Release notes 9.10

20 Feb 2024, Apache Lucene™ 9.10 available

The Lucene PMC is pleased to announce the release of Apache Lucene 9.10.

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 9.10 Release Highlights

New Features

• Support for similarity-based vector searches, ie. finding all nearest neighbors whose similarity is greater than a configured threshold from a query vector. See [Byte|Float]VectorSimilarityQuery.
• Index sorting is now compatible with block joins. See IndexWriterConfig#setParentField.
• MMapDirectory now takes advantage of the now finalized JDK foreign memory API internally when running on Java 22 (or later). This was only supported with Java 19 to 21 until now.
• SIMD vectorization now takes advantage of JDK vector incubator on Java 22. This was only supported with Java 20 or 21 until now.

Optimizations

• Tail postings are now encoded using group-varint. This yielded speedups on queries that match lots of terms that have short postings lists in Lucene’s nightly benchmarks.
• Range queries on points now exit earlier when evaluating a segment that has no matches. This will improve performance when intersected with other queries that have a high up-front cost such as multi-term queries.
• BooleanQueries that mix SHOULD and FILTER clauses now propagate minimum competitive scores to the SHOULD clauses, yielding significant speedups for top-k queries sorted by descending score.
• IndexSearcher#count has been optimized on pure disjunctions of two term queries.

... plus a multitude of helpful bug fixes!

Further details of changes are available in the change log available at: http://lucene.apache.org/core/9_10_0/changes/Changes.html.

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

Note: The Apache Software Foundation uses an extensive mirroring network for distributing releases. It is possible that the mirror you are using may not have replicated the release yet. If that is the case, please try another mirror. This also applies to Maven access.