Introduction and Editions of Java

Introduction

Java is an object-oriented, class-based, secured, platform-independent, and general-purpose programming language. Java was originally developed by James Gosling at Sun Microsystems and released in 1995 as a core component of Sun Microsystem's Java platform. Java programming language is based on the write once, run anywhere (WORA) principle, 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 operating system.

Different Editions of Java

There are four editions of the Java programming language.

- Java Platform, Standard Edition (Java SE)
- Java Platform, Enterprise Edition (Java EE)
- Java Platform, Micro Edition (Java ME)
- JavaFX

1. **Java SE:** Java SE, also known as Core Java, is the most basic and standard version of java. It consists of a wide variety of general-purpose APIs (like java.lang, java.util) as well as many special-purpose APIs. Java SE is used to create Desktop applications. It defines everything from the basic types and objects of java programming language to high-level classes that are used for networking, security, database access, graphical user interface development (GUI), and XML parsing.

2. **Java EE:** The Java EE platform is built on top of the Java SE platform. The Enterprise Edition version of java has a much larger usage of Java, like the development of web services, networking, server-side scripting, and other various web-based applications. Java EE uses HTML, CSS, JavaScript, etc., so as to create web pages and web services. It is also one of the most widely used web development standards.

3. **Java ME:** The Java ME platform is widely used for developing embedded systems, mobiles, and small devices. Java ME uses many libraries and APIs of Java SE, as well as many of its own. The basic aim of this edition is to work on mobiles, wireless devices, set top boxes, etc. Most of the apps developed for the phones were built on Java ME only.

4. **JavaFX:** JavaFX is another edition of java technology, which is now merged with Java SE 8. It is mainly used to create rich GUI (Graphical User Interface) in java apps. It is supported by both desktop environments as well as web browsers.