# Platform[edit]

The *Java platform* is the name for a bundle of related programs that allow for developing and running programs written in the Java programming language. The platform is not specific to any one processor or operating system, but rather an execution engine (called a virtual machine) and a compiler with a set of libraries that are implemented for various hardware and operating systems so that Java programs can run identically on all of them.

- Java Card: A technology that allows small Java-based applications (applets) to be run securely on smart cards and similar small-memory devices.
- Java ME (Micro Edition): Specifies several different sets of libraries (known as profiles) for devices with limited storage, display, and power capacities. Often used to develop applications for mobile devices, PDAs, TV set-top boxes, and printers.
- Java SE (Standard Edition): For general-purpose use on desktop PCs, servers and similar devices.
- Java EE (Enterprise Edition): Java SE plus various APIs useful for multi-tier client–server enterprise applications.

The Java platform consists of several programs, each of which provides a portion of its overall capabilities. For example, the Java compiler, which converts Java source code into Java bytecode (an intermediate language for the JVM), is provided as part of the Java Development Kit (JDK). The Java Runtime Environment (JRE), complementing the JVM with a just-in-time (JIT) compiler, converts intermediate bytecode into native machine code on the fly. An extensive set of libraries are also part of the Java platform.

The essential components in the platform are the Java language compiler, the libraries, and the runtime environment in which Java intermediate bytecode "executes" according to the rules laid out in the virtual machine specification.