



C H A P T E R

7

**DATA MODELING
AND ANALYSIS**

Objectives of Chap 7 – Data Modeling

- Learn more about logical and physical modeling
- Address data modeling and all that it involves
- Be able to create – read and understand Entity-Relationship models (entities and relations...)
- Explain when data models are constructed and where the models are stored.
- Build an entity relationship context diagram
- Learn about key for entities and key-based diagrams
- Build a fully-attributed entity relationship diagram and describe all the data structures and attributes to the repository or encyclopedia.
- Be able to normalize your logical model.

Data Modeling

- Purpose of Modeling: Give structure to unstructured problems...
- Models – Logical and Physical
- Logical Models – ‘the whats’ of a system
 - implementation independent
 - independent of any technology
 - sometimes called ‘essential model’
 - Great for separating business matters from technical constraints.
 - Allow us to communicate with users using the language of their business.
- Physical Models – the ‘hows’ of a system – how the system is implemented.
 - clearly implementation dependent
 - sometimes called implementation model or technical model
 - Great for describing an existing system
 - Ultimately, physical models must be done to reflect implementation...