HANDS-ON WEBINAR

Learn Logical Data Modeling at your Desk! Live Instruction over the Web

Three consecutive sessions
$500/student

The discipline of logical data modeling (LDM) supports organizations who are suffering the consequences of poorly designed and/or incomplete databases; in many cases via a development process which ignores the business requirements of the data itself. This webinar stands out by presenting an ideal balance of modeling how-to's , practical advice, and hands-on experience. The webinar supports a wide range of students - those with no *logical* data modeling experience, as well as those with significant development experience but no modeling experience. The delivery and analysis of business requirements (sometimes incomplete!) are used throughout in order to show each student the importance of data analysis and the impact that assumptions can make on database design. All workshops are based entirely on actual consulting experiences within a wide range of industries as well as the public sector. Existing seminar material has been re-organized so that it can be presented in webinar "segments". Each segment is live and instructor led.

Students are encouraged to use their favorite modeling tool. Workshop solutions are available for student download in order to ensure consistent starting points for the next workshop.

A webinar outline is included below.

Session 1

- Major Model Components
  - ❖ Defined, illustrated, derived from req'ts
- Detailed categories
- Data Analysis
- Model Development / Symbols
- Modeling workshops and solutions
- Attributes and Keys
  - ❖ Categories, Types, Details, Usages
- Modeling Workshops

Session 2

- Workshop Solutions
- Review
- Diagramming Notations
- Model Quality
- Normalization - Part I
  - ❖ Purpose, Pre-Steps
  - ❖ Normal Forms
  - ❖ Modeling Procedure
  - ❖ Functional Dependence
- Modeling Exercises and Wkshps
- Workshop Solutions

Session 3

- Review
- Subtypes
- Detailed identification, qualification, modeling formats
- Views
- Physical DB Design
- Modeling Variations and Roles
  - ❖ Enterprise, Star-Schema, O-O, UML
- Organization Responsibilities
- Metadata Solutions
- Workshop 7 – Tying Everything Together

Registration online (www.dbdsolutions.com/DBDS/seminars/registration.htm) or via fax (908-439-2640). Be sure to provide all required information as indicated in the registration form below. Questions can be sent via email (info@dm-transition.com) or by phone (880-990-DBDS). Actual dates to be announced shortly!

Payment Required Prior to Attendance
All checks payable to Data Transition Group

Student Name_____

Student Email_____

Student Phone#_____

Method of Payment (Circle One): Check, Credit Card

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CC Number _____

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COURSE OUTLINE

Session 1

What is a Logical Data Model?

- Definition
- Purpose
- Where does it fit in to the Application Development Lifecycle
- Benefits

Entities

- Definition
- Entity instances
- Naming entities
  - Guidelines
  - Exercise: Pick out the poor names
- Finding entities ("data analysis")
  - Exercise: Determine the entities from an interview
- Entity description
  - Guidelines for writing
  - Exercise: Write one
- Workshop 1 – Find the Entities ("data analysis")

Relationships

- Degree of a relationship (part of Cardinality)
  - One-to-one
  - One-to-many
  - Many-to-many
    - Unresolved
    - Resolved – Associative entity
  - Current vs over time (history)
  - Exercise: Draw the relationships
- Relationship names:
  - Guidelines
  - Bad names
  - Exercise: Add relationship names
  - Resolved many-to-many names
- The rest of Cardinality
  - Exercise: Read the relationships
- Redundant relationships
- Parallel relationships
- Recursive relationships
  - One-to-one
  - One-to-many
  - Many-to-many
    - Unresolved
    - Resolved – Associative entity
  - Exercise: Diagram a recursive scenario
- Mutually exclusive relationships
- Workshop 2 – Determine the relationships and draw the E/R diagram

Session 2

Diagramming Notations

- Information Engineering
- James Martin's Information Engineering
- IDEF1X
- Oracle CASE* Method
- Cool: Business Team
- Chen

Attributes

- Definition
- Attribute names
  - Format
  - Classwords
- Exercise: Find the attributes
- Defining attributes
  - Description
  - Data type
  -
  - Length
  - Format
  - Attribute Types
  - Domains
- Attributes to avoid
- Workshop 3 – Find and add the attributes

Session 2 (continued)

Keys

- Primary Keys
  - Guidelines for choosing
    - Exercise: Choose the primary key
  - Artificial vs natural
  - Compound, candidate, alternate
- Foreign Keys
  - Overview and definition
  - Special cases: one-to-one, many-to-many
  - Exercise: determine the foreign keys from an E/R diagram.
  - Primary foreign key
  - Exercise: Work backwards and determine the E/R diagram from an entity/attribute list with "PK" and "FK" shown
  - Recursive relationships
- Workshop 4 – Determine primary and foreign keys, and complete the HR model.

Session 3

Normalization

- Definition
- Benefits
- Dr Codd and Functional Dependence
- The procedure (detecting and fixing)
  - A pre-step
  - 1st normal form – repeating groups
  - 2nd normal form
    - Intra-key functional dependence
    - Partial functional dependence
  - 3rd normal form – transitive dependence
- Other normal forms
- Exercise: detect and fix errors
- Workshop 5 – Normalize an existing model

Subtypes

- Graphical representations
- Guidelines for use
- Classifying attribute
- Levels of nesting
- Exercise – Redraw using subtypes where possible
- Workshop 6 – Enhance the model with subtypes

Related Topics

- Views
  - Usage
  - Model
- Database Design
  - Physical
  - Converting from Logical to Physical
- Other Types of Models
  - Enterprise
  - Star Schema (Data Warehouse)
- Other Methodologies
  - Object Oriented
  - UML
- Model Roles
  - In Application Development
  - In Data Integration
  - In Data Warehousing
  - In Data Management
- Organization Responsibilities
- Metadata Solutions
- Workshop 7 – Tying Everything Together (optional)

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