

BIG DATA FUNDAMENTALS (CM-BDFC)

Syllabus

Our goal at CertMind is to certify the skills of professionals who perform in the context of Technology. To achieve this, we seek to ensure that professionals demonstrate their skills and knowledge by applying an International Certification Exam.

The purpose of the **Certification in Big Data Fundamentals** is to show that the professional has the knowledge about the basics, structure, technologies and tools for the management and analysis of large volumes of data with Big Data, in addition to recognizing its scopes of application.

Who should take this test?

This exam is ideal for people or teams who are involved in managing systems or databases and analyzing large volumes of data, and who buscan to move toward Big Data.

Roles such as: Software engineers, application developers, IT architects, business analysts, data analysts, projects managers, systems analysts.

Recommended training time

20 hours, segmented into 5 sessions of about 4 hours.

Certification Exam Format

- Type: 40-question exam, multiple choice and single answer.
- Running time: 60 minutes.
- Minimum note to approve: 28/40 or 70%.
- Additional time: If the professional does not take the exam in their native language, they will have an additional 15 minutes and is also allowed to use a dictionary.
- Pre-request: It is highly recommended that the professional attend a formal training of Big Data Fundamentals and also have basic programming skills.
- Supervision: Yes.
- Open book: No.
- Mode: Available online only.
- Renewal of certification: Yes. It takes 20 PUC's (Professional Update Credits) every 3 years for certification renewal..



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In order to ensure that the professional has the minimum skills and knowledge that can be applied in a real environment, the review addresses the following topics:

Module 1: Introduction

In this module, the professional must demonstrate his knowledge about the context of Big Data, his approach and use.

- 1.1. The data: concept, structure and classification
- 1.2. Introduction to Big Data: concept, context and originators (triggers)
- 1.3. The 7V's Big Data Strategy
- 1.4. Privacy and ethics in data management

Module 2: Data models

In this module, the professional must demonstrate knowledge about the data models, their approach, their characteristics and scope of use.

- 2.1 Data models: contextualization and database structure
- 2.2 Relational Data Models (SQL): Relational Database Structure
- 2.3 Non-relational data models (NoSQL): non-relational database structure
- 2.4 Database challenges and challenges: corporate needs, performance and availability
- 2.5 Modern Data Models: Introduction to Modern Databases (NewSQL)

Module 3: Non-relational models (NoSQL)

In this module, the professional must clearly understand and understand the architecture of non-relational data models (NoSQL), as well as understand how the tools work for proposed non-relational data models.

- 3.1 Non-Relational Model Architecture (NoSQL)
- 3.2 Using and Applying Non-Relational Models (NoSQL)
- 3.3 Non-relational column-based models: applications and tools
- 3.4 Non-relational Models Based on Key-Value: Applications and Tools
- 3.5 Non-relational document-based models: applications and tools
- 3.6 Non-relational graph-based models: applications and tools



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Module 4: MapReduce Model

In this module, the professional will know and understand how the MapReduce model works and its importance in the context of Big Data.

- 4.1 Origin, definition and context of the MapReduce model
- 4.2 Architecture and operating principles of the MapReduce model
- 4.3 MapReduce Model Application Examples
- 4.4 Apache Hadoop: Framework for Big Data
- 4.5 Apache Hadoop Ecosystem: Basic Modules

Module 5: Big Data Technologies

In this module, your professional will understand the main differences between traditional Business Intelligence (BI) and data analytics with Big Data.

- 5.1 Traditional Business Intelligence (BI)
- 5.2 Top tools for Business Intelligence
- 5.3 Business Intelligence and Data Analytics with Big Data
- 5.4 Platforms for data analytics: Big Data ecosystem
- 5.5 Reference architecture for data analytics with Big Data
- 5.6 Data mining: CRISP-M methodology

Module 6: Analytical models for Big Data

In this module, the professional will understand the importance of the analytical models used in the context of Big Data.

- 6.1 Introduction to data analytics with Big Data
- 6.2 The future of data analytics
- 6.3 Common data analytics models
- 6.4 General considerations for selecting data analytics models

