



KODEROOM

MAVEN

Automation Build Tool



MAVEN

Apache Maven is a software project management and comprehension tool.

Based on the concept of a project object model (POM), Maven can manage a project's build, reporting and documentation from a central piece of information.



MAVEN

In Simple, A Build Automation Tool

It can also be used as Project Management Tool

Anything which is not the part of Business Logic must be Automated.



Main Features

BUILD AUTOMATION

- Produces deployable artifacts (jar, war) from source code.
- Helps to manage dependencies
- Has built in life cycle

PROJECT AUTOMATION

- Can produce documentation
- Support plugins for various report
- Support versioning and releasing the project



COMMANDS

MVN COMPILE

Compiles source code, generate any files, copy resources to target directory

MVN PACKAGE

Runs the compile command first, run test cases and package the apps based on project type.

MVN CLEAN

Deletes the target directory and generated resources

MVN INSTALL

Run the package commands and then install dependency in local repository



POM - Portable Object Modal

- Holds Meta Information about the project
- Project Information
 - groupid
 - artifactid
 - versioning
 - packaging
- Dependencies - Direct dependency used in Application
- Build - Plugins, Directory Structure etc
- Repositories - Holds all the dependency and artifacts.



DEPENDENCIES

- Resources on which our Project relies upon.
- To include just include the dependency in pom.xml
- Dependencies are identified by thier co-oridinate
 - groupid
 - artifactid
 - version



LOCAL REPOSITORY

- Where maven caches everything it downloads.
- The location is **`/home/{username}/.m2`**
- **W**hen maven needs to resolve a dependency, it first looks into local repository, then goes to remote repository and downloads it.



REMOTE REPOSITORY

- Repository over the network, that maven download dependencies from.
- Default location -
 - <http://repo.maven.apache.org/maven2/>
 - <https://mvnrepository.com/>
- We can add multiple repository.



MAVEN PLUGINS

- Provides the core operation to build the project. For example to create jar, maven jar plugin will do the job, not maven.
- Plugins provide one or more goals.
- **G**oal performs some operation on the project.
- Goal can be bound to life cycle phase



Thank You

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