- Maven
  - Maven is project management tool.
  - Most popular use of maven is for build management and dependencies.

- What problems does maven solve?
  - When building your java project, you may need additional JAR files

  - For example: spring, Hibernate, commons logging, JSON, etc...

  - one approach is to dowload the JAR files from each project web-site.

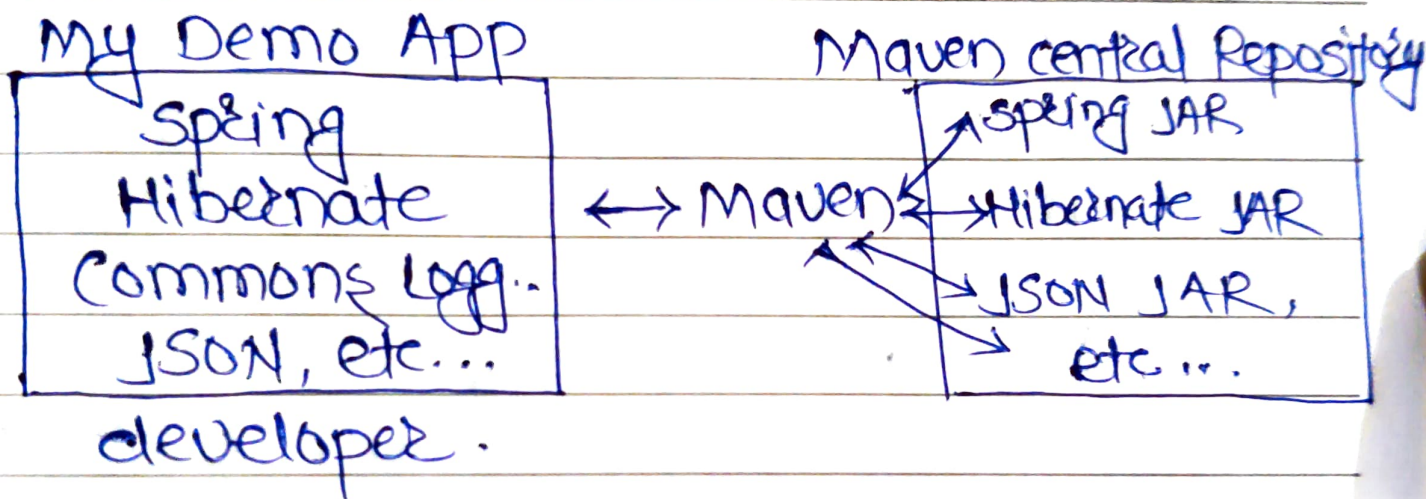 - Manually add the JAR files to your build path / classpath.

- Maven solution
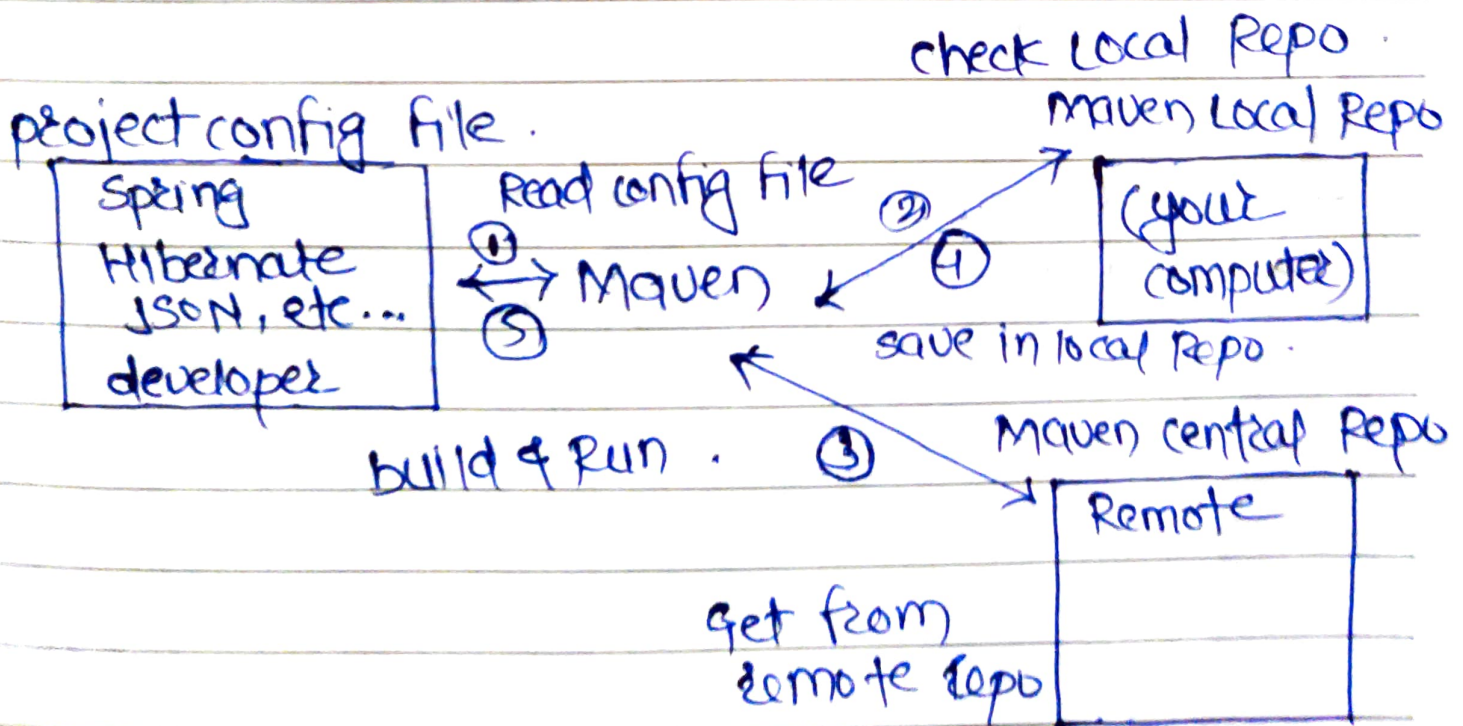 - Tell maven the projects you are working with (dependencies)
    - spring, Hibernate, JSON, etc...

  - Maven will go out and download the JAR files for those projects for you.

- And maven will make those JAR files available during compile/run

- Think of maven as your friendly helper/personal shopper :-)

- My project with Maven :

My Demo App		Maven central Repository
Spring		Spring JAR
Hibernate	←→ Maven ⇄	Hibernate JAR
Commons Log..		JSON JAR,
JSON, etc...		etc...
developer.		

- Maven - How It Works

check Local Repo.

Maven Local Repo

project config file.	Read config file	Maven Local Repo
Spring		(your
Hibernate	① ←→ Maven ②	computer)
JSON, etc...	⑤	
developer		

save in local repo.

build & Run.   ③

Maven central Repo

Remote

get from
remote repo

- Handling JAR Dependencies
  - When Maven retrieves a project dependency.

  - It will also download supporting dependencies

  - For example: spring depends on commons-logging ...

  - Maven will handle this for us automatically.

- Building and Running.
  - When you build and run your app.

  - maven will handle class/build path for you

  - Based on config file, maven will add JAR files accordingly.

- Standard Directory structure.
  -

Directory	Description
- src / main / java	your java source code.
- src/main/resources	properties/config/files used by your app.
- src / main / webapp	JSP files and web config files other web assets (images, css, JS, etc)
- src / test	unit Testing code and properties
- target	Destination directory for compiled code. Automatically created by maven.

- Standard Directory structure Benefits
  - for new developers joining a project.
  - They can easily find code, properties files, unit tests, web files etc ...

- most major IDE's have built-in support for maven.
- Eclipse, IntelliJ, NetBeans etc.
- IDES can easily read/import maven projects.
- maven projects are portable
- Developers can easily share projects between IDES.
- No need to fight about which IDE is the best LOL!

Advantages of maven
- Dependency management
- Maven will find JAR files for you
- No more missing JARS.
- Building and Running your project
- No more build path/classpath issues
- Standard directory structure.