# **Java (programming language)**

Java is a general-purpose programming language that is class-based, object-oriented, and designed to have as few implementation dependencies as possible. It is intended to let application developers write once, run anywhere (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of the underlying computer architecture. The syntax of Java is similar to C and C++, but it has fewer low-level facilities than either of them. As of 2019, Java was one of the most popular programming languages in use according to GitHub, particularly for client-server web applications, with a reported 9 million developers.

Java was originally developed by James Gosling at Sun Microsystems (which has since been acquired by Oracle) and released in 1995 as a core component of Sun Microsystems' Java platform. The original and reference implementation Java compilers, virtual machines, and class libraries were originally released by Sun under proprietary licenses. As of May 2007, in compliance with the specifications of the Java Community Process, Sun had relicensed most of its Java technologies under the GNU General Public License. Meanwhile, others have developed alternative implementations of these Sun technologies, such as the GNU Compiler for Java (bytecode compiler), GNU Classpath (standard libraries), and IcedTea-Web (browser plugin for applets).

The latest versions are Java 14, released in March 2020, and Java 11, a currently supported long-term support (LTS) version, released on September 25, 2018; Oracle released for the legacy Java 8 LTS the last free public update in January 2019 for commercial use, while it will otherwise still support Java 8 with public updates for personal use up to at least December 2020. Oracle (and others) highly recommend uninstalling older versions of Java because of serious risks due to unresolved security issues.[22] Since Java 9, 10, 12 and 13 are no longer supported, Oracle advises its users to immediately transition to the latest version (currently Java 14) or an LTS release.

# **Special Classes Applet**

# Java applets were programs that wereembedded in other applications, typically in a Web page displayed in a web browser. The Java applet API is now deprecated since Java 8 in 2017 **Servlet**

# Java Servlet technology provides Web developers with a simple, consistent mechanism for extending the functionality of a Web server and for accessing existing business systems. Servlets areserver-side Java EE components that generate responses to requests fromclients. Most of the time, this means generatingHTML pages in response toHTTP requests, although there are a number of other standard servlet classes available, for example for WebSocket communication.

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### **JavaServer Pages**

JavaServer Pages (JSP) areserver-side Java EE components that generate responses, typicallyHTML pages, toHTTP requests fromClients. JSPs embed Java code in an HTML page by using the specialdelimiters <% and %>. A JSP is compiled to a Java *servlet*, a Java application in its own right, the first time it is accessed. After that, the generated servlet creates the response.

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