
Java 9 (2017)

Modules (Project Jigsaw)

- Introduced the **module system** (module-info.java) to better structure large applications and the JDK itself.

JShell

- **Interactive REPL** (Read-Eval-Print Loop) for trying out code snippets quickly.

Stream API Enhancements

- Methods like **takeWhile()**, **dropWhile()**, **ofNullable()**.

Private Methods in Interfaces

- Interfaces can have **private helper methods**.

Java 10 (2018)

Local Variable Type Inference

- **var** keyword for local variables:
- **var list = new ArrayList<String>();**

Performance and GC Improvements

- Application class-data sharing.
- G1 Garbage Collector enhancements.

Java 11 (2018) – LTS (Long-Term Support)

HTTP Client API

- Standardized the modern **HTTP client** ([java.net.http](https://java.net/http)).

String Methods

- **isBlank()**, **lines()**, **strip()**, **repeat()**.

Local var in Lambda Parameters

- You can use **var** in lambda parameter lists.

Removed Java EE & CORBA Modules

- Slimmed down the JDK.
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Java 12 (2019)

Switch Expressions (Preview)

- Simpler, **expression-style switch** syntax:
- `int result = switch (day) {`
- `case MONDAY -> 1;`
- `case TUESDAY -> 2;`
- `default -> 0;`
- `};`

New GC Options

- Shenandoah GC.
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Java 13 (2019)

Text Blocks (Preview)

- **Multiline strings:**
- `String html = """`
- `<html>`
- `<body>Hello</body>`
- `</html>`
- `""";`

Switch Expressions (Second Preview)

Java 14 (2020)

Records (Preview)

- Concise data carrier classes:
- `record Point(int x, int y) {}`

Pattern Matching for instanceof (Preview)

- Simplify type checks and casts.

Helpful NullPointerExceptions

- More descriptive NPE messages.
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Java 15 (2020)

Text Blocks (Standard)

- Multiline strings became final.

Sealed Classes (Preview)

- Control which classes can extend a superclass.

Hidden Classes

- For frameworks that generate classes at runtime.
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Java 16 (2021)

Records (Standard)

- Records officially part of Java.

Pattern Matching for instanceof (Second Preview)

New foreign memory access APIs (Incubator)

- Safer native memory operations.
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Java 17 (2021) – LTS

Sealed Classes (Standard)

- Explicitly define permitted subclasses.

Pattern Matching for switch (Preview)

- Smarter switch statements.

New macOS Rendering Pipeline

- Metal API support.

Strong Encapsulation of JDK Internals

- sun.misc and other internal APIs hidden by default.

Foreign Function & Memory API (Incubator)

- Better native interop.

Summary of Themes

- **Simpler syntax:** var, records, pattern matching.
- **Improved readability:** text blocks.
- **Better performance & GC.**
- **Stronger encapsulation & modularity.**
- **More modern APIs (HTTP client, foreign memory).**