

## Relational Database Design (SQL03)

**ID** SQL03 **Price** 1,590.— €(excl. tax) **Duration** 2 days

### Course Overview

Together with your trainer you will work out the basics, implementations and applications of relational database techniques and DWH structures

### Who should attend

DB users who want to get into database creation. Users who want to optimize their queries. People who want to understand and evaluate databases.

### Prerequisites

Good SQL knowledge as in the course SQL Standard Intensive Training

### Course Objectives

You can understand database designs, query correctly and efficiently (with the appropriate SQL knowledge). You can design and create simpler databases.

### Course Content

#### Motivation

#### Basic terms and DB concepts

#### Data dictionary and meta databases

#### Data integrity

- Data consistency
- Data protection
- Data security
- Transactions

#### Overview: models

- Hierarchical model
- Network model

- Relational model
- Object-oriented models

#### Normalize

- From the 1st to the 3rd normal form
- BCNF, 4th, 5th normal form

#### Overview: Design Methods

- Objectives, principles of design methods
- Method according to Zehnder
- ERD from Chen

#### The Entity Relationship Diagram (ERD)

- Formation of entity sets and relationships between entity sets
- Normalizing an ERD and mapping the ERD to data structures
- Identification keys, foreign keys, global and local attributes

#### Definition of consistency conditions

- Inherent, external consistency conditions
- Classes of consistency conditions

#### Reproduction of transactions

#### Outlook, trend of DBMS and trends

- Distributed database structures
- Graph databases (NoSQL)
- Document databases (NoSQL)
- Typical cloud data structures

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- ✓ Classroom Training
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