



Java Build Tools

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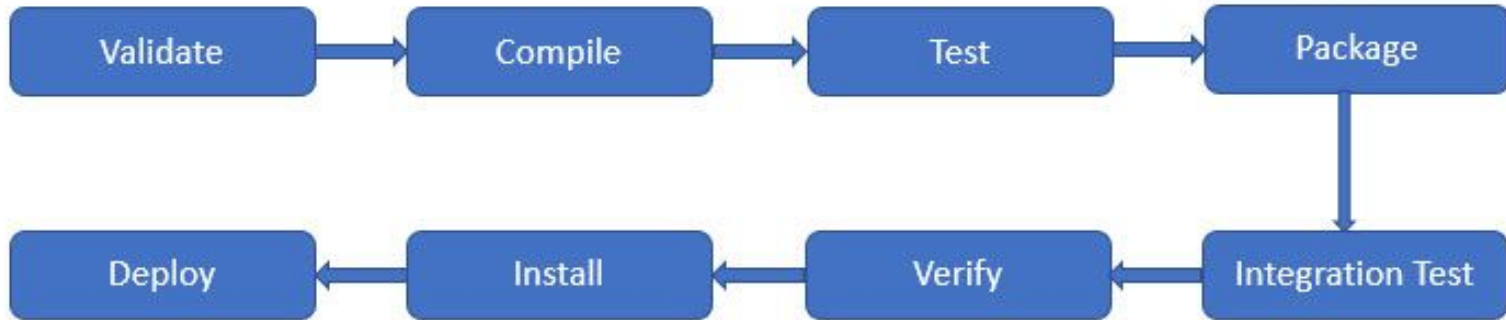
Build Tool?

Build Tool is a software utility tool used for building software projects also referred as **Project Management Tool**. Mainly helps for automation of build process for our software application, reduces a lot of manual effort and helps to quickly convert our application code into executable / working mode.

Features

1. **Project Management:** To define structure, layout and lifecycle of a project.
2. **Dependency Management:** Declare and control the dependencies required
3. **Plugin Management:** Include extra plugins to further automate build process
4. **Version Control:** Efficiently track the version changes for application code.
5. **Task Configuration:** Include tasks for cleanup, testing, packing, deploying.
6. **Extensibility:** Extend for creating custom tasks, plugins and scripts

Common Build Process



Outcome

The outcome of the build tool is a **well-packaged software product** (application) that can be installed / executed on target machine (server) (or) a usable library that can be delivered to clients.



Top Java Build Tools



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.



Gradle is a build automation tool for multi-language software development. It is based on **Groovy and Kotlin**. It controls the development process in the tasks of compilation and packaging to testing, deployment, and publishing.



Apache Ant (**A**nother **N**eat **T**ool) is an open source project started by Apache Software Foundation. Ant is a Java library and a software tool used for automating software build processes such as compile, run, test and assemble Java applications.