SQL Database design & Information retrieval (generic SQL)

Who should attend: IT and other professionals who need to learn how to access information stored on relational databases using SQL.

Prerequisite skills: A general understanding of IT system and database use.

Course Outline
This course provides an intensive hands-on introduction to SQL and relational databases in a commercial environment. The course initially focuses on the design and structure of relational databases and then, with the design concepts in place, how to efficiently access, update and retrieve information from the database using SQL.

This course also serves as an excellent primer for IT professionals looking to move into SQL Server programming and administration, and MS Business Intelligence.

Course Content
This course has been developed for real-world, commercial scenarios by our expert instructors. See below for detailed syllabus.

SQL Database Design and Information Retrieval Training Course Outline
Introduction
What you will learn
Data Models
Flat file
Hierarchical
Network
Entity-Relationship Concepts
Relational Data Model
Terminology
Entity types and occurrences
Attributes
Keys
Relationships
Entity-Relationship diagrams
Entity-Relationship Modelling
Gathering Information
Entity-Relationship modelling
Integrating views into a single model
Complex Relationships
Data Integrity and Normalization
Keys
Integrity rules
Normalization
First Normal Form
Second Normal Form
Third Normal Form
Denormalizing
Preparing for Implementation
Attributes and Validation
SQL for Implementation
CREATE and DROP
Table
Index
Foreign Key
ALTER
Security
GRANT
REVOKE
Implementing a design
Defining tables
Defining Relationships
Importing data
Summary
Introduction to Relational Databases
Relational Databases
  1. Tables, columns, keys
Relationships
Course database layout
Projections, Selections and Joins
Projections
SELECT
Selections
WHERE clause
Comparison, range and list operators
String matching
ORDER BY clause
GROUP BY and HAVING clauses
Joins
Equijoins
Inner and Outer joins
Self joins
Subqueries
Operators
IN / NOT IN
EXISTS / NOT EXISTS
Updates
INSERT
UPDATE
DELETE