

## 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 UNIONALL

## **VII. SQL Summarization**

- The column functions MIN, MAX, AVG, SUM and COUNT
- The GROUP BY and HAVING clauses Grouping

in a combination with joining