Java Versions and Key Features

1. Java 1.0 (January 1996)

Initial Release: Included the basic libraries, AWT (Abstract Window Toolkit), and applet support.

2. Java 1.1 (February 1997)

Inner Classes

JavaBeans

RMI (Remote Method Invocation)

JDBC (Java Database Connectivity)

Reflection API

3. Java 1.2 (December 1998) – Also known as Java 2

Swing GUI components

Collections Framework

JIT (Just-In-Time) Compiler Integration

Java Plug-in for browsers

Security enhancements

4. Java 1.3 (May 2000)

HotSpot JVM

Enhanced RMI

Synthetic Proxy Classes

5. Java 1.4 (February 2002)

Assertions

Java Web Start

NIO (New Input/Output)

Logging API

Image I/O API

Regular Expressions

6. Java 5 (September 2004) – Also known as Java 1.5

- Generics

- Enhanced for-loop

- Metadata (Annotations)

- Autoboxing/Unboxing

- Enumerated Types

- Varargs

- Concurrency utilities

7. Java 6 (December 2006)

- Scripting Language Support

- Performance improvements in the JVM

- Web Services enhancements

- Compiler API

- Improved GUI functionalities

8. Java 7 (July 2011)

- Project Coin (small language changes like try-with-resources, diamond operator, strings in switch)

- NIO.2

- Fork/Join Framework

- New File I/O library

9. Java 8 (March 2014)

- Lambda Expressions

- Streams API

- New Date and Time API

- Default methods in interfaces

- Nashorn JavaScript Engine

- Optional Class

10. Java 9 (September 2017)

- Project Jigsaw (Modular System)

- JShell (Interactive Java REPL)

- Improved Javadoc

- Multi-release JAR files

- Compact Strings

11. Java 10 (March 2018)

- Local-variable type inference (var)

- GC Improvements

- Thread-Local Handshakes

- Application Class-Data Sharing

12. Java 11 (September 2018) – Long-Term Support (LTS)

- New HTTP Client API

- Local-variable syntax for lambda parameters

- String Methods (strip, lines, repeat)

- Running Java files with `java` command

13. Java 12 (March 2019)

- Switch Expressions (Preview)

- JVM Constants API

- Microbenchmark Suite

- Default CDS Archives

14. Java 13 (September 2019)

- Text Blocks (Preview)

- Switch Expressions (Second Preview)

- Reimplement the Legacy Socket API

15. Java 14 (March 2020)

- Records (Preview)

- Pattern Matching for instanceof (Preview)

- Helpful NullPointerExceptions

16. Java 15 (September 2020)

- Sealed Classes (Preview)

- Records (Second Preview)

- Text Blocks

17. Java 16 (March 2021)

- Records (Standard)

- Pattern Matching for instanceof (Standard)

- Sealed Classes (Second Preview)

18. Java 17 (September 2021) – Long-Term Support (LTS)

- Sealed Classes (Standard)

- Pattern Matching for switch (Preview)

- Enhanced pseudo-random number generators

19. Java 18 (March 2022)

- UTF-8 by Default

- Simple Web Server

- Code Snippets in Java API Documentation

20. Java 19 (September 2022)

- Virtual Threads (Preview)

- Structured Concurrency (Incubator)

- Pattern Matching for switch (Third Preview)

21. Java 20 (March 2023)

- Scoped Values (Incubator)

- Sequenced Collections

- Pattern Matching for switch (Fourth Preview)

22. Java 21 (September 2023) – Long-Term Support (LTS)

- Virtual Threads (Second Preview)

- Pattern Matching for switch (Standard)

- String Templates (Preview)

Summary

Java has evolved significantly from its inception, adding features that enhance performance, readability, and ease of use.