

Build and Release Mangement Lab File

Lab – 6

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Aim: Create a maven project using CLI.

Step 1: Open a CLI (Command Prompt), then check the maven version installed on your system using the following command.

```
mvn --version
```

After confirming maven, now change your directory to your preferred workspace for saving project files in it.

```
Command Prompt
Microsoft Windows [Version 10.0.18363.1440]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\snigdha>mvn --version
Apache Maven 3.5.3 (3383c37e1f9e9b3bc3df5050c29c8aff9f295297; 2018-02-25T01:19:05+05:30)
Maven home: C:\apache-maven-3.5.3\bin\..
Java version: 1.8.0_271, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk1.8.0_271\jre
Default locale: en_IN, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\snigdha>D:

D:\>cd D:\eclipse-workspace
D:\eclipse-workspace>
```

Step 2: Now enter the following command to create a maven project.

```
mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=my-app -
DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
```

The above command will create a maven project named as myapp which will have a Hello World java program created while the project was created.

```
Command Prompt
D:\eclipse-workspace>mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=my-app -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
[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] <<< 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 Batch mode
[INFO]
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.4
[INFO]
[INFO] Parameter: groupId, Value: com.mycompany.app
[INFO] Parameter: artifactId, Value: my-app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.mycompany.app
[INFO] Parameter: packageInPathFormat, Value: com/mycompany/app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.mycompany.app
[INFO] Parameter: groupId, Value: com.mycompany.app
[INFO] Parameter: artifactId, Value: my-app
[INFO] Project created from Archetype in dir: D:\eclipse-workspace\my-app
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 03:00 min
[INFO] Finished at: 2021-03-18T23:15:53+05:30
[INFO]
D[0mD[0m
D:\eclipse-workspace>
```

```
33 Command Prompt - mvn archetype:generate -DgroupId=com.mycompany.app -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.4 -DinteractiveMode=false
D:\eclipse-workspace>mvn archetype:generate -DgroupId=com.mycompany.app -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/3.3/maven-site-plugin-3.3.pom (21 kB at 4.5 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-site-plugin/3.3/maven-site-plugin-3.3.pom (21 kB at 4.5 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/1.3/maven-antrun-plugin-1.3.jar (24 kB at 31 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-antrun-plugin/1.3/maven-antrun-plugin-1.3.jar (24 kB at 31 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-assembly-plugin/2.2-beta-5/maven-assembly-plugin-2.2-beta-5.jar (209 kB at 107 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-assembly-plugin/2.2-beta-5/maven-assembly-plugin-2.2-beta-5.jar (209 kB at 107 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-dependency-plugin/2.8/maven-dependency-plugin-2.8.jar (153 kB at 89 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-dependency-plugin/2.8/maven-dependency-plugin-2.8.jar (153 kB at 89 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-release-plugin/2.5.3/maven-release-plugin-2.5.3.jar (53 kB at 45 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-release-plugin/2.5.3/maven-release-plugin-2.5.3.jar (53 kB at 45 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/maven-metadata.xml (20 kB at 24 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/maven-metadata.xml (20 kB at 24 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-metadata.xml (14 kB at 11 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-metadata.xml (14 kB at 11 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/maven-metadata.xml (949 B at 1.5 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/maven-metadata.xml (949 B at 1.5 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/3.2.0/maven-archetype-plugin-3.2.0.pom (11 kB at 16 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/3.2.0/maven-archetype-plugin-3.2.0.pom (11 kB at 16 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetype/maven-archetype/3.2.0/maven-archetype-3.2.0.pom (12 kB at 18 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetype/maven-archetype/3.2.0/maven-archetype-3.2.0.pom (12 kB at 18 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/3.2.0/maven-archetype-plugin-3.2.0.jar (97 kB at 70 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/3.2.0/maven-archetype-plugin-3.2.0.jar (97 kB at 70 kB/s)
[INFO]
```

Step 3: Once the project is created, change your directory to the project directory (here my-app) to work on the project. Now to build the project enter the following command.

mvn package

[illegible]

Step 4: Now the newly created jar file can be tested with the following command which will print the Hello World! output.

```
java -cp target/my-app-1.0-SNAPSHOT.jar com.mycompany.app.App
```

```

D:\eclipse-workspace\my-app>java -cp target/my-app-1.0-SNAPSHOT.jar com.mycompany.app.App
Hello World!
D:\eclipse-workspace\my-app>

```

Step 5: Now if there are some new changes in the project, we can create a new jar file with the new changes with the following command.

mvn clean dependency:copy-dependencies package

The command will clean the project, copy dependencies, and package the project, executing all phases up to package.

```
Command Prompt
D:\eclipse-workspace\my-app>mvn clean dependency:copy-dependencies package
[INFO] Scanning for projects...
[INFO] 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 (5.2 kB at 2.8 kB/s)
[INFO] 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 46 kB/s)
[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 (6.4 kB at 12 kB/s)
[INFO] 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.jar (33 kB at 46 kB/s)
[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 (7.1 kB at 13 kB/s)
[INFO] 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.jar (34 kB at 55 kB/s)
[INFO]
[INFO] -----< com.mycompany.app:my-app >-----
[INFO] Building my-app 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-clean-plugin:3.1.0:clean (default-clean) @ my-app ---
[INFO] Deleting D:\eclipse-workspace\my-app\target
[INFO]
[INFO] --- maven-dependency-plugin:2.8:copy-dependencies (default-cli) @ my-app ---
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-sink-api/1.0-alpha-10/doxia-sink-api-1.0-alpha-10.pom (1.3 kB at 2.4 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-sink-api/1.0-alpha-10/doxia-sink-api-1.0-alpha-10.jar (1.3 kB at 2.4 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-core/1.0-alpha-10/doxia-core-1.0-alpha-10.pom (9.2 kB at 16 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-core/1.0-alpha-10/doxia-core-1.0-alpha-10.jar (20 kB at 34 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/reporting/maven-reporting-impl/2.0.5/maven-reporting-impl-2.0.5.pom (4.2 kB at 7.3 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/reporting/maven-reporting-impl/2.0.5/maven-reporting-impl-2.0.5.jar (7.1 kB at 13 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/1.5.7/plexus-utils-1.5.7.pom (8.1 kB at 14 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/1.5.7/plexus-utils-1.5.7.jar (8.1 kB at 14 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-site-renderer/1.0/doxia-site-renderer-1.0.pom (4.4 kB at 8.0 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/doxia/doxia-site-renderer/1.0/doxia-site-renderer-1.0.jar (9.6 kB at 17 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-velocity/1.1.7/plexus-velocity-1.1.7.pom (2.0 kB at 3.5 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-velocity/1.1.7/plexus-velocity-1.1.7.jar (2.0 kB at 3.5 kB/s)
[INFO]
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-dependency-tree/2.1/maven-dependency-tree-2.1.jar (60 kB at 12 kB/s)
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-dependency-tree/2.1/maven-dependency-tree-2.1.jar (60 kB at 12 kB/s)
[INFO] Copying junit-4.11.jar to D:\eclipse-workspace\my-app\target\dependency\junit-4.11.jar
[INFO] Copying hamcrest-core-1.3.jar to D:\eclipse-workspace\my-app\target\dependency\hamcrest-core-1.3.jar
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\eclipse-workspace\my-app\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ my-app ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\eclipse-workspace\my-app\target\classes
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:testResources (default-testResources) @ my-app ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory D:\eclipse-workspace\my-app\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ my-app ---
[INFO] Changes detected - recompiling the module!
[INFO] Compiling 1 source file to D:\eclipse-workspace\my-app\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.22.1:test (default-test) @ my-app ---
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.mycompany.app.AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.069 s - in com.mycompany.app.AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO]
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ my-app ---
[INFO] Building jar: D:\eclipse-workspace\my-app\target\my-app-1.0-SNAPSHOT.jar
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 01:04 min
[INFO] Finished at: 2021-03-18T23:26:21+05:30
[INFO]
D:\eclipse-workspace\my-app>
```

Step 6: We can also generate a site documentation of the project using the following command.

mvn site

```

Command Prompt
Download from central: https://repo.maven.apache.org/maven2/org/apache/httpcomponents/httpcomponents-parent-9.0/httpcomponents-parent-9.0.pom (34 kB at 52 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/commons-codec/commons-codec/1.10/commons-codec-1.10.pom
Download from central: https://repo.maven.apache.org/maven2/commons-codec/commons-codec/1.10/commons-codec-1.10.pom (12 kB at 19 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-parent/35/commons-parent-35.pom
Download from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-parent/35/commons-parent-35.pom (58 kB at 89 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/slf4j/slf4j-api/1.7.25/slf4j-api-1.7.25.pom
Download from central: https://repo.maven.apache.org/maven2/org/slf4j/slf4j-api/1.7.25/slf4j-api-1.7.25.pom (3.8 kB at 6.1 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/slf4j/slf4j-parent/1.7.25/slf4j-parent-1.7.25.pom
Download from central: https://repo.maven.apache.org/maven2/org/slf4j/slf4j-parent/1.7.25/slf4j-parent-1.7.25.pom (14 kB at 21 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-provider-api/3.1.0/wagon-provider-api-3.1.0.pom
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-provider-api/3.1.0/wagon-provider-api-3.1.0.pom (1.9 kB at 3.2 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-artifact-transfer/0.9.1/maven-artifact-transfer-0.9.1.jar
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-http-shared/3.1.0/wagon-http-shared-3.1.0.jar
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-http-lightweight/3.1.0/wagon-http-lightweight-3.1.0.jar
Download from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.1.0/plexus-utils-3.1.0.jar
Download from central: https://repo.maven.apache.org/maven2/commons-codec/commons-codec/1.6/commons-codec-1.6.jar
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-artifact-transfer/0.9.1/maven-artifact-transfer-0.9.1.jar (123 kB at 181 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/jsoup/jsoup/1.11.2/jsoup-1.11.2.jar
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-http-lightweight/3.1.0/wagon-http-lightweight-3.1.0.jar (17 kB at 12 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-provider-api/3.1.0/wagon-provider-api-3.1.0.jar (36 kB at 23 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-http-shared/3.1.0/wagon-http-shared-3.1.0.jar (36 kB at 23 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/apache/maven/wagon/wagon-provider-api/3.1.0/wagon-provider-api-3.1.0.jar (55 kB at 23 kB/s)
Download from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.1.0/plexus-utils-3.1.0.jar (262 kB at 105 kB/s)
Download from central: https://repo.maven.apache.org/maven2/commons-codec/commons-codec/1.6/commons-codec-1.6.jar (233 kB at 91 kB/s)
[INFO] 15 reports detected for maven-project-info-reports-plugin:3.0.0: ci-management, dependencies, dependency-info, dependency-management, distribution-management, index, issue-management, licenses, mailing-lists, modules, plugin-management, plugins, scm, summary, team
[INFO] Rendering site with default locale English (en)
[INFO] Relativizing decoration links with respect to localized project URL: http://www.example.com
[INFO] Rendering content with org.apache.maven.skins:maven-default-skin-jar:1.2 skin.
[INFO] Generating "Dependencies" report --- maven-project-info-reports-plugin:3.0.0:dependencies
[INFO] Generating "Dependency Information" report --- maven-project-info-reports-plugin:3.0.0:dependency-info
[INFO] Generating "About" report --- maven-project-info-reports-plugin:3.0.0:index
[INFO] Generating "Plugin Management" report --- maven-project-info-reports-plugin:3.0.0:plugin-management
[INFO] Generating "Plugins" report --- maven-project-info-reports-plugin:3.0.0:plugins
[INFO] Generating "Summary" report --- maven-project-info-reports-plugin:3.0.0:summary
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 24.671 s
[INFO] Finished at: 2021-03-18T23:29:06+05:30
[INFO] -----
D:\eclipse-workspace\my-app>

```