SQL Fundamentals of Querying

Course SQL-E 2 Days Instructor-led, Hands on

Introduction

This course serves two main audiences: those who have never touched Structured Query Language (SQL), and those who have seen SQL queries and may even have worked with existing SQL queries or tried to build a query but want to understand the language behind the query. Or, maybe you are reading this and thinking “I've seen others build SQL statements but I want or need to know how to do it myself.” In any of these cases, you have come to the right place.

This course will introduce you to SQL and its use in writing queries, questions you ask of data in your database, to retrieve information from a database. You will learn about SQL and its basic keywords and phrases used to build statements that will get the data you need from a database.

At Course Completion

Upon successful completion of this course, students will be able to:

- Write basic SQL Queries
- Perform SQL Joins
- Use criteria in queries
- Generate calculated fields and totals in queries
- Build subqueries
- Change data through the use of queries
- Create SQL Views
- Create tables using SQL
- Index columns
- Perform conditional queries

Prerequisites

Students should have at least a basic knowledge of relational databases and how they are designed.

Course Outline

Module 1: What is Structured Query Language (SQL)?

- Relational Databases
- Basic SQL Keywords
- Tips for Planning Queries
- What People do with Queries

Module 2: Selecting Data

- Using Select Statements to Examine Database Tables
- Using Results to Figure out other Tables to Examine
- Narrowing your SQL Statements to Fields you Need
- Sorting Records
- Using Field Aliasing
- Saving a SQL Statement

Module 3: Getting Data from Multiple Tables

- Inner and Outer Joins
- Table Aliasing
- Self Joins

Module 4: Using Criteria in SQL Statements

- Avoiding Ambiguous Situations
- Using a Single Criterion to Limit Records
- And/Or Situations in Criteria
- Criteria Keywords
- Using Comparison Criteria
- Using Wildcards

Module 5: Generating Totals Using SQL

- Aggregate Keywords
- The Group By Clause
- Using Criteria in Aggregate-Based Queries

Module 6: Generating Calculated Fields using SQL

- Math Calculations
- Using SQL Keywords to Enhance the Display of Data
- Date Calculations
- Text Calculations

Module 7: Unions, Subqueries and More Joins

- Using where clause as an inner join
- Using unions
- Using Subqueries

Module 8: Action Queries

- Using the INSERT Keyword
- Using UPDATE Statements
- Using the DELETE Keyword

Contact ISInc for more information at 916.920.1700 or by visiting our website at http://www.isinc.com

Module 9: Working with Views

- Creating a View to Simplify Data Retrieval
- Altering a View
- Creating a View to Restrict Accessible Data
- Inserting Data Through a View
- Deleting Views

Module 10: Using SQL to Structure Databases

- Understanding Data Types
- Creating Tables
- Altering Tables
- Deleting Tables

Module 11: Indexing

- Creating a single column index
- Creating a multiple-column index

Module 12: Conditional Queries

- Using an IF statement
- Using a Case statement