



Practical – 2

Aim:Install Maven and Create a Maven Project.

Sudo apt remove maven :- to uninstall maven from the device

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5: $ sudo apt remove maven
[sudo] password for mefgi:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  hwinfo libapaliance-java libapache-pom-java libatninject-jsr330-api-java libatkmm-1.6-1v5 libcdi-api-java libcommons-cli-java libcommons-io-java
  libcommons-lang3-java libcommons-parent-java liberror-prone-java liberonimo-annotation-1.3-spec-java liberonimo-interceptor-3.0-spec-java libglomm-2.4-1t64 libgtkmm-3.0-1t64
  libguava-java libgulice-java libhd21t64 libjansi-java libjsr305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java libmaven3-core-java libpangomm-1.4-1v5
  libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java libplexus-sec-dispatcher-java libplexus-utilss2-java
  libsigc++-2.0-0v5 libsisu-inject-java libsisu-plexus-java libslf4j-java libwagon-file-java libwagon-http-shaded-java libwagon-provider-api-java libx86emu3
Use 'sudo apt autoremove' to remove them.
The following packages will be REMOVED:
  maven
0 upgraded, 0 newly installed, 1 to remove and 234 not upgraded.
After this operation, 127 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 211616 files and directories currently installed.)
Removing maven (3.8.7-2) ...
```

Sudo apt install maven:- to install the maven in the device

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5: $ sudo apt install maven
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  hwinfo libatkmm-1.6-1v5 libglomm-2.4-1t64 libhd21t64 libpangomm-1.4-1v5 libsigc++-2.0-0v5 libx86emu3
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  maven
0 upgraded, 1 newly installed, 0 to remove and 234 not upgraded.
Need to get 18.3 kB of archives.
After this operation, 127 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 maven all 3.8.7-2 [18.3 kB]
Fetched 18.3 kB in 1s (24.3 kB/s)
Selecting previously unselected package maven.
(Reading database ... 211554 files and directories currently installed.)
Preparing to unpack .../archives/maven_3.8.7-2_all.deb ...
Unpacking maven (3.8.7-2) ...
Setting up maven (3.8.7-2) ...
```

mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=my-app -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.5 -DinteractiveMode=false
:- to create a maven project

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB$ mvn archetype:generate -DgroupId=com.DEVOPS.app -DartifactId=Practical_2 -DarchetypeArtifactId=maven-archetype-quickstart -DarchetypeVersion=1.5 -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:3.4.0:generate (default-cli) > generate-sources @ standalone-pom >>
[INFO] 
[INFO] <<< maven-archetype-plugin:3.4.0:generate (default-cli) < generate-sources @ standalone-pom <<
[INFO] 
[INFO] 
[INFO] --- maven-archetype-plugin:3.4.0:generate (default-cli) @ standalone-pom ---
[INFO] Generating project in Batch mode
[INFO] 
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.5
[INFO] 
[INFO] Parameter: groupId, Value: com.DEVOPS.app
[INFO] Parameter: artifactId, Value: Practical_2
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.DEVOPS.app
[INFO] Parameter: packageInPathFormat, Value: com/DEVOPS/app
[INFO] Parameter: junitVersion, Value: 5.11.0
[INFO] Parameter: package, Value: com.DEVOPS.app
[INFO] Parameter: groupId, Value: com.DEVOPS.app
[INFO] Parameter: artifactId, Value: Practical_2
[INFO] Parameter: javaCompilerVersion, Value: 17
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[WARNING] Don't override file /home/mefgi/DEVOPS_LAB/Practical_2/src/main/java/com/DEVOPS/app
[WARNING] Don't override file /home/mefgi/DEVOPS_LAB/Practical_2/src/test/java/com/DEVOPS/app
[WARNING] CP Don't override file /home/mefgi/DEVOPS_LAB/Practical_2.mvn
[INFO] Project created from Archetype in dir: /home/mefgi/DEVOPS_LAB/Practical_2
[INFO] 
[INFO] BUILD SUCCESS
[INFO] 
[INFO] Total time: 0.595 s
[INFO] Finished at: 2025-06-24T14:00:43+05:30
[INFO] -----
```



Mvn compile :-to compile the maven project

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ mvn compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.example:maven-plugin-demo >-----
[INFO] Building maven-plugin-demo 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:compile (default-compile) @ maven-plugin-demo ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.233 s
[INFO] Finished at: 2025-06-24T14:23:01+05:30
[INFO]
```

Mvn install:- to install the package of downloaded maven project

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.example:maven-plugin-demo >-----
[INFO] Building maven-plugin-demo 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.pom (27 kB at 31 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.pom (766 B at 7.4 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-parent/1.3/hamcrest-parent-1.3.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-parent/1.3/hamcrest-parent-1.3.pom (2.0 kB at 19 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.jar (45 kB at 125 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.jar (385 kB at 678 kB/s)
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:compile (default-compile) @ maven-plugin-demo ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:testCompile (default-testCompile) @ maven-plugin-demo ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/mefgi/DEVOPS_LAB/Practical_2/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:3.1.2:test (default-test) @ maven-plugin-demo ---
```

Mvn test :-to test the maven project

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.example:maven-plugin-demo >-----
[INFO] Building maven-plugin-demo 1.0-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:compile (default-compile) @ maven-plugin-demo ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:testCompile (default-testCompile) @ maven-plugin-demo ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/mefgi/DEVOPS_LAB/Practical_2/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:3.1.2:test (default-test) @ maven-plugin-demo ---
[INFO] Using auto detected provider org.apache.maven.surefire.junit4.JUnit4Provider
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running AppTest
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.035 s -- in AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.998 s
[INFO] Finished at: 2025-06-24T14:29:40+05:30
[INFO]
```



Mvn package:-

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ mvn package
[INFO] Scanning for projects...
[INFO]
[INFO] <!-- com.example:maven-plugin-demo -->
[INFO] Building maven-plugin-demo 1.0-SNAPSHOT
[INFO]   [ jar ] --
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:compile (default-compile) @ maven-plugin-demo ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ maven-plugin-demo ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /home/mefgi/DEVOPS_LAB/Practical_2/src/test/resources
[INFO]
[INFO] --- maven-compiler-plugin:3.10.1:testCompile (default-testCompile) @ maven-plugin-demo ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file to /home/mefgi/DEVOPS_LAB/Practical_2/target/test-classes
[INFO]
[INFO] --- maven-surefire-plugin:3.1.2:test (default-test) @ maven-plugin-demo ---
[INFO] Using auto detected provider org.apache.maven.surefire.junit4.JUnit4Provider
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running AppTest
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.031 s -- in AppTest
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] --- maven-jar-plugin:3.3.0:jar (default-jar) @ maven-plugin-demo ---
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.158 s
[INFO] Finished at: 2025-06-24T14:29:59+05:30
[INFO] -----
```

Mvn site:-to scan your project and make the document for it

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ mvn site
[INFO] Scanning for projects...
[INFO]
[INFO] <!-- com.example:maven-plugin-demo -->
[INFO] Building maven-plugin-demo 1.0-SNAPSHOT
[INFO]   [ jar ] --
[INFO]
[INFO] --- maven-site-plugin:4.0.0-M9:site (default-site) @ maven-plugin-demo ---
[WARNING] Input file encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[WARNING] Report plugin org.apache.maven.plugins:maven-project-info-reports-plugin has an empty version.
[WARNING] It is highly recommended to fix these problems because they threaten the stability of your build.
[WARNING] For this reason, future Maven versions might no longer support building such malformed projects.
[INFO] Configuring report plugin maven-project-info-reports-plugin:3.9.0
[INFO] Detected 15 reports for maven-project-info-reports-plugin:3.9.0: 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 for default locale
[INFO] Relativizing site links with respect to localized project URL: http://maven.apache.org
[INFO] Rendering content with org.apache.maven.skins:maven-fluido-skin:jar:2.0.0-M6 skin
[INFO] Rendering 7 report documents
[INFO] Generating 'Dependencies' report ... maven-project-info-reports-plugin:3.9.0:dependencies
[INFO] Generating 'Maven Coordinates' report ... maven-project-info-reports-plugin:3.9.0:dependency-info
[INFO] Generating 'Project Management' report ... maven-project-info-reports-plugin:3.9.0:plugin-management
[INFO] Generating 'Plugins' report ... maven-project-info-reports-plugin:3.9.0:plugins
[INFO] Generating 'Summary' report ... maven-project-info-reports-plugin:3.9.0:summary
[INFO] Generating 'Project Information' report ... maven-site-plugin:4.0.0-M9:project-info
[INFO]
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] total time: 1.445 s
[INFO] Finished at: 2025-06-24T15:07:20+05:30
[INFO]
[INFO] mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ cd target/
[INFO] mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2/target$ ls
[INFO] maven-project-info-reports-3.9.0-SNAPSHOT-site-index.html maven-plugin-demo-1.0-SNAPSHOT.jar maven-status site surefire-reports test-classes
[INFO] mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2/target$ ls site/
[INFO] index.html dependency-info.html fonts images img index.html js plugin-management.html plugins.html project-info.html summary.html
[INFO] mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2/target$
```

Java-jar maven -plugin-demo-1.0-SNAPSHOT.jar :-to run the maven project jar file is already created

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2$ cd target/
[INFO] mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2/target$ java -jar maven-plugin-demo-1.0-SNAPSHOT.jar
Mail ID: mahmudnain.kadivari12338@marwadiuniversity.ac.in
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/Practical_2/target$
```



Below screen shots for Gradle no need to write description because process is same

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB$ sudo apt remove gradle
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
```

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB$ sudo apt install gradle
[sudo] password for mefgi:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  hwinfo libatkmm-1.6-1v5 libcairomm-1.0-1v5 libglibmm-2.4-1t64 libgtkmm-3.0-1t64 libhd21t64 libpangomm-1.4-1v5 libsigc++-2.0-0v5 libx86emu3
Use 'sudo apt autoremove' to remove them.
```

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB$ gradle -v
```

```
-----
Gradle 8.7
-----

Build time: 2024-03-22 15:52:46 UTC
Revision: 650af14d7653aa949fce5e886e685efc9cf97c10

Kotlin: 1.9.22
Groovy: 3.0.17
Ant: Apache Ant(TM) version 1.10.13 compiled on January 4 2023
JVM: 21.0.7 (Ubuntu 21.0.7+6-Ubuntu-0ubuntu124.04)
OS: Linux 6.11.0-28-generic amd64
```

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB$ gradle init --type java-application
Starting a Gradle Daemon, 1 busy Daemon could not be reused, use --status for details

Enter target Java version (min: 7, default: 21): 21

Project name (default: DEVOPS_LAB): MDnaim_Gradle_App

Select application structure:
  1: Single application project
  2: Application and library project
Enter selection (default: Single application project) [1..2] 2

Select build script DSL:
  1: Kotlin
  2: Groovy
Enter selection (default: Kotlin) [1..2] 2

Generate build using new APIs and behavior (some features may change in the next minor release)? (default: no) [yes, no] yes

> Task :init
To learn more about Gradle by exploring our Samples at https://docs.gradle.org/8.7/samples/sample_building_java_applications_multi_project.html

BUILD SUCCESSFUL in 1m 4s
1 actionable task: 1 executed
```

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5:~/DEVOPS_LAB/build-logic$ gradle build

BUILD SUCCESSFUL in 15s
9 actionable tasks: 9 executed
```



```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5: $ gradle run
Path for java installation '/usr/lib/jvm/openjdk-17' (Common Linux Locations) does not contain a java executable
Path for java installation '/usr/lib/jvm/openjdk-21' (Common Linux Locations) does not contain a java executable
Path for java installation '/usr/lib/jvm/openjdk-11' (Common Linux Locations) does not contain a java executable

> Task :app:run
Hello World!

BUILD SUCCESSFUL in 8s
2 actionable tasks: 2 executed
```

```
mefgi@mefgi-ThinkCentre-neo-50a-24-Gen-5: $ gradle test
Path for java installation '/usr/lib/jvm/openjdk-17' (Common Linux Locations) does not contain a java executable
Path for java installation '/usr/lib/jvm/openjdk-11' (Common Linux Locations) does not contain a java executable
Path for java installation '/usr/lib/jvm/openjdk-21' (Common Linux Locations) does not contain a java executable

BUILD SUCCESSFUL in 4s
3 actionable tasks: 2 executed, 1 up-to-date
```