Course overview:

Relational Database Design

(D136eng, 3-day)

the courseware company
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Overview and objectives

This course is one common starting point for the entire Sideris database curriculum. The objective of this course is to consider the logical design of relational databases using a methodology known as semantic data modeling and related practical techniques. Major subject areas to be explored are:

- ☑ Building a logical data model of increasing complexity and accuracy
- ☑ Transforming a logical model into a physical model for a relational database
- ☑ Using object oriented and semantic modeling techniques to refine a model
- ☑ Identifying classic structures and patterns which may be reused among many different models.
- ☑ Learn about star schemas, snowflake schemas and data warehouse models
- ☑ Introduce the use of a data model diagramming tool and CASE tools
- ☑ Consider the physical objects of a relational database and how they implement a logical model.

Who should attend?

The target audience for this course is all database professionals concerned about the design and implementation of databases. Among the specific groups for whom this course will be helpful are business analysts, data modelers, data analysts and data architects, senior application designers and developers and database administrators.

No specific prerequisites are mandatory for this course.

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Course content

ABOUT DATA MODELING & RELATIONAL DATABASE DESIGN

- WHAT IS DATA MODELING? • ABOUT SYSTEM DESIGN METHODOLOGIES • MORE ABOUT CASE TOOLS

BUILDING A SIMPLE DATA MODEL

- IDENTIFYING ENTITIES • IDENTIFYING ATTRIBUTES • A SIMPLE MODELING SCENARIO • IDENTIFYING RELATIONSHIPS • A SIMPLE DATA MODEL SOLUTION

ACHIEVING A MORE ACCURATE MODEL

- SUPPLEMENTING THE REQUIREMENTS SPECIFICATION • REFINING THE ATTRIBUTE DEFINITIONS • REFINING THE RELATIONSHIP DEFINITIONS

TRANSFORM DATA MODEL INTO APPLICATION DATABASE MODEL

- ABOUT APPLICATION DATABASE MODELS • TRANSFORMATION TO RELATIONAL MODEL

SEMANTIC & OBJECT ORIENTED MODELING

- DEFINING DOMAINS • DEFINING SUPERTYPES & SUBTYPES • DEFINING ARCS • DEFINING LATTICES

CLASSIC STRUCTURES & PATTERNS

- BASIC CLASSIC STRUCTURES • ADVANCED CLASSIC STRUCTURES

DATA MODEL IMPLEMENTATION USING RELATIONAL DATABASES

- RELATIONAL IMPLEMENTATION • ELECTRONICS Database Logical Model • ELECTRONICS Database Physical Model • SUPERTYPE & ARC TRANSFORMATION OPTIONS • MORE ABOUT A RELATIONAL DATABASE • RELATIONAL DATABASE OBJECTS • SQL DDL

DATA WAREHOUSE MODELS

- WHAT IS A DATA WAREHOUSE? • ABOUT WAREHOUSE MODELS & TERMINOLOGY • STAR SCHEMA MODEL • SNOWFLAKE SCHEMA MODEL • CONTRAST OLTP & WAREHOUSE DATABASES