

Maven Interview Questions & Answers

1. What is Maven?

- Maven is a powerful project management tool that is based on POM (Project Object Model).
- It is one of the Build Tool.
- It is used for project build, dependency and documentation.
- It makes a project easy to build.
- It provides uniform build process (Maven project can be shared by all the maven projects)
- It provides project information (log document, dependency list, mailing list, unit test report list etc...)
- It is easy to migrate new feature of Maven.

2. What does it do?

- A build tool takes care of everything for building a process.
- Generate source code (if auto-generate code is used)
- Generate Documents from source code.
- Compiles source code.
- Packages compiled code into JAR and WAR file.
- Install the packaged code in local repository, server repository or central repository.

3. Difference between Maven and Ant?

Maven

- Maven has a convention to place source code, compiled code etc... so we don't need to provide information about the project structure in POM.xml
- Maven is declarative, everything you define in the POM.XML
- There is Life cycle in Maven.
- It is framework
- It is mainly a project management Tool.
- It is more preferred than Ant.
- The Maven plugins are reusable.

Ant

- Ant doesn't has formal conventions, so we need to provide information of the project structure in build.xml
- Ant is procedural. You need to provide information about what to do and when to do through code and you need to provide order.
- There is no life cycle in Ant.
- It is a tool box.
- It is mainly build tool.
- It is less performed than Maven.
- The Ant scripts are not reusable.

4. What is Maven Repository?

A Maven Repository is a directory(.M2) of a packaged JAR file with POM.xml file. Maven searches for dependencies in the repositories. There are 3 types of maven repositories.

Local Repository: this is located in your local system, it is created by maven when you run maven command.

Central Repository: This is located on the web. It has been created by apache maven community itself.

Remote Repository: This is located on the web, but most of the libraries can be missing from the central repository, so we need to define remote repository in POM.xml

5. What is POM.xml

POM is a Project Object Model. Pom.xml file contains information of project and configuration for the maven to the build project such as dependencies, build directory, source directory, test source directory, plugins, goals etc... maven reads the POM.xml file, then executes the goal.

6. What is Maven Artifacts?

An artifact is a file, usually a JAR/WAR that gets deployed to a Maven repository. A Maven build produces one or more Artifacts, such as a compiled JAR and a "sources" JAR.

Each artifact has a group ID, an artifact ID and a version string.

7. What would the command mvn clean do?

This command removes all the build data before starting the build process in target directory.

8. What is the Maven Lifecycle?

Lifecycle executed in term of phases:

1. Maven Steps through phases.
2. Execution defined in terms of plugin goals.
3. Execution associated with phases.
4. Lifecycle completes when all phase executes successfully.

9. What are the phases of a Maven Build Lifecycle?

validate – validate 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 packaged or deployed

package – take the compiled code and package it in its distributable format, such as a JAR/WAR.

integration-test – process and deploy the package if necessary into an environment where integration tests can be run.

verify – run any checks to verify the package is valid and meets quality criteria.

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

deploy – done in an integration or release environment, copies the final package to the remote repository for sharing with other developers and projects.

10. What is Maven Archetypes? And what are the Project Types?

Archetypes are templates to create a variety of Java project structures.

mvn archetype:generate : to generate project structures

11. What is different between Snapshot and Version?

In case of Version, if Maven once downloaded the mentioned version, it will never try to download a newer 1.0 available in repository. To download the updated code, data-service version is being upgraded to 1.1.

In case of SNAPSHOT, Maven will automatically fetch the latest SNAPSHOT every time app-ui team build their project.