

# Relational Database Design

Course Length: 1 Day

## Course Description

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 2007 Level 1 course (recommended).

**Delivery Method:** Instructor-led, group-paced, classroom-delivery learning model with structured hands-on activities.

## Performance-Based Objectives

Upon successful completion of this course, students will be able to:

- Analyze client requirements.
- Create a preliminary design.
- Implement the database design.
- Generate reports.
- Customize a database.

## Course Content

### Lesson 1: Analyzing Client Requirements

Topic 1A: Analyze Current Data Storage Systems

Topic 1B: Identify New Client Requirements

Topic 1C: Determine the Required Data Fields

Topic 1D: Group Fields into Tables

Topic 1E: Identify Key Fields

### Lesson 2: Creating a Preliminary Design

Topic 2A: Create a Preliminary Entity Relationship Diagram

Topic 2B: Apply the First Normal Form

Topic 2C: Apply the Second Normal Form

Topic 2D: Apply the Third Normal Form

Topic 2E: Apply the Higher Normal Forms

Topic 2F: Denormalize Tables

Topic 2G: Incorporate Client Feedback



### **Lesson 3: Implementing the Database Design**

Topic 3A: Translate Business Rules into Constraints

Topic 3B: Create Tables

Topic 3C: Create Indexes

### **Lesson 4: Generating Reports**

Topic 4A: Manipulate Data

Topic 4B: Generate Reports Using Conditions

Topic 4C: Generate Reports from Multiple Tables

Topic 4D: Generate Summary Reports

Topic 4E: Create Views

### **Lesson 5: Customizing a Database**

Topic 5A: Modify Constraints

Topic 5B: Modify Fields

Topic 5C: Modify Tables

