Introduction to Java

It is a simple programming language. Java makes writing, compiling, and debugging programming easy. It helps to create reusable code and modular programs.

Java is a class-based, object-oriented programming language and is designed to have as few implementation dependencies as possible.

History

It is a programming language created in 1991. James Gosling, Mike Sheridan, and Patrick Naughton, a team of Sun engineers known as the Green team initiated the Java language in 1991. Sun Microsystems released its first public implementation in 1996 as Java 1.0. It provides no-cost -run-times on popular platforms. Java1.0 compiler was re-written in Java by Arthur Van Hoff to strictly comply with its specifications. With the arrival of Java 2, new versions had multiple configurations built for different types of platforms.

The principles for creating java were simple, robust, secured, high performance, portable, multi-threaded, interpreted, dynamic, etc. In 1995 Java was developed by James Gosling, who is known as the Father of Java. Currently, Java is used in mobile devices, internet programming, games, e-business, etc.

Features of java

1. Simple
2. Object-Oriented
3. Portable
4. Platform independent
5. Secured
6. Robust
7. Architecture neutral
8. Interpreted
9. High Performance
10. Multithreaded
11. Distributed
12. Dynamic

Java Architecture

Java Architecture is a collection of components, i.e., JVM, JRE, and JDK. It integrates the process of interpretation and compilation. It defines all the processes involved in creating a Java program. Java Architecture explains each and every step of how a program is compiled and executed.

Java Architecture can be explained by using the following steps:

There is a process of compilation and interpretation in Java.

Java compiler converts the Java code into byte code.

After that, the JVM converts the byte code into machine code.

The machine code is then executed by the machine.

Components of Java Architecture

The Java architecture includes the three main components:

Java Virtual Machine (JVM)

Java Runtime Environment (JRE)

Java Development Kit (JDK)