Relational Databases & Data Modelling Overview

Duration: 2 Days **Course Code: RDBO** **Delivery Method: Virtual Learning**

Overview:

Relational Databases & Data Modelling Overview Course Overview

The Relational Databases & Data Modelling Overview course is designed to give delegates practical experience in data modelling using entity relationship diagrams & data normalisation,also in designing relational databases using the normalised entity model. Both entity modelling and data normalisation form core elements of this course. Delegates are not expected to have any prior knowledge of systems analysis or databases,and the course includes a brief introduction to the principles of systems analysis.
Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

Who will the Course Benefit?

Developers moving into the area of relational databases who need an understanding of the principles and logic of the relational database; programmers who are to start programming in SQL and need to know the principles on which it is built; programmers who need to understand entity modelling and normalization; analysts needing a knowledge of entity modelling and entity relationship diagrams and any others who need to know the principles of relational analysis and data modelling but do not need a complete systems analysis course.

Objectives:

- Course Objectives
- The Relational Databases & Data Modelling Overview course provides an understanding of the structure of a RDBMS (Relational Database Management System) and the underlying principles of relational analysis and data modelling.

Prerequisites:

- An understanding of Information Technology concepts and computer terms is required.

Follow-on-Courses:

Further Learning

- Introduction to SQL
- Introduction to SQL on Oracle
- Oracle SQL & PL/SQL Fundamentals
- Oracle SQL Fundamentals
- Introduction to MySQL
- Oracle SQL
- Introduction to MariaDB
- SQL for PostgreSQL
- Querying Microsoft SQL Server with Transact-SQL
- Microsoft SQL Server with Transact-SQL

Content:

Relational Databases ; Data Modelling Overview Training Course Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: INTRODUCTION TO RELATIONAL DATABASES

- The Database Approach
- Database Management Systems
- The function of a Database Management System
- The Processing Architecture
- The Schema Architecture
- The Storage Architecture
- An overview of Database System Development
- An overview of general database principles

Session 2: CONCEPTUAL DATA MODELS

- Overview of Entity Models
- Entities and how to identify them
- Attributes and how to identify them
- Relationships and their qualities
- Building an Entity Relationship Diagram
- Resolving many-to-many relationships
- Sub-type and Super-type Relationships
- Arc Relationships
- Recursive Relationships
- Constraints and Assumptions
- Normalisation to the First Normal Form (1NF)
- Normalisation to the Second Normal Form (2NF)
- Normalisation to the Third Normal Form (3NF)
- Exercises:
- Analysing a specification
- Creating an Entity Relationship Diagram

Session 2: CONCEPTUAL DATA MODELS (continued)

- Normalisation to the First Normal Form (1NF)
- Normalisation to the Second Normal Form (2NF)
- Normalisation to the Third Normal Form (3NF)
- Exercises: Data Normalisation producing table specifications and Entity Diagrams

Session 3: THE RELATIONAL MODEL

- Relational Structure
- Relational Terminology
- Domains
- A Relational schema
- Candidate keys and Primary Keys
- Foreign Keys
- Key Constraints
- Attribute Constraints
- Implementing Sub-type/Super-type Relationships
- Views
- Denormalisation using Pre-joined Tables
- Denormalisation using Derived Data
- An Introduction to Structured Query Language (SQL)
- Simple Queries
- Simple Updates of the Data
- Exercise: Data Modelling from an Invitation to Tender

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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