Course : Oracle SQL for Business Intelligence

Practical course - 3d - 21h00 - Ref. ROD
Price : 2040 CHF E.T.

Oracle's SQL language has been endowed with specific features for designing Business Intelligence environments. Before you can use it, you need to understand star and flake models, constellations, the difference between fact tables and dimension tables, and the proper use of keys and joins. Once the Data Warehouse has been designed, mastery of SQL, groupings, aggregations and possible functionalities will enable the warehouse to be fed for analysis purposes. We invite you to discover and master Oracle SQL for Business Intelligence.

Teaching objectives

At the end of the training, the participant will be able to:

- Understand the fundamentals of business intelligence architecture and modeling
- Master data grouping and analytical functions
- Know how to use objects and updates (ETL, external tables, views, etc.)
- Perform data analysis with the MODEL clause

Intended audience
This course is aimed at developers of Oracle BI applications who want to make the most of Oracle's SQL potential.

Prerequisites
Good knowledge of SQL.

Course schedule

1 Introduction

- Business intelligence. The state of the SQL standard. The SQL3 standard and business intelligence.
- Reminders of datawarehouse concepts. CUBE concepts. OLAP concept. Multidimensional analysis.
- Star and constellation modeling. Notions of dimension. Table of facts.

Case study
Presentation: the model, the issues.

2 Data grouping

- Horizontal, vertical and aggregate functions.
- The group. Reminders: how GROUP BY works, how HAVING works.
- GROUPING functions, syntax, examples, handling NULL values.
- The two-level group.

Hands-on work
Manipulate grouping syntax and functions.

3 Data aggregation and analysis

- ROLLUP and CUBE extensions. GROUPING SET expression.
- Group functions. Analytic functions. Partitioning clause.
- The order clause. The windowing clause. Sorting functions.
- Scheduling: sorting. Filing and window functions.
- Tabular representation with PIVOT and UNPIVOT.

Hands-on work
Manipulation of syntax and aggregation functions.

4 The MODEL clause

- Implementation. The CV function.
- The ITERATION_NUMBER function. The PRESENTNNV function.
- The PRESENTV function. The PREVIOUS function.

Hands-on work
Manipulating MODEL clause syntax.

5 Data update

- Multi-table insertion. Unconditional insertion.
- INSERT_ALL, INSERT_FIRST. Conditional updates.
- INSERT and UPDATE a table from other tables: use MERGE.

Hands-on work
Star model power supply.

6 Objects

- ETL (Extraction, Transformation, Loading).
- Querying external tables. Data dictionary views.
- Materialized Views (VM): interest, creation syntax and options.
- Materialized views and optimization. Query rewriting. Dimensions and hierarchies.

Hands-on work
Use external tables to move data. Create materialized views to optimize queries.