

ORA200 - Relational Database Design and Data Modeling

Design and organize the content of a database for effective transaction processing

Hands-on 3 day course

Course Description

This course helps participants learn an effective approach to developing a relational database. Topics in this course are: defining user requirements, developing an entity-relationship (ER) diagram and mapping your logical database model to a physical database design. Exercises and lab sessions reinforce the learning objectives and provide participants the opportunity to gain practical hands-on experience. A hands-on modeling workshop is facilitated on the third day. This workshop provides participants the opportunity to model a real world database application.

You Learn to...

- Define and Model an Oracle Relational Database
- Develop a Design Strategy
- Analyze User Requirements
- Develop an ER Diagram
- Map an ER Diagram to Physical Tables
- Define ANSI Standard SQL
- Normalize Table Design

Who Needs to Attend

- End Users
- Support Staff
- Developers
- Analysts
- Administrators

Prerequisites:

None

Follow-On Courses

ORA360 - Oracle9i SQL and PL/SQL



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Course Content:

1. Relational Database Design Overview

- Business Information Requirements
- Conceptual Data Modeling
- Database Design
- Database Build

2. Conceptual Data Modeling

- Identify and Model Entities
- Relationships
- Relationship Types
- Relationship Matrix
- Analyze and Model Relationships
- E-R Diagrams
- Attributes
- Distinguish Attributes and Entities
- Assign Unique Identifiers

3. Advanced Data Modeling

- Normalize the Data Model
- Resolve M:M Relationships
- Model Recursive Relationships
- Model Roles with Relationships
- Model Subtypes
- Model Exclusive Relationships
- Model Complex Relationships

4. Relational Database Concepts

- Primary Keys
- Foreign Keys
- Data Integrity

5. ANSI Standard SQL

- Command Summary
- Create Schema
- Populate Tables
- Query Rows
- Manipulate Data

6. Relational Database Design

- Initial Database Design
- Map Simple Entities
- Map Attributes to Columns
- Map UIDs to Primary Keys
- Map Relationships to Foreign Keys
- Map Complex E-R Models to Tables
- Choose Arc Options
- Choose Subtype Options
- Single Table Subtype Design
- Separate Tables Subtype Design

7. Table Normalization

- Normalize Table
- Recognize Unnormalized Data
- Convert to First Normal Form
- Convert to Second Normal Form
- Convert to Third Normal Form

8. Modeling Workshop

- Analyze Business Requirements
- Model Business Requirements
- Develop an ER Diagram
- Review the Model
- Gather New and Changing Requirements
- Modify the Model
- Present Your Model



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