

RAJAT VERMA

SOFTWARE TESTING

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TUTORIAL | BUILD AUTOMATION TOOL

MAVEN

(1)- WHAT|WHY|HOW?



<https://github.com/rajatt95>

<https://www.youtube.com/@rajatt95>



What is Maven?

1. Maven is
 - a. Open-source build tool
 - i. Developed by the Apache Group
 1. To build, publish, and deploy projects
 - b. One word
 - i. Build Automation Tool
 - ii. Build and Dependency Management Tool
 - c. [Maven Official Doc](#)



Why to use Maven? - Build Automation Tool



1. Simplifies the process of project creation and building
2. Execute test cases in CI/CD environment



Why to use Maven? - Dependency Management

1. It helps to download dependencies
 - a. Libraries or JAR files
 - i. There may be different versions
 1. The tool helps get the right JAR files for each project

2. Maven Central repository

- a. <https://mvnrepository.com/>



<https://github.com/rajatt95>

Home » org.seleniumhq.selenium » selenium-java » 4.8.1



Selenium Java » 4.8.1

Selenium provides support for the automation of web browsers. It provides extensions to emulate user interaction with browsers, a distribution server for scaling browser allocation, and the infrastructure for implementations of the W3C WebDriver specification.

License [Apache 2.0](#)

Categories [Web Testing](#)

Tags [selenium](#) [testing](#) [web](#)

HomePage <https://selenium.dev/>

Date Feb 17, 2023

Files [pom \(4 KB\)](#) [jar \(870 bytes\)](#) [View All](#)

Repositories [Central](#)

Ranking [#270 in MvnRepository \(See Top Artifacts\)](#)

[#1 in Web Testing](#)

Used By [1,611 artifacts](#)

[Maven](#) [Gradle](#) [Gradle \(Short\)](#) [Gradle \(Kotlin\)](#) [SBT](#) [Ivy](#) [Grape](#) [Leiningen](#) [Buildr](#)

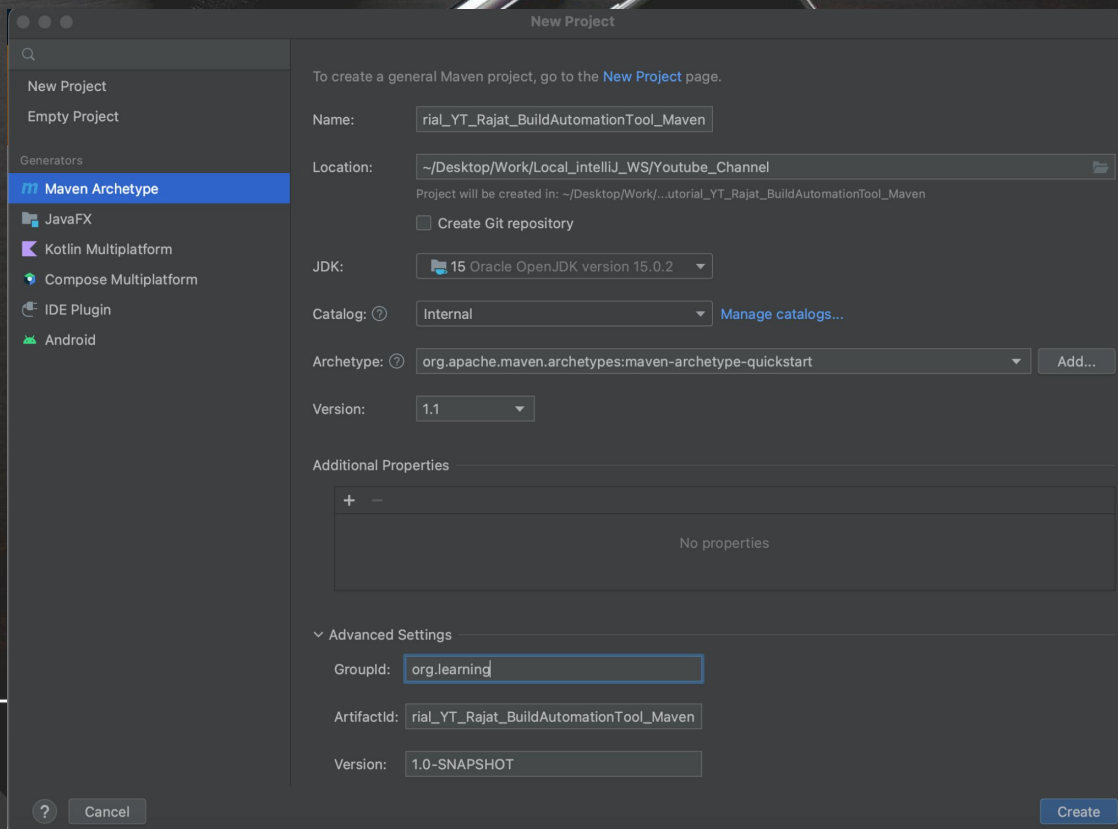
```
<!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java -->
<dependency>
  <groupId>org.seleniumhq.selenium</groupId>
  <artifactId>selenium-java</artifactId>
  <version>4.8.1</version>
```

How to use Maven in Test Automation?

1. Create Maven project
 - a. Maven will create the project structure

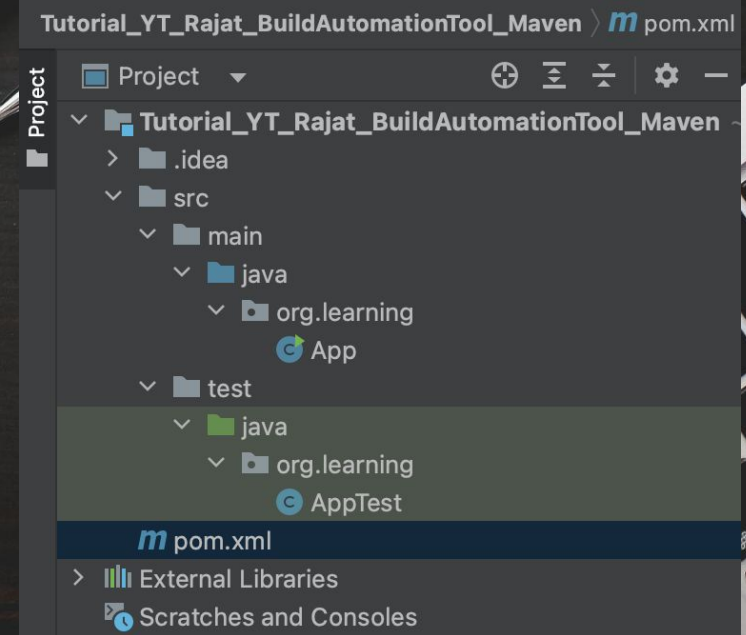


<https://github.com/rajatt95>



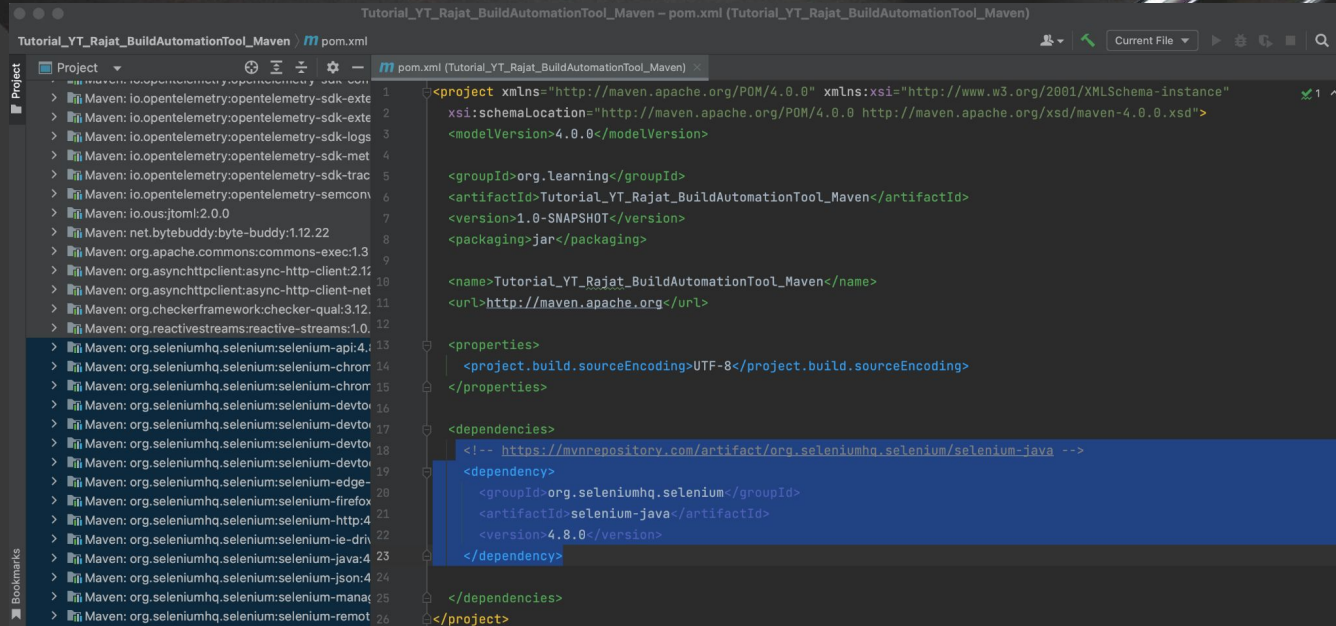
How to use Maven in Test Automation? (2)

1. Maven project structure and contents are declared in pom.xml (Project Object Model)
 - a. It is the fundamental unit of the entire Maven system.



How to use Maven in Test Automation?

..... (3)



```
<?xml version="1.0" encoding="UTF-8" ?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>org.learning</groupId>
  <artifactId>Tutorial_YT_Rajat_BuildAutomationTool_Maven</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>jar</packaging>

  <name>Tutorial_YT_Rajat_BuildAutomationTool_Maven</name>
  <url>http://maven.apache.org</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  </properties>

  <dependencies>
    <!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-java -->
    <dependency>
      <groupId>org.seleniumhq.selenium</groupId>
      <artifactId>selenium-java</artifactId>
      <version>4.8.0</version>
    </dependency>
  </dependencies>
</project>
```



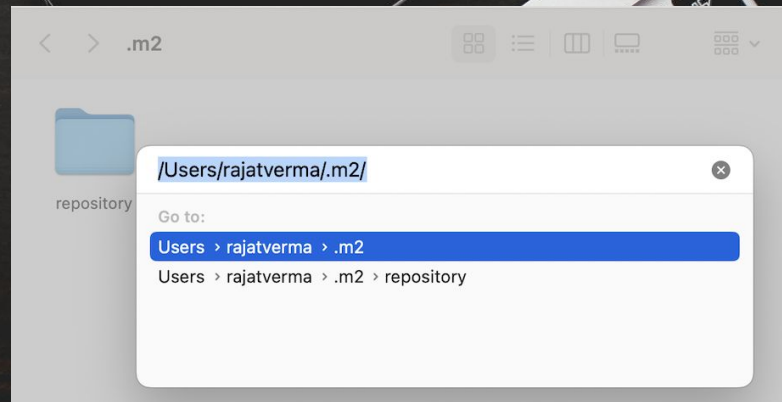
<https://github.com/rajatt95>

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Maven Local Repository

1. **Dependencies are downloaded in**
 - a. WIN: C:\Users\<<User_Name>\.m2
 - b. Linux: /home/<User_Name>/.m2
 - c. Mac: /Users/<user_name>/.m2



Upcoming Sessions

1. Create a Maven Project
 - a. Maven Project Folder Structure
 - b. pom.xml file
2. Build Life Cycle
3. Plugins | Profiles
4. Maven commands
 - a. Execute tests



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