Course Outline

People, Training, Results

Oracle Database Querying

Course Description:

This course is aimed at those who need to extract information from a relational database system.

Although it provides an overview of relational database design principals it does not cover the teaching of formal database design processes and database/table creation. The course assumes no previous knowledge of SQL and SELECT statements, and takes delegates from simple queries, through to complex queries involving multiple tables, introducing the vast collection of built-in functions along the way.

This course is suited to developers, report writers and analysts, but really anyone who needs to extract information from data stored in a relational database.

Covers Oracle 10g, Oracle 11g and Oracle 12c.

Pre-requisites:

Delegates would benefit from a basic understanding of what a relational database is a familiarity with the terms tables, columns, and relationships, these concepts will be overviewed at the start of the course.

Course Content:

- **Relational Database Overview**

- What is a relational database?
- Basic Relational Database Terminology
- Relational Database
- Tables and Columns
- Rows and Records
- Connecting Tables
- Primary Keys
- Foreign Keys
- Relationship Types

Course Outline

- **Structured Query Language (SQL)**
- **The SELECT Statement**
  - Retrieving Records
  - Oracle Schemas
  - Oracle Tables

- **SELECT list**
  - Columns
  - ALL or DISTINCT
  - String Expressions
  - Arithmetic Expressions
  - Column Aliases

- **The WHERE Clause**
  - Comparison Conditions
  - Relational Operators
  - BETWEEN AND
  - IS NULL Example
  - IN Example
  - LIKE Examples
  - Working With Dates
  - NOT
  - Multiple Conditions
  - Mixing AND with OR

- **The ORDER BY Clause**

- **Combined Select Statements**
  - UNION
  - UNION ALL
  - UNION SELECT Rules
  - INTERSECT
  - MINUS

Course Outline

- **Functions**
  - Functions in SELECT Lists
  - Functions in WHERE Clauses
  - Functions in ORDER BY Clauses

- **Aggregate Functions**
  - COUNT
  - SUM
  - MAX
  - MIN
  - AVG
  - NULL Values and Aggregates
  - Aggregate Expressions

- **String Functions**
  - Character Transformation

- **Date Functions**

- **NULL Value Functions**

- **Numeric Functions**

- **Multiple Table SELECTs**
  - Joins

- **CROSS Joins**

- **INNER Join**
  - Legacy Style Joins
  - ANSI Style Joins
  - Simple Joins
  - Two Tables
  - Three Tables
  - Four Tables

- **OUTER Joins**
  - LEFT OUTER JOIN
  - RIGHT JOIN
  - FULL OUTER Join

- **Table Aliases**

Course Outline

- **Self Join**

- **Advanced Joins**
  - Multiple INNER JOINS
  - Multiple OUTER Joins

- **Working With Aggregate Data**
  - The GROUP BY Clause
  - The HAVING Clause
  - When is a HAVING a WHERE?

- **Sub Queries**
  - Simple Sub Queries
  - Using Aggregate Functions in Sub queries
  - Sub Queries Returning Multiple Records

- **Correlated Sub-Queries**

- **Derived Table Sub-Queries**

Course Duration: 3 Days