

ELK stands for Elasticsearch, Logstash, and Kibana. These three are a separate and open-source project. They work exceptionally efficiently when working in tandem. The ELK Stack Course provides a thorough understanding of the various components of ELK Stack and open sources. The course enables the delegates to install the Stack components in their system, analyse the real-time data with the ELK Stack and create the visualizations with loaded data with Kibana. The ELK Stack course is aimed at professionals who want to learn a complete suite of products which cater to the requirement of getting big data, saving and searching it and then visualizing it. The course teaches the delegates how to deploy the products in an integrated manner like Kibana for effectively creating the visualisations, Logstash for pulling the data and Elasticsearch for saving and search it. By the completion of the course, the delegates will be able to create their own ELK infrastructure adjustable to any environment and handle large data efficiently without any slowdown.

Due to large data transfer, the validity of data is becoming stale and also slow down the analytics portion. This further leads to sluggish insights which adversely affecting the business. The ELK Stack course helps the business to maintain valuable business insights from the big data available. The ELK Stack teaches delegates how to successfully install, configure, and optimize the deployment and take business decisions in real time. ELK can be used stand alone or as a combination. For IT Managers, it is a very cost effective analytics tool and efficient solution for data extraction problems. While Logstash is a versatile tool for handling system logs, web server logs, error logs with ease. It handles the storage, query and analysis of all the logs. Kibana serves as the frontend dashboard and makes large and complex data easily understandable.

## Prerequisites

No formal prerequisites are required for attending the ELK Stack training course. However, a basic understanding of SQL would be useful.

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## Course Objectives

- Understand the ELK stack fundamentals with different use-case
- Generate visualization with the loaded data with the help of Kibana
- Deploy the Stack components in the system
- Use Metric Beat to compare CPU time spent in user space with offset by hour
- Gain in-depth knowledge of each component of ELK stack
- Use Logstash to load data into Elastic Search
- Evaluate real time data with ELK stack

## Introduction to ELK Stack

- ELK Stack Architecture
- Importance of ELK
- Elasticsearch

- Logstash
- Kibana
- ELK vs Splunk
- Advantages and Disadvantages of ELK Stack

## Installing ELK

- Environment Specifications
- Java and Elasticsearch Installation
- Logstash, Kibana and Beats Installation

## Elasticsearch

- Basic Concepts – Documents, Types, Mapping, Shards and Index
- Queries – Boolean Operators, Fields, Ranges and URI Search
- REST API
- Plugins

## Logstash

- Configuration
- Pitfalls

## Kibana

- Kibana Searches
- Visualisations
- Dashboards
- Kibana Elasticsearch Index

## Beats

- Configuration
- Modules

## ELK in Production

- Monitor Logstash/Elasticsearch Exceptions
- ELK Elasticity
- Security
- Maintainability
- Upgrades

## Use Cases

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