Release notes 9.7

25th June 2023, Apache Lucene™ 9.7 available

The Lucene PMC is pleased to announce the release of Apache Lucene 9.7.

Apache Lucene is a high-performance, full-featured search engine library written entirely in Java. It is a technology suitable for nearly any application that requires structured search, full-text search, faceting, nearest-neighbor search on high-dimensionality vectors, spell correction or query suggestions.

This release contains numerous features, optimizations, and improvements, some of which are highlighted below. The release is available for immediate download at:

https://lucene.apache.org/core/downloads.html

Lucene 9.7 Release Highlights

New features

- The new IndexWriter#updateDocuments(Query, Iterable) allows updating multiple documents that match a query at the same time.
- Function queries can now compute similarity scores between KNN vectors.

Optimizations

- KNN indexing and querying can now take advantage of vectorization for distance computation between vectors. To enable this, use exactly Java 20 or 21, and pass --add-modules jdk.incubator.vector as a command-line parameter to the Java program.
- KNN queries now run concurrently if the IndexSearcher has been created with an executor.
- Queries sorted by field are now able to dynamically prune hits only using the after value. This yields major speedups when paginating deeply.
- Reduced merge-time overhead of computing the number of soft deletes.

Changes in runtime behavior

- KNN vectors are now disallowed to have non-finite values such as NaN or ±Infinity.

Bug fixes

- Backward reading is no longer an adversarial case for BufferedIndexInput, used by NIOFSDirectory and SimpleFSDirectory. This addresses a performance bug when performing terms dictionary lookups with either of these directories.
- GraphTokenStreamFiniteStrings#articulationPointsRecurse may no longer overflow the stack.
- ... plus a number of helpful bug fixes!

Further details of changes are available in the change log available at: https://lucene.apache.org/core/9_7_0/changes/Changes.html.

Please report any feedback to the mailing lists (http://lucene.apache.org/core/discussion.html)

Note: The Apache Software Foundation now uses a content distribution network (CDN) for distributing releases.