

CTR-507 Elasticsearch Engineer

Course Duration: 3 days

About This Course

This course is designed for both new Elasticsearch users and Elasticsearch professionals. It begins with the basics for getting started with the Elastic Stack, then quickly dives deep into topics ranging from optimizing search performance to building efficient clusters. You will learn about various ways to ingest and process data, how to write complex search requests and work with their responses, strategies for scaling your clusters up or down, managing indices in large clusters and multiple clusters, general cluster management and troubleshooting recommendations.

Course Outline

Module 1: Introduction to Elasticsearch

- The Story of Elasticsearch
- Documents
- Indexes
- Indexing Data
- Searching Data
- The Bulk API

Module 2 - The Search API

- Introduction to the Search API
- URI Searches
- Request Body Searches
- The match Query
- The match phrase Query
- The range Query
- The bool Query
- Source Filtering

Module 3 - Text Analysis

- What is Analysis?
- Building an Inverted Index
- Analyzers
- Custom Analyzers
- Character Filters
- Tokenizers
- Token Filters
- Defining Analyzers
- Synonyms
- How to Choose an Analyzer
- Segments

Module 4 - Mappings

- What is a Mapping?
- Dynamic Mappings
- Defining Explicit Mappings
- Adding Fields
- Dive Deeper into Mappings
- Specifying Analyzers
- Dynamic Templates
- Index Templates

Module 5 - More Search Features

- Filters
- Term Filters
- The `match_phrase_prefix` Query
- The `multi_match` Query
- Fuzziness
- Highlighting
- More Like This

Module 6 - The Distributed Model

- Starting a Node
- Creating an Index
- Starting a Second Node
- Shards: Distribution of an Index
- Distributing Documents
- Replication
- Split Brain
- Other Node Types
- Development vs. Production Mode

Module 7 - Working with Search Results

- The Anatomy of a Search
- Relevance
- Boosting Relevance
- DFS Query-then-fetch
- Sorting Results
- Doc Values and Fielddata
- Pagination
- Scroll Searches
- Choosing a Search Type

Module 8 - Aggregations

- What are Aggregations?
- Types of Aggregations
- Buckets and Metrics
- Common Metrics Aggregations
- The range Aggregation
- The date_range Aggregation
- The terms Aggregation
- Nesting Buckets