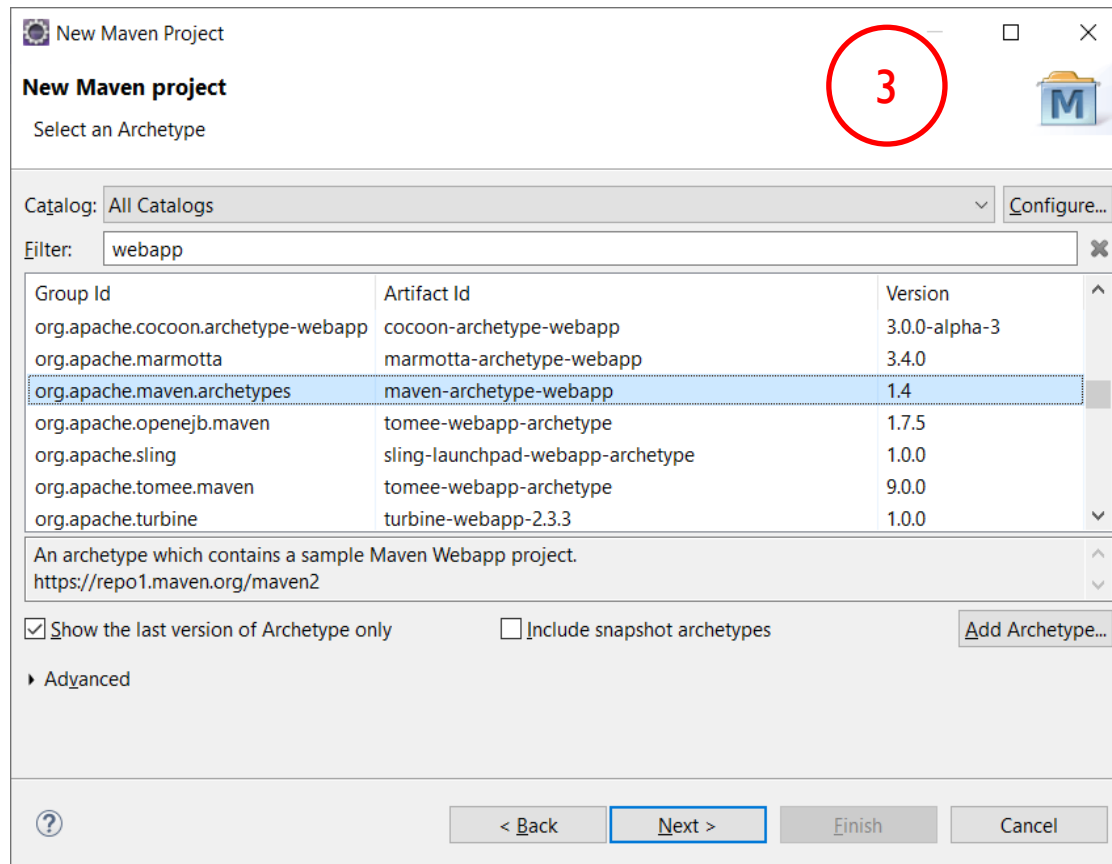
Maven

- Eclipse IDE Plugin
 - File -> New -> Other (war)



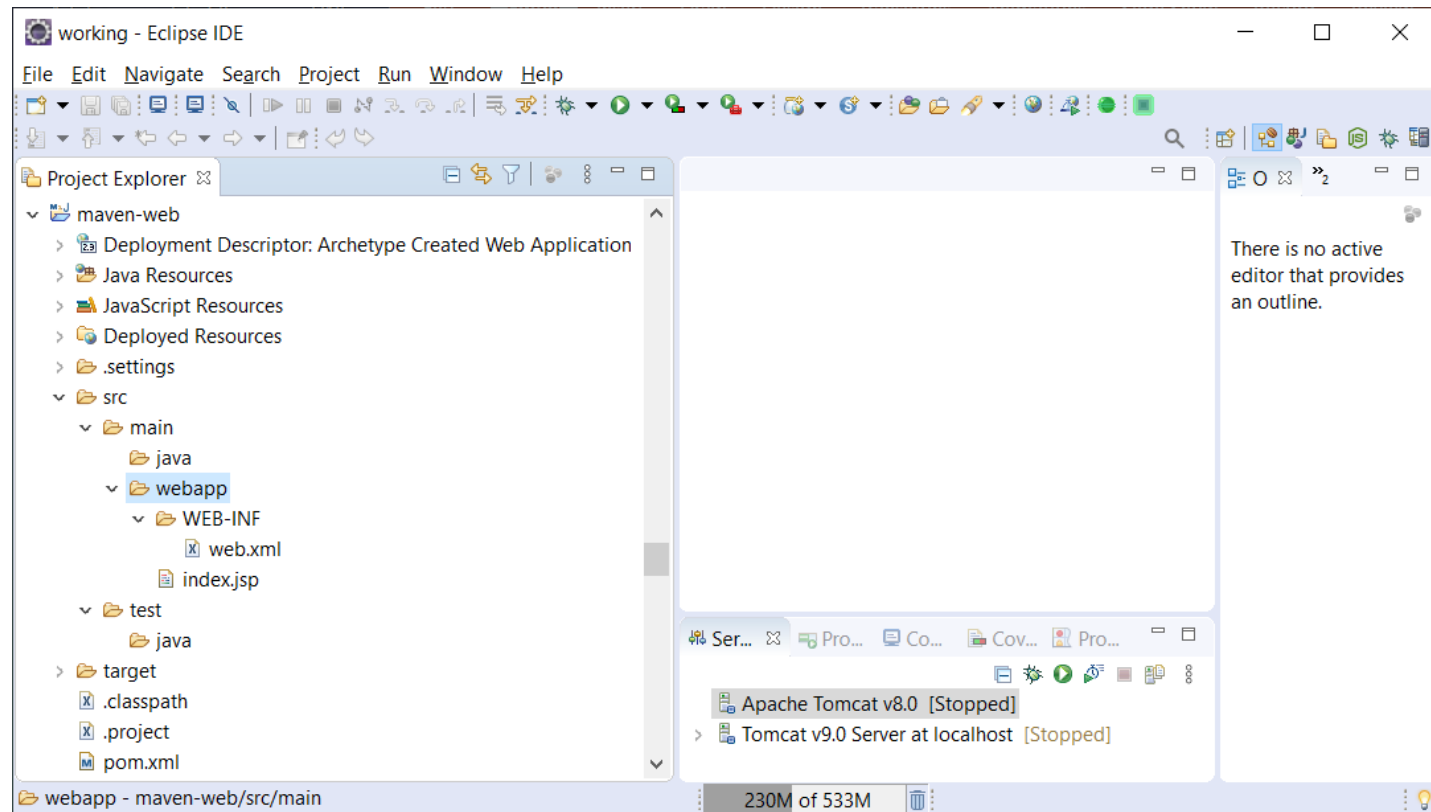
Maven

- Eclipse IDE Plugin
 - File -> New -> Other (war)



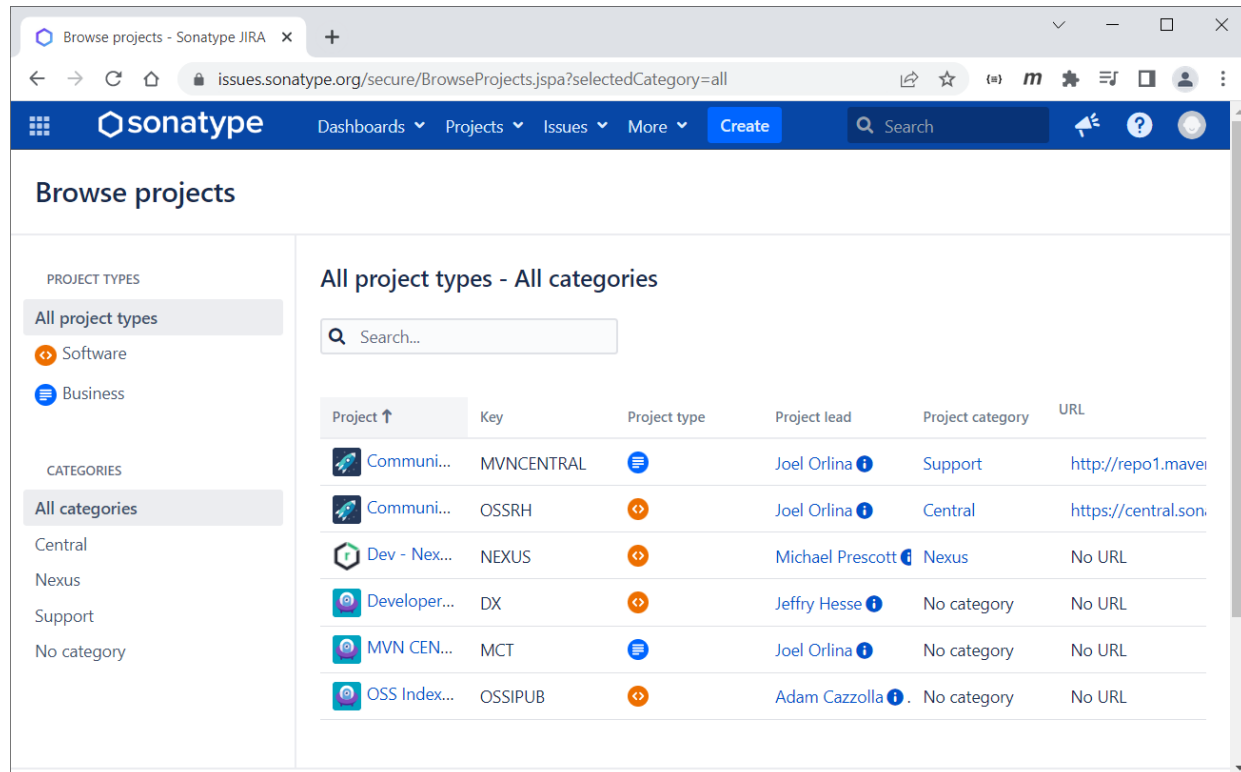
Maven

- Eclipse IDE Plugin
 - web project



Maven

- Maven Central
 - Go to <https://issues.sonatype.org> try to register



Browse projects - Sonatype JIRA

issues.sonatype.org/secure/BrowseProjects.jspa?selectedCategory=all

sonatype Dashboards Projects Issues More Create Search

Browse projects

PROJECT TYPES

- All project types
- Software
- Business

CATEGORIES

- All categories
- Central
- Nexus
- Support
- No category

All project types - All categories

Search...

Project ↑	Key	Project type	Project lead	Project category	URL
Commun...	MVNCENTRAL		Joel Orlina	Support	http://repo1.maven.org/maven2/
Commun...	OSSRH		Joel Orlina	Central	https://central.sonatype.org/
Dev - Nex...	NEXUS		Michael Prescott	Nexus	No URL
Developer...	DX		Jeffry Hesse	No category	No URL
MVN CEN...	MCT		Joel Orlina	No category	No URL
OSS Index...	OSSIPUB		Adam Cazzolla	No category	No URL

Maven

- Maven Central
 - Create issue to request

The screenshot shows a web browser window with the URL `issues.sonatype.org/secure/BrowseProjects.jspa?selectedCategory=all`. The page title is "Create Issue - Sonatype JIRA". The Sonatype logo is in the top left, and navigation links for "Dashboards", "Projects", "Issues", and "More" are in the top center. A "Create" button is in the top right. A search bar is also present. The main heading is "Browse projects". On the left, there are sections for "PROJECT TYPES" (All project types, Software, Business) and "CATEGORIES" (All categories, Central, Nexus, Support, No category). A "Create Issue" modal dialog is open in the center. It has a "Configure Fields" button in the top right. The dialog contains the text "All fields marked with an asterisk (*) are required". It has two dropdown menus: "Project*" with the value "Community Support - Open ..." and "Issue Type*" with the value "New Project". Below these is a text box with the message: "This Jira project is for issues related to *publishing* to Maven Central. Selecting the correct **Issue Type** will help us process your ticket faster:". Below the text box is a bullet point: "• **New Project:** For registering a new Group ID on OSSRH for publishing to Central". At the bottom of the dialog are three buttons: "Create another" (disabled), "Create" (active), and "Cancel".

Create Issue Configure Fields

All fields marked with an asterisk (*) are required

Project* Community Support - Open ...

Issue Type* New Project ?

This Jira project is for issues related to *publishing* to Maven Central. Selecting the correct **Issue Type** will help us process your ticket faster:

- **New Project:** For registering a new Group ID on OSSRH for publishing to Central

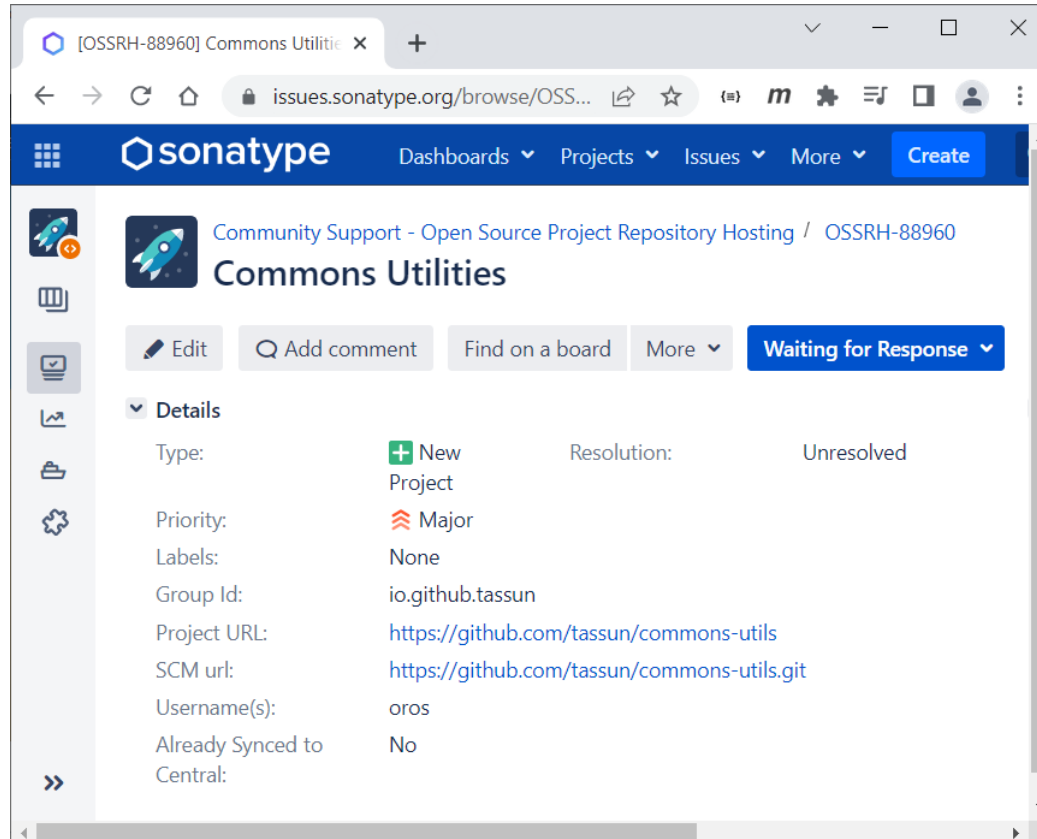
☐ Create another Create Cancel

Maven

- Maven Central
 - Create issue to request
 - Project: Community Support - Open Source Project Repository Hosting
 - Issue Type: New Project
 - Summary: Description of your library
 - Group Id: Your GROUP_ID
 - Project URL: URL of your library
 - SCM URL: URL of your Source Control

Maven

- Maven Central
 - Create issue to request



Maven

- Maven Central
 - Create issue to request
 - About Group ID

Service	Example groupId
GitHub	io.github.myusername
GitLab	io.gitlab.myusername
Gitee	io.gitee.myusername
Bitbucket	io.bitbucket.myusername
SourceForge	io.sourceforge.myusername

Maven

- Maven Central
 - Edit pom.xml - license, developer and SCM

```
<licenses>
    <license>
        <name>The Apache License,Version 2.0</name>
        <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
    </license>
</licenses>
<developers>
    <developer>
        <id>tassun</id>
        <name>Tassun Oros</name>
        <email>tassun_oro@hotmail.com</email>
    </developer>
</developers>
<scm>
    <connection>scm:git:git@github.com:tassun/commons-utils.git</connection>
    <developerConnection>scm:git:ssh://github.com:tassun/commons-utils.git</developerConnection>
    <url>https://github.com/tassun/commons-utils/tree/master</url>
</scm>
```

Maven

- Maven Central
 - Edit pom.xml - repository setup

```
<distributionManagement>
  <snapshotRepository>
    <id>ossrh</id>
    <url>https://s01.oss.sonatype.org/content/repositories/snapshots</url>
  </snapshotRepository>
  <repository>
    <id>ossrh</id>
    <url>https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/</url>
  </repository>
</distributionManagement>
```

Maven

- Maven Central
 - Edit pom.xml - plugin

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-source-plugin</artifactId>
  <version>3.2.1</version>
  <executions>
    <execution>
      <id>attach-sources</id>
      <goals>
        <goal>jar-no-fork</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-javadoc-plugin</artifactId>
  <version>3.2.0</version>
  <executions>
    <execution>
      <id>attach-javadocs</id>
      <goals>
        <goal>jar</goal>
      </goals>
    </execution>
  </executions>
</plugin>
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-surefire-plugin</artifactId>
  <version>2.22.2</version>
</plugin>
```

Maven

- Maven Central
 - Edit pom.xml - profile

```
<profiles>
  <profile>
    <id>ci-cd</id>
    <build>
      <plugins>
        <plugin>
          <groupId>org.apache.maven.plugins</groupId>
          <artifactId>maven-gpg-plugin</artifactId>
          <version>1.6</version>
          <executions>
            <execution>
              <id>sign-artifacts</id>
              <phase>verify</phase>
              <goals>
                <goal>sign</goal>
              </goals>
              <configuration>
                <gpgArguments>
                  <arg>--pinentry-mode</arg>
                  <arg>loopback</arg>
                </gpgArguments>
              </configuration>
            </execution>
          </executions>
        </plugin>
      </plugins>
    </build>
  </profile>
</profiles>
```

Maven

- Maven Central
 - repository config
 - `~/.m2/settings.xml`

```
<settings>
  <servers>
    <server>
      <id>ossrh</id>
      <username>sonartypeUser</username>
      <password>secretPassword</password>
    </server>
  </servers>
</settings>
```



Maven

- Maven Central
 - GPG Setup
 - Deploy

```
mvn clean deploy -Dgpg.passphrase="myPassphrase" -Pci-cd
```

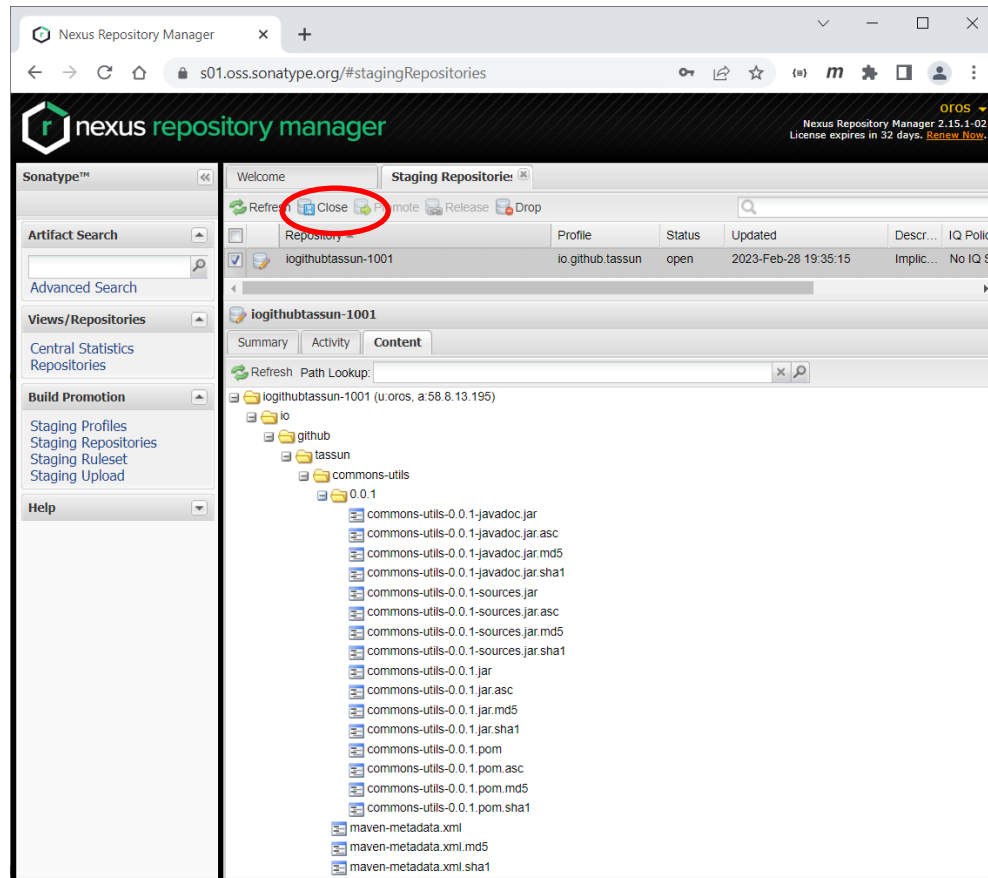

Maven

- Maven Central
 - Deploy

```
Command Prompt
-metadata.xml (309 B at 107 B/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-sources.jar
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-sources.jar (8.2 kB at 4.2 kB/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-javadoc.jar
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-javadoc.jar (29 kB at 15 kB/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1.jar.asc
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1.jar.asc (499 B at 356 B/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1.pom.asc
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1.pom.asc (499 B at 889 B/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-sources.jar.asc
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-sources.jar.asc (499 B at 889 B/s)
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-javadoc.jar.asc
Uploading to ossrh: https://s01.oss.sonatype.org/service/local/staging/deploy/maven2/io/github/tassun/commons-utils/0.0.1/commons-utils-0.0.1-javadoc.jar.asc (499 B at 889 B/s)
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 31.601 s
[INFO] Finished at: 2023-02-28T19:35:29+07:00
[INFO] -----
D:\TrainingMaven\commons-utils>
```

Maven

- Maven Central
 - Release – close -> release



Maven

- Maven Central
 - Release - close -> release

The screenshot displays the Nexus Repository Manager web interface. The browser address bar shows the URL `s01.oss.sonatype.org/#stagingRepositories`. The interface includes a sidebar with navigation links such as "Artifact Search", "Views/Repositories", "Build Promotion", and "Help". The main content area is titled "Staging Repository: io.github.tassun-1001" and shows a table of repository details. Below the table, the "Activity" tab is selected, displaying a list of activities. The "Event: Failed: Signature Validation" is highlighted, showing a failure message: "No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://keyserver.ubuntu.com:11371/. Upload your public key and try the operation again."

Nexus Repository Manager

Staging Repository: io.github.tassun-1001

Repository	Profile	Status	Updated	Descr...	IQ Policy Violations
io.github.tassun-1001	io.github.tassun	open	2023-Feb-28 19:35:15	Implic...	No IQ Server data recorded

io.github.tassun-1001

Summary Activity Content

Activities

- open
- close
- Evaluating rules: Central Sync Requirements
- Passed: Profile target matcher
- Evaluating rule: SBOM Report
- Passed: SBOM Report
- Evaluating rule: Sources Validation
- Passed: Sources Validation
- Evaluating rule: Checksum Validation
- Passed: Checksum Validation
- Evaluating rule: POM Validation
- Passed: POM Validation
- Evaluating rule: Signature Validation
- Failed: Signature Validation
- Evaluating rule: Javadoc Validation
- Passed: Javadoc Validation
- Evaluating rule: Archives must not contain insecure
- Passed: Archives must not contain insecure paths
- 1 rule failed: Central Sync Requirements
- Close failed

Event: Failed: Signature Validation

Tuesday, February 28, 2023 19:39:05 IT (GMT+0700)

typeld signature-staging

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://keyserver.ubuntu.com:11371/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on https://keys.openpgp.org/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://pgp.mit.edu:11371/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://keyserver.ubuntu.com:11371/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on https://keys.openpgp.org/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://pgp.mit.edu:11371/. Upload your public key and try the operation again.

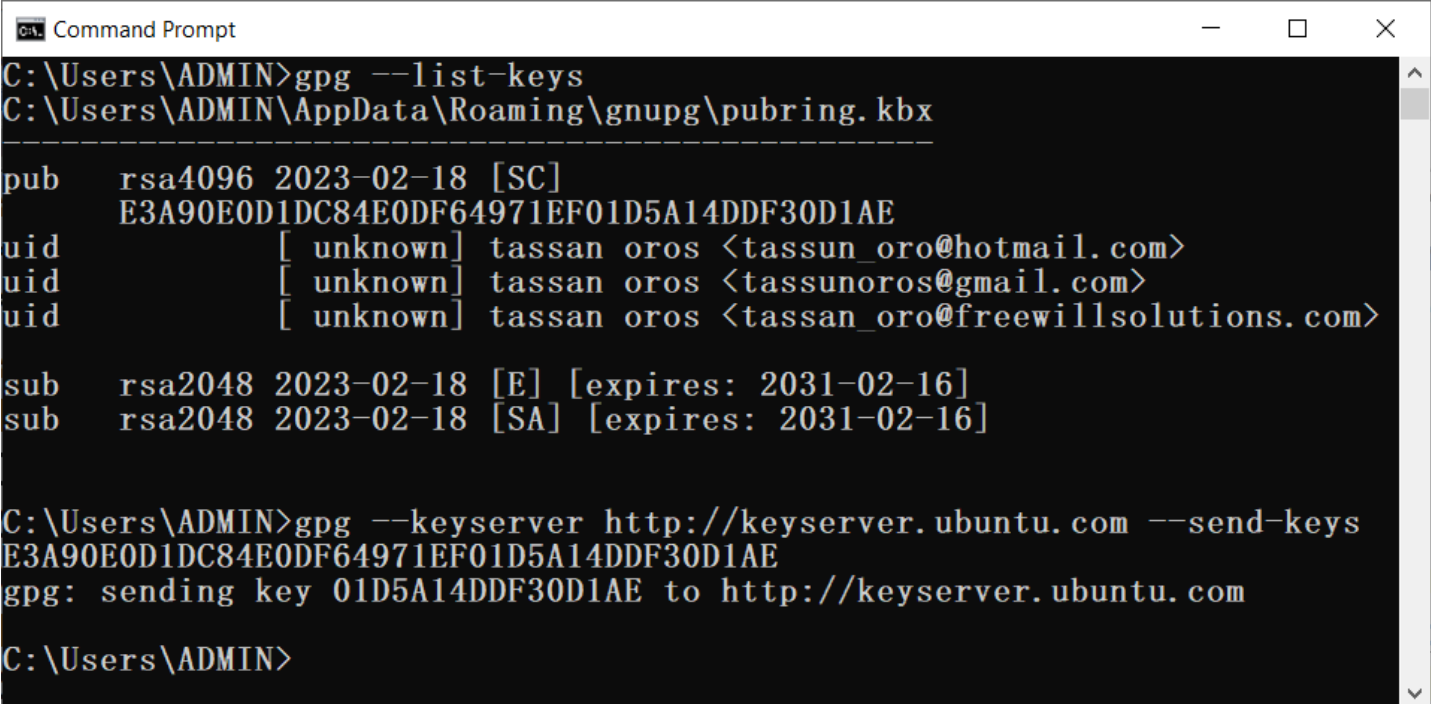
failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on http://keyserver.ubuntu.com:11371/. Upload your public key and try the operation again.

failureMessage No public key: Key with id: (26eb7607ba10e5d8) was not able to be located on https://keys.openpgp.org/. Upload your public key and try the operation again.

Maven

- Maven Central
 - Release - send key

`gpg --keyserver http://keyserver.ubuntu.com --send-keys xxxx`



```
Command Prompt
C:\Users\ADMIN>gpg --list-keys
C:\Users\ADMIN\AppData\Roaming\gnupg\pubring.kbx
-----
pub   rsa4096 2023-02-18 [SC]
      E3A90E0D1DC84E0DF64971EF01D5A14DDF30D1AE
uid           [ unknown] tassan oros <tassun_oro@hotmail.com>
uid           [ unknown] tassan oros <tassunoros@gmail.com>
uid           [ unknown] tassan oros <tassan_oro@freewillsolutions.com>

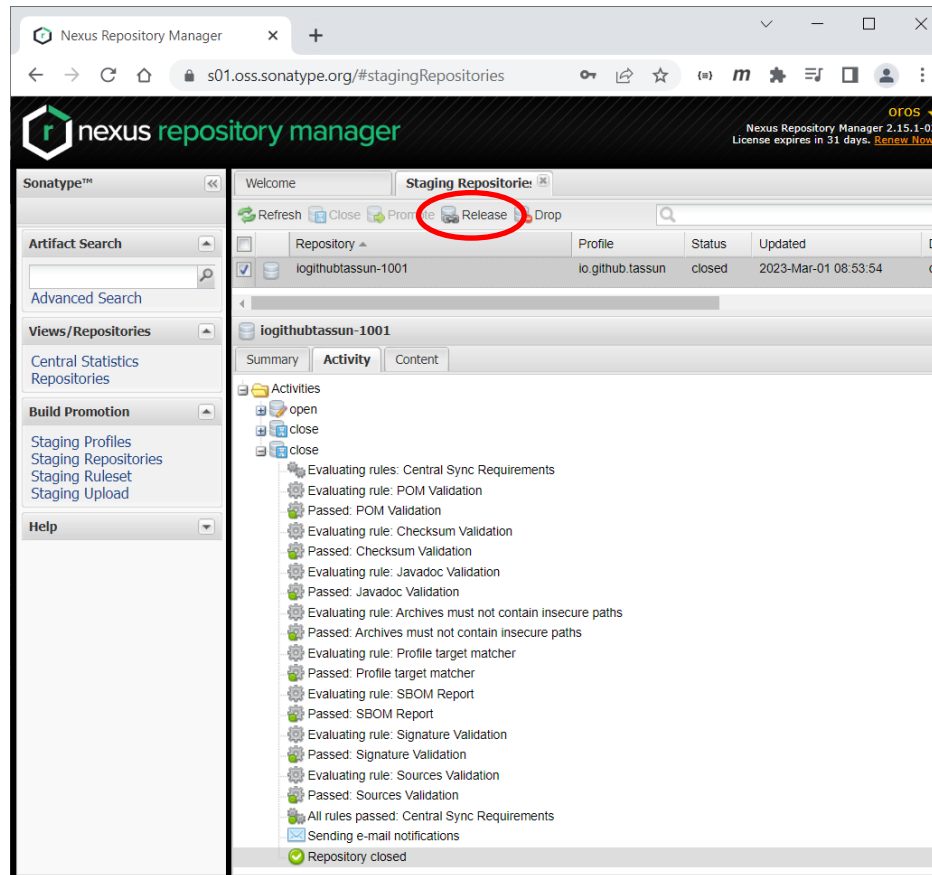
sub   rsa2048 2023-02-18 [E] [expires: 2031-02-16]
sub   rsa2048 2023-02-18 [SA] [expires: 2031-02-16]

C:\Users\ADMIN>gpg --keyserver http://keyserver.ubuntu.com --send-keys
E3A90E0D1DC84E0DF64971EF01D5A14DDF30D1AE
gpg: sending key 01D5A14DDF30D1AE to http://keyserver.ubuntu.com

C:\Users\ADMIN>
```

Maven

- Maven Central
 - Release - close -> release



Maven

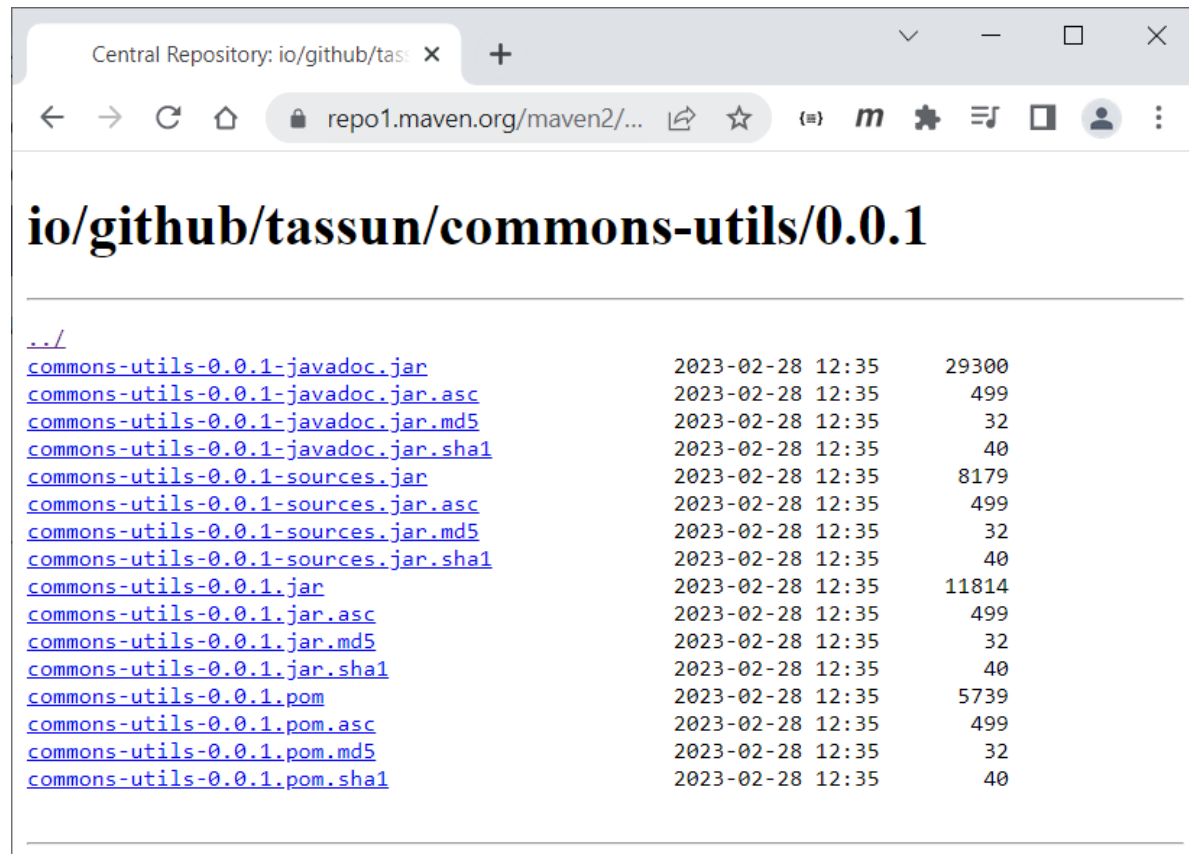
- Maven Central

- Release

- wait for Maven Central to synchronize (take up to 30 minutes)
 - whereas <https://search.maven.org/> can take up to 4 hours to show your newly deployed artifact

Maven

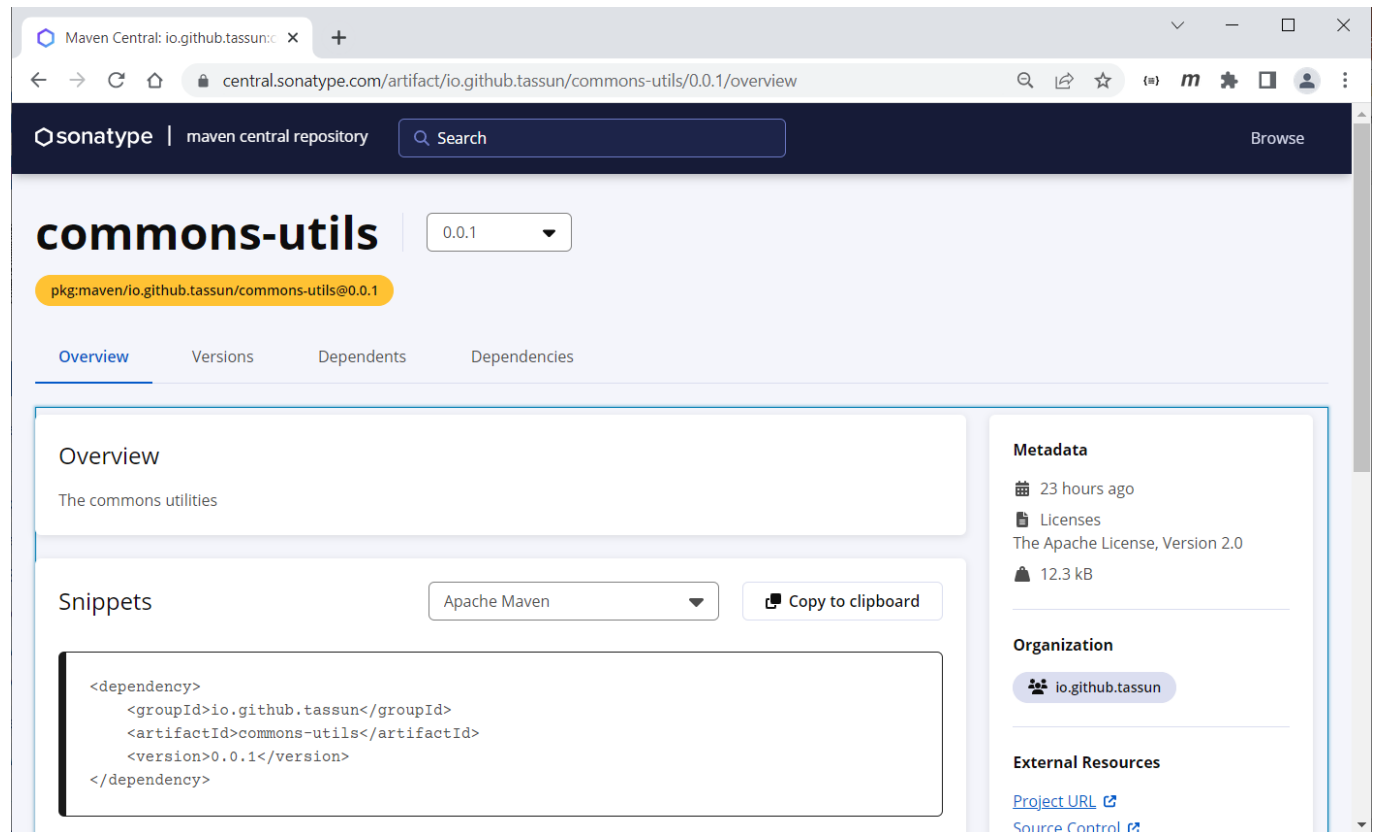
- Maven Central
 - Release



io/github/tassun/commons-utils/0.0.1		
../		
commons-utils-0.0.1-javadoc.jar	2023-02-28 12:35	29300
commons-utils-0.0.1-javadoc.jar.asc	2023-02-28 12:35	499
commons-utils-0.0.1-javadoc.jar.md5	2023-02-28 12:35	32
commons-utils-0.0.1-javadoc.jar.sha1	2023-02-28 12:35	40
commons-utils-0.0.1-sources.jar	2023-02-28 12:35	8179
commons-utils-0.0.1-sources.jar.asc	2023-02-28 12:35	499
commons-utils-0.0.1-sources.jar.md5	2023-02-28 12:35	32
commons-utils-0.0.1-sources.jar.sha1	2023-02-28 12:35	40
commons-utils-0.0.1.jar	2023-02-28 12:35	11814
commons-utils-0.0.1.jar.asc	2023-02-28 12:35	499
commons-utils-0.0.1.jar.md5	2023-02-28 12:35	32
commons-utils-0.0.1.jar.sha1	2023-02-28 12:35	40
commons-utils-0.0.1.pom	2023-02-28 12:35	5739
commons-utils-0.0.1.pom.asc	2023-02-28 12:35	499
commons-utils-0.0.1.pom.md5	2023-02-28 12:35	32
commons-utils-0.0.1.pom.sha1	2023-02-28 12:35	40

Maven

- Maven Central
 - Release



The screenshot shows the Maven Central artifact page for **commons-utils** version **0.0.1**. The page is part of the Sonatype Maven Central repository. The breadcrumb path is `pkg:maven/io.github.tassun/commons-utils@0.0.1`. The page has tabs for Overview, Versions, Dependents, and Dependencies. The Overview tab is active, showing the artifact name, a description "The commons utilities", and a "Snippets" section with a code block for an Apache Maven dependency. The right sidebar contains metadata (23 hours ago, Apache License 2.0, 12.3 kB), organization (io.github.tassun), and external resources (Project URL, Source Control).

Maven Central: io.github.tassun: commons-utils | 0.0.1

central.sonatype.com/artifact/io.github.tassun/commons-utils/0.0.1/overview

Sonatype | maven central repository Search Browse

commons-utils

0.0.1

pkg:maven/io.github.tassun/commons-utils@0.0.1

Overview Versions Dependents Dependencies

Overview

The commons utilities

Snippets

Apache Maven

```
<dependency>
  <groupId>io.github.tassun</groupId>
  <artifactId>commons-utils</artifactId>
  <version>0.0.1</version>
</dependency>
```

Copy to clipboard

Metadata

- 23 hours ago
- Licenses
- The Apache License, Version 2.0
- 12.3 kB

Organization

io.github.tassun

External Resources

- [Project URL](#)
- [Source Control](#)

Reference

- <https://maven.apache.org>
- <https://www.jittagornp.me/blog/what-is-apache-maven/>
- <https://www.jittagornp.me/blog/basic-maven-command-line/>
- <https://www.baeldung.com/maven-archetype>
- <https://dzone.com/articles/how-to-publish-artifacts-to-maven-central>
- <https://inthecheesefactory.com/blog/how-to-upload-library-to-jcenter-maven-central-as-dependency/th>
- <https://central.sonatype.org/publish/requirements/coordinates/#supported-code-hosting-services-for-personal-groupid>
- <https://central.sonatype.org/publish/publish-guide/>
- <https://central.sonatype.org/publish/publish-maven/>



Q & A