

O011 - Oracle 10g SQL

Course Objectives

This course gives a complete introduction to Oracle 10g's version of SQL, covering the SQL*Plus toolkit and Oracle 10g RDBMS contextual operating environment.

It is an essential building block for all users of Oracle's full technology range, including database technology, development tools, and web technologies.

The course comprehensively introduces the ANSI standard features of the Oracle 10g SQL implementation.

Who Should Attend

Oracle Analyst Programmers
 Oracle Technicians
 Oracle DBA's
 Oracle Developers
 ANSI SQL Users

Prerequisites

PC fundamentals

Duration

5 Days

Course Contents

Oracle Overview

Introducing Oracle
 The Elements of the Oracle System
 Relational Concepts

SQL*Plus and SQL

Introduction
 Logging on to SQL*Plus and Leaving SQL*Plus
 Choosing and Describing Tables
 Elements of the SQL Query
 The SQL Buffer and Query Layout
 Editing SQL Statements
 The System Dummy Table
 Selecting Columns
 Duplicate Information (DISTINCT)
 Sorting Information

SQL Functions

The Concatenation Operator
 Elements of the SQL Query:
 Arithmetic
 Column Aliases
 String Functions
 Arithmetic Functions
 Date Functions
 Mixed Functions

Advanced SQL Functions

Nesting Different Functions

SQL Bar Charts

Decode Crosstab
 Decode with ">", "<" & "="
 Select with Minus Union and Intersect
 Connect By Prior

Filtering Data Using Where

Where Operators
 Where with Keywords
 Where and Logical Operators
 Where and Soundex

Retrieving Data from Multiple Tables

Joining Tables (Equi-Joins)
 Aliases for Table Names
 Thinking behind creating Joins
 Joining Tables (Non-Equi-Joins)
 Joining Tables (Outer Joins)
 Joining Tables (Inner Joins)

Group By and Group By Functions

Group Function Examples
 Group Function with Having

Object Support

Object - relational database
 Oracle Object Type definition
 Nested objects
 Object constructors
 Objects as NULL/ attributes as NULL

Object Tables
 Type Hierarchy and Inheritance
 Abstract and Final Types
 Object Evolution
 Propagation of Changes
 Sub-Queries
 Basic Subqueries
 Multiple Column Subqueries
 Subqueries with Having
 Correlated Subqueries
 Subquery Rules and Suggestions

Data Definition Language (DDL)

Create, Drop Alter Keywords
 Tables/Partitioning/Column Views/Synonyms/Sequences

Integrity Constraints

Types of Constraint
 Referential Integrity
 Defining Constraints
 Integrity Constraints and Data Dictionary
 Alter table

Indexes

Create Index
 Unique Option
 When and What to Index
 Drop Index
 Validate Index
 Index Type Overview

Data Manipulation Language

(DML)

Insert /Update/Delete

OPS Commands (Commit,
Rollback and Savepoints)

Data Control Language (DCL)

Data Security

Grant and Revoke

Oracle 9i/10g SQL Features

The Returning clause

Drop column

Function based indexes

Temporary tables

Default Column Value
enhancements

Overview of Constraint
enhancements

For update wait Clause

Constraints on views

External Tables

Multiple Insert Statements

Conditional Insert

Pivoting Insert

Merge Statement

Grouping Sets

WITH Clause

Analytical Functions

10g SQL Language

Improvements

Improvements review

Regular Expressions

Native Floating Point Datatypes

LOBs

LOB Migration

LOB SQL Features

Data warehousing and OLAP

Materialised views

Dimensions

ROLLUP functions

The ROLLUP operator

The CUBE operator

Client side caching

SQL*Plus Reporting

Introducing SQL*Plus for

Reporting

Using SQL*Plus

Using the System Editor for

SQL*Plus

SQL*Plus Command Variables

Building SQL*Plus Reports

Titles and Headings

Using NEW_VALUE and

OLD_VALUE

ANSI Standardisation

Oracle (since 9ir2) Joins
improvements

Case Expressions

SQL NULLIF and COALESCE

Scalar Subqueries

Date Datatype

TIMESTAMP Datatype

INTERVAL Datatypes

CURRENT_DATE