**Maven**

**What is Build?**

•Build : Compile + Assembly + Create deliverable

•Compile : Convert Source code to machine readable format

•Assembly (Linking) : Grouping all class files

•Deliverable : .war, .jar

**Advantages of Build tool**

•Automated tasks (Mention all in pom.xml)

•Multiple Tasks at a time

•Quality product

•Minimize bad builds

•Keep history

•Save time - Save money

•Documentation

•Gives set of standards

•Gives define project life cycle (Goals)

•Manage all dependencies

•Uniformity in all projects

•Re-usability

**Why separate build team?**

•To match customer's environment

•Build team worry about whole product**Build tools**

•C, C++ : Make file

•.Net : Visual studio

•Java : Ant, Maven

**Architecture of Maven**

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•Main configuration file is pom.xml

•One project - One workspace - One pom.xml•Requirements for build:

1. Source code(Present in workspace)

2. Compiler(Remote repo - local repo - Workspace)

3. Dependencies(Remote repo - local repo - Workspace)

**Maven Build Life-Cycle**

Goals:

1. Generate resources ( Dependencies)

2. Compile code

3. Unit test

4. Package (Build)

5. Install (in to local repo & artifactory)

6. Deploy (to servers)

7. Clean (delete all run time files)

eg: mvn install

mvn clean package

1-6 -> Default & Sequence order

7 -> Not Default & It won’t follow sequence**Maven Directory Structure**

**Maven Repositories**

•Local (.M2)

•Remote (https://repo1.maven.org/maven2/)**Pom.xml contains**

•Metadata

•Dependencies

•Kind of project

•Kind of output (.jar, .war)

•Description**Important points**

•Maven is all about plug-ins

•Snapshot: Indicates development copy of your project. Not the

one which you are going to release.

•eg: 1,0-SNAPSHOT

•If you see version no in place of snapshot, then it means product

is ready to give customer.

**Multi-module project**

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•Simply dividing project into modules

•Each module must have it's own SRC folder & pom.xml so that

build will happen separately

•To build all modules with one command, there should be a parent

pom.xml file. This calls all child pom.xml files automatically

•In parent pom.xml file, need to mention the child pom.xml order.