

# Elasticsearch: Administration and Operation

Hands-on course of 3 days - 21h

Ref.: ELA - Price 2025: 2 330 (excl. taxes)

## EDUCATIONAL OBJECTIVES

At the end of the training, the trainee will be able to:

- Understand how Elasticsearch, logstash, and Kibana work
- Evaluate the possibilities offered by Elasticsearch, logstash, and Kibana
- Install and configure Elasticsearch
- Administer and monitor an Elasticsearch cluster

## THE PROGRAMME

last updated: 08/2024

### 1) Installing and using Elasticsearch, logstash, and Kibana

- Developing applications using Elasticsearch.
- Impact on the design of existing applications.
- Prerequisites and types of installations.
- Configuration and implementation.

*Hands-on work* : Installing Elasticsearch, logstash, and Kibana.

### 2) How Elasticsearch works

- Overview of Apache Lucene.
- Architecture as a Cloud and key concepts (cluster, node, etc.).
- JSON format. The REST API.
- Scoring and relevance of queries.
- Simple searches.
- Data storage.
- The role of logstash and Kibana.

*Hands-on work* : Data storage in Elasticsearch. Importing data. Administration and initial simple search queries.

### 3) Possibilities offered by Elasticsearch, logstash, and Kibana

- Handling large volumes of queries and indexing.
- Indexing and searching documents and data.
- Analyzing documents and data.
- Calculating lists of responses.
- Filtering and sorting results.
- Suggesting queries.

*Hands-on work* : Working with indexing. Implementing queries, filtering, and sorting results. Configuration for processing large volumes.

### 4) Search and indexing configuration

- Large volumes of queries and indexing.
- Indexing data.
- Search queries.
- Advanced searches.
- Percolation.

*Hands-on work* : Configuring the extraction of data from unstructured files and advanced data search.

## TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

## ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

## TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

## TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

## ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at [psh-accueil@ORSYS.fr](mailto:psh-accueil@ORSYS.fr) to review your request and its feasibility.

### 5) Configuring and administering the cluster

- Configuring the Elasticsearch cluster.
- Preparing the Elasticsearch cluster for processing large volumes.
- Configuring the nodes.
- Template management.
- Administering the Elasticsearch cluster.

*Hands-on work : Detailed review of the file `elasticsearch.yml`. Implementing an Elasticsearch cluster.*

### 6) Administering the cluster

- Monitoring the cluster.
- Load distribution.
- Node allocation.
- Index aliases. Elasticsearch plug-ins.
- Properties “Transient” and “Persistent”.
- Backup-and-restore principles.

*Using Plug-ins and Elasticsearch scripts.*

## DATES

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### REMOTE CLASS

2025 : 04 août, 19 nov.