

# JAVA 21



# MULTILINE STRINGS

Java 21 supports multiline strings, making it easier to work with JSON, JDBC, JPA QL, and more. You can create multiline strings using triple quotes and even strip leading, trailing, and indent spaces.





# STRING ENHANCEMENTS

New features include a 'repeat' operation for 'StringBuilder' and a way to detect the presence of emojis in strings.



# RECORDS

Records are a fantastic addition to Java, simplifying the creation of classes where identity is based on their fields. They provide a concise syntax for generating constructors, storage for fields, getters, 'equals', and a good 'toString()' implementation.





# ENHANCED SWITCH

Java 21 introduces an enhanced switch statement that can be used as an expression, allowing you to assign results to variables or return values.



# ENHANCED INSTANCEOF CHECK

The new 'instanceof' check simplifies type casting and allows you to avoid specifying the class twice in the same block.





# SEALED TYPES

Sealed types, introduced in Java 17, allow you to explicitly permit which classes can subclass another class. This improves code optimization and helps ensure that all possible cases are covered in enhanced switch expressions.



# IMPROVED MATHEMATICS

Java 21 brings improvements to mathematics, including parallel multiplication for 'BigIntegers' and safer division operations that throw exceptions for overflow.





# SEQUENCED COLLECTIONS

The introduction of 'SequencedCollection' provides a common ancestor for ordered collections, making it easier to work with ordered data structures.



# VIRTUAL THREADS AND PROJECT LOOM

Project Loom introduces virtual threads, allowing you to create millions of threads that run on a smaller number of actual threads. This significantly improves the scalability of applications that use multithreading.

