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## BRM LAB-6

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### Aim: Create a simple Maven Project using CLI.

- Download and install Maven and run the following command to ensure that it is properly installed

```
Command Prompt
Microsoft Windows [Version 10.0.18363.1082]
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C:\Users\pc>mvn --version
Apache Maven 3.5.3 (3383c37e1f9e9b3bc3ddf5050c29c8aff9f295297; 2018-02-25T01:19:05+05:30)
Maven home: E:\Maven\apache-maven-3.5.3\bin\..
Java version: 1.8.0_111, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk1.8.0_111\jre
Default locale: en_IN, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\pc>cd C:\Users\pc\eclipse-workspace
```

- Create a simple maven project using the following commands

```
Command Prompt
C:\Users\pc>cd C:\Users\pc\eclipse-workspace

C:\Users\pc\eclipse-workspace>mvn archetype:generate -DgroupId=com.mycompany.app -DartifactId=brm.lab6 -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 9.0 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 47 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 238 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 244 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 111 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/maven-metadata.xml (20 kB at 44 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/mojo/maven-metadata.xml (14 kB at 16 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-archetype-plugin/maven-metadata.xml (949 B at 2.3 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 25 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 132 kB/s)
[INFO] -----< org.apache.maven:standalone-pom >-----
[INFO] Building Maven Stub Project (No POM) 1
[INFO] -----[ pom ]-----
[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] --- maven-archetype-plugin:3.2.0:generate (default-cli) @ standalone-pom ---
```

```

C:\ Command Prompt
Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.2.0/plexus-io-3.2.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interpolation/1.25/plexus-interpolation-1.25.jar (85 kB at 24 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.19/commons-compress-1.19.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-io/3.2.0/plexus-io-3.2.0.jar (76 kB at 21 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.8/xz-1.8.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-archiver/4.2.1/plexus-archiver-4.2.1.jar (196 kB at 53 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interactivity-api/1.0/plexus-interactivity-api-1.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/3.2.1/maven-shared-utils-3.2.1.jar (167 kB at 41 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-invoker/3.0.1/maven-invoker-3.0.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-interactivity-api/1.0/plexus-interactivity-api-1.0.jar (9.8 kB at 2.3 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-common-artifact-filters/3.0.1/maven-common-artifact-filters-3.0.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/tukaani/xz/1.8/xz-1.8.jar (109 kB at 25 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-script-interpreter/1.0/maven-script-interpreter-1.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-invoker/3.0.1/maven-invoker-3.0.1.jar (33 kB at 7.0 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/bash/sh/2.0b4/bsh-2.0b4.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-common-artifact-filters/3.0.1/maven-common-artifact-filters-3.0.1.jar (61 kB at 13 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/ant/ant/1.8.1/ant-1.8.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-script-interpreter/1.0/maven-script-interpreter-1.0.jar (21 kB at 4.2 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/commons/commons-compress/1.19/commons-compress-1.19.jar (615 kB at 103 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-script-interpreter/1.0/maven-script-interpreter-1.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/ant/ant/1.8.1/ant-1.8.1.jar (1.5 MB at 221 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/groovy/groovy/2.4.16/groovy-2.4.16.jar (4.7 MB at 535 kB/s)
[INFO] Generating project in Batch mode
[INFO] No archetype defined. Using maven-archetype-quickstart (org.apache.maven.archetypes:maven-archetype-quickstart:1.4)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.pom (1.6 kB at 3.8 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-bundles/1.4/maven-archetype-bundles-1.4.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-bundles/1.4/maven-archetype-bundles-1.4.pom (4.5 kB at 10 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.jar (7.1 kB at 17 kB/s)
[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: brm.lab6
[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: brm.lab6
[INFO] Project created from Archetype in dir: C:\Users\pc\workspace\brm.lab6
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 41.650 s
[INFO] Finished at: 2021-03-18T09:50:40+05:30
[INFO] -----
B [0m] [0m

```

- Build the maven project using mvn package command

```

C:\ Command Prompt
C:\Users\pc\workspace>cd brm.lab6
C:\Users\pc\workspace\brm.lab6>mvn package
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.mycompany.app:brm.lab6 >-----
[INFO] Building brm.lab6 1.0-SNAPSHOT
[INFO] -----[ 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.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 4.1 kB/s)
Downloaded 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 17 kB/s)
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
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 29 kB/s)
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
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 23 kB/s)
Downloaded 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 20 kB/s)
Downloaded 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 37 kB/s)
Downloaded 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 27 kB/s)
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
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 42 kB/s)
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
Downloaded 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 35 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire/2.22.1/surefire-2.22.1.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire/2.22.1/maven-surefire-plugin-2.22.1.jar (41 kB at 41 kB/s)
Downloaded 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
Downloaded 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 (6.2 kB at 12 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-jar-plugin/3.0.2/maven-jar-plugin-3.0.2.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-jar-plugin/3.0.2/maven-jar-plugin-3.0.2.jar (27 kB at 36 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.11/junit-4.11.pom
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.11/junit-4.11.pom (2.3 kB at 5.0 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/junit/junit/4.11/junit-4.11.jar (245 kB at 69 kB/s)
[INFO]
[INFO] --- maven-resources-plugin:3.0.2:resources (default-resources) @ brm.lab6 ---
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-component-annotations/1.6/plexus-component-annotations-1.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-component-annotations/1.6/plexus-component-annotations-1.6.pom (748 B at 1.5 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-containers/1.6/plexus-containers-1.6.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-containers/1.6/plexus-containers-1.6.pom (3.8 kB at 8.0 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/3.3.2/plexus-3.3.2.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus/3.3.2/plexus-3.3.2.pom (22 kB at 33 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-filtering/3.1.1/maven-filtering-3.1.1.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-filtering/3.1.1/maven-filtering-3.1.1.pom (5.7 kB at 12 kB/s)
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/3.0.0/maven-shared-utils-3.0.0.pom
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/3.0.0/maven-shared-utils-3.0.0.pom (5.6 kB at 11 kB/s)

```

```
Command Prompt
[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: 0.037 s - in com.mycompany.app.AppTest
[INFO] Results:
[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0
[INFO] --- maven-jar-plugin:3.0.2:jar (default-jar) @ brm.lab6 ---
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/3.0.1/maven-shared-utils-3.0.1.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-shared-utils/3.0.1/maven-shared-utils-3.0.1.jar (154 kB at 228 kB/s)
[INFO] Building jar: C:\Users\pc\eclipse-workspace\brm.lab6\target\brm.lab6-1.0-SNAPSHOT.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:25 min
[INFO] Finished at: 2021-03-18T09:57:41+05:30
[INFO] -----
```

- Test the newly compiled and packaged JAR with the following command

```
Command Prompt
C:\Users\pc\eclipse-workspace\brm.lab6>java -cp target\brm.lab6-1.0-SNAPSHOT.jar com.mycompany.app.App
Hello World!

C:\Users\pc\eclipse-workspace\brm.lab6>_
```