

Maven

Maven

What is Maven?

A Java project management and integration build tool.

Based on the concept of XML Project Object Model (POM).

Maven

Installation

Maven is a Java tool, so you must have JDK already installed.

Next, Download Maven (zip) from
<https://maven.apache.org/download.html>

Maven

Type the following in a terminal or in a command prompt:

mvn --version

It should print out your installed version of Maven

```
Apache Maven 3.6.3 (cecedd343002696d0abb50b32b541b8a6ba2883f)
Maven home: D:\apache-maven-3.6.3\apache-maven\bin\..
Java version: 1.8.0_232, vendor: AdoptOpenJDK, runtime: C:\Program Files\AdoptOpenJDK\jdk-8.0.232.09-hotspot\jre
Default locale: en_US, platform encoding: Cp1250
OS name: "windows 10", version: "10.0", arch: "amd64", family: "windows"
```

Creating a Project

Create a directory somewhere and start a shell in that directory. On your command line, execute the following Maven goal (in one line):

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

cd my-app

The Project Structure

Under this directory you will notice the following [standard project structure](#).

```
my-app
|-- pom.xml
`-- src
    |-- main
    |   |-- java
    |   |   |-- com
    |   |   |   |-- mycompany
    |   |   |   |   |-- app
    |   |   |   |   |   App.java
    |-- test
    |   |-- java
    |   |   |-- com
    |   |   |   |-- mycompany
    |   |   |   |   |-- app
    |   |   |   |   |   AppTest.java
```

The POM

```
1. <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
2.   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
3.   <modelVersion>4.0.0</modelVersion>
4.
5.   <groupId>com.mycompany.app</groupId>
6.   <artifactId>my-app</artifactId>
7.   <version>1.0-SNAPSHOT</version>
8.
9.   <properties>
10.    <maven.compiler.source>1.7</maven.compiler.source>
11.    <maven.compiler.target>1.7</maven.compiler.target>
12.  </properties>
13.
14.  <dependencies>
15.    <dependency>
16.      <groupId>junit</groupId>
17.      <artifactId>junit</artifactId>
18.      <version>4.12</version>
19.      <scope>test</scope>
20.    </dependency>
21.  </dependencies>
22. </project>
```


Build the Project

mvn package

What is the output? Do you notice any new files created?

Test the newly compiled and packaged JAR with the following command

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

What is the output?

Test your Build

Test the newly compiled and packaged JAR with the following command

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

What is the output?

More that you can do with Maven

Have you noticed the “1.0-SNAPSHOT” in the command that you just ran?

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

Want to release your next version as “1.0-RELEASE” jar or “2.0-RELEASE” jar ?

Simply change it in POM.xml file. Look for the `<version>` tag there for your GroupID/artifactID and update with whatever release numbers and release codename you want.