



مركز الوقت للتدريب
Time Training Center

**CERTIFIED BIG DATA ANALYTICS
PRACTITIONER COURSE**

Introduction

This program equips executives and professionals with the essential skills to understand and leverage big data in driving innovation and decision-making. Participants will learn how to articulate robust big data architectures and develop analytics-driven solutions tailored to their organisation's unique objectives. Designed for today's data-driven world, the course empowers leaders to navigate complex data environments confidently, enhancing their strategic and operational impact.

Learning Objectives

- Understand core concepts of big data
- Design and articulate big data architectures
- Develop analytics-driven business solutions
- Lead data-driven decision-making initiatives
- Apply big data insights to strategic planning

Course Details

Mode of Training	Classroom or Online
Duration	5 Days

Who Should Attend?

- Business executives and decision-makers
- IT and data professionals
- Managers overseeing digital transformation
- Professionals seeking to enhance big data skills

Certificate(s)

Participants who complete all requirements and pass the **Competence Validation Exam** will receive a **Certificate of Completion and Competence** issued by **Time Training Center**. This certification affirms both the successful completion of the course and the demonstrated proficiency in the essential skills and knowledge relevant to the respective field or professional role.



Course Outline

Module 1: Introduction to Big Data and Ecosystem

- 5 Vs of Big Data
- Traditional Data vs Big Data
- Big Data Use Cases
- Big Data Architecture Layers
- Overview of Hadoop Ecosystem (HDFS, MapReduce, YARN, Hive, Pig)

Module 2: Big Data Storage – Deep Dive into HDFS

- HDFS Architecture (Blocks, Namenode, Datanode)
- HDFS Operations (Put, Get, List, Remove, Permissions)
- Data Replication and Fault Tolerance

Module 3: Introduction to Big Data Processing – MapReduce

- MapReduce Programming Model
- Anatomy of a MapReduce Job
- WordCount Example Explained

Module 4: Modern Big Data Processing with Apache Spark

- Spark vs MapReduce
- Spark Architecture (Driver, Executors, Cluster Manager)
- Working with RDDs: Creation, Transformations, Actions
- Spark Storage Persistence Levels

Module 5: Structured Data Analytics using Spark SQL

- Introduction to DataFrames and Datasets
- DataFrame Operations (Filtering, Joins, Aggregations)
- Writing and Executing SQL queries in Spark
- Optimizations using Catalyst and Tungsten

Module 6: Machine Learning with MLlib

- Introduction to MLlib
- Data Preprocessing (Feature Extraction, Handling Missing Data)
- Building a Classification Model (Logistic Regression)
- Model Evaluation Metrics (Accuracy, Precision, Recall)



Module 7: Real-time Big Data Processing with Spark Streaming

- Stream Processing vs Batch Processing
- Spark Streaming Architecture
- DStreams and Structured Streaming
- Windowed Operations

Module 8: Capstone Project and Certification Assessment

- Introduction to Capstone Scenarios (Retail, IoT, Social Media)
- Project Phases (Ingest, Process, Analyze, Visualize)
- Certification Exam Overview (Format, Passing Criteria)

Methodology

We employ a comprehensive and applied learning strategy, integrating theory with real-world implementation:

- ❖ **Conceptual Learning:** Expert-led sessions on catalytic theory and engineering principles
- ❖ **Interactive Workshops:** Group exercises, presentations, and technical discussion forums
- ❖ **Case-Based Learning:** Industry-specific examples and troubleshooting scenarios
- ❖ **Technology Integration:** Digital tools, simulations, and catalyst modeling applications
- ❖ **Assessment:** Pre-tests, post-tests, and Competence Validation Exams for Certified courses to ensure knowledge transfer and skills validation

Note: Instructors may adjust the training approach to fit technical requirements or participant engagement levels.

Our Instructors

Our instructors for this course are seasoned experts in big data analytics and information architecture. With over a decade of experience working with multinational organisations, they bring practical insights into designing data strategies and implementing analytics solutions. All instructors are adept at simplifying complex data concepts into actionable knowledge. Detailed trainer profiles will be shared upon course request.

About Time Training Center

Time Training Center is a leading professional training institute in Abu Dhabi that provides students and professionals with quality education and skill development programs. Time Training Center is accredited by the Abu Dhabi Center for Technical Vocational Education & Training (ACTVET) with a specialization in Computer and Management Training programs and certified by QA QC with ISO 9001:2015.

Operating in Abu Dhabi for over 3 decades, Time Training Center has established brand value as a high-quality Management & Technical Training Center in Abu Dhabi. We have also secured strong loyalty from corporate companies and associations with our holistic and practical teaching approach.

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