



OVERVIEW OF JAVA LANGUAGE AND JAVA ENVIRONMENT

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HISTORY OF JAVA

- Java is a programming language and environment invented by James Gosling and others in 1991.
- Originally named Oak and was developed as a part of the Green project at the **Sun** Company.
- * Sun (Stanford University Network) Company.

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- Today, Java not only **permeates** the Internet, but also is the invisible force behind many of the applications and devices that power our day-to-day lives.



HISTORY OF JAVA

- Java program is both compiled and interpreted. With a compiler, you translate a Java program into an intermediate language called **Java bytecode** or simply **bytecode** * – the platform-independent codes interpreted by the Java interpreter.
 - JVM (Java Virtual Machine)
- With an interpreter, each Java **bytecode** instruction is *parsed* and run on the computer.
- Compilation happens just once; interpretation occurs each time the program is executed.

HISTORY OF JAVA

- At the heart of Java technology lies the **Java Virtual Machine** – the abstract computer on which all Java program run.

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- "Java" is generally used to refer to the Java programming language, there is more to Java than the language.
 - ✓ Java virtual machine,
 - ✓ Java API, and
 - ✓ Java class file
- work together with the **language** to make Java programs run.

DEFINITION

What is Java?

An application development platform providing a simple object-oriented programming language and run-time environment.

Java is:

- An application development platform
- A programming language



DEFINITION

Java is an application development platform.

Platform

- Hardware and software environment where a program runs.



DEFINITION


The Java Platforms

- Java Standard Edition (Java SE)
 - Java Enterprise Edition (Java EE)
 - Java Micro Edition (Java ME)
- *combination of hardware and software

DEFINITION

The Java Platforms (1/3)

Java Standard Edition (Java SE) consist of:

- Core Java - database access, security, file manipulation, etc.
 - Desktop Java - used to build desktop application.
Components include: Java Plug-In, Java Foundation Classes,
Java3D
 - XML Manipulation (JAXP)
 - Web Services etc.
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DEFINITION

The Java Platforms (2/3)

Java Enterprise Edition (Java EE) consist of:

- Builds on top of JAVA SE
- Used for developing server-side application
- Enterprise JavaBeans
- Java Servlets and JavaServe Pages



DEFINITION

The Java Platforms (3/3)

Java Micro Edition (Java ME) consist of:

- Specifically for consumer devices*
- Already deployed in millions of devices



USING ECLIPSE IDE

- Open source Integrated Development Environment (IDE)
- Can be downloaded for free at www.eclipse.org
- Originally developed by IBM as successor to its VisualAge line of tools
- Supports multiple languages



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