

„SQL in the Oracle database – basic training”

Course description:

SQL in the Oracle database – basic training is addressed to beginners who want to learn the theoretical and practical basics of SQL language used in Oracle databases, to write queries that optimize the data obtaining process and to diagnose application performance. This course runs an Oracle database expert with many years of experience.

Aims of training: Using the SELECT statement to retrieve data from one or more tables. Formatting output data using built-in functions. Retrieving data from multiple tables using different join conditions. Creating reports with aggregated data. Linking multiple datasets. Basic data operations (Data Manipulation Language DML). Basic operations on objects (Data Definition Language DDL).

Training program:

1. Using the SELECT statement to retrieve data

- SELECT command syntax
- simple queries
- arithmetic expressions
- supporting of NULL values
- concatenation
- DISTINCT clause
- showing the table structure using the DESCRIBE command

2. Selecting specific rows and sorting query results

- queries with the WHERE clause
- logical operators and value comparison
- sorting rows by using the ORDER BY clause

3. Single-row functions

- manipulating character strings (LOWER, UPPER, INITCAP, SUBSTR, LENGTH ...)
- manipulating numbers (ROUND, TRUNC, MOD...)
- operations on dates (NEXT_DAY, LAST_DAY, ADD_MONTHS...)
- type conversions (TO_CHAR, TO_NUMBER, TO_DATE)

- conditional functions (CASE, DECODE)
- operations on NULL values (NVL, NVL2, NULLIF, COALESCE)

4. Aggregating data using grouping functions

- using grouping functions (MAX, MIN, SUM ...)
- grouping query results using clause GROUP BY
- excluding data group from query using clause HAVING

5. Viewing data from multiple tables and subqueries

- Types of joining and their handling
- single and multi-row subqueries
- ANY and ALL operators

6. Set operations

- UNION, UNION ALL, INTERSECT, MINUS operators

7. Data and table operations

- Inserting, modifying and deleting records
- TRUNCATE command
- Transaction control, COMMIT and ROLLBACK command
- Creating, modifying and deleting tables
- Adding integrity constraints and indexes
- Create tables based on queries

Methodology:

- PowerPoint mini lectures
- working on computers (each participant works on a separate computer)
- mini training videos

Organizational information:

Number of training hours: 21 hours / 3 days

Time of training 9:15-16:15

Place of training: Łódź, Piotrkowska 125 – KM Studio - trainings