**Java 18 Features**

Java 18 GA was released on 22 March 2022.

It has nine new developer features, including a simple web server and another preview of pattern matching for switch.

The below-listed 14 JEPs are part of Java 18.

1. JEP-400: UTF-8 by Default
2. JEP-408: Simple Web Server
3. JEP-413: Code Snippets in Java API Documentation
4. JEP-416: Reimplement Core Reflection with Method Handles
5. JEP-417: Vector API (Third Incubator)
6. JEP-418: Internet-Address Resolution SPI
7. JEP-419: Foreign Function & Memory API (Second Incubator)
8. JEP-420: Pattern Matching for switch (Second Preview)
9. JEP-421: Deprecate Finalization for Removal

**Java 17 Features (LTS)**

Java 17 was released on September 14, 2021. Java 17 is an LTS (Long Term Support) release, like Java 11 and Java 8. Spring 6 and Spring boot 3 will have first-class support for Java 17. So it is a good idea to plan for upgrading to Java 17.

The below-listed 14 JEPs are part of Java 17.

1. (JEP-306) Restore Always-Strict Floating-Point Semantics
2. (JEP-356) Enhanced Pseudo-Random Number Generators
3. (JEP-382) New macOS Rendering Pipeline
4. (JEP-391) macOS/AArch64 Port
5. (JEP-398) Deprecate the Applet API for Removal
6. (JEP-403) Strongly Encapsulate JDK Internals
7. (JEP-406) Pattern Matching for switch (Preview)
8. (JEP-407) Remove RMI Activation
9. (JEP-409) Sealed Classes
10. (JEP-410) Remove the Experimental AOT and JIT Compiler
11. (JEP-411) Deprecate the Security Manager for Removal
12. (JEP-412) Foreign Function & Memory API (Incubator)
13. (JEP-414) Vector API (Second Incubator)
14. (JEP-415) Context-Specific Deserialization Filters

**Java 16 Features**

Java 16 was released on 16 March 20121. It was largely a maintenance release, except it made the Java Records and Pattern matching the standard features of the Java language.

1. JEP 338: Vector API (Incubator)
2. JEP 347: Enable C++14 Language Features
3. JEP 357: Migrate from Mercurial to Git
4. JEP 369: Migrate to GitHub
5. JEP 376: ZGC: Concurrent Thread-Stack Processing
6. JEP 380: Unix-Domain Socket Channels
7. JEP 386: Alpine Linux Port
8. JEP 387: Elastic Metaspace
9. JEP 388: Windows/AArch64 Port
10. JEP 389: Foreign Linker API (Incubator)
11. JEP 390: Warnings for Value-Based Classes
12. JEP 392: Packaging Tool
13. JEP 393: Foreign-Memory Access API (Third Incubator)
14. JEP 394: Pattern Matching for instanceof
15. JEP 395: Records
16. JEP 396: Strongly Encapsulate JDK Internals by Default
17. JEP 397: Sealed Classes (Second Preview)

**Java 15 Features**

Java 15 was released on 15th Sep’2020. It continues to support various preview features in previous JDK releases; and has also introduced some new features.

1. Sealed Classes and Interfaces (Preview) (JEP 360)
2. EdDSA Algorithm (JEP 339)
3. Hidden Classes (JEP 371)
4. Pattern Matching for instanceof (Second Preview) (JEP 375)
5. Removed Nashorn JavaScript Engine (JEP 372)
6. Reimplement the Legacy DatagramSocket API (JEP 373)
7. Records (Second Preview) (JEP 384)
8. Text Blocks become a standard feature. (JEP 378)

**Java 14 Features**

Java 14 (released on March 17, 2020) is the latest version available for JDK. Let’s see the new features and improvements, it brings for developers and architects.

1. JEP 305 – Pattern Matching for instanceof (Preview)
2. JEP 368 – Text Blocks (Second Preview)
3. JEP 358 – Helpful NullPointerExceptions
4. JEP 359 – Records (Preview)
5. JEP 361 – Switch Expressions (Standard)
6. JEP 343 – Packaging Tool (Incubator)
7. JEP 345 – NUMA-Aware Memory Allocation for G1
8. JEP 349 – JFR Event Streaming
9. JEP 352 – Non-Volatile Mapped Byte Buffers
10. JEP 363 – Remove the Concurrent Mark Sweep (CMS) Garbage Collector
11. JEP 367 – Remove the Pack200 Tools and API
12. JEP 370 – Foreign-Memory Access API (Incubator)

**Java 13 Features**

Java 13 (released on September 17, 2019) had fewer developer-specific features. Let’s see the new features and improvements, it brought for developers and architects.

1. JEP 355 – Text Blocks (Preview)
2. JEP 354 – Switch Expressions Enhancements (Preview)
3. JEP 353 – Reimplement the Legacy Socket API
4. JEP 350 – Dynamic CDS Archive
5. JEP 351 – ZGC: Uncommit Unused Memory
6. FileSystems.newFileSystem() Method
7. DOM and SAX Factories with Namespace Support

**Java 12 Features**

Java 12 was released on March 19, 2019. Let’s see the new features and improvements, it brings for developers and architects.

1. Collectors.teeing() in Stream API
2. String API Changes
3. Files.mismatch(Path, Path)
4. Compact Number Formatting
5. Support for Unicode 11
6. Switch Expressions (Preview)

**Java 11 Features (LTS)**

Java 11 (released on September 2018) includes many important and useful updates. Let’s see the new features and improvements, it brings for developers and architects.

1. HTTP Client API
2. Launch Single-File Programs Without Compilation
3. String API Changes
4. Collection.toArray(IntFunction)
5. Files.readString() and Files.writeString()
6. Optional.isEmpty()

**Java 10 Features**

After Java 9 release, Java 10 came very quickly. Unlike its previous release, Java 10 does not have that many exciting features, still, it has a few important updates which will change the way you code, and other future Java versions.

1. JEP 286: Local Variable Type Inference
2. JEP 322: Time-Based Release Versioning
3. JEP 304: Garbage-Collector Interface
4. JEP 307: Parallel Full GC for G1
5. JEP 316: Heap Allocation on Alternative Memory Devices
6. JEP 296: Consolidate the JDK Forest into a Single Repository
7. JEP 310: Application Class-Data Sharing
8. JEP 314: Additional Unicode Language-Tag Extensions
9. JEP 319: Root Certificates
10. JEP 317: Experimental Java-Based JIT Compiler
11. JEP 312: Thread-Local Handshakes
12. JEP 313: Remove the Native-Header Generation Tool
13. New Added APIs and Options
14. Removed APIs and Options

**Java 9 Features**

Java 9 was made available on September, 2017. The biggest change is the modularization i.e. Java modules.

Some important features/changes in Java 9 are:

1. Java platform module system
2. Interface Private Methods
3. HTTP 2 Client
4. JShell – REPL Tool
5. Platform and JVM Logging
6. Process API Updates
7. Collection API Updates
8. Improvements in Stream API
9. Multi-Release JAR Files
10. @Deprecated Tag Changes
11. Stack Walking
12. Java Docs Updates
13. Miscellaneous Other Features

Please see the updated release info here.

**Java 8 Features**

Release Date : March 18, 2014

Code name culture is dropped. Included features were:

1. Lambda expression support in APIs
2. Stream API
3. Functional interface and default methods
4. Optionals
5. Nashorn – JavaScript runtime which allows developers to embed JavaScript code within applications
6. Annotation on Java Types
7. Unsigned Integer Arithmetic
8. Repeating annotations
9. New Date and Time API
10. Statically-linked JNI libraries
11. Launch JavaFX applications from jar files
12. Remove the permanent generation from GC

**Java SE 7 Features**

Release Date : July 28, 2011

This release was called “Dolphin”. Included features were:

1. JVM support for dynamic languages
2. Compressed 64-bit pointers
3. Strings in switch
4. Automatic resource management in try-statement
5. The diamond operator
6. Simplified varargs method declaration
7. Binary integer literals
8. Underscores in numeric literals
9. Improved exception handling
10. ForkJoin Framework
11. NIO 2.0 has support for multiple file systems, file metadata and symbolic links
12. WatchService
13. Timsort is used to sort collections and arrays of objects instead of merge sort
14. APIs for the graphics features
15. Support for new network protocols, including SCTP and Sockets Direct Protocol

**Java SE 6 Features**

Release Date : December 11, 2006

This release was called “Mustang”. Sun dropped the “.0” from the version number and the version became Java SE 6. Included features were:

1. Scripting Language Support
2. Performance improvements
3. JAX-WS
4. JDBC 4.0
5. Java Compiler API
6. JAXB 2.0 and StAX parser
7. Pluggable annotations
8. New GC algorithms

**J2SE 5 Features**

Release Date : September 30, 2004

This release was called “Tiger”. Most of the features, which are asked in java interviews, were added in this release.

The version was also called 5.0 rather than 1.5. Included features are listed down below:

1. Generics
2. Annotations
3. Autoboxing/unboxing
4. Enumerations
5. Varargs
6. Enhanced for each loop
7. Static imports
8. New concurrency utilities in java.util.concurrent
9. Scanner class for parsing data from various input streams and buffers.

**J2SE 1.4 Features**

Release Date : February 6, 2002

This release was called “Merlin”. Included features were:

1. assert keyword
2. Regular expressions
3. Exception chaining
4. Internet Protocol version 6 (IPv6) support
5. New I/O; NIO
6. Logging API
7. Image I/O API
8. Integrated XML parser and XSLT processor (JAXP)
9. Integrated security and cryptography extensions (JCE, JSSE, JAAS)
10. Java Web Start
11. Preferences API (java.util.prefs)

**J2SE 1.3 Features**

Release Date : May 8, 2000

This release was called “Kestrel”. Included features were:

1. HotSpot JVM
2. Java Naming and Directory Interface (JNDI)
3. Java Platform Debugger Architecture (JPDA)
4. JavaSound
5. Synthetic proxy classes

**J2SE 1.2 Features**

Release Date : December 8, 1998

This release was called “Playground”. This was a major release in terms of the number of classes added (almost tripled the size). “J2SE” term was introduced to distinguish the code platform from J2EE and J2ME. Included features were:

1. strictfp keyword
2. Swing graphical API
3. Sun’s JVM was equipped with a JIT compiler for the first time
4. Java plug-in
5. Collections framework

**JDK 1 Features**

Release Date : January 23, 1996

This was the initial release and was originally called Oak. This had very unstable APIs and one java web browser named WebRunner.

The first stable version, JDK 1.0.2, was called Java 1.

On February 19, 1997, JDK 1.1 was released having a list of big features such as:

1. AWT event model
2. Inner classes
3. JavaBeans
4. JDBC
5. RMI
6. Reflection supported Introspection only, no modification at runtime was possible.
7. JIT (Just In Time) compiler for Windows