

Introduction to ANSI SQL

Duration	2 days.
Participants	IS personnel and end users.
Objectives	After successfully completing this course, you will be able to: • Code ANSI standard SQL (Structured Query Language) select, insert, update, and delete statements to access and update tables. • Understand the fundamental concepts of a relational database and describe the relational data model. • Distinguish between ANSI standard and product-specific SQL.
Overview	This is an introductory SQL course, designed for those who need to learn ANSI SQL as a prerequisite for a course in a specific relational database product. ANSI SQL is <i>not</i> a prerequisite for our DB2/ SQL Application Development nor for our QMF Workshop courses, as these courses already contain the introductory material found in this SQL course.
Format	Lecture and hands-on workshops.
Prerequisites	None.
Topic Outline	Introduction to Relational Databases - Database defined - Concepts of the Relational Data Model - Data structures - Implementing the Relational Data Model - Table, columns and rows - Data types - Example of creating a table - Example of selecting data - Overview of objects - Structural vs value-driven tabular format - ANSI Standard SQL - History of SQL - SQL3 Structured Query Language - Basics of SQL - Simple SELECT statement - Definition of terms - Statement syntax - SELECT parameters: Column list, FROM, WHERE, ORDER BY - Simple predicates

Introduction to ANSI SQL *(continued)*

Topic Outline

Structured Query Language *(continued)*

- Executing interactive queries
- Predicate logic
- BETWEEN, IN, LIKE
- Compound search conditions: AND, OR, Parentheses
- Column functions
- Scalar functions
- Eliminating duplicate rows
- Effect of NULLS
- Date and time considerations

SQL Data Manipulation

- INSERT statement
- Multi-row insert processing
- UPDATE statement
- Restrictions on updating primary key
- DELETE statement

Advanced SQL

- Join
 - Cartesian product
 - Equijoin
 - Natural join
 - Greater than join
 - Joining rows of the same table
 - Outer joins
- Union
 - Union of two SELECTs
 - Union with ORDER BY
 - Union coding rules
- Subqueries
- Subqueries vs joins
- Correlated subqueries
- EXISTS operator