

***Maven***<sup>TM</sup>

# Cos'è Maven?

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- Maven è uno strumento per la gestione di progetti software.
- Automatizza:
  - compilazione
  - test
  - creazione della documentazione
  - gestione delle dipendenze

```
-----< org.example:test >-----
Building test 1.0-SNAPSHOT
-----[ jar ]-----

--- maven-clean-plugin:2.5:clean (default-clean) @ test ---

--- maven-resources-plugin:2.6:resources (default-resources) @ test ---
[6] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
Copying 0 resource

--- maven-compiler-plugin:3.1:compile (default-compile) @ test ---
Changes detected - recompiling the module!
[6] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
Compiling 2 source files to /home/simone/Downloads/test/target/classes

--- maven-resources-plugin:2.6:resources (default-resources) @ test ---
[6] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
Copying 0 resource

--- maven-compiler-plugin:3.1:compile (default-compile) @ test ---
Nothing to compile - all classes are up to date

--- maven-resources-plugin:2.6:testResources (default-testResources) @ test ---
[6] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
skip non existing resourceDirectory /home/simone/Downloads/test/src/test/resources

--- maven-compiler-plugin:3.1:testCompile (default-testCompile) @ test ---
Nothing to compile - all classes are up to date

--- maven-surefire-plugin:2.12.4:test (default-test) @ test ---
No tests to run.

--- maven-jar-plugin:2.4:jar (default-jar) @ test ---
Building jar: /home/simone/Downloads/test/target/test-1.0-SNAPSHOT.jar

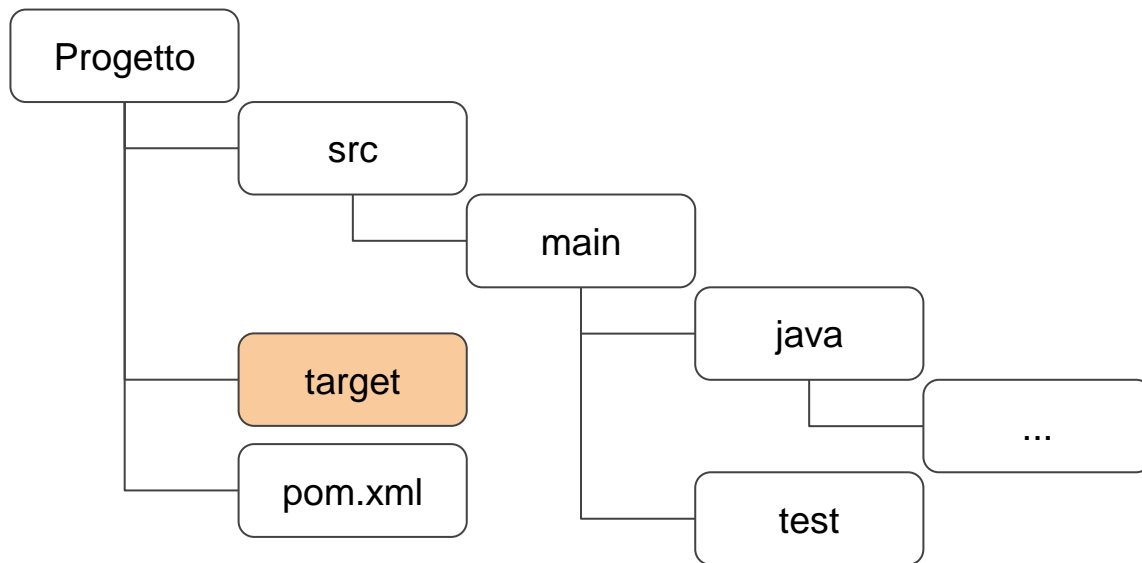
--- maven-assembly-plugin:2.2-beta-5:single (make-assembly) @ test ---
```

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- [illegible]

# Una nuova struttura

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# Project Object Model (pom.xml)

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>org.example</groupId>
  <artifactId>project-name</artifactId>
  <version>1.0</version>

  <modules>
    <module>
      ...
    </module>
  </modules>

  <build>
    <plugins>
      <plugin>
        ...
      </plugin>
    </plugins>
  </build>

  <dependencies>
    <dependency>
      ...
    </dependency>
  </dependencies>
</project>
```

# Project Object Model (pom.xml)

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- Contiene informazioni riguardo al progetto.

```
<groupId>org.example</groupId>
<artifactId>project-name</artifactId>
<version>1.0</version>

<licenses>
  <license>
    <name>The Apache Software License, Version 2.0</name>
    <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
  </license>
</licenses>
<developers>
  <developer>
    <id>id-sviluppatore</id>
    <name>nome-svluppatore</name>
    <roles>
      <role>architect</role>
      <role>developer</role>
    </roles>
    <timezone>+8</timezone>
  </developer>
</developers>
```

# Project Object Model (pom.xml)

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- Contiene dettagli sulla configurazione usata per gestire il progetto.

```
<plugin>
  <artifactId>maven-assembly-plugin</artifactId>
  <configuration>
    <archive>
      <manifest>
        <mainClass>Test</mainClass>
      </manifest>
    </archive>
    <descriptorRefs>
      <descriptorRef>jar-with-dependencies</descriptorRef>
    </descriptorRefs>
  </configuration>
  <executions>
    <execution>
      <id>make-assembly</id>
      <phase>package</phase>
      <goals>
        <goal>single</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```

```
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-javadoc-plugin</artifactId>
  <version>3.0.1</version>
</plugin>
```

# Project Object Model (pom.xml)

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- Contiene dettagli sulla configurazione usata per gestire le dipendenze del progetto.

```
<dependencies>
  <dependency>
    <groupId>com.googlecode.json-simple</groupId>
    <artifactId>json-simple</artifactId>
    <version>1.1.1</version>
  </dependency>
</dependencies>
```



# MVN Repository

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- Repository Link:
  - <https://mvnrepository.com/>



## JSON.simple

A simple Java toolkit for JSON

License	Apache 2.0
Categories	JSON Libraries
Tags	json
Used By	1,595 artifacts

Central (2)

Redhat GA (1)

Redhat EA (2)


ICM (1)

Toutatice (1)

Version	Repository	Usages	Date
1.1.1	Central	1,058	Mar, 2012
1.1	Central	571	Aug, 2009

# MVN Repository

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**JSON.simple » 1.1.1**  
A simple Java toolkit for JSON


License	Apache 2.0
Categories	JSON Libraries
HomePage	<a href="http://code.google.com/p/json-simple/">http://code.google.com/p/json-simple/</a>
Date	(Mar 21, 2012)
Files	<a href="#">pom (3 KB)</a> <a href="#">bundle (23 KB)</a> <a href="#">View All</a>
Repositories	<a href="#">Central</a> <a href="#">Mulesoft</a> <a href="#">Redhat GA</a> <a href="#">Sonatype</a>
Used By	1,595 artifacts

[Maven](#) [Gradle](#) [SBT](#) [Ivy](#) [Grape](#) [Leiningen](#) [Buildr](#)

```
<!-- https://mvnrepository.com/artifact/com.googlecode.json-simple/json-simple -->
<dependency>
  <groupId>com.googlecode.json-simple</groupId>
  <artifactId>json-simple</artifactId>
  <version>1.1.1</version>
</dependency>
```

☒ Include comment with link to declaration

### Compile Dependencies (1)

Category/License	Group / Artifact	Version	Updates
<div>Testing</div> <div>EPL 2.0</div>	<div> junit » junit</div>	<div>4.10</div>	<div>5.7.2</div>

# Plugins

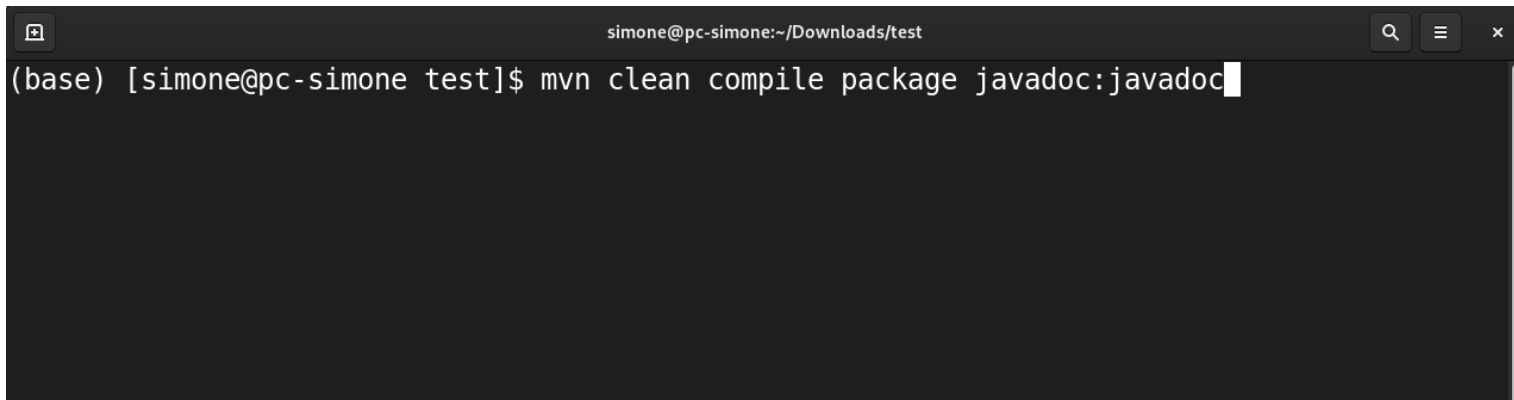
---

- I plugins corrispondono a delle fasi principali.
- Alcuni dei plugin principali (core):
  - clean: pulisce dopo la build del progetto
  - compile: compila i sorgenti Java
  - test: esegue gli unit test per sorgenti compilati
  - package: Prende i sorgenti e li impacchetta (i.e. JAR)
- Altri plugin:
  - javadoc: genera la javadoc per il progetto

# Comandi

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- `mvn clean compile package javadoc:javadoc`

A terminal window with a dark background. The title bar at the top shows 'simone@pc-simone:~/Downloads/test' and standard window controls (search, menu, close). The terminal content shows the prompt '(base) [simone@pc-simone test]\$' followed by the command 'mvn clean compile package javadoc:javadoc' with a white cursor at the end.

```
simone@pc-simone:~/Downloads/test  
(base) [simone@pc-simone test]$ mvn clean compile package javadoc:javadoc
```