Course : Big Data, methods and practical solutions for data analysis

Practical course - 3d - 21h00 - Ref. IBD
Price : 2360 CHF E.T.

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This course will help you understand the challenges and benefits of Big Data, as well as the technologies needed to implement it. You'll learn how to integrate massive volumes of structured and unstructured data via an ETL, then analyze them using statistical models and dynamic dashboards.

Teaching objectives

At the end of the training, the participant will be able to:

- Understand the main concepts of Big Data, as well as the technological ecosystem of a Big Data project.
- Knowing how to analyze the difficulties inherent in a big data project
- Determine the nature of the data handled
- Understanding safety, ethics and legal issues
- Exploiting big data architectures
- Setting up complete technical foundations for big data projects

Intended audience

Project managers, architects, developers, data scientists or anyone who wants to know how to design a big data architecture.

Prerequisites

Avoir une bonne culture générale des systèmes d'information et, plus particulièrement, avoir des connaissances de base des modèles relationnels, des statistiques et des langages de programmation.

Practical details

Set up a Hadoop platform and its basic components, use an ETL to manage data, create analysis models and dashboards.

Course schedule

PARTICIPANTS

Project managers, architects, developers, data scientists or anyone who wants to know how to design a big data architecture.

PREREQUISITES

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TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

1 Understanding the concepts and challenges of big data

- Origins and definition of big data.
- Key market figures worldwide and in France.
- The challenges of big data: ROI, organization, data confidentiality.
- An example of big data architecture.
- Ethical and legal aspects of data management.
- Data security.

2 Big data technologies

- Description of the architecture and components of the Hadoop platform.
- Storage modes (NoSQL, HDFS).
- Operating principles of MapReduce, Spark, Storm, etc.
- Market-leading distributions (Hortonworks, Cloudera, MapR, Elastic Map Reduce, Biginsights).
- Install a Hadoop platform.
- Data scientist technologies.
- Overview of specific Big Data technologies (Tableau, Talend, QlikView, etc.).

Exercise

Installation of a Hadoop big data platform (via Cloudera QuickStart or other).

3 Managing structured and unstructured data

- Hadoop Distributed File System (HDFS) operating principles.
- Import external data into HDFS.
- Perform SQL queries with HIVE.
- Use PIG to process the data.
- The ETL principle (Talend, etc.).
- Massive data streaming management (NIFI, Kafka, Spark, Storm, etc.)

Exercise

Implementation of massive data flows.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

Dates and locations

REMOTE CLASS
2026 : 10 June, 23 Sep., 25 Nov.