

O012 – Oracle 11g SQL

Course Objectives

This course gives a complete introduction to Oracle 11g's version of SQL, covering the SQL*Plus toolkit and Oracle 11g 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 11g SQL implementation.

Who Should Attend	Prerequisites	Duration
Oracle Analyst Programmers Oracle Technicians Oracle DBA's Oracle Developers ANSI SQL Users	PC Fundamentals	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)

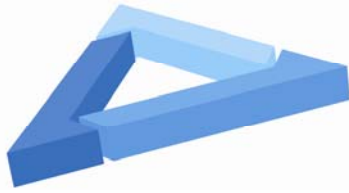
Create, Drop Alter Keywords
Tables/Partitioning/Column Views/Synonyms/Sequences

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

LOBs

LOB Migration
LOB SQL Features

Datawarehousing and OLAP

Materialised views
Dimensions
ROLLUP functions
The ROLLUP operator
The CUBE operator
Client side caching

Oracle 9i/10g/11g 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
The Pivot command (11g only)

10g/11g SQL Language Improvements

Improvements review
Regular Expressions
Native Floating Point Datatypes

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