**Versions of Java and their key changes:**

***Java 1.0 (1996)***

Java 1.0 was released on 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**.

- Initial release

- Basic language features like applets and core libraries

***Java 1.1 (1997)***

Java 1.1 was released on February 19, 1997

- Inner classes

- JavaBeans

- JDBC (Java Database Connectivity)

- RMI (Remote Method Invocation)

***Java 1.2 (1998)***

Java 1.2 was released on 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.

- Collections Framework

- Swing graphical API

- Java IDL (CORBA)

***Java 1.3 (2000)***

Java1.3 was released on  May 8, 2000.This release was called “Kestrel”.

- HotSpot JVM

- JPDA (Java Platform Debugger Architecture)

***Java 1.4 (2002)***

Java 1.4 was released on  February 6, 2002.This release was called “Merlin”.

- assert keyword

- Regular expressions (java.util.regex)

- Exception chaining

- NIO (New Input/Output)

***Java 5.0 (2004)***

Java 5.0 was released on September 30, 2004.This release was called “Tiger”.

- Generics

- Enhanced for loop (for-each loop)

- Autoboxing/unboxing

- Enumerated types

- Varargs (variable-length argument lists)

- Static imports

***Java 6 (2006)***

Java 6 was released on December 11, 2006. This release was called “Mustang”.

- Scripting Language Support (JSR 223)

- Improvements in Web Services

- Compiler API (JSR 199)

- Monitoring and management improvements

***Java 7 (2011)***

Java 7 was released on July 28, 2011. This release was called “Dolphin”.

- try-with-resources statement

- Diamond operator (<>)

- Strings in switch

- Fork/Join framework for parallel processing

- NIO.2 (enhanced file I/O and filesystem operations)

***Java 8 (2014)***

Java 8 was released on  March 18, 2014. Code name culture is dropped.

- Lambda expressions

- Stream API

- Default and static methods in interfaces

- New Date and Time API (java.time)

- Nashorn JavaScript engine

***Java 9 (2017)***

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

- Project Jigsaw (Module System)

- JShell (REPL for Java)

- Collection factory methods

- Private methods in interfaces

***Java 10 (2018)***

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.

- Local-variable type inference (var keyword)

- Application class-data sharing

***Java 11 (2018)***

Java 11 was released on September 2018.It includes many important and useful updates.

- Long-term support (LTS) release

- New String methods

- Local-variable syntax for lambda parameters

- HTTP Client API (Standardized from incubator)

***Java 12 (2019)***

Java 12 was released on March 19, 2019.

- Switch expressions (preview feature)

- New methods in String and Files

***Java 13 (2019)***

Java 13 was released on September 17, 2019.It had fewer developer-specific features.

- Text blocks (preview feature)

- Dynamic CDS (Class-Data Sharing) archives

***Java 14 (2020)***

Java 14 was released on March 17, 2020.It is the latest version available for JDK.

- Switch expressions (standardized)

- Records (preview feature)

- Pattern matching for instanceof (preview)

***Java 15 (2020)***

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.

- Text blocks (standardized)

- Sealed classes (preview feature)

- Hidden classes

***Java 16 (2021)***

**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.

- Records (standardized)

- Pattern matching for instanceof (standardized)

- Sealed classes (second preview)

- Vector API (incubator)

***Java 17 (2021)***

**Java 17** was released on September 14, 2021. Java 17 is an LTS (**Long Term Support**) release, like Java 11 and Java 8.

- Long-term support (LTS) release

- Sealed classes (standardized)

- New macOS rendering pipeline

- Foreign Function & Memory API (incubator)

***Java 18 (2022)***

**Java 18** GA was released on 22 March 2022.

- Simple web server

- Code snippets in API documentation

***Java 19 (2022)***

Java 19 has been released on September 20, 2022.

- Virtual threads (preview)

- Structured concurrency (incubator)

- Foreign Function & Memory API (second incubator)

***Java 20 (2023)***

Java 20 has been released on March 21, 2023 In this release, the main feature is  “Scoped Values” which is intended to replace thread-local variables, which have several drawbacks.

- Scoped values (incubator)

- Record patterns (preview)

- Pattern matching for switch (third preview)

- Virtual threads (second preview)

***Java 21 (2023)***

Java 21 was released on 19-Sep-2023, as the next long-term support (LTS) release of Oracle’s standard Java implementation.

- Long-term support (LTS) release

- Pattern matching for switch (standardized)

- String templates (preview)

- Generational ZGC (experimental)

Java releases follow a predictable, time-driven model, with feature releases every six months and LTS releases every three years. This model allows developers to stay up-to-date with incremental improvements and new features in the language and platform.

M.Sreeja