Oracle Database: Analytic SQL for Data Warehousing

Kód kurzu: ORSQLWH

Kurz je určen pro ty, kteří se chtějí naučit psát analytické SQL dotazy pro práci s datovými sklady. Probírány jsou agregační, analytické, reportovací a skupinové funkce, ROLLUP a CUBE operátory, práce s regulárními výrazy, kontingenčními tabulkami a další.

Co Vás naučíme

- Use SQL with aggregation operators, SQL for Analysis and Reporting functions.
- Group and aggregate data using the ROLLUP and CUBE operators, the GROUPING function, Composite Columns and the concatenated Groupings.
- Analyze and report data using Ranking functions, the LAG/LEAD Functions and the PIVOT and UNPIVOT clauses.
- Perform advanced pattern matching.
- Use regular expressions to search for, match and replace strings.

Požadované vstupní znalosti

Nutné vstupní požadavky:

- Familiarity with SQL
- Data Warehouse design, implementation, and maintenance experience
- Good working knowledge of the SQL language
- Familiarity with Oracle SQL Developer and SQL*Plus
- Oracle Database 11g: Data Warehousing Fundamentals
- Oracle Database: Introduction to SQL NEW

Doporučované vstupní požadavky:

- Conceptual experience designing data warehouses
- Practical experience implementing data warehouses
- Good understanding of relational technology

Osnova kurzu

Introduction

- Course Objectives, Course Agenda and Class Account Information
- Describe the Schemas and Appendices used in the Lesson
- Overview of SQL*Plus Environment
- Overview of SQL Developer
- Overview of Analytic SQL
- Oracle Database SQL and Data Warehousing Documentation

Grouping and Aggregating Data Using SQL

- Generating Reports by Grouping Related Data
- Review of Group Functions
- Reviewing GROUP BY and HAVING Clause
- Using the ROLLUP and CUBE Operators
- Using the GROUPING Function
- Working with GROUPING SET Operators and Composite Columns
- Using Concatenated Groupings with Example

Hierarchical Retrieval

- Using Hierarchical Queries
- Sample Data from the EMPLOYEES Table
- Natural Tree Structure
- Hierarchical Queries: Syntax
- Walking the Tree: Specifying the Starting Point

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- Walking the Tree: Specifying the Direction of the Query
- Using the WITH Clause
- Hierarchical Query Example: Using the CONNECT BY Clause

Working with Regular Expressions

- Introducing Regular Expressions
- Using the Regular Expressions Functions and Conditions in SQL and PL/SQL
- Introducing Metacharacters
- Using Metacharacters with Regular Expressions
- Regular Expressions Functions and Conditions: Syntax
- Performing a Basic Search Using the REGEXP_LIKE Condition
- Finding Patterns Using the REGEXP_INSTR Function
- Extracting Substrings Using the REGEXP_SUBSTR Function

Analyzing and Reporting Data Using SQL

- Overview of SQL for Analysis and Reporting FunctionsUsing Analytic Functions
- Using the Ranking Functions
- Using Reporting Functions

Performing Pivoting and Unpivoting Operations

- Performing Pivoting Operations
- Using the PIVOT and UNPIVOT Clauses
- Pivoting on the QUARTER Column: Conceptual Example
- Performing Unpivoting Operations
- Using the UNPIVOT Clause Columns in an UNPIVOT Operation
- Creating a New Pivot Table: Example

Pattern Matching using SQL

- Row Pattern Navigation Operations
- Handling Empty Matches or Unmatched Rows
- Excluding Portions of the Pattern from the Output
- Expressing All Permutations
- Rules and Restrictions in Pattern Matching
- Examples of Pattern Matching

Modeling Data Using SQL

- Using the MODEL clause
- Demonstrating Cell and Range References
- Using the CV Function
- Using FOR Construct with IN List Operator, incremental values and Subqueries
- Using Analytic Functions in the SQL MODEL Clause
- Distinguishing Missing Cells from NULLs
- Using the UPDATE, UPSERT and UPSERT ALL Options
- Reference Models

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