**MAVEN ASSIGNMENT**

1.What is maven and its usage ?

: Maven is a build automation tool used primarily for Java projects . Maven dynamically downloads Java libraries and Maven plug-ins from one or more repositories such as the Maven 2 Central Repository, and stores them in a local cache.It is used for projects build, dependency and documentation. It simplifies the build process .

USAGE-

* Helps manage all the processes, such as building, documentation, releasing, and distribution in project management.
* Simplifies the process of project building.
* Increases the performance of the project and the building process.

2.How to create a maven project ?

: In eclipse ,

* From the File menu, select New > Project > Maven project.
* Now select the workspace where the project should be created .
* Next select the archetype - org.apache.maven quickstart for java application and org.apache.maven webapp for java web application.
* Now type the project name in artifact id and click finish.
* That's it, the project is created now we can work on it .

3.What cmds do we have in maven and its purposes ?

: **mvn clean**

This command cleans the maven project by deleting the target directory. The command output relevant messages are shown below.

**mvn compiler:compile**

This command compiles the java source classes of the maven project.

**mvn compiler:testCompile**

This command compiles the test classes of the maven project.

**mvn package**

This command builds the maven project and packages them into a JAR, WAR, etc.

**mvn install**

This command builds the maven project and installs the project files (JAR, WAR, pom.xml, etc) to the local repository.

**mvn test**

This command is used to run the test cases of the project using the maven-surefire-plugin.

**mvn -DskipTests package**

The skipTests system property is used to skip the unit test cases from the build cycle. We can also use -Dmaven.test.skip=true to skip the test cases execution.

**mvn deploy**

This command is used to deploy the artifact to the remote repository. The remote repository should be configured properly in the project pom.xml file distributionManagement tag. The server entries in the maven settings.xml file is used to provide authentication details.

4.Maven life cycle ?

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| **Phase** | **Handles** | **Description** |
| --- | --- | --- |
| prepare-resources | resource copying | Resource copying can be customized in this phase. |
| validate | Validating the information | Validates if the project is correct and if all necessary information is available. |
| compile | compilation | Source code compilation is done in this phase. |
| Test | Testing | Tests the compiled source code suitable for testing framework. |
| package | packaging | This phase creates the JAR/WAR package as mentioned in the packaging in POM.xml. |
| install | installation | This phase installs the package in the local/remote maven repository. |
| Deploy | Deploying | Copies the final package to the remote repository. |