

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic look.

# ❖ Java Programming Language

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# Index

1. Introduction To Java
2. Features Of Java
3. Java Development Environment
4. Java Libraries And Frameworks, Exception Handling
5. Java In Web & Mobile Developments
6. Java Community And Ecosystem
7. Future Of Java

# ➤ Introduction to Java:

- ▶ Overview of java programming language.
- ▶ Historical background and evolution (developed by Sun Microsystem in 1995).
- ▶ Java is versatile, object oriented programming language widely used for building application across various platforms.

# ➤ History of java:

## 1.Origins(1990-1995)

- Developed by James Gosling at Sun Microsystems for interactive television.

## 2. Java 1.0 Release(1995)

- Officially launched, emphasizing “Write Once, Run Anywhere” with web applets.

## 3. Growth(Late 1990s)

- Java 2 introduced GUI features and became popular in enterprise environments.

## 4.Open sourcing(2006)

- Java was released as open source with OpenJDK.

## 5.Regular Release Cycle(2017-present)

- Adopted a six-month release cycle, introducing regular updates and features.

## ➤ Features Of Java:

- ▶ Object oriented: Encapsulation, inheritance and polymorphism.
- ▶ Platform independent: Write once, run anywhere due to Java Virtual Machine(JVM).
- ▶ Strongly typed: Strict data type checking.
- ▶ Automatic Memory Management.
- ▶ Robustness
- ▶ Multithreading : Java has built-in support for multithreading, allowing concurrent execution of tasks and better utilization of CPU resources.

# ➤ Java Development Environment:

- ▶ Overview of Java Development Kit(JDK), Java Runtime Environment(JRE), and Integrated Development Environments(IDEs) like Eclipse and IntelliJ IDEA.
- ▶ Build Tools: Consider using build tools like-
  - Maven :for dependency management and project build automation.
  - Gradle: A versatile build tool that supports complex build configurations.

## ➤ Java Libraries and Frameworks:

- ▶ Introduction to core libraries(Java Standard Library)
- ▶ Popular frameworks(Spring, Hibernate ,JavaFX).

## ➤ Exception Handling:

- ▶ Importance of exception handling in Java.
- ▶ Try-catch-final blocks and custom exceptions.



# ➤ Java in Web & Mobile Developments:

- ▶ Role of Java in server-side applications(Java EE).
- ▶ Introduction to Servlets and JSP.
- ▶ Overview of Android development using Java.
- ▶ Key differences between Java and Kotlin for Android.

## ➤ Java Community and Ecosystem:

- ▶ Open-source nature and community support.
- ▶ Resources for learning Java (documentation, forums, tutorials).

## ➤ Future of Java:

- ▶ Trends in Java development.
- ▶ Java's place in modern technology (cloud computing, microservices).

## ➤ Conclusion:

- ▶ Summary of java's significance in software development.
- ▶ Final thought on why learning java is beneficial ?

Thank You..!