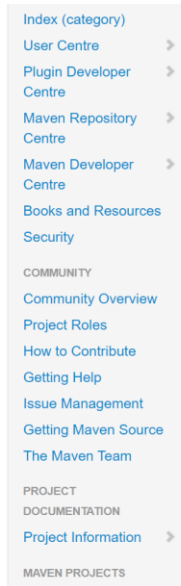


Hands on 1

Install Maven in Desktop

1. Download latest version of maven from internet or get the installation zip file from trainer



Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). Use a source archive if you intend to build Maven yourself.

In order to guard against corrupted downloads/installations, it is highly recommended to [verify the signature](#) of the release bundles against the public [KEYS](#) used by the Apache Maven developers.

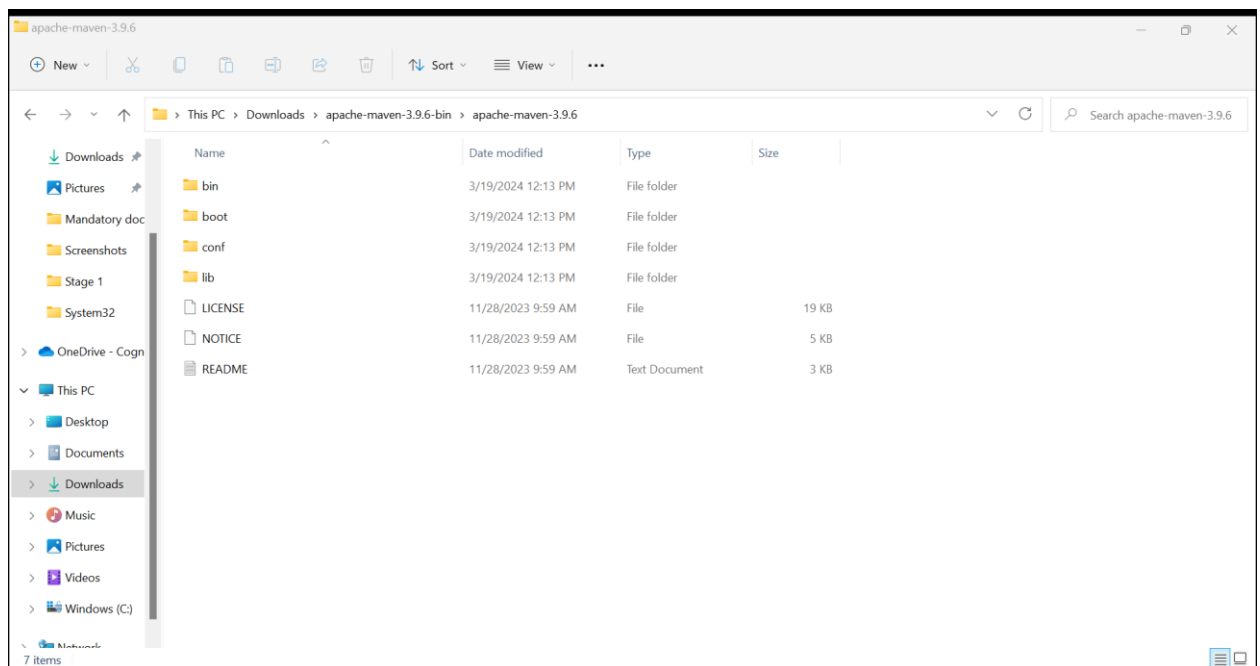
	Link	Checksums	Signature
Binary tar.gz archive	apache-maven-3.9.6-bin.tar.gz	apache-maven-3.9.6-bin.tar.gz.sha512	apache-maven-3.9.6-bin.tar.gz.asc
Binary zip archive	apache-maven-3.9.6-bin.zip	apache-maven-3.9.6-bin.zip.sha512	apache-maven-3.9.6-bin.zip.asc
Source tar.gz archive	apache-maven-3.9.6-src.tar.gz	apache-maven-3.9.6-src.tar.gz.sha512	apache-maven-3.9.6-src.tar.gz.asc
Source zip archive	apache-maven-3.9.6-src.zip	apache-maven-3.9.6-src.zip.sha512	apache-maven-3.9.6-src.zip.asc

- 3.9.6 [Release Notes](#) and [Release Reference Documentation](#)
- [latest source code](#) from source repository
- Distributed under the [Apache License, version 2.0](#)
- other:
 - [Apache Maven Website As Documentation Archive](#)
 - [All current release sources \(plugins, shared libraries,...\)](#) available at <https://downloads.apache.org/maven/>

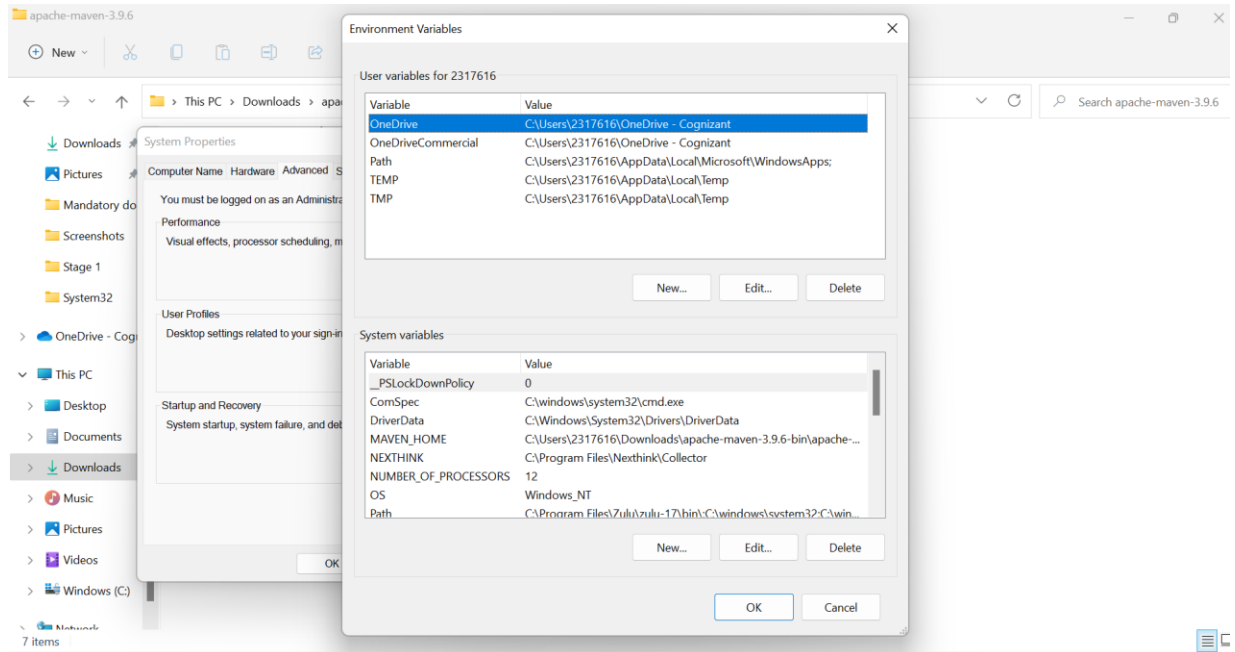
Other Releases

It is strongly recommended to use the latest release version of Apache Maven to take advantage of newest features and bug fixes.

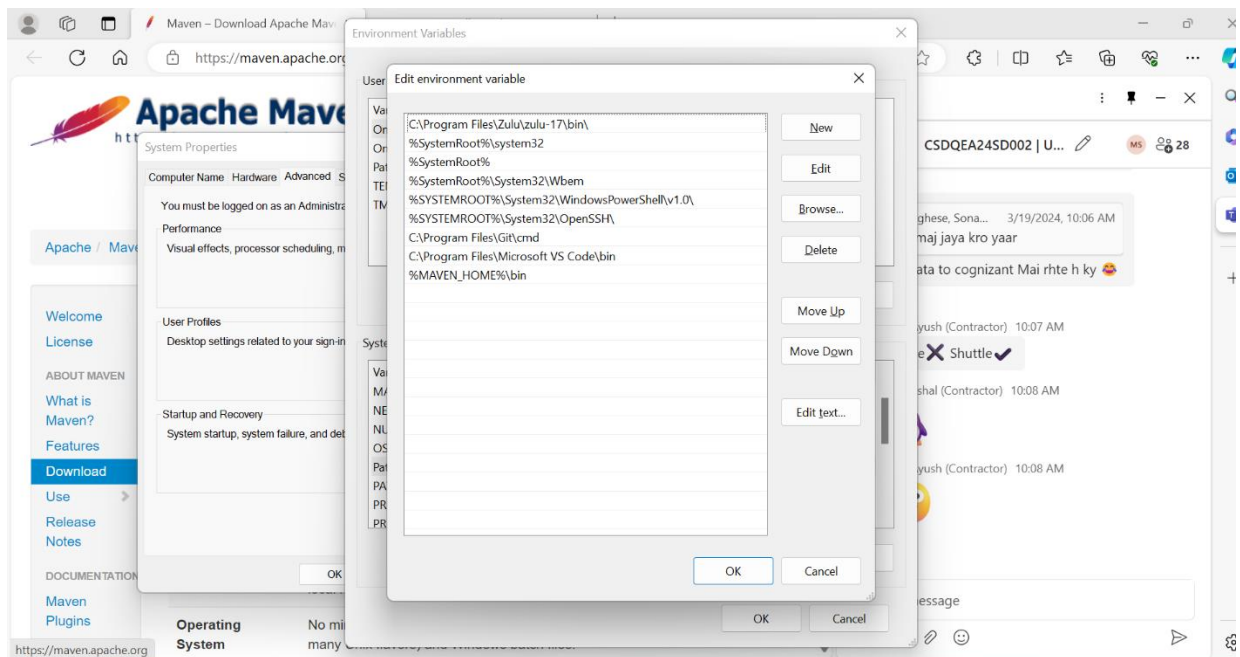
2. Extract the zip file into D: drive



3. Set the windows environment variables JAVA_HOME, MAVEN_HOME



4. Include PATH with MAVEN_HOME\bin



5. Test maven setup with 'mvn -version' command in command line

```
Command Prompt
Microsoft Windows [Version 10.0.22000.2538]
(c) Microsoft Corporation. All rights reserved.

C:\Users\2317616>mvn --version
Apache Maven 3.9.6 (bc0240f3c744dd6b66ec2920b3cd88dccc295161ae)
Maven home: C:\Users\2317616\Downloads\apache-maven-3.9.6-bin\apache-maven-3.9.6
Java version: 17.0.2, vendor: Azul Systems, Inc., runtime: C:\Program Files\Zulu\zulu-17
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 11", version: "10.0", arch: "amd64", family: "windows"

C:\Users\2317616>mvn archetype:generate -Dhttp.proxyHost=proxy.cognizant.com -Dhttp.proxyPort=6050 -Dhttps.proxyHost=proxy.cognizant.com -Dhttps.proxyPort=6050 -Dhttp.proxyUser=123456 -Dhttp.proxyPassword=password -DgroupId=com.cognizant.maven -DartifactId=mvnlearn -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.2.0/maven-clean-plugin-3.2.0.pom (5.3 kB at 20 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.2.0/maven-clean-plugin-3.2.0.pom (5.3 kB at 20 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/35/maven-plugins-35.pom (9.9 kB at 268 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/35/maven-plugins-35.pom (9.9 kB at 268 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/35/maven-parent-35.pom (45 kB at 887 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/35/maven-parent-35.pom (45 kB at 887 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/25/apache-25.pom (21 kB at 822 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/25/apache-25.pom (21 kB at 822 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.2.0/maven-clean-plugin-3.2.0.jar (36 kB at 1.4 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.2.0/maven-clean-plugin-3.2.0.jar (36 kB at 1.4 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-install-plugin/3.1.1/maven-install-plugin-3.1.1.pom (7.8 kB at 340 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-install-plugin/3.1.1/maven-install-plugin-3.1.1.pom (7.8 kB at 340 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-deploy-plugin/3.1.1/maven-deploy-plugin-3.1.1.pom (8.9 kB at 305 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-deploy-plugin/3.1.1/maven-deploy-plugin-3.1.1.pom (8.9 kB at 305 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.12.1/maven-site-plugin-3.12.1.pom (20 kB at 663 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.12.1/maven-site-plugin-3.12.1.pom (20 kB at 663 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/36/maven-plugins-36.pom (9.9 kB at 431 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/36/maven-plugins-36.pom (9.9 kB at 431 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.12.1/maven-site-plugin-3.12.1.jar (119 kB at 3.0 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.12.1/maven-site-plugin-3.12.1.jar (119 kB at 3.0 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/3.1.0/maven-antrun-plugin-3.1.0.pom (9.1 kB at 294 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/3.1.0/maven-antrun-plugin-3.1.0.pom (9.1 kB at 294 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/34/maven-plugins-34.pom (11 kB at 445 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/34/maven-plugins-34.pom (11 kB at 445 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/3.1.0/maven-antrun-plugin-3.1.0.jar (41 kB at 1.6 MB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/3.1.0/maven-antrun-plugin-3.1.0.jar (41 kB at 1.6 MB/s)
```

Hands on 2

Create web project using Maven

1. Open command line
2. Change the folder to the root folder of the Eclipse workspace
3. Executed the following command to create the maven web project structure. Change the proxyUser and proxyPassword accordingly in the command below.

```
mvn archetype:generate -Dhttp.proxyHost=proxy.cognizant.com -Dhttp.proxyPort=6050 -Dhttps.proxyHost=proxy.cognizant.com -Dhttps.proxyPort=6050 -Dhttp.proxyUser=123456 -Dhttp.proxyPassword=password -DgroupId=com.cognizant.maven -DartifactId=mvnlearn -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
```

```
C:\Users\2317616\mvnlearn>mvn archetype:generate -Dhttp.proxyHost=proxy.cognizant.com -Dhttp.proxyPort=6050 -Dhttps.proxyHost=proxy.cognizant.com -Dhttps.proxyPort=6050 -Dhttp.proxyUser=123456 -Dhttp.proxyPassword=password -DgroupId=com.cognizant.maven -DartifactId=mvnlearn -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
[INFO] Scanning for projects...
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.7.1/maven-site-plugin-3.7.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.7.1/maven-site-plugin-3.7.1.pom (19 kB at 71 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-project-info-reports-plugin/3.0.0/maven-project-info-reports-plugin-3.0.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-project-info-reports-plugin/3.0.0/maven-project-info-reports-plugin-3.0.0.pom (10 kB at 385 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-project-info-reports-plugin/3.0.0/maven-project-info-reports-plugin-3.0.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-project-info-reports-plugin/3.0.0/maven-project-info-reports-plugin-3.0.0.jar (300 kB at 3.8 MB/s)
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] >>> archetype:3.2.1:generate (default-cli) > generate-sources @ mvnlearn >>>
[INFO]
[INFO] <<< archetype:3.2.1:generate (default-cli) < generate-sources @ mvnlearn <<<
[INFO]
[INFO] --- archetype:3.2.1:generate (default-cli) @ mvnlearn ---
[INFO] Generating project in Batch mode
[INFO]
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.4
[INFO]
[INFO] Parameter: groupId, Value: com.cognizant.maven
[INFO] Parameter: artifactId, Value: mvnlearn
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.cognizant.maven
[INFO] Parameter: packageInPathFormat, Value: com/cognizant/maven
[INFO] Parameter: package, Value: com.cognizant.maven
[INFO] Parameter: groupId, Value: com.cognizant.maven
[INFO] Parameter: artifactId, Value: mvnlearn
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO]
```

4. Build the project using the following command:

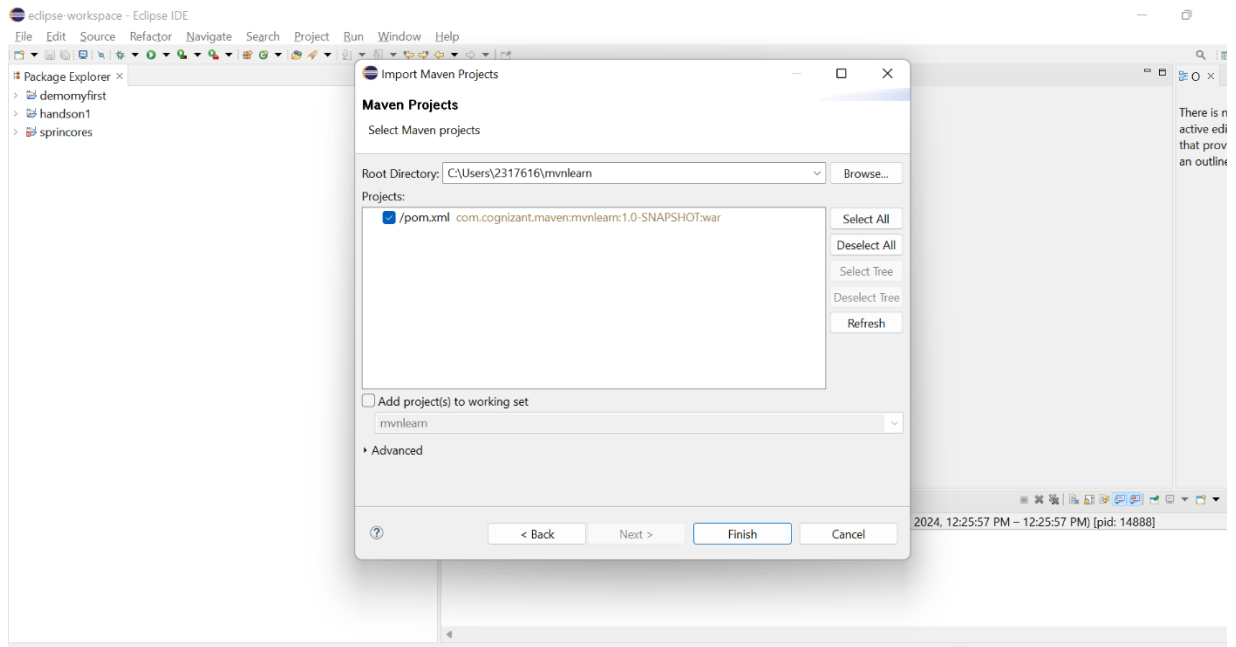
```
mvn clean package -Dhttp.proxyHost=proxy.cognizant.com -Dhttp.proxyPort=6050 -Dhttps.proxyHost=proxy.cognizant.com -Dhttps.proxyPort=6050 -Dhttp.proxyUser=123456 -Dhttp.proxyPassword=password
```

```
C:\Users\2317616\mvnlearn>mvn clean package -Dhttp.proxyHost=proxy.cognizant.com -Dhttp.proxyPort=6050 -Dhttps.proxyHost=proxy.cognizant.com -Dhttps.proxyPort=6050 -Dhttp.p
roxyUser=123456 -Dhttp.proxyPassword=password
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.1.0/maven-clean-plugin-3.1.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.1.0/maven-clean-plugin-3.1.0.pom (5.2 kB at 19 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/31/maven-plugins-31.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/31/maven-plugins-31.pom (10 kB at 297 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.1.0/maven-clean-plugin-3.1.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/3.1.0/maven-clean-plugin-3.1.0.jar (30 kB at 824 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.0.2/maven-resources-plugin-3.0.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.0.2/maven-resources-plugin-3.0.2.pom (7.1 kB at 285 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/30/maven-plugins-30.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/30/maven-plugins-30.pom (10 kB at 484 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.0.2/maven-resources-plugin-3.0.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-resources-plugin/3.0.2/maven-resources-plugin-3.0.2.jar (32 kB at 834 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-compiler-plugin/3.8.0/maven-compiler-plugin-3.8.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-compiler-plugin/3.8.0/maven-compiler-plugin-3.8.0.pom (12 kB at 497 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/32/maven-plugins-32.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/32/maven-plugins-32.pom (11 kB at 465 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/32/maven-parent-32.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/32/maven-parent-32.pom (43 kB at 1.8 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/20/apache-20.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/20/apache-20.pom (16 kB at 721 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-compiler-plugin/3.8.0/maven-compiler-plugin-3.8.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-compiler-plugin/3.8.0/maven-compiler-plugin-3.8.0.jar (62 kB at 2.6 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-surefire-plugin/2.22.1/maven-surefire-plugin-2.22.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-surefire-plugin/2.22.1/maven-surefire-plugin-2.22.1.pom (5.0 kB at 208 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire/2.22.1/surefire-2.22.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire/2.22.1/surefire-2.22.1.pom (26 kB at 1.2 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-surefire-plugin/2.22.1/maven-surefire-plugin-2.22.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-surefire-plugin/2.22.1/maven-surefire-plugin-2.22.1.jar (41 kB at 1.8 MB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-jar-plugin/3.0.2/maven-jar-plugin-3.0.2.pom
```


Hands on 3

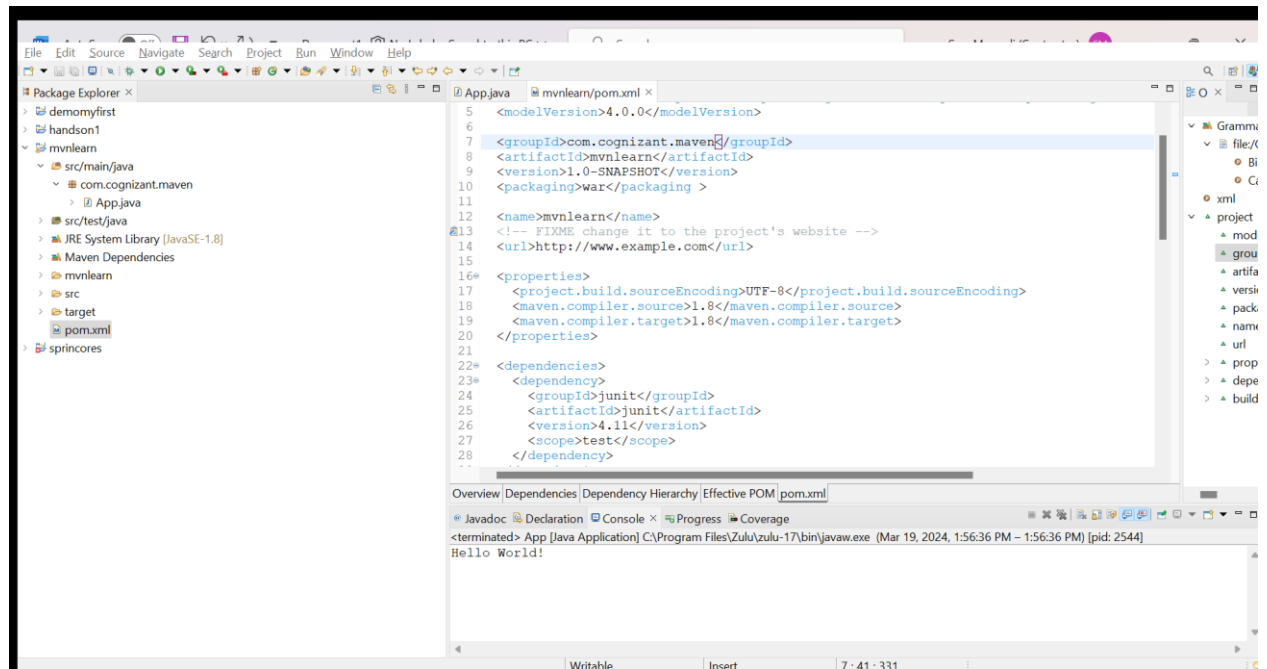
Setup Maven project in Eclipse

1. Import the maven project folder in previous hands on in Eclipse (**File > Import > Maven > Existing Maven Projects** and select the new maven project folder)



2. Make following change in **pom.xml**

- Change packaging as war **<packaging>war</packaging>**
- Change compiler version from **1.7** to **1.8**



Hands on 4

Understanding Maven Build Cycle and Goals

Execute the following commands in the order specified below.

After executing each command, check the content created in target folder.

Command	Expection action by Maven
mvn clean	Deletes the target folder
mvn clean validate	Validates if there is not issues to initiate build
mvn clean compile	Compiles and creates the classes from main folder
mvn clean test-compile	Compiles and creates the classes from test folder
mvn clean test	Executes the unit test cases
mvn clean package	Creates the JAR/WAR based on the configuration in pom.xml
mvn clean install	Copies the JAR to local maven repository
mvn clean deploy	This will fail since the remote server details are not configured.

1. mvn clean:

```
C:\Users\2317616\mvnlearn>mvn clean
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time:  0.308 s
[INFO] Finished at: 2024-03-19T12:27:05+05:30
[INFO] -----
```


2. mvn clean validate:

```
C:\Users\2317616\mvnlearn>mvn clean validate
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time:  0.271 s
[INFO] Finished at: 2024-03-19T12:27:24+05:30
[INFO] -----
```

3.mvn clean compile:

```
C:\Users\2317616\mvnlearn>mvn clean compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO]
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO]
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] -----
[INFO] Total time:  0.946 s
[INFO] Finished at: 2024-03-19T12:28:55+05:30
[INFO] -----
```

4.mvn clean test-compile:

```
C:\Users\2317616\mvnlearn>mvn clean test-compile
[INFO] Scanning for projects...
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO] --- resources:3.0.2:testResources (default-testResources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\test\resources
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\test-classes
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time:  1.067 s
[INFO] Finished at: 2024-03-19T12:29:14+05:30
[INFO] -----
```

5.mvn clean test:

```
C:\Users\2317616\mvnlearn>mvn clean test
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO]
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO]
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO]
[INFO] --- resources:3.0.2:testResources (default-testResources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\test\resources
[INFO]
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\test-classes
[INFO]
[INFO] --- surefire:2.22.1:test (default-test) @ mvnlearn ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.cognizant.maven.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.028 s - in com.cognizant.maven.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
```

6. mvn clean package:

```
C:\Users\2317616\mvnlearn>mvn clean package
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ war ]-----
[INFO]
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-war-plugin/3.4.0/maven-war-plugin-3.4.0.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-war-plugin/3.4.0/maven-war-plugin-3.4.0.pom (8.4 kB at 27 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-war-plugin/3.4.0/maven-war-plugin-3.4.0.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-war-plugin/3.4.0/maven-war-plugin-3.4.0.jar (83 kB at 1.2 MB/s)
[INFO]
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO]
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO]
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO]
[INFO] --- resources:3.0.2:testResources (default-testResources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\test\resources
[INFO]
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\test-classes
[INFO]
[INFO] --- surefire:2.22.1:test (default-test) @ mvnlearn ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.cognizant.maven.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.029 s - in com.cognizant.maven.AppTest
[INFO]
```

7.mvn clean install:

```
C:\Users\2317616\mvnlearn>mvn clean install
[INFO] Scanning for projects...
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-install-plugin/2.5.2/maven-install-plugin-2.5.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-install-plugin/2.5.2/maven-install-plugin-2.5.2.pom (6.4 kB at 24 kB/s)
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO] --- resources:3.0.2:testResources (default-testResources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\test\resources
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\test-classes
[INFO] --- surefire:2.22.1:test (default-test) @ mvnlearn ---
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.cognizant.maven.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.025 s - in com.cognizant.maven.AppTest
[INFO] Results:
[INFO]
```

8.mvn clean deploy:

```
C:\Users\2317616\mvnlearn>mvn clean deploy
[INFO] Scanning for projects...
[INFO] -----< com.cognizant.maven:mvnlearn >-----
[INFO] Building mvnlearn 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ war ]-----
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-deploy-plugin/2.8.2/maven-deploy-plugin-2.8.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-deploy-plugin/2.8.2/maven-deploy-plugin-2.8.2.pom (7.1 kB at 27 kB/s)
[INFO] --- clean:3.1.0:clean (default-clean) @ mvnlearn ---
[INFO] Deleting C:\Users\2317616\mvnlearn\target
[INFO] --- resources:3.0.2:resources (default-resources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\main\resources
[INFO] --- compiler:3.8.0:compile (default-compile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\classes
[INFO] --- resources:3.0.2:testResources (default-testResources) @ mvnlearn ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory C:\Users\2317616\mvnlearn\src\test\resources
[INFO] --- compiler:3.8.0:testCompile (default-testCompile) @ mvnlearn ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to C:\Users\2317616\mvnlearn\target\test-classes
[INFO] --- surefire:2.22.1:test (default-test) @ mvnlearn ---
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.cognizant.maven.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.029 s - in com.cognizant.maven.AppTest
[INFO] Results:
[INFO]
```