

## Relational Database Design

1 day course

### Overview

At work, storing and accessing data are part of a person's day-to-day activities. One of the most efficient and powerful ways of managing data is by using relational databases. Information can be stored, linked, and managed using a simple relational database application and its associated tools. You have used databases to store and retrieve data. Now, you may want to plan and design your own database. A well-designed database allows easy maintenance and quick access of data. In this course, you will plan, design, and create a functional and efficient relational database. You can create effective database designs by applying relational database design techniques.

### Course Objective

You will design and create a relational database.

### Target student

Individuals who are able to write simple queries or run queries that someone else has designed.

### Prerequisites

Microsoft Access 2003 or 2007 Level 1 course or equivalent is recommended.

## Course Content

### Analyzing Client Requirements

- o Analyze Current Data Storage Systems
- o Identify New Client Requirements
- o Determine the Required Data Fields
- o Group Fields into Tables
- o Identify Key Fields

### Creating a Preliminary Design

- o Create a Preliminary Entity Relationship Diagram
- o Apply the First Normal Form
- o Apply the Second Normal Form
- o Apply the Third Normal Form
- o Apply the Higher Normal Forms
- o Denormalize Tables
- o Incorporate Client Feedback

### Implementing the Database Design

- o Translate Business Rules into Constraints
- o Create Tables
- o Create Indexes

### Generating Reports

- o Manipulate Data
- o Generate Reports Using Conditions
- o Generate Reports from Multiple Tables
- o Generate Summary Reports
- o Create Views

### Customizing a Database

- o Modify Constraints
- o Modify Fields