**Maven Concepts in Context**

| **Concept** | **What It Is** | **Example(s)** | **Relationship** |
| --- | --- | --- | --- |
| **Lifecycle** | A *sequence of phases* that define the overall build process. Maven has 3 built-in lifecycles: default (build/deploy), clean (clean up), site (docs). | default lifecycle → validate → compile → test → package → install → deploy | Abstract definition of *when* things happen. |
| **Phase** | A stage in a lifecycle. Executing a phase runs all previous phases too. | compile, test, package | Acts as a placeholder — it doesn’t do work itself, but has *goals bound* to it. |
| **Plugin** | A collection of goals packaged together. Plugins are the actual providers of functionality. | maven-compiler-plugin, maven-surefire-plugin | Think of it as a toolbox. |
| **Goal** | A single task provided by a plugin. This is the *real work unit*. | compiler:compile, surefire:test | Goals are bound to phases, so when you run a phase, Maven executes the goals attached to it. |