

AGENDA

Kombikurs Java 17, 21 & 25 – kompakt: Records, Virtual Threads, Stream Gatherers & alle Neuerungen von Java 12 bis 25

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

Teil 1: Java 12-17

Major Features:

- switch Expressions
- Text Blocks
- Records
- Pattern Matching for instanceof
- Sealed Classes
- Strongly Encapsulate JDK Internals

Weitere Neuerungen:

- Helpful NullPointerExceptions
- Hidden Classes
- Warnings for Value-Based Classes
- Context-Specific Deserialization Filters

API-Erweiterungen:

- Neue String-Methoden
- Neue Stream-Methoden
- Neue Files-Methoden
- Neue ByteBuffer-Methoden
- Der Teeing-Collector
- Hex Formatting and Parsing Utility

Garbage Collection:

- Verbesserungen an G1 und Parallel GC
- Neu: ZGC und Shenandoah
- Elastic Metaspace

Performance:

- Default + Dynamic CDS Archives
- Non-Volatile Mapped Byte Buffers
- Spezialisierte TreeMap-Implementierungen
- Entkopplung von Compressed Oops und Compressed Class Pointers

Tools:

- JFR Event Streaming
- Packaging Tool

Deprecations:

- Thread suspend(), resume()
- ThreadGroup stop(), destroy(), isDestroyed(), setDaemon(), and isDaemon()
- Biased Locking
- und mehr...

Teil 2: 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

Teil 3: 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

Deprecations & Löschungen:

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

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