

Oracle SQL language for data analysts

Training objectives

This course is designed to familiarize trainees with the creation of a variety of queries to the data stored in an Oracle database. The training covers choosing the creation of design data from multiple tables, use built-in single-row and group functions, the inclusion of data formatting and sorting. Participants learn to perform set operations and subqueries, as well as hierarchical queries and using multidimensional hierarchical grouping. Particular emphasis is placed on the use of different variants of analytic functions, extending the capabilities of the Select statement by multidimensional operations. Participants also learn how to carry out retrospective queries and advanced search using regular expressions.

Skills

After completing the course, participants should be familiar with the principles of organizing data in a relational Oracle database. The participant will have knowledge on how to create different queries to the database, including, inter alia: joining tables, sorting, use built-in functions, set operations, multidimensional grouping, in order to generate reports of varying complexity. Particularly relevant knowledge gained from the training will be issues regarding the application of a wide range of analytic functions allowing the possibility of multidimensional data analysis.

Audience profile

The course is intended for all those who carry out analytical operations, or create reports in Oracle environment. Training is addressed to all who need to analyze data and make business decisions, not necessarily for IT professionals.

Requirements

The trainees have to know the Windows environment.

Duration

3 days, 24 lessons

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

Review of SQL functions

- Single-row functions
- Format models

Support for time zones

- Data types
- Functions

Hierarchical queries

Multidimensional grouping

- Rollup
- Cube
- Grouping Sets

Analytic functions

- Application
- Partitions
- Windows
- Ranking functions
- Windowing functions
- Reporting functions
- LAG/LEAD functions
- FIRST/LAST functions
- WIDTH_BUCKET function

Flashback

- Flashback Query
- Flashback Version Query
- Flashback Transaction Query

Development path

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