MAVEN

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What is Maven?

- Maven is a build automation and project management tool primarily used in Java projects. It simplifies the process of building, testing, and deploying software by managing project dependencies, compiling code, running tests, and packaging the application. Maven uses a Project Object Model (POM) file, which is an XML file that contains information about the project, configuration details, dependencies, and plugins.

Maven Advantages

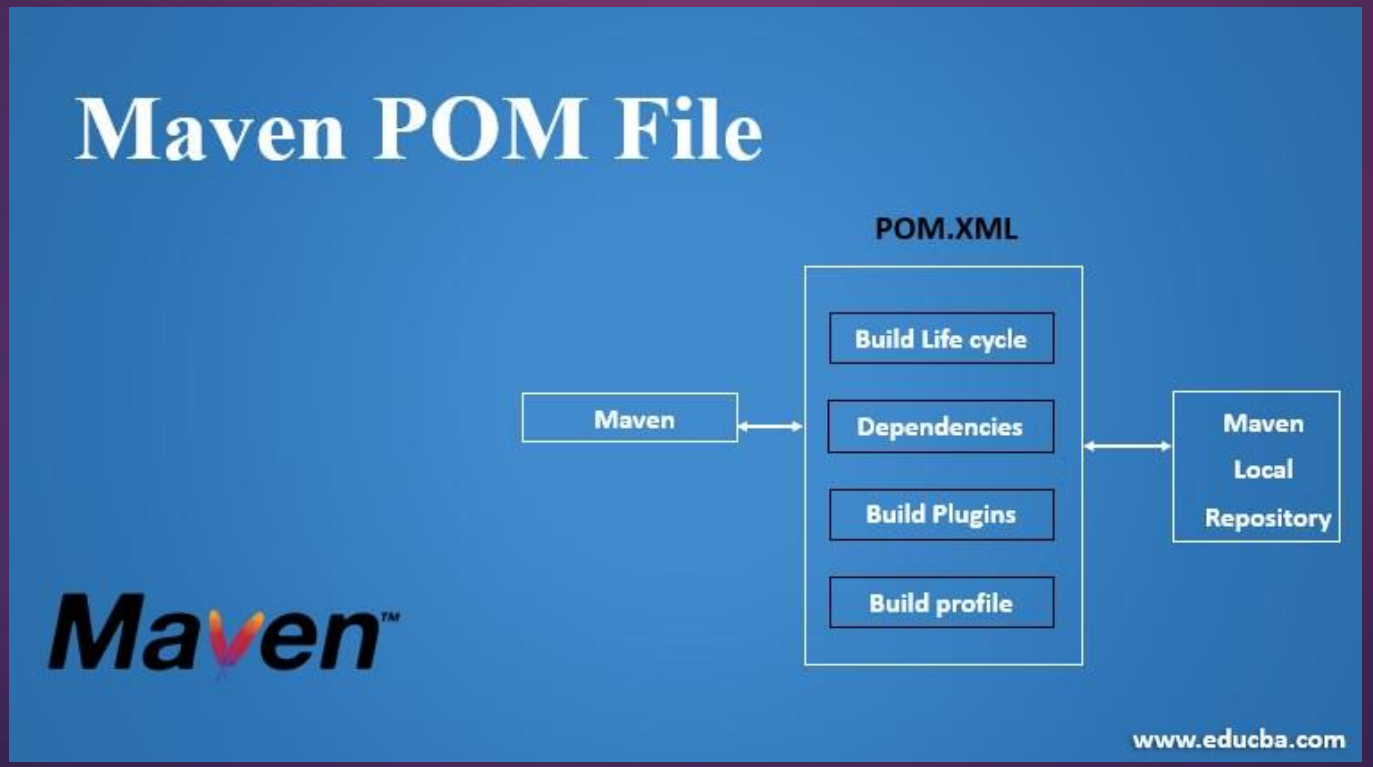
- Dependency management
- Consistent project structure
- Automatic project documentation
- Integration with IDEs
- Simplified build process
- Large plugin ecosystem
- Multi-module project support
- Easy project configuration
- Enhanced project versioning
- Strong community support

In summary, what Maven do?

Maven automates project builds, manages dependencies, and handles project lifecycle tasks.

POM FILE

A POM (Project Object Model) file is an XML file in Maven that defines a project's configuration, including its dependencies, build instructions, and plugins.



Maven Repositories

Maven repositories are storage locations for project artifacts (like libraries and plugins). There are three types:

- **Local Repository:** Stored on your machine, used to cache downloaded dependencies.
- **Central Repository:** A remote repository provided by Maven, containing a vast collection of open-source libraries.
- **Remote Repositories:** Additional repositories hosted by third parties, used to access dependencies not in the central repository.

Maven Plugins

Core Plugins	
Plugin	**Description**
maven-clean-plugin	Clean up after the build.
maven-compiler-plugin	Compiles Java sources.
maven-resources-plugin	Copy the resources to the output directory
maven-surefire-plugin	Run the JUnit unit tests.
maven-install-plugin	Install the built artifact into the local repository.
maven-deploy-plugin	Deploy the built artifact to the remote repository.