



# ELASTICSEARCH DEVELOPER II

## Overview

This hands-on, instructor-led in-classroom or virtual classroom course is designed for software developers and engineers who are familiar with Elasticsearch development and need to expand their skills for building effective search and analytics applications on Elasticsearch. Students will learn how to perform scripting using Painless, define and deploy ingest pipelines, handle relationships, model documents effectively, control relevance scoring, work with geolocation data, design entity-centric indices for better search performance, understand where Elasticsearch fits into polyglot architectures, and learn advanced search techniques like pipeline aggregations, cross cluster search, field collapsing, and how to use the percolate query. Upon finishing this course, you will receive a Certificate of Completion.

## Audience

This course is designed for experienced Elasticsearch Developers who need to expand their knowledge of Elasticsearch.

## Duration (Classroom Training)

2 Days | 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

## Pre-requisites

- Attend the 2-day *Elasticsearch Developer I* course, or possess equivalent Elasticsearch knowledge

## 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

## 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

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## Modules

### Painless Scripting

- Learn how to use the new Painless scripting language in Elasticsearch and discuss use cases for scripting, including the Reindex and Update By Query APIs
- **Hands-on Lab** (30 minutes)

### Ingest Pipelines

- Pre-process documents during indexing with the ingest node capability of Elasticsearch by defining custom pipelines using various processors
- **Hands-on Lab** (30 minutes)

### Handling Relationships

- Learn how to implement and query documents that contain arrays of objects, and how to implement a parent/child relationship in Elasticsearch
- **Hands-on Lab** (20 minutes)

### Field Modeling I

- Learn how to design and model the fields in your documents, including discussions on granular fields, range types, dealing with large field cardinality, and designing for proximity matching
- **Hands-on Lab** (30 minutes)

### Field Modeling II

- We continue the discussion on field modeling, including dealing with diacritics (special characters) in various languages, and defining and working with synonyms
- **Hands-on Lab** (30 minutes)

### Geolocation

- Learn how to map and index geo points and shapes and also how to use the various geo search capabilities of Elasticsearch
- **Hands-on Lab** (30 minutes)

### Controlling Relevance

- Understand how documents are scored in Elasticsearch, then learn how to control the relevance scoring using `function_score`, decay functions, `script_score` and more
- **Hands-on Lab** (30 minutes)

### Advanced Search and Aggregations

- Learn some of the advanced search and aggregation techniques, including cross cluster search, pipeline aggregations and some advanced mapping techniques
- **Hands-on Lab** (30 minutes)

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## Improving Search Performance

- Learn some of the advanced search and aggregation techniques, including cross cluster search, pipeline aggregations and some advanced mapping techniques
- **Hands-on Lab** (20 minutes)

## Entity Modeling and Polyglot Architectures

- Understand the difference between event modeling and entity-centric modeling, including a real-world example of how entity-centric modeling can be used to answer different questions in more efficient ways. We also discuss how Elasticsearch is best used in your polyglot architecture
- **Hands-on Lab** (30 minutes)