Overview of Java 9 Features

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* Modularity

- * 200: The Modular JDK (Jigsaw/JSR 376 and JEP 261)
- * 201: Modular Source Code
- * 220: Modular Run-Time Images
- * 238: Multi-Release JAR Files
- * 261: Module System
- * 275: Modular Java Application Packaging
- * 282: jlink: The Java Linker

- Developer Convenience
 - * 193: Variable Handles
 - * 213: Milling Project Coin
 - * 222: jshell: The Java Shell (Read-Eval-Print Loop) (project Kulla)
 - * 259: Stack-Walking API
 - * <u>266: More Concurrency Updates</u> to CompletableFuture and support for Reactive Streams.
 - * 269: Convenience Factory Methods for Collections
 - * 276: Dynalink
 - * 277: Enhanced Deprecation
 - * 285: Spin-Wait Hints

- * Strings
 - * 250: Store Interned Strings in CDS Archives
 - * 280: Indify String Concatenation
- * Diagnostics
 - * 228: Add More Diagnostic Commands
 - * 240: Remove the JVM TI hprof Agent
 - * 241: Remove the jhat Tool
- * JVM Options
 - * 197: Segmented Code Cache to improve execution time for complicated benchmarks (?)
 - * 214: Remove GC Combinations Deprecated in JDK 8
 - * 245: Validate JVM Command-Line Flag Arguments
 - * 248: Make G1 the Default Garbage Collector
- * Logging
 - * 158: Unified JVM Logging
 - * 264: Platform Logging API and Service
 - * 271: Unified GC Logging

- * Javadoc
 - * 224: HTML5 Javadoc
 - * 225: Javadoc Search
 - * 254: Compact Strings
- * JavaScript/HTTP
 - * <u>110: HTTP 2 Client</u>: An HTTP 2.0 Client for HTTP 2.0 and WebSockets (and begin replacing "the legacy HttpURLConnection API")
 - * 236: Parser API for Nashorn
 - * 289: Deprecate the Applet API
 - * 292: Implement Selected ECMAScript 6 Features in Nashorn
- * Native Platform
 - * <u>102: Process API Updates</u> ("Improve the API for controlling and managing operating-system processes.")
 - * 272: Platform-Specific Desktop Features

- JavaFX
 - * 253: Prepare JavaFX UI Controls & CSS APIs for Modularization
 - * 257: Update JavaFX/Media to Newer Version of GStreamer
- * Images
 - * 251: Multi-Resolution Images
 - * 262: TIFF Image I/O
- * Unicode
 - * 227: Unicode 7.0
 - * 267: Unicode 8.0
- * Miscellaneous
 - * 219: Datagram Transport Layer Security (DTLS)
 - * 256: BeanInfo Annotations
 - * 260: Encapsulate Most Internal APIs
 - * 274: Enhanced Method Handles
 - * 295: Ahead-of-Time Compilation

Java 9 Features Not In

- * Benchmarking Java Microbenchmarking Harness (<u>JMH</u>) (
 <u>JEP 230</u>)
- * Smart Java Compilation (Part 2) makes the sjavac tool available in the JDK (JEP 199)
- * Improved contended locking for increased performance between threads (<u>JEP 143</u>)
- * Value types (<u>JEP 169</u>)

References

- * <u>Ultimate Guide to Java 9</u>, Sitepoint
- * JDK 9 Feature Complete, JavaCodeGeeks
- * <u>Java 9 series: JShell</u>, Voxxed
- * <u>Java 9 series: HTTP/2 Client</u>, Voxxed
- * <u>Java 9 series: the JVM</u>, Voxxed
- * Java 9 series: HTML5 and Javadoc, Voxxed
- * Java 9 series: Concurrency Updates, Voxxed
- * Java 9 series: Variable Handles, Voxxed
- * Java 9 series: Encapsulate Most Internal APIs, Voxxed
- * Java 9 series: Multi-Release JAR Files, Voxxed
- * Java 9 series: Segmented Code Cache, Voxxed
- * Java 9 series: Convenience Factory Methods for Collections, Voxxed
- * Critical Deficiencies in Jigsaw
- * Jenkov J. (2016), "ModRun Tutorial"

References

- * Bateman A. (2016), "Prepare for JDK 9", <u>JavaOne</u>.
- * Bateman A. (2016), "Introduction to Modular Development", <u>JavaOne</u>.
- * Bateman A. & Buckley A. (2016), "Advanced Modular Development", <u>JavaOne</u>.
- * Buckley A. (2016), "Modules and Services", <u>JavaOne</u>.
- * Buckley A. (2016), "Project Jigsaw: Under The Hood", <u>JavaOne</u>.
- * Bateman A., Chung M., Reinhold M. (2016), "Project Jigsaw Hack Session", <u>JavaOne</u>.
- * Evans, B. (2016), "An Early Look at Java 9 Modules", Java Magazine, Issue 26, January-February, pp.59-64.
- * Mak S. & Bakker P. (2016), Java 9 Modularity, O'Reilly (Early Release)

Q&A

