

Java Virtual Machine (JVM)

JVM is

- An abstract machine
- Provides a run-time environment to execute bytecode

It follows 3 notations

- 1)Specification
- 2)Implementation
- 3)Runtime Instance

It performs following operation:

- Loads code
- Verifies code
- Executes code
- Provides runtime environment

Java Runtime Environment (JRE)

- JRE refers to a runtime environment in which Java bytecode can be executed.
- It implements the JVM (Java Virtual Machine) and provides all the class libraries and other support files that JVM uses at runtime.
- Basically, it is an implementation of the JVM which physically exists.

Java Development Kit (JDK)

It is the tool necessary to

📦 Compile

📦 Document

📦 Package Java programs

The JDK completely includes JRE which contains tools for Java programmers.

Along with JRE, it includes an

- compiler (javac)
- application launcher (java / appletviewer)
- interpreter/loader
- archiver (jar)

- documentation generator (javadoc)
- other tools needed in Java development.
- In short, it contains JRE + development tools.
- The Java Development Kit is freeware available on
<https://www.oracle.com/technetwork/java/javase/downloads/index.html>

JVM vs JRE vs JDK

