

# Build and Release Management Lab

**Name- Sahil Bansal**

**SAPID- 500075412**

**Roll No. - R171219031**

## LAB EXERCISE 6

**Aim:** Create a simple Maven Project using CLI

```
Microsoft Windows [Version 10.0.19042.867]
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C:\Users\Sahil Bansal>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: 15.0.1, vendor: Oracle Corporation
Java home: C:\Program Files\Java\jdk-15.0.1
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"

C:\Users\Sahil Bansal>cd C:\Users\Sahil Bansal\eclipse-workspace
```

### **Creating a Project:**

You will need somewhere for your project to reside, create a directory somewhere and start a shell in that directory. On your command line, execute the following Maven goal

```

C:\Users\Sahil Bansal\workspace>mvn archetype:generate -DgroupId=com.devops.upes -DartifactId=my-app -DarchetypeArtifactId=maven-archetype-quickstart
[INFO] Scanning for projects...
[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]
[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] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.pom (0
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-bundles/1.4/maven-archetype-bundles-1.4.pom
[INFO] 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
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-quickstart/1.4/maven-archetype-quickstart-1.4.jar (0
[INFO]
[INFO] Using following parameters for creating project from Archetype: maven-archetype-quickstart:1.4
[INFO]
[INFO] Parameter: groupId, Value: com.devops.upes
[INFO] Parameter: artifactId, Value: my-app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: package, Value: com.devops.upes
[INFO] Parameter: packageInPathFormat, Value: com/devops/upes
[INFO] Parameter: package, Value: com.devops.upes
[INFO] Parameter: groupId, Value: com.devops.upes
[INFO] Parameter: artifactId, Value: my-app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Project created from Archetype in dir: C:\Users\Sahil Bansal\workspace\my-app
[INFO]
[INFO] BUILD SUCCESS
[INFO]

```

You will notice that the generate goal created a directory with the same name given as the artifact ID. Change into that directory.

This PC > OS (C:) > Users > Sahil Bansal > eclipse-workspace

Name	Date modified	Type	Size
.metadata	2/6/2021 10:41 AM	File folder	
ayush	2/4/2021 3:00 PM	File folder	
BRM_LAB	2/4/2021 10:29 AM	File folder	
brn lab 2021	2/4/2021 3:51 PM	File folder	
first	1/15/2021 11:41 AM	File folder	
first program	1/21/2021 9:39 PM	File folder	
lab3	2/4/2021 2:52 PM	File folder	
mvn_brm	2/11/2021 9:37 AM	File folder	
my-app	3/18/2021 10:10 AM	File folder	
MyProg1	1/15/2021 11:32 AM	File folder	

C:\ Command Prompt

```
C:\Users\Sahil Bansal\workspace>cd my-app
```

## POM.XML File

```

<?xml version="1.0" encoding="UTF-8"?>
<project xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/xsd/maven-4.0.0.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns="http://maven.apache.org/POM/4.0.0">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.devops.upes</groupId>
  <artifactId>my-app</artifactId>
  <version>1.0-SNAPSHOT</version>
  <name>my-app</name>
  <!-- FIXME change it to the project's website -->
  <url>http://www.example.com</url>
  - <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>
  - <dependencies>
    - <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
  - <build>
    - <pluginManagement>
      <!-- lock down plugins versions to avoid using Maven defaults (may be moved to
parent pom) -->
      - <plugins>
        <!-- clean lifecycle, see https://maven.apache.org/ref/current/maven-
core/lifecycles.html#clean_Lifecycle -->
        - <plugin>
          <artifactId>maven-clean-plugin</artifactId>
          <version>3.1.0</version>
        </plugin>
        <!-- default lifecycle, jar packaging: see
https://maven.apache.org/ref/current/maven-core/default-
bindings.html#Plugin_bindings_for_jar_packaging -->
        - <plugin>
          <artifactId>maven-resources-plugin</artifactId>
          <version>3.0.2</version>
        </plugin>
        - <plugin>
          <artifactId>maven-compiler-plugin</artifactId>
          <version>3.8.0</version>
        </plugin>
        - <plugin>
          <artifactId>maven-surefire-plugin</artifactId>
          <version>2.22.1</version>

```

```

    </plugin>
  - <plugin>
    <artifactId>maven-jar-plugin</artifactId>
    <version>3.0.2</version>
  </plugin>
  - <plugin>
    <artifactId>maven-install-plugin</artifactId>
    <version>2.5.2</version>
  </plugin>
  - <plugin>
    <artifactId>maven-deploy-plugin</artifactId>
    <version>2.8.2</version>
  </plugin>
  <!-- site lifecycle, see https://maven.apache.org/ref/current/maven-
    core/lifecycles.html#site_Lifecycle -->
  - <plugin>
    <artifactId>maven-site-plugin</artifactId>
    <version>3.7.1</version>
  </plugin>
  - <plugin>
    <artifactId>maven-project-info-reports-plugin</artifactId>
    <version>3.0.0</version>
  </plugin>
</plugins>
</pluginManagement>
</build>
</project>

```

## Build the Project

```
C:\Users\Sahil Bansal\eclipse-workspace\my-app>mvn package
```

The command line will print out various actions, and end with the following:

```

[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.042 s - in com.devops.upes.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]
[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
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 198 kB/s)
[INFO] Building jar: C:\Users\Sahil Bansal\eclipse-workspace\my-app\target\my-app-1.0-SNAPSHOT.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 01:09 min
[INFO] Finished at: 2021-03-18T10:10:56+05:30
[INFO] -----

```

You may test the newly compiled and packaged JAR with the following command, which will print the quintessential:

```
C:\Users\Sahil Bansal\eclipse-workspace\my-app>java -cp target/my-app-1.0-SNAPSHOT.jar com.devops.upes.App
Hello World!
C:\Users\Sahil Bansal\eclipse-workspace\my-app>_
```