ReleaseNote53

```
21 August 2015, Apache Lucene™ 5.3.0 available
The Lucene PMC is pleased to announce the release of Apache Lucene 5.3.0

Apache Lucene is a high-performance, full-featured text search engine
library written entirely in Java. It is a technology suitable for nearly
any application that requires full-text search, especially cross-platform.

This release contains numerous bug fixes, optimizations, and
improvements, some of which are highlighted below. The release
is available for immediate download at:
  http://lucene.apache.org/core/mirrors-core-latest-redir.html

Please read CHANGES.txt for a full list of new features and changes:
  https://lucene.apache.org/core/5_3_0/changes/Changes.html

Lucene 5.3.0 Release Highlights:

API Changes
 * PhraseQuery and BooleanQuery are now immutable

New features
 * Added a new org.apache.lucene.search.join.CheckJoinIndex class that can be used to validate that an index
has an appropriate structure to run join queries
 * Added a new BlendedTermQuery to blend statistics across several terms
 * New common suggest API that mirrors Lucene's Query/IndexSearcher APIs for Document based suggester.
 * IndexWriter can now be initialized from an already open near-real-time or non-NRT reader
 * Add experimental range tree doc values format and queries, based on a 1D version of the spatial BKD tree,
for a faster and smaller alternative to postings-based numeric and binary term filtering.  Range trees can also
handle values larger than 64 bits.

Geo-related features and improvements
 * Added GeoPointField, GeoPointInBBoxQuery, GeoPointInPolygonQuery for simple "indexed lat/lon point in bbox
/shape" searching
 * Added experimental BKD geospatial tree doc values format and queries, for fast "bbox/polygon contains lat
/lon points"
 * Use doc values to post-filter GeoPointField hits that fall in boundary cells, resulting in smaller index,
faster searches and less heap used for each query

Optimizations
 * Reduce RAM usage of FieldInfos, and speed up lookup by number, by using an array instead of TreeMap except
in very sparse cases
 * Faster intersection of the terms dictionary with very finite automata, which can be generated eg. by simple
regexp queries

 * Various bugfixes and optimizations since the 5.2.0 release.

Please read CHANGES.txt for a full list of new features.

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 goes for Maven access.
```