Faysal Aziz

Introduction to Big data

Harnessing value for your organization - 1 day

FA-0255 · 1 day

Data & Analytics

Introduction

Welcome to this **one-day** essential course designed for managers, business leaders, and decision-makers aiming to grasp the fundamentals of big data and its impact on modern businesses. In the age of information, understanding big data and the technologies that power it, such as Hadoop and its ecosystem (Hive, Kafka, Spark), is crucial for driving organizational success.

This course demystifies big data, providing insights into how it can be harnessed to make informed decisions, improve operations, and foster innovation. We will explore the concept of cluster computing, its evolution, and how it forms the backbone of big data processing.

By the end of this workshop, participants will be equipped with the knowledge to assess the benefits, skills, and costs involved in adopting big data technologies within their organizations and departments.

Learning outcomes

Participants will:

- Gain a comprehensive understanding of big data and its significance in today's business landscape.
- Learn about the Hadoop ecosystem, including its core components like Hive, Kafka, and Spark, and their roles in big data processing.
- Understand the principles of cluster computing and its evolution to meet the demands of big data.
- Explore practical examples of how big data can drive decision-making and innovation across different industries.
- Assess the skills required and the potential costs involved in implementing big data solutions.

Prerequisites

This course does not require technical expertise but participants should have:

- A basic understanding of data concepts and IT infrastructure.
- Interest in leveraging data for business strategy and operations.

Training outline

1. Understanding Big Data

1. Definition and characteristics of big data: Volume, Velocity, Variety, and Veracity.
2. The business value of big data: Case studies on how organizations leverage big data for competitive advantage.

2. Introduction to Hadoop and Its Ecosystem

1. Overview of Hadoop: Its inception, core components (HDFS and MapReduce), and how it revolutionized data processing.

   Exploring the Hadoop ecosystem:

   1. **Hive**: Making data processing simpler through SQL-like queries.
   2. **Kafka**: Facilitating real-time data feeds with publish-subscribe messaging system.
   3. **Spark**: Speeding up data processing tasks through in-memory computation.
3. Cloudera
4. Databricks
5. Other technologies
6. The role and application of each component in handling big data challenges.

3. Cluster Computing in the Context of Big Data

1. The concept of cluster computing and its significance in processing large data sets.
2. Evolution from traditional databases to distributed computing architectures.
3. How cluster computing underpins big data technologies and solutions.

4. Big Data for Business Leaders

1. Identifying opportunities: Understanding what big data can do for your organization and department.
2. Skills and team composition: What to look for when building or outsourcing your big data team.
3. Estimating costs: Factors to consider when assessing the investment in big data technologies.
4. Developing a big data strategy: Steps for integrating big data into your business processes and decision-making framework.

5. Case Studies and Practical Applications

1. Examining real-world examples of successful big data projects across various sectors.
2. Discussion on lessons learned and best practices from these case studies.

6. Next Steps: From Insight to Action

1. Roadmap for adopting big data: Preliminary steps for business leaders to initiate big data projects.
2. Navigating challenges and risks associated with big data initiatives.
3. Future trends in big data and analytics: Staying ahead in a data-driven world.

This interactive one-day course is designed to provide business leaders with a solid foundation in big data, enabling them to make informed decisions about leveraging big data technologies for organizational growth.

Through expert-led presentations, discussions, and case study analyses, participants will leave with a clear understanding of big data's potential and how to begin harnessing it effectively.

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