

Oracle Database 12c: Analytic SQL for Data Warehousing

Duration: 2 Days

What you will learn

This Oracle Database 12c: Analytic SQL for Data Warehousing training teaches you how to interpret the concept of a hierarchical query, create a tree-structured report, format hierarchical data and exclude branches from the tree structure. You'll also learn to use regular expressions and sub-expressions to search for, match, and replace strings. In this course, you will be introduced to Oracle Business Intelligence Cloud Service.

Learn To:

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.

Gain an understanding of the Oracle Business Intelligence Cloud Service.

Benefits to You

Enrolling in this course will help data warehouse builders and implementers, database administrators, system administrators and database application developers to better design, maintain and use data warehouses. Through working with expert Oracle University instructors in a hands-on classroom environment, you'll deepen your knowledge so you can perform better on the job.

Before Attending this Course

Before attending this course, you should be familiar with the following: relational database concepts, data warehouse theory and implementation, Oracle server concepts (including application and server tuning) and the operating system environment on which the Oracle Database Server is running. You'll use Oracle SQL Developer to develop program units. SQL*Plus is introduced as an optional tool.

Related Training

Required Prerequisites

Familiarity with SQL

Data Warehouse design, implementation, and maintenance experience

Familiarity with Oracle SQL Developer and SQL*Plus

Good working knowledge of the SQL language

Oracle Database 11g: Data Warehousing Fundamentals

Suggested Prerequisites

Conceptual experience designing data warehouses

Good understanding of relational technology

Oracle Database 11g: Administer a Data Warehouse

Oracle Database 12c: Introduction for Experienced SQL Users

Practical experience implementing data warehouses

Using Java - for PL/SQL and Database Developers

Course Objectives

Group and aggregate data using the ROLLUP and CUBE operators

Analyze and report data using Ranking

LAG/LEAD

and FIRST/LAST functions

Use the MODEL clause to create a multidimensional array from query results

Use Analytic SQL to aggregation

Analyze and Reporting

and Model Data

Interpret the concept of a hierarchical query

create a tree-structured report

format hierarchical data

and exclude branches from the tree structure

Gain an understanding of the Oracle Business Intelligence Cloud Service

Use regular expressions to search for

match

and replace strings

Perform pattern matching using the MATCH_RECOGNIZE clause

Course Topics

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

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 Functions

Using 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

Oracle Business Intelligence Cloud Service Overview

Oracle BI Cloud Service

Introducing Oracle Business Intelligence Cloud Service

Guidance Through Exploratory Analysis & Deep Discovery through Rich Feature Set

BICS Can Integrate Any Data Source Quickly

BICS Makes Any Time The Right Time For New Insights

Speed, Flexibility and Economy of Cloud

Immediate Access to New Functionality

Enterprise-Grade Service Reliability