

# SQL – the language of access to database ORACLE

## **Training objectives**

This course aims to familiarize participants with the construction of relational databases, acquainted with the SQL language, knowledge of advanced search options, become familiar with the architecture of a client-server. Participants learn about the creation of structures for data storage and data insertion and management. In addition, training includes issues regarding the efficiency of operations and data security.

## **Skills**

After completion of the course participants should:

- understand on what basis does the Oracle database,
- know the organization and be able to manage data structures in the schemas.

The participant should be able to select information and edit the data in the database.

The participant will know the basic rules for performance and security.

## **Audience profile**

The course is intended for all who work with software based on Oracle relational database, want to know the mechanisms of its action and learn how to select interesting information from database.

## Requirements

The trainees have to know the Windows environment

## **Duration**

2 days, 16 hours

## Training delivery method

The training is carried out in the form of theoretical part in the form of mini lectures and the practical part in the form of computer exercises.

## Theoretical and practical knowledge

Relational data model

User schemas



- Fundamental data structures
- Relationships between the structures

SQL queries - data selection

Graphical tools for data selection

#### Queries

- Keywords
- Statement
- Aliases for columns and tables

#### Sorting

#### Functions in queries

- Single-row functions
- Group functions
- Data types conversion

Retrieving data from multiple tables

Methods of joining tables

#### Types of joins

- equi-join
- non-equi-join
- outer-join
- self-join

#### Set operators

- Union
- Intersect
- Minus

#### Subqueries

- Noncorrelated
- Correlated

#### Data Manipulation Language (DML)

- Insert
- Update
- Delete
- DML operations on the basis of query results

#### Transactions

- Concept of transaction
- Commit
- Rollback
- Savepoint

#### Data Definition Language (DDL)

- Data types
- Creation of tables
- Creation of tables on the basis of gueries
- Manage of tables
- Concept of keys
- Integrity constraints

#### Concept of view

Sequence and their application

#### Data indexing

- Application
- Indexes created manually and automatically
- Manage of indexes

Users and manage of schemas

Privileges and roles



- Object and system privileges
- Manage of privileges
- Transfer privileges
- Synonyms

# **Development path**

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### **Training**

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