

## 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:
  hwnfo libaopalliance-java libapache-pom-java libatinject-jsr330-api-java libatkmm-1.6-1v5 libcairom-1.0-1v5 libcdi-api-java libcommons-cli-java libcommons-io-java
  libcommons-lang3-java libcommons-parent-java liberror-prone-java libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libglibmm-2.4-1t64 libgtkmm-3.0-1t64
  libguava-java libguice-java libh2t64 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-utils2-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:
  hwnfo libatkmm-1.6-1v5 libcairom-1.0-1v5 libglibmm-2.4-1t64 libgtkmm-3.0-1t64 libh2t64 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] --- 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]
[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 ]-----
[INFO]
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.pom
[INFO] 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)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.pom
[INFO] 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)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-parent/1.3/hamcrest-parent-1.3.pom
[INFO] 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)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/junit/junit/4.13.2/junit-4.13.2.jar
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.jar
[INFO] 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)
[INFO] 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] 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] BUILD SUCCESS
[INFO]
[INFO] Total time: 0.998 s
[INFO] Finished at: 2023-06-24T14:29:40+05:30
[INFO]
[INFO] -----
```



### Mvn package:-

```
nefgi@nefgi-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/nefgi/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/nefgi/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/nefgi/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] 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: 1.150 s
[INFO] Finished at: 2025-06-24T14:29:59+05:30
[INFO] -----
```

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

```
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2$ mvn site
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.DevOps.app: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, son, 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.skis: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 "About" report --- maven-project-info-reports-plugin:3.9.0:index
[INFO] Generating "Plugin 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: 1.448 s
[INFO] Finished at: 2025-06-24T15:07:20+05:30
[INFO] -----
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2$ cd target/
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2/target$ ls
classes  generated-sources  generated-test-sources  maven-archiver  maven-plugin-demo-1.0-SNAPSHOT.jar  maven-status  site  surefire-reports  test-classes
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2/target$ ls site/
css  dependencies.html  dependency-info.html  fonts  images  img  index.html  js  plugin-management.html  plugins.html  project-info.html  summary.html
nefgi@nefgi-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

```
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2$ cd target/
nefgi@nefgi-ThinkCentre-neo-50a-24-Gen-5: /DEVOPS_LAB/Practical_2/target$ java -jar maven-plugin-demo-1.0-SNAPSHOT.jar
Mail ID: mahmadnain.kadivar123338@marwadiuniversity.ac.in
nefgi@nefgi-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:~$ 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:
  hwnfo 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
```

---