
AGENDA

Java 21 Training: Virtual Threads, Pattern Matching & All New Features Since Java 17

2 days · Individual date · On-site or online · German / English · Customizable agenda · Certificate of completion

We won't follow the listed order strictly. Instead, we'll alternate between major features, smaller topics, and theory – keeping the course engaging and balanced, and helping you better retain the material.

Major Features:

- Virtual Threads
- Sequenced Collections
- Record Patterns
- Pattern Matching for switch

Additional Features:

- UTF-8 by default
- Simple web server
- Code snippets in Java API documentation
- New system properties for `System.out` and `System.err` encoding
- Compiler warnings for lossy type casts
- Key Encapsulation Mechanism API

Bugfixes:

- `IdentityHashMap`'s `remove()` and `replace()` methods use object identity

API Enhancements:

- New methods for `String`, `StringBuilder`, and `StringBuffer`
- New methods for `Character`
- New methods for `Math`
- `HashMap.newHashMap()`
- Additional date-time formats

Garbage Collection:

- String deduplication for ZGC, SerialGC, ParallelGC
- G1 enhancements
- Generational ZGC

Performance:

- Generational ZGC
- Alternative fast-locking scheme

Deprecations & Removals:

- Deprecate finalization for removal
- `Locale` constructors
- `URL` constructors
- `Thread.stop()`, `suspend()`, `resume()`
- `ThreadGroup`
- Dynamic loading of agents

Looking Ahead:

- Structured Concurrency
- Scoped Values
- Vector API
- Foreign Function & Memory API
- Unnamed Patterns and Variables
- Compact Classes and Instance Main Methods