

# Java & Spring Boot – Complete Detailed Notes (2026)

## Java 26 Highlights:

- JDK 26 releases March 17, 2026 with new previews and performance updates (InfoWorld).
- Key features: primitive types in patterns & switch, AOT object caching, Vector API, HTTP/3 Client API, structured concurrency.
- Removal of obsolete Java Applet API (Azalio).

## Performance & GC:

- G1 GC synchronization reduced for higher throughput & lower latency (Azalio).
- AOT object caching improves startup and warmup with any GC (InfoWorld).

## Security & Protocols:

- HTTP/3 support enhances low-latency networking (Azalio).

## Spring Boot 4.0 (2025–2026):

- Fully modularized codebase with smaller jars (Spring.io).
- Null-safety improvements with JSpecify (Spring.io).
- First-class Java 25 support while keeping Java 17 compatibility (Spring.io).
- Support for API versioning and HTTP service clients for REST (Spring.io).

## Spring Framework 6 & Boot 3 (2026 context):

- Requires Java 17+, Jakarta EE namespace migration (LinuxCode 2026).
- Major realignment improving startup time, observability, AOT tooling. (LinuxCode).
- Modern tracing via Micrometer Observation (LinuxCode).

## Usage Recommendations:

- Verified stable environments should use Java 25 (latest LTS as of Feb 2026). (JetBrains Feb 2026).
- Java 26 adoption recommended for cutting-edge features & experimentation.
- Spring Boot 4 recommended for modular builds, cloud-native runtimes, API versioned microservices.