Elasticsearch

 # TDXBI-101
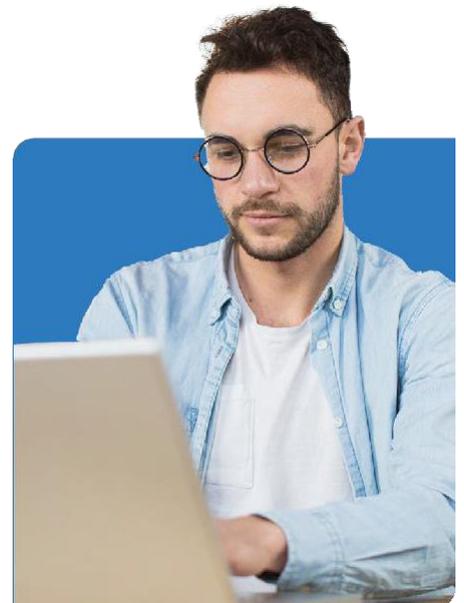
ThriveDX Elasticsearch

Time Commitment	Skill Level	Course Category
2 days (total of 16 hours / 8 hours per day)	Advanced Level	BI & Big Data

This Elasticsearch Training intends to provide a solid foundation in search and information retrieval. It starts with fundamental concepts and follows with internals, best-practices and key features. Each topic is followed by a hands-on lab. At the end of the training, attendee will have deep understanding of how Elastic search works, will be able to reliably analyze data and will be ready to build search applications.

Target Audience

- Architects
- DBAs
- Developers

Prerequisites

Basic knowledge of database concepts and development environments

Program Structure

Module 1: Introduction to Elasticsearch

- The Story of Elasticsearch
- The Components 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

Module 9: More Aggregations
- Global Aggregation
- The missing Aggregation
- Histograms
- Date Histograms
- Percentiles
- Top Hits
- Significant Terms
- Sorting Buckets

Module 10: Handling Relationships

- The Need for Data Modeling
- Denormalization
- The Need for Nested Types
- Nested Types
- Querying a Nested Type
- Sorting on a Nested Type
- The Nested Aggregation
- Parent/Child Types
- The has child Query
- The has_parent Query