**Maven Quiz Paper**

1)What is Maven ? What is your experience with it?

Maven is a project management tool. It provides super set of all features that are in build tool. It can run code, generate websites and communicate well between members of team. It is a tool that combines

* + Project object model
  + **Build Automation Tool**
  + Set of standards
  + Project lifecycle
  + Dependency management system
  + Different plugins for all phases in project lifecycle

2)What are the different tools that you have integrated Maven with?

Jenkins, Git, Chef etc. Maven can be integrated with all buildtools, repositories, and plugin test tools.

3)What are the steps that happen before a software projects deployment?

* Validate
* compile
* test
* package
* integration-test
* verify
* install
* deploy

4)What are the Advantages of maven over Ant ?

Maven is declarative. All you need is to do create a pom.xml file and put your source in the default directory. Maven will take care of the rest. If your have a current build contains some highly customized process or if you have written some Ant Scripts to complete a specific process; you can still use them in maven.

5)What does it mean when you say Maven uses Convention over Configuration?

Maven provides default behavior for projects, without customizing, source code is assigned and resources are assumed. Convention over configuration is nothing but frameworks that make use of defaults and works. So maven comes under convention over configuration category.

6)How do you know the version of mvn you are using?

By using command … **mvn -version**

7)List two most important files in your maven installation?

pom.xml

settings.xml

8)What is POM? What does it contain? Explain in detail

Project Object Model(POM) is a single Maven configuration file.

We manage our dependency by including them in POM.xml file. Each project has their unique set of coordinates like group id, artifact id and version number, we need to include them in POM file using tags.

9)What is settings.xml ? What does it contain?

It is also called as global setting with includes all user settings. This file defines local repository location, alternative servers and authorization specifications.

10)What is a goal in Maven terminology?

Maven incorporates the concept by providing sensible default behavior for projects. It has a defined life-cycle and a set of common plugins that includes how to build and assemble software. Maven allows us to customize defaults in-order to adapt to specific requirements. By doing so maven enabling us to manage out project more efficiently.

11)Explain what the following commands will do?

mvn clean – to clean all files and directories generated by maven during its previous builds.

mvn test – used to run specific test on to the project files.

mvn install – used to build a maven project. it tells maven to build all modules and intall it in local repository

mvn deploy – is used to deploy a project in your local repository.

12)What are the most important phases of a Maven Build Lifecycle?

* Validate
* compile
* test
* package
* integration-test
* verify
* install
* deploy

13)What are Maven Profiles ? How do you use a specific profile?

Ans.

Maven profiles are just subsets of the elements available in the POM itself and trigger it whenever needed. Whenever profiles are triggered they modify the POM file at build time and uses sets of given parameters for a set of target environments. So profiles results different results for different builds.

We can specify the profile in **POM.xml**. Even profile can be described in **profiles.xml**.

We can activate them by using tags like

14) What are Maven Plugins? List a few important maven plugins that you used?

(Must talk about maven release plugin)

Ans.

Maven enables us with multiple plugins, which we can use at the execution time. It offers two types of plugins those are

**Build plugins.** This type of plugins are executed during build and we can declare it in the build tags i.e. <build/> in POM files.

**Reporting plugins.** They can be executed during the time of site generation. We can configure them in <reporting/> element in POM file.

Release plugins: they are used while releasing a project by using maven.

release:clean—cleanup after a release preparation

release:prepare – Example mvn release:prepare is used to prepare a release execute. Even we can execute as a ggregator plugin.

15)How do you use plugins in Maven?

I used archetype plugins to create project. To create a simple java project we can use maven-archetype-quickstart plugin.

Example:

**mvn archetype:generate**

–DgroupId=com.companyname.bank

–DartifactId=consumerBanking

–**DarchetypeArtifactId=maven-archetype-quickstart**

–DinteractiveMode=false

Maven will start processing and create the complete java application project structure. So maven take care of build related complexities.

16)What are dependencies in maven? How are they declared? How is transitive dependencies managed in Maven?

Every project is dependent of set of other files, supporting tools etc. With out those dependencies we can build the project. So we can declare those dependencies in POM.xml file and run them on existing project and build it. Maven take care of everything like downloading dependancies and execute for us.

We can declare them using maven coordinates i.e. groupId, artifactId and Version.

17)What is difference between Dependency Management and Plugin Management in maven?

Ans.

Dependencies are just a Jar file which are added to class-path. It provides class files to execute the task. Jar files that are to be added to class path while compiling the file, those are specified in dependencies.

Plugins are jar files which executes the task. By using plugins we can add functionalists to maven.

18)How do you create properties in a maven pom ?

Properties are nothing but machine specified path, such as $(java.home)/lib. This values are accessible all through POM file. Example

<project> <version>1.0</version></project> is accessible via $(project.version).

19)How would you if a given pom is parent pom or a child pom ?

Ans.

* We can identify it by looking into pom file. parent element in the POM is represented by tags <parent> </parent>
* Well child pom are specified as modules in parent POM

20)How would you use modules in maven? When do you create a module for your project?

Modules are defined in modules elements and each module elements corresponds to subdirectory beneath top level pom.xml. Maven identifies those directories from pom.xnl files and it will list all maven projects included in a build.

We can add all submodules as well as dependencies into POM file and run all submodule at a time in execution process.

21)What is the order of inheritence between following files:

settings file

company pom

project pom

child/ module pom

Ans

22)What is the difference between the aggregation and inheritence in Maven?

Ans.

Inheritance: It is nothing process of making use of existing configurations and refactor our projects. By using inheritance concept we can make use of parent project configurations and apply them to child. We can do it by specifying parent POM from the module to every child.

Aggregation: It is similar to inheritance but we specify the modules from the parent POM. By doing so we will let know parent project about its corresponding modules. We just need to specify the directories of its modules in POM file.

23) In your current/previous project, how did you guys manage application version strings ?

Talk about what mV versions:set -Dnewversion=X.X.X.X and maven release plugin

Ans. Version number is used for grouping certain releases in project.

mvn versions:set is used to set the current projects version. newversion option is used to set new version number.