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MAVEN :

Maven is a build automation tool used primarily for java projects.

Creation of maven project :

* First we have to open command prompt and type the command like “maven archetype:generate”
* And then we have to select the maven archetype latest version like it will display in the command prompt after creating the maven project.
* After that it will the ask for the tags like groupid,archetype,version,package name which is there in the dependencies tag that will be in the pom.xml.
* And it will ask for the confirmation whether to create the project or not.

After creating project the folders comes under project are :

* Inside the project two folders will be created called src and pom.xml it is a xml file.The POM file defines the project's configuration and dependencies, while Maven uses this information to automate the build process and manage dependencies.. POM file key elements: The pom. xml file in Maven is a Project Object Model (POM) file that contains all the necessary information about a project.
* Inside the src folder again there are two folders like main and test.
* After creating the maven project .class file will be generated inside the package.

Maven Life cycle phases :

Validate- validates the project is correct and all necessary information is available

Compile- compile the source code of the project

Test- test the compiled source code using a suitable unit testing framework. These tests should not require the code be package or deployed

Package- take the compiled code and package it in its distributed format such as a JAR

Verify- run any checks on results of integration tests to ensure quality criteria are met

Install- install the package into the local repository, for use as a dependency in other projects locally

Deploy- done in the build environment , copies the final package to the remote repository for sharing with other developers and projects.

Commands are like

mvn validate

mvn compile

mvn test

mvn package

mvn verify

mvn install

mvn deploy

Observations during maven life cycle are :

* At first we have to give command like “cd project name”
* After that we have to perform the phase called validate by giving the command like “mvn validate”.
* After that we have to compile the code during this phase target folder will be created,if it fails in building the folders will be created inside the target are : classes,generated\_sources,maven-status,if it compiles sucessfully then the folders will be created inside the target are : classes,generated\_sources,maven-status,maven archiever,test cases,and also jarfile.
* Jarfile will be created only when the compilation will be done successfully.
* And class “.class file” will be created only when the compilation will be done successfully,if it fails during compilation then “.class file” will not be generated this is what I observed in compilation phase.
* Compile will be fails becoz of version that we have to change in the properties tag which is in pom.xml to the latest version from 1.7 to 1.8.
* After that there are phases that have to perform like test,verify,install.

After performing all the above phases ,I have run the code in command prompt by using the command like ”java -cd jar file package name.App”.