

# Oracle Database 10g: Introduction To SQL

## Objectives Of This Course

This course is a common starting point in the Oracle database curriculum for administrators, developers and business users. The objective of this course is to provide an introduction to the SQL database language within the context of an Oracle database. Specific subject areas to be explored and objectives to be reached are:

- A summation of relational database principles and an introduction to the Oracle relational database server.
- Using the iSQL\*Plus web-based database interface and other traditional interfaces.
- Writing simple SQL queries and moderately complex SQL queries using various join techniques.
- Summarizing, grouping and sorting data.
- Advanced query techniques such as correlated subqueries.
- Developing simple SQL\*Plus reports.
- Creating and maintaining database tables.
- Taking advantage of new features such as the use of regular expressions.
- Moving beyond basic table definitions, consideration of defining the full range of database objects, such as advanced table definitions, indexes, sequences, views and others.
- Understanding basic database security and object privileges.
- Using the powerful set of built-in SQL functions.
- Protecting the database and extending the basic data model using declarative constraints.
- Performing advanced SQL queries such as grouping and cube operations and SQL99 join syntax.
- Developing complex SQL\*Plus reports and using SQL\*Plus scripts.

## Duration:

5 days

## Target Audience

The target audience for this course is all Oracle professionals, both business and systems professionals. Among the specific groups for whom this course will be helpful are:

- Application designers and developers.
- Database administrators.
- Business users and non-technical end users.

## Course Outline - Part I

### RELATIONAL DATABASES & SQL

- ABOUT RELATIONAL DATABASES
- ELEMENTS OF SQL

### USING SQL\*PLUS

- ABOUT SQL\*PLUS
- USING THE MS WINDOWS SQL\*PLUS TOOL
- USING THE ISQL\*PLUS WEB TOOL
- ENTERING COMMANDS & SYNTAX

### BUILDING A SELECT STATEMENT

- ABOUT THE SELECT STATEMENT
- SELECTING COLUMNS
- USING ALIAS NAMES

### BUILDING A WHERE CLAUSE

- ABOUT LOGICAL OPERATORS
- EQUALITY OPERATOR
- BOOLEAN OPERATORS
- NULL & BETWEEN OPERATORS
- FINDING TEXT STRINGS
- IN OPERATOR

### ORDERING THE RESULT TABLE

- ABOUT THE ORDER BY CLAUSE
- MULTIPLE COLUMN SORTS
- SPECIFYING THE SORT SEQUENCE
- ABOUT NULL VALUES WITHIN SORTS
- USING COLUMN ALIASES

### PSEUDO COLUMNS & FUNCTIONS

- ABOUT PSEUDO COLUMNS & FUNCTIONS
- USING ROWID
- USING ROWNUM
- USING THE FUNCTIONS
- USING THE DUAL TABLE
- SESSIONTIMEZONE FUNCTION

### JOINING TABLES

- ABOUT JOINS
- INNER JOIN
- REFLEXIVE JOIN
- NON-KEY JOIN
- OUTER JOIN

### USING SET OPERATORS

- ABOUT THE SET OPERATORS
- SET OPERATOR EXAMPLES

### SUMMARY FUNCTIONS

- ABOUT SUMMARY FUNCTIONS
- SUMMARY FUNCTIONS WITH DISTINCT

## USING SUBQUERIES

- ABOUT SUBQUERIES
- STANDARD SUBQUERIES
- CORRELATED SUBQUERIES

## CREATING & SELECTING GROUPS

- ABOUT SUMMARY GROUPS
- FINDING GROUPS WITHIN THE BASE TABLES
- SELECTING DATA FROM THE BASE TABLES
- SELECTING GROUPS FROM THE RESULT TABLE

## SQL\*PLUS COMMANDS

- ABOUT SQL\*PLUS COMMANDS
- MORE ABOUT SCRIPT FILES
- INVOKING OPERATING SYSTEM COMMANDS
- SAVING SESSION OUTPUT

## BUILD SIMPLE SQL\*PLUS REPORTS

- ABOUT THE SQL\*PLUS REPORT FEATURES
- SESSION OUTPUT WITH SET
- FORMAT COLUMN OUTPUT WITH COLUMN
- DEFINING REPORT BREAKS WITH BREAK
- PRODUCE SUBTOTALS WITH COMPUTE

## SQL DATA DEFINITION LANGUAGE

- ABOUT SQL DDL
- CREATE TABLE STATEMENT
- ALTER TABLE STATEMENT
- DROP TABLE STATEMENT
- SUPPORTIVE STATEMENTS

## SQL DATA MANIPULATION LANGUAGE

- ABOUT SQL DML
- ABOUT THE INSERT STATEMENT
- ABOUT THE DELETE STATEMENT
- ABOUT THE UPDATE STATEMENT
- ABOUT TRANSACTIONS
- TRUNCATE TABLE
- COMPLEX TABLE REFERENCES

## Course Outline - Part II

### SQL99 JOIN TECHNIQUES

- ABOUT ANSI/ISO SQL99
- CROSS JOINS
- NATURAL JOINS
- INNER JOINS
- OUTER JOINS
- ANTIJOINS
- USING NAMED SUBQUERIES

### ENHANCING GROUPS WITH ROLLUP & CUBE

- ABOUT ENHANCED GROUP PROCESSING
- USING ROLLUP
- USING CUBE

### USING THE CASE EXPRESSION

### SQL FUNCTIONS (CHARACTER)

- WHAT ARE THE SQL FUNCTIONS?
- CHARACTER FUNCTIONS

### SQL FUNCTIONS (NON-CHARACTER)

- NUMERIC FUNCTIONS
- DATE FORMAT FUNCTIONS
- DATE ARITHMETIC FUNCTIONS
- NULL VALUE FUNCTIONS

### DATABASE OBJECTS: RELATIONAL VIEWS

- ABOUT DATABASE OBJECTS
- ABOUT RELATIONAL VIEWS
- UPDATING VIEW DATA
- MAINTAINING VIEW DEFINITIONS

### DATABASE OBJECTS: DATA DICTIONARY STORAGE

- ABOUT THE DATA DICTIONARY
- OBJECT-SPECIFIC DICTIONARY VIEWS
- UNDERSTANDING THE DATA DICTIONARY STRUCTURE

### DATABASE OBJECTS: INDEXES

### DATABASE OBJECTS: OTHER OBJECTS

- CREATING AN APPLICATION SCHEMA
- MORE ABOUT CREATING TABLES
- DEFINING SEQUENCES
- ABOUT SYNONYMS
- CREATE SCHEMA AUTHORIZATION

### DATABASE SECURITY

- ABOUT DATABASE SECURITY
- USER ID PASSWORDS
- OBJECT SECURITY

### DATA INTEGRITY USING CONSTRAINTS

- ABOUT CONSTRAINTS
- NOT NULL CONSTRAINT

- CHECK CONSTRAINT
- UNIQUE CONSTRAINT
- PRIMARY KEY CONSTRAINT
- REFERENCES CONSTRAINT
- DEFINING CONSTRAINTS ON EXISTING TABLES

#### MAINTAINING CONSTRAINT DEFINITIONS

- MAINTAINING CONSTRAINTS
- RENAMING & DROPPING CONSTRAINTS
- ENABLING & DISABLING CONSTRAINTS
- VALIDATE NEW TRANSACTIONS ONLY
- DEFERRED ENFORCEMENT
- MANAGING CONSTRAINT EXCEPTIONS
- CONSTRAINTS AND VIEWS
- DATA DICTIONARY STORAGE

#### ADVANCED SQL\*PLUS REPORTS

- ABOUT THE REPORT COMMANDS
- BREAK
- COMPUTE
- COLUMN
- TTITLE & BTITLE

#### BUILDING SQL\*PLUS SCRIPTS

- ABOUT SCRIPT FILES
- USING SQL\*PLUS VARIABLES
- ACCEPT
- PROMPT
- PAUSE

#### ADVANCED SQL & SQL\*PLUS FEATURES

#### **Incluye:**

Mochila, material (manuales importados en inglés).

#### **Notas Importantes:**

- Impartimos estos cursos basados en libros y material de cursos importados de US y el contenido podría variar ligeramente porque buscamos siempre proporcionar el mejor contenido.
- Dado que el material es importado se requiere el pago anticipado con 2 semanas de anticipación.
- En el curso Oracle se instala y se estudia utilizando el sistema operativo Windows 2000 Server o posterior.