

FUNDAMENTALS OF BIG DATA & REAL-TIME ANALYTICS

“Harness the Power of Big Data for Instant Insights and Smarter Decisions”

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

This course introduces participants to the core concepts, technologies, and tools used in Big Data and Real-Time Analytics. It equips professionals with the foundational knowledge required to understand the data lifecycle, analytics pipelines, and how organizations can gain instant business intelligence from fast-moving data streams. You will explore architectures such as Hadoop and Spark, and learn how real-time systems like Kafka and Flink process and deliver insights on the go.

Objectives

By the end of the course, participants will be able to:

- Understand the fundamentals of Big Data, its ecosystem, and challenges
- Explore real-time data processing concepts and streaming analytics
- Familiarize with key Big Data and streaming tools (Hadoop, Spark, Kafka, etc.)
- Understand how real-time insights can support critical decision-making
- Learn about data governance, quality, and security in Big Data environments

Why Attend

Organizations need to move beyond traditional BI to data-driven real-time decision-making. This course will prepare you to be part of digital transformation initiatives and to support scalable, fast, and intelligent data-driven operations.

Target Audience

- Data Analysts and Data Scientists
- IT Professionals and Software Engineers
- Business Intelligence Professionals
- Project Managers and Digital Transformation Leaders
- Anyone interested in Big Data and streaming analytics fundamentals

Individual Benefits

- Gain practical insights into modern data processing ecosystems
- Develop skills for roles in data engineering and real-time analytics
- Understand architectural choices and best practices for Big Data systems

Organizational Benefits

- Build internal Big Data literacy and capability
- Enable faster, data-driven decision-making
- Streamline operations using analytics pipelines and automation

Instructional Methodology

- Instructor-led presentations and interactive lectures
- Live demos and tool overviews
- Group discussions and architecture walkthroughs
- Hands-on exercises using simulated data environments

Course Outline

DETAILED 5-DAY COURSE OUTLINE (Customizable) Training Hours: 07:30 AM – 03:30 PM Daily Format: 3–4 Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Big Data Foundations

- 07:30 – 09:30 – Module 1: Introduction to Big Data – 5 V’s and Market Trends
- 09:45 – 11:15 – Module 2: Big Data Architecture Overview – Batch vs Stream
- 11:30 – 01:00 – Module 3: The Hadoop Ecosystem – HDFS, MapReduce, Hive

Day 2: Real-Time Analytics Essentials

- 07:30 – 09:30 – Module 4: Real-Time vs Batch Analytics – Key Differences
- 09:45 – 11:15 – Module 5: Streaming Concepts – Windows, Latency, Throughput
- 11:30 – 01:00 – Module 6: Kafka Basics – Topics, Producers, Consumers

Day 3: Tools & Technologies

- 07:30 – 09:30 – Module 7: Apache Spark – Spark Core, SQL, Streaming
- 09:45 – 11:15 – Module 8: Real-Time Data Pipelines – Kafka + Spark Integration
- 11:30 – 01:00 – Module 9: NoSQL Databases for Big Data (MongoDB, Cassandra)

Day 4: Use Cases and Implementation

- 07:30 – 09:30 – Module 10: Real-World Applications (IoT, Finance, Retail, Telco)
- 09:45 – 11:15 – Module 11: Designing Scalable Streaming Pipelines
- 11:30 – 01:00 – Module 12: Data Governance, Security & Quality Controls

Day 5: Strategy and Hands-On Lab

- 07:30 – 09:30 – Module 13: Building Your First Real-Time Analytics Flow
- 09:45 – 11:15 – Module 14: Dashboards and Alerts with Open-Source Tools
- 11:30 – 01:00 – Module 15: Final Project Presentation, Group Discussion & Certification

Certification

All participants will receive a Certificate of Completion for Fundamentals of Big Data & Real-Time Analytics, acknowledging their understanding of critical data systems and real-time processing techniques.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

In-House / Customized Training

Interested in running this course for your team?

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