

Introduction

Java is a high-level programming language originally developed by Sun Microsystems and was released in 1995. Java is platform independent thus runs on a variety of platforms, such as Windows, Mac OS, and the various versions of UNIX.

It is used for:

- Developing mobile applications
- Desktop applications
- Web applications
- Games
- Database connection etc.

Advantages of JAVA

- **Object Oriented** - In Java, everything is an Object. Java can be easily extended since it is based on the Object model.
- **Platform Independent** - Unlike many other programming languages including C and C++, when Java is compiled, it is not compiled into platform specific machine, rather into platform independent byte code. This byte code is distributed over the web and interpreted by the Virtual Machine (JVM) on whichever platform it is being run on.
- **Simple** - If we understand the basic concept of OOP Java, it would be easy to learn, understand and simple to use.
- **Secure** - With Java's secure feature it enables to develop virus-free, tamper-free systems. Authentication techniques are based on public-key encryption.
- **Architecture-neutral** - Java compiler generates an architecture-neutral object file format, which makes the compiled code executable on many processors, with the presence of Java runtime system.
- **Portable** - Being architecture-neutral and having no implementation dependent aspects of the specification makes Java portable. Compiler in Java is written in ANSI C with a clean portability boundary, which is a POSIX subset.
- **Robust** - Java makes an effort to eliminate error prone situations by emphasizing mainly on compile time error checking and runtime checking.
- **Multithreaded Feature** - With Java's multithreaded feature, it allows programmers to compose programs that can do numerous assignments at the same time.
- **High Performance** - With the utilization of Just-In-Time compilers, Java enhances the performance of the system.

History of Java

James Gosling started working on the Java programming language in June 1991 for utilization in one of his numerous set-top box ventures. The programming language, at first, was called Oak. This name was kept after an oak tree that remained outside Gosling's office. This name was changed to the name Green and later renamed as Java, from a list of words, randomly picked from the dictionary. Sun discharged the first open usage as Java 1.0 in 1995. It guaranteed Write Once, Run Anywhere (WORA), giving no-expense run-times on prominent stages. On 13 November 2006, Sun discharged much of Java as free and open source under the terms of the GNU General Public License (GPL). On 8 May 2007, Sun completed the procedure, making the greater part of Java's center code free and open-source, beside a little parcel of code to which Sun did not hold the copyright.