INTERVIEW QUESTION:

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1.

What are the differences between ANT and Maven

2.

How do you create a jar/war file in Maven?

3.

What is the difference between mvn deploy and install?

4.

Do you know the maven life cycle?

Yes, Maven works as a build tool for mainly java code. And these are the phases involved in the maven life cycle.

Validate - It is the initial step where it validates the project and all necessary information is available or not.

Compile - In this step, the Project source code is Compiled.

Test - During this step compiled source code is tested using a suitable builtin unit test framework.

Package - In this step the Compiled code packaged in its distributable format such as JAR/WAR/EAR.

Integration Test - Deploys the package into an environment, where integration tests can be run.

Verify - Verifies the result package of the integration test is valid, it has to meet quality criteria.

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

Deploy - In this Step it copies the final package to the remote repository for sharing with other developers and Projects.

What is Maven?

Maven is a Build Automation tool mainly used for java projects and also compatible for other projects such as project written in C# and Ruby etc. Maven downloads project dependent libraries from the central repository Maven2 and keeps in ".M2" Directory in the "$userhome".

By this you came to know Maven manages project builds and its dependencies as well. Maven keeps all key information about the project in the POM.xml file.

What is POM?

POM (Project Object Model), is the fundamental unit in maven, it is written in XML which has all the key information about the project’s Configuration, which is needed to build the project. And the pom.xml file will be in the project's source directory.

What is the use of Maven Plugins?

Maven Plugins are used for:

Creation of jar files.

Creation of War files.

Code Compilation.

Unit testing of code.

Documentation.

Tell me some differences between Ant & Maven?

ANT Maven

Ant is a toolBox Maven is a Framework.

Ant is flexible with configurations Maven has conventions.

Ant is having Procedural Approach, it Maven is Declarative,

takes a long xml build script. enough declaring the requirements in pom.xml.

Ant does not have any Life Cycle. Maven has a Life Cycle.

Ant Scripts are not reusable Maven scripts are reusable with little modifications.

What are the minimum requirements for POM?

The minimum. requirements for the POM file is Project root , Model Version, group ID, artifact ID and Version.

For example:

<project>

<modelVersion>1.0.0</modelVersion>

<groupId>com.wiculty.app</groupId>

<artifactId>wiculty-Learning-app</artifactId>

<version>1</version>

</project>

What are the features of Maven?

Here are some features listed:

Simple to Use: As The Maven is Conventional, it provides a project setting that is based on genuine Projects.

Fast: Create any project/module within a few Seconds.

Easy to Use: Maven commands are pretty straight forward and they are easy to understand.

Multiple Projects: Can manage more than one project at the same time.

Huge Library: As the Maven is a growing repository of libraries and metadata to use out of box. Can easily write plugins in Java or scripting languages.

Dependency Management: Automatic updating dependencies and transitive dependencies.

How to install Maven?

Maven is a open source build tool, it can download & install in any platform like ubuntu, windows, The steps are described below

Download & Extract Maven

Add JAVA\_HOME and MAVEN\_HOME to the list of Environment variables.

Add the Environment Path in Maven Variable. (If OS is windows)

Verify the maven installation by checking its version.

What does the mvn clean do?

The "mvn clean" command removes/cleans the target directory with all the previous build data before starting the new build.

Define Repository? What are the types of repositories?

Maven Repository is nothing but a directory where all the Jars and POM.XML files are stored. There are 3 types of repositories:

Local Repository: It is a local repository that will be created by maven, when the maven commands are executed. When you run maven command maven looks for dependencies first in the local repository. Which is your .M2 directory located in your $userhome

Central Repository: Maven community manages one repository on the web which is named as Central Repository. It contains a large number of libraries. When you run maven command maven looks for dependencies first in the local repository, if it is not there then by default maven looks in Central Repository. Maven’s Central Repository url is "repo.maven.apache.org/maven2/"

Remote Repository: If needed dependency is not available in Manven’s Central Repository then it may be available in any other Remote location managed by some other organizations those repositories are called Remote repository. So manually defining libraries in pom is suggested because some of the Libraries may not be available in the Maven’s central repository.

Name the three Build cycles of Maven?

Here are the Three build cycles of maven listed below:

Clean:Cleans the artifacts created by prior builds

Default:Deals with the complete deployment of the application

Site:Generates site document(java document) for the project.

When does the maven use the External dependency concept?

Maven dependency management search for dependencies in local, central and remote in sequence, if there is no dependency present in any of these, then in this case it uses External dependency concept.

6.

While building the project, you get an error saying some jar file is missing. how do you add that?

7.

- What is groupId, artifactId, and Version in Maven?

- What are the Maven co-ordinates?

- What are the mandatory attributes in pom.xml.

8.

What is SNAPSHOT in Maven?

The SNAPSHOT is nothing but a current development copy of the project. In short, the working version of the project is a snapshot. For example, prior to version "1.0-release" there will be "1.0-Snapshot" version.

What is a transitive dependency in Maven?

Transitive dependency is like indirect dependency, suppose A depends on B and B depends on C. Then, A depends on both B & C but A is transitively dependent on C. And the good thing is Maven downloads transitive dependencies automatically.

What is all the information POM contains?

The POM contains the following Configuration Details like:

Project Dependencies

Plugins

Goals

Build Profiles

Project Version

Developers info

Mailing List

Explain how you can exclude dependency?

By Using an Exclusion Element in pom.xml dependencies can be excluded. For example, you have to add this in your project's pom.xml file.

<exclusions>

<exclusion>

<groupId>sample.Project</groupId>

<artifactId>Project</artifactId>

<version>1.2.3</version>

</exclusion>

</exclusions>

Explain how to run the test classes in Maven?

The surefire plugin is used to run the test classes in Maven & check and configure your settings in setting.xml and pom.xml for a property named 'test'. Here is an example of adding surefire plugin to Pom.xml.

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-surefire-plugin</artifactId>

<version>2.22.2</version>

</plugin>

</plugins>

And then you have to execute this command

$ mvn test //for single test

$ mvn -Dtest=UsersServiceImplTest test //for all tests.

List out the build, source and test directory in Maven?

Build directory is your "Target" directory, Source is your "src/main/java" and test is "src/main/test" directory all these will be under "src" directory.

What build tool does?

Build tool does the following:

Generates artifacts/binaries for the source code will be generated.

From source code it generates documentation.

Source code will be compiled.

Packs compiled code into a JAR, WAR or ZIP File.

Copies packed code into the local repository along with their build versions in "com" directory.

What is meant by MOJO in Maven?

MOJO (Maven Plain Old Java Object) is the smallest executable unit that maven recognizes. MOJO has its own goal, a plugin has one or more goals to execute as it is a collection of one or more MOJOs. It is the smallest unit of maven plugin. Or the smallest plugin.

9.

What is the default naming convention of an artifacts(jar/war) in Maven?

artifactId is the name of the jar without version. If you created it, then you can choose whatever name you want with lowercase letters and no strange symbols. If it's a third party jar, you have to take the name of the jar as it's distributed.

eg. maven, commons-math

10.

How do you generate a site in Maven?

To generate a site, just run mvn site:site or mvn site. To view the generated site on a local machine, run mvn site:run. This command will deploy the site to a Jetty web server at the address localhost:8080

11.

How do you run a clean build in Maven?

12.

how do you add a dependency in Maven pom.xml?

Maven - External Dependencies

External dependencies (library jar location) can be configured in pom. xml in same way as other dependencies.

Specify groupId same as the name of the library.

Specify artifactId same as the name of the library.

Specify scope as system.

Specify system path relative to the project location.

14.

- What is the default path of artifacts in local repository?

- Where maven stores the built artifacts?

15.

How do you create a project in the Maven?

16.

What are the different binary repositoris we have? Which one you are using for your project?

17.

- How do you customize the name of your artifact(jar/war) in Maven?

- How do you change the name of built jar/war file in maven? what changes you need to do in pom.xml file?

18.

What do you mean by transitive dependency in Maven and can you explain how maven resolves it?

19.

- What is the significance of scope parameter in dependency section?

- What are the different scope's we have in Maven?