1. What is Maven and why is it used?

Maven: It is an open source and build automation tool which is used for java applications and it was developed by Apache Software Foundation.

1. Explain the POM file in Maven.

POM file in Maven is the key file in the maven project which is used for the manage dependence’s and build tools of java.

1. What are Maven coordinates and what do they represent?
2. How do you manage dependencies in Maven?

In Maven the dependencies are managed by the pom.xml file where pom stands for project object model.

1. What is a Maven repository and what are its types?

Maven Repository means the storage of the project

There are 3 types

1. Local Repository: It is a local machine where developers are work
2. Remote Repository: It is an cloud platform which is like GitHub
3. Central Repository: It is an organization where the project can store
4. Explain the concept of Maven lifecycle phases.

Maven LifeCycle:

There are three cycles:

1.Default Phase:

Compile: Converts source code into bytecode

Validate: Ensures code is correct

Test: Runs unit tests

Package: Creates a JAR, WAR, or EAR file

Install: Saves the package in the local repository

Verify: Checks if the package is correctly built

2. Clean Phase:

Pre-clean: Checks for old build files

Clean: Deletes old JAR/WAR/EAR files

Post-clean: Saves new build files

3. Site Phase:

Pre-site: Prepares files for deployment

Site: Generates documentation and reports

Post-site: Finalizes documentation

Site-deploy: Uploads documentation to a server

1. What are Maven goals and how do they differ from phases?

Maven Phases:

There are three Phases:

1.Default Phase(Main build Process):

Compile: Converts source code into bytecode.

Validate: Ensures code is correct.

Test: Runs unit tests.

Package: Creates a JAR, WAR, or EAR file.

Install: Saves the package in the local repository.

Verify: Checks if the package is correctly built.

2. Clean Phase (Before Compilation):

Pre-clean: Checks for old build files.

Clean: Deletes old JAR/WAR/EAR files.

Post-clean: Saves new build files.

3. Site Phase (Documentation & Deployment):

Pre-site: Prepares files for deployment.

Site: Generates documentation and reports.

Post-site: Finalizes documentation.

Site-deploy: Uploads documentation to a server

1. How do you create a Maven project?
2. What is a Maven plugin and how is it used?

Maven Plugins: Its add the additional features of the project

There are two types of plugins are there:

1.Built-in Plugin

2.Added Plugin

1. How do you handle versioning in Maven projects?

maven --version

1. Explain the PEM file in maven?

PEM file in maven often used to handle SSL/TLS certificates when accessing a private or self-signed repository over HTTPS, or for client-side authentication.

1. when we generate jar/war/ear file in target?

JAR File will generate when the target needs to the java applications like classes dependencies

War file will generate when the target needs the web applications like html dependencies

Ear file will generate when the target needs the large enterprise applications like group of jar and war applications dependencies

1. what is home directory in maven?

The location where maven is installed.

1. where will be build files stored?

In pom.xml the build files are stored.

1. what is meant by build tool?

It is an software program where the source code is converted into executable format.

1. Explain the process of building in maven?

Compile: Converts source code into bytecode.

Validate: Ensures code is correct.

Test: Runs unit tests.

Package: Creates a JAR, WAR, or EAR file.

Install: Saves the package in the local repository.

Verify: Checks if the package is correctly built.

Deploy: Handover to client

1. Does maven support all types of projects to build?

Yes, maven support all types of projects to build with the required extensions.

1. Java - Apache Maven, Apache ANT.

2. Python - PyBuilder.

3. .NET – MSBuild.

4. Node.js - Gulp, Grunt, Gradle, Webpack.

1. what is the difference between compile & validate?

Compile: Converts source code into bytecode.

Validate: Ensures code is correct.

1. can you create only one jar file or can we create multiple,explain?

We can create multiple jar files but it should not to be identical files.

1. What is Git and why is it used?

Git is distributed version control system that tracks the all changes in the source code. It is used for when the versions are updating.

1. Explain the difference between Git and other version control systems.

Git is an Distributed version control system that tracks the changes in the source code

Other version control systems are centralized version control system like Github

1. How do you initialize a Git repository?

Using the command git init

1. What is the purpose of the .gitignore file?

The purpose of git ignore file is when it is an plain text file it’s just ignore the file or an pattern.

1. How do you stage changes in Git?

The changes that are done in the working directory and then use the command to status of the files either add ,modified, delete and commit the files and stage files by git add . stage command.

1. What is the difference between git commit and git commit -m?

The git commit is used for when you commit without any message like initial push to the repo.

The git commit -m is used when you commit with an message like what changes that are done in the file.

1. How do you create a new branch in Git?

git checkout -b <branchname>

1. What is the difference between git merge and git rebase?

git merge is used for merging the different branches

git rebase is used for integrate changes from one branch to another branch.

1. How do you resolve merge conflicts in Git?

To resolve a Git merge conflict, identify the conflicting files, open them in a text editor, manually edit the conflicting sections to choose the desired content, then stage and commit the resolved files

1. What is the purpose of git stash?

git stash is used for version control tool that developers are work on different activities.

1. Explain the use of git pull and git fetch.

git pull is used getting the information from repo to local machine

git fetch is used for download the files from repo to local machine