

History and Features of Java

History of Java

Java was developed in 1991 by James Gosling and others at Sun Microsystems. Initially named Oak, it was later renamed to Java in 1995. Java introduced the concept of WORA (Write Once, Run Anywhere). Oracle acquired Sun Microsystems in 2010. Since 2017, Java follows a 6-month release cycle.

Key Milestones:

- 1991: Project started as Oak
- 1995: Released as Java
- 2006: Made open-source
- 2010: Acquired by Oracle
- 2023: Java 21 LTS released

Key Features of Java

1. Simple: Clean syntax and easy to learn.
2. Object-Oriented: Everything is based on classes and objects.
3. Platform Independent: Bytecode runs on any JVM.
4. Secure: No pointers, sandbox execution.
5. Robust: Strong memory management, exception handling.
6. Multithreaded: Supports concurrent execution.
7. High Performance: Uses JIT compiler.
8. Distributed: Networking and remote method invocation.
9. Dynamic: Classes loaded at runtime.
10. Rich API: Built-in libraries for data structures, networking, I/O, GUI.

Sample Java Program Using Modern Features (Java 21)

```
record User(String name, int age) {}
```

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```
public class Main {  
    public static void main(String[] args) {  
        User tony = new User("Tony Baskar", 21);  
  
        // Pattern Matching with instanceof  
        Object obj = tony;  
        if (obj instanceof User u) {  
            System.out.println("Welcome " + u.name());  
        }  
  
        // Sequenced Collections (Java 21)  
        var list = java.util.List.of("Java", "SQL", "JavaScript");  
        list.forEach(System.out::println);  
    }  
}
```