

Maven

Part 1

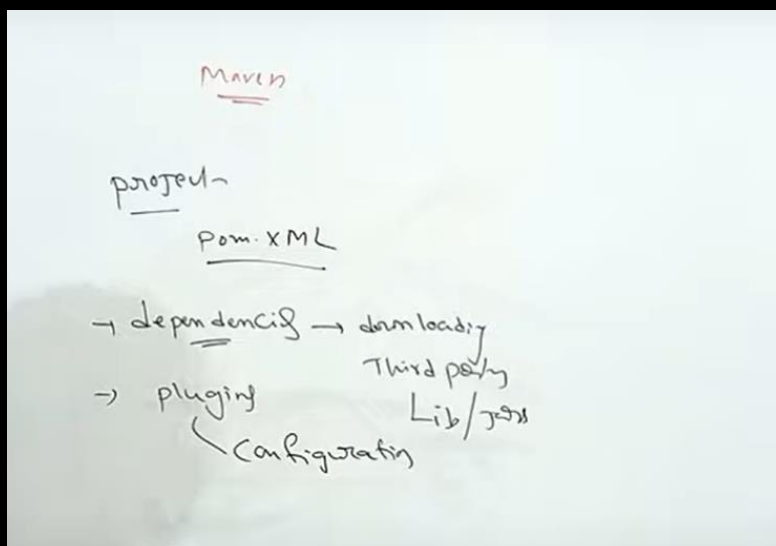
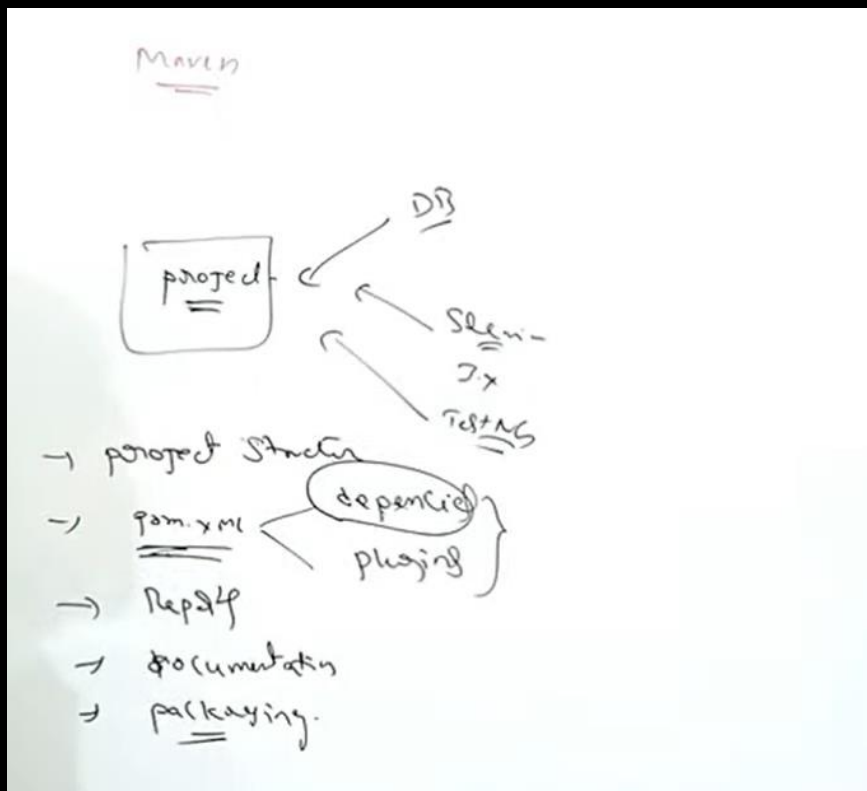
- What is Maven ?
- What are advantages of Maven ?
- What is pom.xml ?
- What is dependency & plugin ?

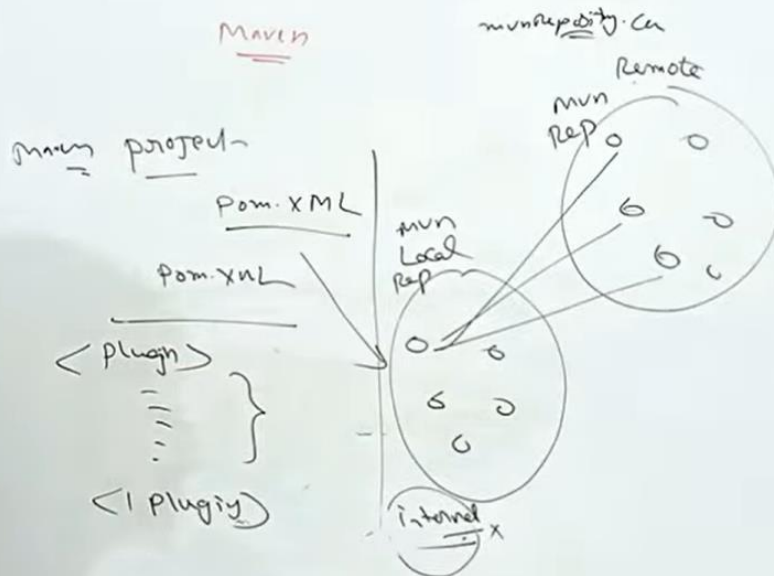
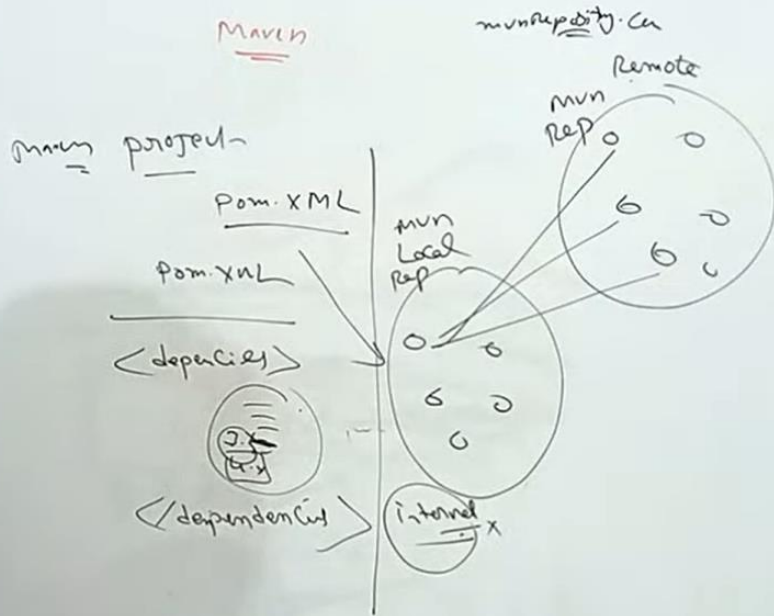
Maven is a build tool provided by apache software foundation

dependencies are responsible for downloading 3rd party libraries/jars

plugins have all the required configuration related to the project

plugins controls or organize the project





Part 2

- Create a Maven project in Eclipse
- Maven Project folder structure
- Project Object Model (pom.xml)
- Maven Build Life Cycle

<https://www.lambdatest.com/blog/how-to-install-testng-in-eclipse-step-by-step-guide/>

Project folder structure

src/main/java -> development code

src/main/resources -> resources used by development code

src/test/java -> testing code to perform unit tests using Junit, TestNG etc

src/test/resources -> resources used by testing code

Other folders like src, target are used by maven to create temporary files while running the project

Project Object Model (pom.xml)

```
<dependencies>
```

```
</dependencies>
```

Inside dependencies tag to import desired jars/libraries into our project we need to add dependency from maven repository

<https://mvnrepository.com/artifact/org.testng/testng>

```
<!-- https://mvnrepository.com/artifact/org.testng/testng -->
```

```
<dependency>
```

```
  <groupId>org.testng</groupId>
```

```
  <artifactId>testng</artifactId>
```

```
  <version>7.4.0</version>
```

```
  <scope>test</scope>
```

```
</dependency>
```

Maven Build Life Cycle

- Validate
- Compile
- Test
- Package
- Integration Test
- Verify
- Install -> install in local repository
- Deploy -> install in remote rep's to use by other projects

install command will create a jar file

Part 3

- How to integrate Selenium with maven project in Eclipse ?
- How to run Selenium Tests in Eclipse using Maven ?
- Maven Surefire plugin
- How to generate Maven report ?

Maven related outputs will be generated in target folder

Testng related outputs will be generated in test-output folder

Add dependencies in pom.xml file

Write code

To run testng test cases , first we need to generate testng.xml file, later we need to run testng.xml file as TestNG suite

To generate testng.xml file

- Right click on package
- Go to TestNG > Convert to TestNG
- Later one pop-up will come, click on finish button
- It will generate a testng.xml file inside the project folder

To run all testng tests using maven we need to add Surefire plugin in pom.xml file

Maven Surefire plugin url : <https://maven.apache.org/surefire/maven-surefire-plugin/usage.html>

After adding surefire plugin we need to add following

```
<configuration>
  <suiteXmlFiles>
    <suiteXmlFile>testng.xml</suiteXmlFile>
  </suiteXmlFiles>
</configuration>
```

Update project every time when we make changes in pom.xml file

To update project

- Right Click on Project
- Go to Maven > Update project

Then run as maven test to run all TestNG related test cases using pom.xml

To view maven report, go to target folder > index.html

Part 4

- How to install & setup maven on windows ?
- How to run Maven Project from command line (CLI) ?
- Maven Commands

Maven for windows: [Maven – Download Apache Maven](#)

Set Environment Variables

MAVEN_HOME: D:\apache-maven-3.8.1\

M2_HOME: D:\apache-maven-3.8.1\

And also add path to path system variable

Project Location: C:\Users\vamsi\OneDrive\Desktop\Java-WS\mavenexample

Open command prompt, go to project location and try this commands 😊

Maven Commands

- mvn -version
- mvn clean
- mvn validate
- mvn compile
- mvn test
- mvn package
- mvn install
- mvn deploy