Course Outline

Solr for Developers

Course Summary

Description

This course introduces students to the Solr platform. Through a combination of lecture, discussion, and labs students will gain hands-on experience configuring effective search and indexing.

Topics

- Fundamentals
- Searching
- Indexing
- Relevance
- Extended features
- SolrCloud
- Developing with Solr API
- Conclusion

Audience

This course is designed for developers, business users, and administrators.

Prerequisites

All attendees should be experienced technical staff with a background in web application operations and, preferably, development.

Duration

Two days

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I. Fundamentals
- A. Solr Overview
- B. Installing and running Solr
- C. Adding content to Solr
- D. Reading a Solr XML response
- E. Changing parameters in the URL
- F. Using the browse interface
- G. Labs: install Solr, run queries

II. Searching
- A. Sorting results
- B. Query parsers
- C. More queries
- D. Hardwiring request parameters
- E. Adding fields to the default search
- F. Faceting
- G. Result grouping
- H. Labs: advanced queries, experiment with faceted search

III. Indexing
- A. Adding your own content to Solr
- B. Deleting data from Solr
- C. Building a bookstore search
- D. Adding book data
- E. Exploring the book data
- F. Dedupe update processor
- G. Labs: indexing various document collections
- H. Schema Updating
- I. Adding fields to the schema
- J. Analyzing text
- K. Labs: customize Solr schema

IV. Relevance
- A. Field weighting
- B. Phrase queries
- C. Function queries
- D. Fuzzier search
- E. Sounds-like
- F. Labs: implementing queries for relevance

V. Extended features
- A. More-like-this
- B. Geospatial
- C. Spell checking
- D. Suggestions
- E. Highlighting
- F. Pseudo-fields
- G. Pseudo-joins
- H. Multilanguage
- I. Labs: implementing spell checking and suggestions
- J. Multicore
- K. Adding more kinds of data
- L. Labs: creating and administering cores

VI. SolrCloud
- A. Introduction
- B. How SolrCloud works
- C. Commit strategies
- D. ZooKeeper
- E. Managing Solr config files
- F. Labs: administer SolrCloud

VII. Developing with Solr API
- A. Talking to Solr through REST
- B. Configuration
- C. Indexing and searching
- D. Solr and Spring
- E. Labs: code to read and write Solr index, exercise in Spring with Solr
- F. Developing with Lucene API
- G. Building a Lucene index
- H. Searching, viewing, debugging
- I. Extracting text with Tika
- J. Scaling Lucene indices on clusters
- K. Lucene performance tuning
- L. Labs: coding with Lucene

VIII. Conclusion
- A. Other approaches to search
- B. ElasticSearch
- C. DataStax Enterprise: Solr+Cassandra
- D. Cloudera Solr integration
- E. Blur
- F. Future directions