Atomic Updates

Atomic Updates is a feature added in Solr 4.0 that allows you to update on a field level rather than on a document level (in previous versions). This means that you can update individual fields without having to send the entire document to Solr with the un-updated fields values. Internally Solr re-adds the document to the index with the updated fields.

Caveats and Limitations

Update Log

An <updateLog/> must be configured in your solrconfig.xml in order for atomic document updates to be used. This is necessary to ensure that the update instructions are applied to the most recently indexed version of the document – even if that version has not yet been committed (just like RealTimeGet).

DistributedUpdateRequestProcessorFactory

To improve performance in typical installations, atomic document updates are processed during execution of the DistributedUpdateRequestProcessorFactory. By default all update chains have the DistributedUpdateRequestProcessorFactory inserted into them just prior to the RunUpdateProcessorFactory and most users won’t be affected by this implementation detail, but there are two situations where it might affect you...

Using Update Processors that Modify Documents

If you use UpdateRequestProcessors to modify document values when indexing, these should be placed after the DistributedUpdateRequestProcessorFactory in your update chain to ensure they see the fully populated SolrInputDocument with all field values when an atomic document update request is received.

Disabling DistributedUpdateRequestProcessorFactory

If you have disabled DistributedUpdateRequestProcessorFactory by adding your own DistributingUpdateProcessorFactory (or NoOpDistributingUpdateProcessorFactory) to your update chain, then atomic document updates are not supported.

References

- https://issues.apache.org/jira/browse/SOLR-139
- http://yonik.com/solr/atomic-updates/