

SQL Basics Course Outline

I. SQL Overview

- Relational database concepts, specific products
- SQL syntax rules
- Data definition, data manipulation, and data control statements
- Getting acquainted with the course database and editor

II. SQL SELECT statements

- Clauses
- The SELECT clause: columns and aliases, where expressions, order by expressions how null values behave

III. SQL Functions and Expressions

- Eliminating duplicates with DISTINCT arithmetic expressions
- Replacing null values
- Literals, concatenation, other string functions
- Numeric operations, including rounding
- Date and time functions
- Nested table expressions
- Case logic
- Other expressions in specific dbms products

IV. SQL Updating

- The INSERT, UPDATE and DELETE statements
- Column constraints and defaults

- Referential integrity constraints

V. SQL Joins

- Inner joins with original and SQL 92 syntax
- Table aliases
- Left, right and full outer joins
- Self-joins

VI. SQL Subqueries and Unions

- Intersection with IN and EXISTS
- Subqueries
- Difference with NOT IN and NOT EXISTS subqueries
- The purpose and usage of UNION and UNION ALL

VII. SQL Summarization

- The column functions MIN, MAX, AVG, SUM and COUNT
- The GROUP BY and HAVING clauses Grouping in a combination with joining