

ANSI SQL Introduction

Length: 2 Days

Audience: Programmers, Analysts, Managers, and Database Administrators requiring an understanding of SQL to work with a relation database system such as Oracle, DB2, or SQL Server. Emphasis is placed on writing queries, i.e., data retrieval operations.

Prerequisites: Basic computer literacy.

Overview: This course provides a hands-on introduction to SQL according to the ANSI SQL:1999 Standard. Through examples and workshops, students will learn through the process of writing simple to complex queries against a relational database. The course starts with a review of fundamental relational concepts to ensure a proper understanding of relational database technology. After exploring operations against a single table, the discussion moves towards developing more complex queries involving multiple tables.

Examples and exercises are provided for the following ANSI-compliant systems:

Oracle11g

Microsoft SQL Server 2005

DB2 UDB 8

Topics discussed include:

- Overview of an RDBMS
 - Relational Data Structure
 - Relational Language: Data Types
 - Sample DDL, DML, and DCL Statements
 - Database Integrity
- Simple Data Retrieval
 - SELECT Statement Structure
 - WHERE Clause
 - Displaying a Subset of Rows and Columns
 - Removing Duplicates From the Display
 - Ordering the Result
- Complex Retrieval Conditions
 - Boolean Operators: AND, OR, NOT
 - IN Keyword

BETWEEN Keyword

- Patterns and Expressions

 - Pattern Matching Using LIKE

 - Numeric Expressions

 - String Value Expressions

 - CAST Expression

 - CASE Expressions

 - Built-In Scalar Functions

- Aggregate Operations

 - Supported Functions: SUM, AVG, MAX, MIN, COUNT

 - GROUP BY Clause

 - HAVING Clause

 - Multilevel Groups

- Missing Information

 - NULL Value

 - Working with NULL Values

 - COALESCE Function

- Multiple Table Operations

 - Complexity and Semantics

 - Simple Equi-Join

 - Joining More than Two Tables

 - ANSI-Compliant Joins: Inner Join, Outer Join, Condition Join