



maven



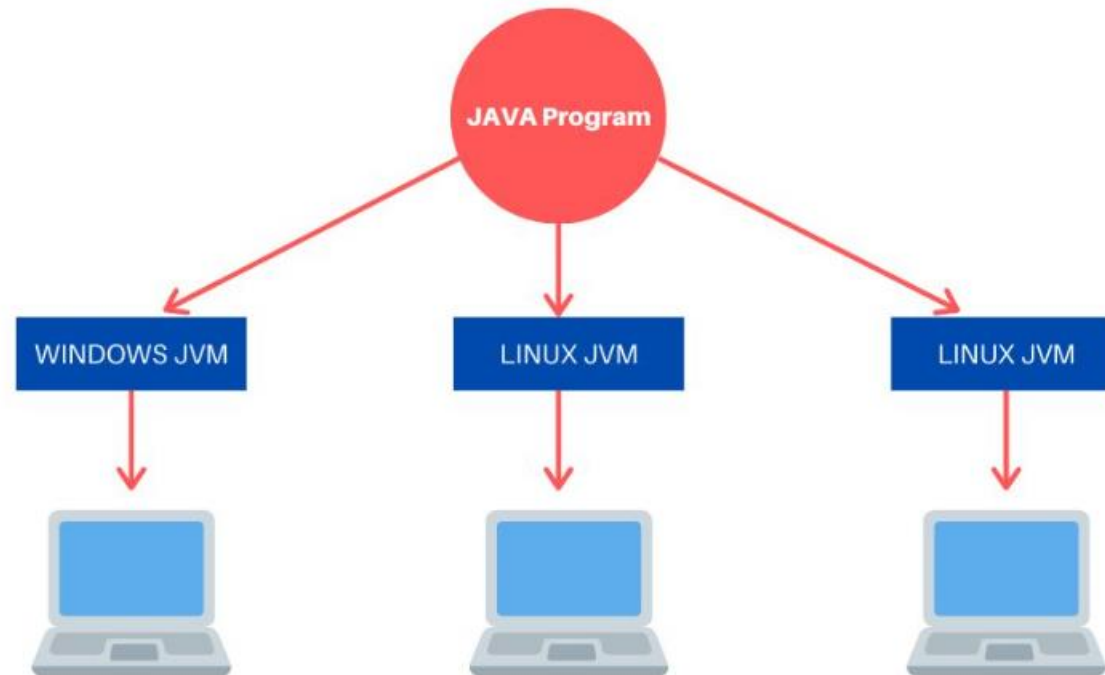
maven



- ✔ Maven began its life in Apache's Jakarta Alexandria Project in 2001.
- ✔ Apache Maven helps to,
 - ✔ build, multiple projects easily,
 - ✔ publish documentation for the projects,
 - ✔ accomplish an easy deployment,
 - ✔ share JARs across several other projects and
 - ✔ help in collaboration with development teams.



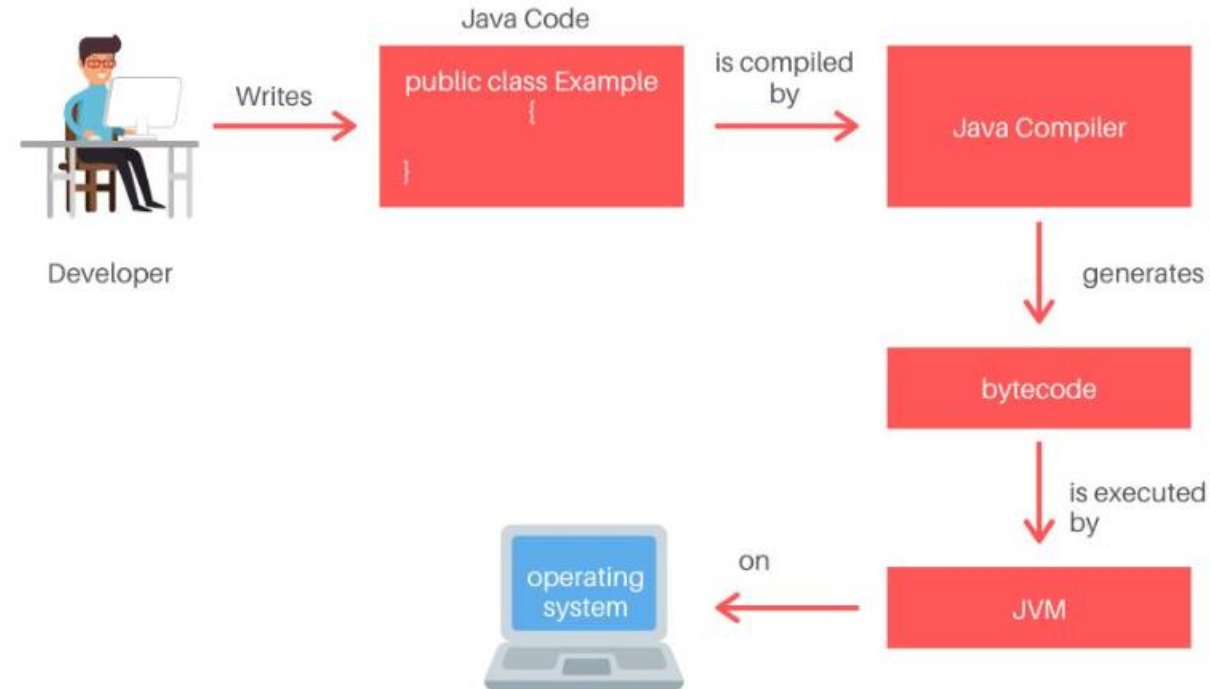
PLATFORM-INDEPENDENT JAVA



In the above diagram you will see that on the top of every operating system there is a Java Virtual Machine which is needed to run the Java program. [JVM](#) or **Java Virtual Machine** enables the computer to run a java program, since every operating system has its own JVM so it is a platform independent environment that simply converts Java into code that a computer understands.



HOW JAVA CODE IS EXECUTED



In the above figure you can clearly see that how Java code is compiled and converted to bytecode which helps interpret and execute through the Java virtual machine on the tools in operating system this is how is our works. In short it is the working of of the Java programming language that makes it easy to compile and interpret and makes it a programming language that has a lot of features for general purpose as well as for the web.

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- ✓ Maven can:
 - ✓ manage a software project's builds with various versions,
 - ✓ compile source code into binary,
 - ✓ download dependencies,
 - ✓ add documentation,
 - ✓ run tests,
 - ✓ package compiled
 - ✓ deploy artifacts to an application server or a repository.



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Features of Maven

- ✔ It's easy to start with Maven.
- ✔ variety of options according to your needs.
- ✔ It has the same structure across a variety of different projects.
- ✔ It's easy to integrate into a developing team when they are working on Maven.
- ✔ It has a powerful dependency management tool.



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Features of Maven

- ✔ extra features with plugins in Java or scripting languages.
- ✔ Maven can give different outputs like a jar, ear, war, or metadata for the same project.
- ✔ Maven can generate a website and a PDF with the documentation in the project.
- ✔ Maven can integrate with your source control system such as CVS and manages the release of a project.
- ✔ run tests, deploy artifacts to an application server or a repository.



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```
├── maven-project
│   ├── pom.xml
│   ├── README.txt
│   ├── NOTICE.txt
│   ├── LICENSE.txt
│   └── src
│       ├── main
│       │   ├── java
│       │   ├── resources
│       │   ├── filters
│       │   └── webapp
│       ├── test
│       │   ├── java
│       │   ├── resources
│       │   └── filters
│       ├── it
│       ├── site
│       └── assembly
```



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POM File

- ✔ POM can define
 - ✔ the **project dependencies**,
 - ✔ the **plugins** or goals to be executed,
 - ✔ the **build profiles**, and more





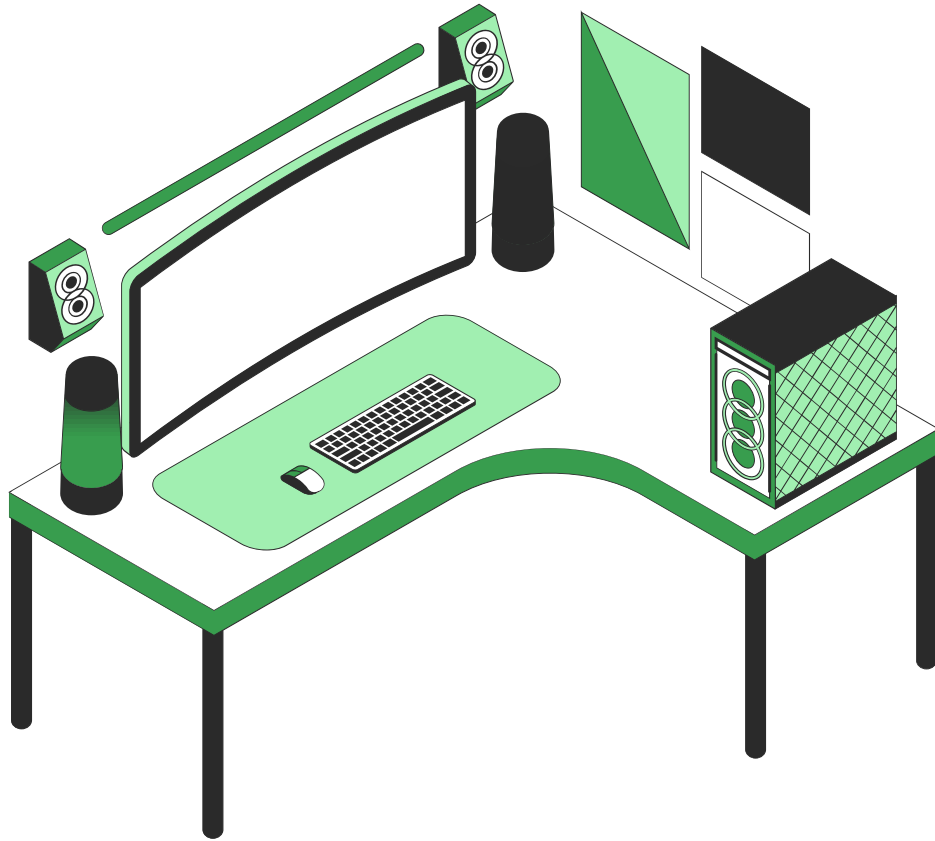
POM File

POM files need at least the project tag and four other inner tags named as modelVersion, groupId, artifactId, and version

```
<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>com.companyname.project-group</groupId>
    <artifactId>project</artifactId>
    <version>1.0</version>
</project>
```





Do you have any questions?

Send it to us! We hope you learned something new.



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