Logical Data Modeling

Length: 2 Days

Audience: Programmers, Analysts, and Database Administrators responsible for the design of a relational database.

Prerequisites: An understanding of relational database systems.

Overview: The course describes the process of designing a database for a relational system. The first part of the course presents an approach to develop a semantic data model which identifies attributes and relationships relevant to the organization's operation. The next part of the course describes the process of transforming the semantic model to a relational design, i.e., a set of database tables. Throughout the course, emphasis is placed on developing an accurate model of the organization.

The material presented in class is reinforced through a series of case studies and student exercises. This course is not product-specific but applies to any relational database.

The prerequisite ensures that students have an understanding of relational database concepts.

Topics discussed include:

- Overview of Database Design
- Objectives of the Process
- Examples of Good and Bad Designs
- Design Methodologies
  - o Bottom-Up Approach
  - o Top-Down Approach
- Conceptual Design
- Extended Entity Relationship (EER) Model
- Methodology of EER Design
- Pragmatic Issues
- Integrity Constraints and Business Rules
- Design Verification
- Relational Design
- Transforming an EER Model to a Relational Model
- Pragmatic Relational Design