

# Apache Maven

## POM FILE

- Project object model(POM)
- it is a fundamental unit of work in maven
- it is an .XML file that resides in the base directory of the project
  - named as POM.XML
- the POM contains information about the project and various configuration details used by maven to build the projects
- POM also contains the goals and the plugins
- while executing a task of a goal maven looks for the POM into the current directory
  - it reads the pom
  - gets needed information
  - executes the goal
- some of the configurations that can be specified in the pom are following
  - Project Dependancies
  - Plugins
  - Goals
  - Build profiles
  - Project versions
  - Develoupers
  - mailing lists
- Before creatinng a POM we sould first decide
  - project name (groupId)
  - its name (artifact ID)
  - its version

these help in uniquely identifying the project in the repo

- it should be noted that there should be single POM file for a project
- All POM files require the project element and three mandatory fields (\*GroupId...)
- Project's notation in repo is
  - groupId : artifactID : version

## Minimal requirements for POM

- project root
  - this is a project root tag
  - user needs to specify the basic schema settings such as
    - apache schema
    - W3.org.specification
- Modal version(atleas 4.0.0)
- GroupID

- it is an id of the project's group
- it is generally unique among an organization or a project
- Eg:
  - [bankinggroup.com.company.bank](http://bankinggroup.com.company.bank) (has all bank related projects)
- ArtifactID
  - it is an ID of a project
  - generally the name of the project
  - Eg:
    - consumer -banking
  - along with the group ID the artifact ID defines the artifact's location within the repo
- Version:
  - this is the version of the project
  - alongwith the group ID it is used within an artifact's repo to seperate versions from each other

## Super POM:

- It is maven's default POM
- all POM's inherit from either a parent or default
- the base POM is known as the super POM and contains value inherited by default
- Maven uses the effective POM to execute relevant goal
- it helps the devs to specify
  - minimum config details in his or her POM.xml
- although configurations can be overrrriden easily