



ELASTICSEARCH DEVELOPER I

Overview

This hands-on, instructor-led in-classroom or virtual classroom course is designed for software developers and engineers who need to develop search and analytics applications using Elasticsearch. Students learn the internals of Elasticsearch from a developer's perspective, including how to write search queries, perform text analysis, define mappings, perform aggregations, work with search results, and implement suggesters. Upon finishing this course, you will receive a Certificate of Completion.

Audience

This course is designed for software developers and engineers who need to build search and analytics solutions using Elasticsearch.

Duration (Classroom Training)

2 Day | Class is scheduled from 9 a.m. to 5 p.m.

Duration (Virtual Training)

4 Days | Class is scheduled for 4 consecutive days for 4 hours
Available in different time zones.

Language

English

Prerequisites

- No prior knowledge of Elasticsearch is required
- Students should be software developers familiar with programming concepts
- Students should be familiar with running commands from a command line or terminal

Requirements (Classroom Training)

- Laptop with connectivity to Wifi
- Mac, Linux OS, or Windows 7 or later
- A modern web browser
- A 64-bit JDK installed (Oracle JDK 1.8u60 or later, or OpenJDK 1.8.0.111 or later)
- At least 20% free disk space

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Requirements (Virtual Classroom)

- We require participants to download the latest version of Chrome or Firefox. (Safari isn't 100% supported in the virtual environment).
- The virtual classroom uses lots of JavaScript. We recommend that you disable any ad-blockers (some interfere with the virtual classroom) and that you restart your Web Browser before logging in.
- Computer with a stable Internet connection
- Mac, Linux OS, or Windows 7 or later

Modules

Introduction to Elasticsearch

- Learn about Elasticsearch and Lucene, the components of Elasticsearch, and how to index documents using the REST and Bulk APIs
- **Hands-on Lab** (30 minutes): Index a dataset, then search the data using Elasticsearch.

The Search API

- Learn how to write and submit queries, how the scoring and relevance of matching documents is calculated, and how to boost relevance at query time
- **Hands-on Lab** (45 minutes): Write various queries that search documents using Search API queries like match, range and bool

Text Analysis

- We walk through the details of how full text is analyzed and indexed in Elasticsearch, including a discussion of the various analyzers and filters and how to configure them
- **Hands-on Lab** (45 minutes): Perform the steps for configuring text analysis in Elasticsearch; use the Analyze API to see how the built-in analyzers work; define custom analyzers by configuring character filters, tokenizers and token filter

Mappings

- Learn how Elasticsearch mappings are used to define how your documents and fields are stored and indexed, including how to define multi-fields, custom analyzers, and index templates
- **Hands-on Lab** (45 minutes): Define a custom mapping for a new index; use an index template to customize a mapping

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More Search Features

- Learn how Elasticsearch mappings are used to define how your documents and fields are stored and indexed, including how to define multi-fields, custom analyzers, and index templates
- **Hands-on Lab** (45 minutes): See how a terms query works in Elasticsearch; write `multi_match` and `more_like_this` queries; see how the fuzziness parameter works and how to highlight search terms

The Distributed Model

- Understand how Elasticsearch scales and distributes data across a cluster, including a discussion on shards, how to startup a multi-node cluster, and how data replication works in Elasticsearch
- **Hands-on Lab** (30 minutes): Startup a multi-node cluster and see how documents indexed into Elasticsearch are distributed across shards in the cluster

Working with Search Results

- Learn how to perform common tasks when working with search results like sorting, pagination, and performing scroll searches
- **Hands-on Lab** (30 minutes): Run queries that involve controlling the results of searches using relevance boosting, sorting, and pagination

Suggesters

- Learn how to provide autocomplete suggestions for users, as well as “did you mean” suggestions when users misspell terms in their queries
- **Hands-on Lab** (30 minutes): Implement a “did you mean” and autocomplete solution using suggesters

Aggregations

- An introduction to aggregations, including a discussion the different types of aggregations, how to perform metric and bucket aggregations, and details on how to use some of the more common aggregations
- **Hands-on Lab** (45 minutes): Perform various metrics and bucket aggregations on the products index and also on some stock market trade data

More Aggregations

- We take a deeper dive into aggregations and discuss scope, using `post_filter` for faceting, creating histograms, finding the top hits of an aggregation, and an example of the significant terms aggregation
- **Hands-on Lab** (45 minutes): Perform various advanced bucket and metrics aggregations on the stocks index