Updated on 28/02/2025

Sign up

Data Modeling Training

3 days (21 hours)

Presentation

Our **data modeling training course** gives you a comprehensive approach, from theoretical foundations to practical applications in various fields (relational databases, Big Data, AI). It is aimed at anyone wishing to understand how to structure and organize information in a coherent way, based on best practices and modern methodologies.

This training course will enable you to master all the skills you need to model your data and the many fields application in which it is used.

Our training program covers many areas of modeling. Whether you have requirements for relational databases, big data or NOSQL, you'll learn all the skills you need.

Objectives

- Acquire the fundamentals of conceptual, logical and physical modeling
- Understand the main design methods (Merise, UML) and their uses
- Mastering standardization and best practices in relational design

Target audience

- **Developers**
- Database architects

Prerequisites

* Knowledge of SQL and database management

Our Data Modeling training program

Introduction to data modeling

* Definition and purpose
* Importance of modeling
* Modeling levels
* Fields of application

Theoretical foundations of data modeling

* Entities, attributes, relationships
* Keys and integrity constraints
* Conceptual, logical and physical diagrams
* Data standardization (1NF, 2NF, 3NF)
* Modeling languages and notations

Modeling approaches and methodologies

* Design process
* Iterative and agile modeling
* Merise and UML
* Relational vs. dimensional modeling
* Choice of approach according to context

Data modeling for relational databases

* From conceptual model to relational schema
* Logical schema and referential integrity
* Application of standardization
* Physical considerations and optimization
* Implementation tools

Data modeling for Big Data and NoSQL

* Big Data challenges
* NoSQL data models (key-value, documents, columns, graphs)
* Flexible schema-on-read
* Dimensional modeling for analysis
* Choosing the right storage

Synthesis, case studies and final project

- Summary of key concepts
- Good modeling practices
- Case study 1 (inventory management)
- Case study 2 (Big Data IoT)
- Case study 3 (AI recommendation system)

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.