ELASTICSEARCH OPERATIONS I

The Elasticsearch Operations I curriculum will soon be transitioned to Elasticsearch Engineer I. This transition will not impact anyone who is already enrolled in Operations I. To learn more about this update, as well as the new Elastic Certified Engineer exam, please see our certification launch page at https://elastic.co/training/certification or contact us at training@elastic.co.

Overview
This instructor-led course provides an introduction to the components of Elasticsearch and teaches the skills necessary to manage their operations. Through lectures and hands-on labs, you will learn how to install, configure, manage, and administer Elasticsearch clusters, as well as how to troubleshoot issues you may encounter along the way. You will also learn how to configure the various node types, manage indices, prepare a cluster for production, and more as you acquire the skills needed to implement and maintain Elasticsearch.

Audience
Data Architects, Data Administrators, System Administrators, DevOps

Duration
In-Classroom - 2 Days | 8 hours per day
Virtual Classroom - 4 Days | 4 hours per day

Language
English

Prerequisites
• No prior knowledge of the Elastic Stack required
• Comfort using the terminal or command line recommended

Requirements (In-Classroom)
• Laptop with Wi-Fi connectivity
• Mac, Linux, or Windows
• Modern web browser
• 64-bit JDK installed
  • Oracle JDK 1.8.0_60 or later
  • OpenJDK 1.8.0_111 or later
• At least 20% free disk space

Requirements (Virtual Classroom)
• Stable internet connection
• Mac, Linux, or Windows
• Latest version of Chrome or Firefox (Safari is not 100% supported)
• Due to virtual classroom JavaScript requirements, we recommend that you disable any ad-blockers and restart your browser before class.
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Modules

**Introduction to Elasticsearch**
- The components of Elasticsearch, how to index data, basic CRUD operations, using the Kibana console, and starting and stopping Elasticsearch
  - **Hands-on Lab**

**Installation and Configuration**
- How to configure Elasticsearch, installation options, the directory structure of Elasticsearch, configuring cluster and node names, configuring the network and the JVM, and understanding the difference between Development and Production mode
  - **Hands-on Lab**

**Working with Nodes**
- Understanding and configuring the different types of nodes, including master eligible nodes, avoiding split brain, data nodes, coordinating only nodes, and a look at some common architectures
  - **Hands-on Lab**

**Indexes**
- Understanding shards and how to configure them for an index, plus other tasks like deleting indexes and defining aliases and index templates
  - **Hands-on Lab**

**Cluster Health**
- Understanding the health of your cluster and diagnosing health issues, as well as allocating shards and diagnosing shard issues
  - **Hands-on Lab**

**Mappings and Analysis**
- Understanding what text analysis and mappings are, as well as an introduction to writing basic searches and how segments work in Elasticsearch
  - **Hands-on Lab**

**Index Management**
- Including the Reindex API, configuring delayed shard allocation and total shards per node, designing a hot/warm architecture, and how to configure shard filtering
  - **Hands-on Lab**
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Capacity Planning
• Including designing for scale, scaling with replicas, scaling with Indices, capacity planning use cases, and working with time-based data
  • Hands-on Lab

Cluster Management
• Configuring shard allocation awareness and forced awareness, installing plugins, cluster backup, repositories, and how to take and restore a cluster snapshot
  • Hands-on Lab

Monitoring
• A discussion of monitoring options, including the Stats API, task monitoring, the cat API, the X-Pack Monitoring component, and guidelines for monitoring a cluster
  • Hands-on Lab

Upgrading a Cluster
• Including an overview of upgrades, how to perform a rolling upgrade vs. a full cluster restart, and considerations for upgrading from Elasticsearch 2.x.
  • Hands-on Lab

Production Checklist
• Items to consider when moving to production, including security considerations, bootstrap checks, and best practices
  • Hands-on Lab