

AGENDA

Kombikurs Java 21 + 25: Virtual Threads, Stream Gatherers & alle Neuerungen seit Java 17

4 Tage · Individueller Termin · Vor Ort oder Online · Deutsch / Englisch · Anpassbare Agenda · Teilnahmezertifikat

Teil 1: Java 18-21

Major Features:

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

Weitere Neuerungen:

- 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-Erweiterungen:

- Neue `String`-, `StringBuilder`-, `StringBuffer`-Methoden
- Neue `Character`-Methoden
- Neue `Math`-Methoden
- `HashMap.newHashMap()`
- Additional Date-Time Formats

Garbage Collection:

- String Deduplication for ZGC, SerialGC, ParallelGC
- G1 Verbesserungen
- Generational ZGC

Performance:

- Generational ZGC
- Alternative Fast-Locking Scheme

Deprecations & Löschungen:

- Deprecate Finalization for Removal
- `Locale` constructors
- `URL` constructors
- `Thread.stop()`, `suspend()`, `resume()`
- `ThreadGroup`
- Dynamic Loading of Agents

Teil 2: Java 22-25

Major Features:

- Unnamed Variables & Patterns
- Foreign Function & Memory API
- Markdown Documentation Comments
- Stream Gatherers
- Synchronize Virtual Threads without Pinning
- Scoped Values
- Compact Source Files and Instance Main Methods

Weitere Neuerungen:

- Module Import Declarations
- Launch Multi-File Source-Code Programs
- Console Methods With Explicit Locale
- Class-File API
- Key Derivation Function API

API-Erweiterungen:

- `Locale`-Dependent List Patterns
- Support for Duration Until Another Instant

Garbage Collection:

- Verbesserungen für den G1 GC
- ZGC: Generational Mode by Default

Performance / Memory Footprint:

- Compact Object Headers
- Ahead-of-Time Class Loading & Linking
- Relax alignment of array elements
- Change LockingMode default from LM_LEGACY to LM_LIGHTWEIGHT
- Linking Run-Time Images without JMODs

Deprecations & Löschungen:

- Thread.countStackFrames()
- Old Core Reflection Implementation
- Deprecations und Löschungen in sun.misc.Unsafe
- Thread.suspend(), resume() und ThreadGroup.suspend(), resume(), stop()
- Security Manager

Ausblick:

- Primitive Types in Patterns, instanceof, and switch
- Lazy Constants (ehemals Stable Values)
- Vector API
- Structured Concurrency