DAT200 : Database Design

Code : DAT200   **Duration :** 2 days   **Category :** Databases

Database Design

Audience :

Web programmers, web application developers, database administrator, webmasters, and web project managers.
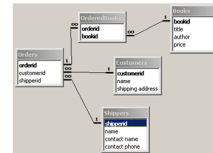
Prerequisites :

To join this course is no specific skills or knowledge is required. General knowledge of system design is helpful to a proper understanding.
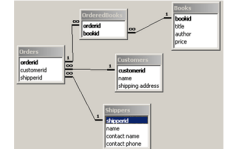
Realization :

The theory will treated using presentation slides. Demos are used to clarify the theory. There is ample opportunity to practice. The course material is in English.

Contents :

Database design is crucial to effectively implement a relational database. In this course we discuss the parts of a database, how to model data, and the construction and development of a database in a business environment. Participants will learn how to discover the entities and their relations that will be mapped to tables. They will learn the principles of Entity Relationship Modeling. These skills are fundamental to managing database backed websites, or any relational database application.

Module 1 : Intro Database Systems

Describe and define Database Management System (DBMS)
List and evaluate database models
Describe the relational model
Describe the role of databases in information management

Module 2 : Entity Modeling

Define business entities and business rules
Describe entities and tables
Describe attributes and columns
Understand data types
Understand relationships and cardinality

Module 3 : SQL

Understand Data Definition Language (DDL)
Understand Data Manipulation Language (DML)
Understand Data Query Language (DQL)
Understand the role of SQL in the relational model
Understand rudimentary SQL commands
Describe database construction methods

Module 4 : Keys

Understand primary keys
Understand surrogate and composite keys
Understand foreign keys
Understand normalization and normal forms
Understand denormalization
Identify and resolve anomalies

Module 5 : ER Modeling

Understand entity relationship modeling
Create ER diagrams
Understand process modeling
Implement a database

Module 6 : Databases in Applications

Describe naming conventions
Understand indices
Understand the client/server model
Understand how databases are used with applications
Understand how databases are used with the web
List and evaluate common db application languages