Apache Solr

Course Duration: 24 Hours (3 Days)

Overview

The Apache Solr course is designed to help learners master the intricacies of the powerful and open-source search platform, Apache Solr, which is built on top of Apache Lucene. The course begins with an introduction to search and Lucene architecture, covering its use cases, components, and why Lucene is a preferred choice for various applications. As learners progress, they will delve deeper into Lucene, exploring Analyzers, Querying, Scoring, and other advanced features like Faceting and Spatial search. The course transitions to Apache Solr, where learners are introduced to Solr's key features, its advantages over relational databases, and its architecture. The Solr training will equip learners with practical skills in Solr indexing, Searching capabilities, extended features, and administration. By the end of the course, participants will be adept at managing Solr Cloud, understanding its architecture, and leveraging Solr's full potential. This comprehensive Solr course will ensure that individuals are well-prepared to implement and maintain Solr instances effectively.

Audience Profile

The Apache Solr course covers Lucene fundamentals and Solr's powerful features, providing IT professionals with the expertise needed to master search technologies.

- Software Developers and Engineers
- Search Technology Specialists
- Data Scientists and Analysts
- IT Architects and System Integrators
- Database Administrators and Developers
- DevOps Engineers managing search infrastructure
- Data Engineers working with large datasets
- Enterprise Search Solution Consultants
- Technical Project Managers and Team Leads overseeing search-based projects
- Information Retrieval Professionals
- Backend Developers working on search algorithms
- Technical Support Engineers for search applications

Course Syllabus

Introduction to Apache Lucene

- What is Search?
- Lucene Architecture
- Lucene Use Cases

- Lucene Components
- Lucene Schema
- Why and Where to Use Lucene?
- Lucene Indexer
- Lucene Analyzer
- Lucene Searcher
- Different Types of Lucene Queries

Exploring Apache Lucene

- Analyzers
- Querying
- Scoring
- Boosting
- Highlighting
- Faceting
- Grouping
- Joins
- Spatial Search
- Apache Tika

Introduction to Apache Solr

- Introduction to Solr
- Key Features of Solr
- Solr vs. Relational Databases
- Installing and Running Solr
- Admin UI Quick Tour
- Overview of Solr Architecture
- Understanding Solr Schema
- Solr Field Types and Fields

Solr Indexing

- Introduction to Solr Indexing
- Analysis and Analyzers
- Tokenizers and Filters
- Indexing and Index Handlers
- Indexing Alternatives
- Solr Configurations
- Default Request Handlers

Searching Using Solr

- Search Process
- Velocity UI
- Basic Query Parsers
- Wildcard Search
- Fuzzy Search
- Proximity Search
- Range Search
- Sorting and Relevance
- Boosting
- Extended Query Parsers

Solr Extended Features

- Faceting
- Highlighting
- Spell Checking
- Query Re-ranking
- Transforming
- Search Suggesters
- Pagination
- Grouping and Clustering
- Spatial Search
- Real-time (Get & Update)

Solr Administration and Solr Cloud

- Understanding Solr Administration
- solrconfig.xml Configuration
- solr.xml Configuration
- Managing Solr Instances
- Introduction to Solr Cloud: Features, Architecture, and Implementation