Oracle Database 11g: SQL Fundamentals I

Course Duration: 2 days

Description

This Oracle 11g training textbook will prepare students for the Oracle certification exams (OCP). This textbook can be used for advanced self-study, or for instructor-led training in both in-class or virtual-class environments. Textbooks can also be used for ongoing reference long after the course is completed. This training textbook is a common starting point in the Sideris Oracle database curriculum for administrators, developers and business users. In addition to receiving the print copy of this course book, all students may receive e-Learning modules.

Audience

The target audience for this training course is all Oracle professionals, both business and systems professionals, who wish to pass the Oracle certification exams and need a "how to" guide to acquire the knowledge of SQL. Among the specific groups for whom this course will be helpful are:
• Application designers and developers
• Database administrators
• Business users and non-technical senior end users

Objectives

The objective of this course is to provide an introduction to the SQL database language within the context of an Oracle database, based upon the latest features available. This enhanced revision includes many new and expanded conceptual subjects, including:
• A summation of relational database principles and an introduction to the Oracle relational database server.
• Using SQL Developer and other available SQL interfaces.
• Writing simple SQL queries which isolate exactly the data desired, and then format and sort the data as needed.
• Writing moderately complex SQL queries using various join techniques.
• Supplement SQL code with references to pseudo columns and system functions.
• Summarizing, grouping and combining data to obtain more meaningful query results and to allow one to draw conclusions and make business decisions based upon the data processed.
• Advanced query techniques such as set operations, sub-queries and summary functions, allowing one to solve some of the more complex theoretical query challenges.
• Creating and maintaining database tables using the SQL Data Definition Language (DDL).
• Managing data within tables using the SQL Data Manipulation Language (DML).
• Taking advantage of the latest features found within the database such as the use of regular expressions, support for international data, time zones and other topics.

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Contents

RELATIONAL DATABASES & SQL

• ABOUT RELATIONAL DATABASES
• ELEMENTS OF SQL

CHOOSING A SQL & PL/SQL INTERFACE

• ABOUT DATABASE CONNECTIONS
• ABOUT BIND VARIABLES
• USING SQL DEVELOPER
• USING SQL*PLUS
• USING APPLICATION EXPRESS

BUILDING A SELECT STATEMENT

• ABOUT THE SELECT STATEMENT
• USING ALIAS NAMES

RESTRICTING DATA WITH THE WHERE CLAUSE

• ABOUT LOGICAL OPERATORS
• EQUALITY OPERATOR
• BOOLEAN OPERATORS
• NULL & BETWEEN OPERATORS
• IS [NOT] NULL Operator
• [NOT] BETWEEN Operator
• FINDING TEXT STRINGS
• [NOT] LIKE Operator
• REGEXP_LIKE()
• IN OPERATOR

SORTING DATA WITH THE ORDER BY CLAUSE

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

PSEUDO COLUMNS & FUNCTIONS

• USING ROWID
• USING ROWNUM
• USING THE FUNCTIONS

SUMMARY FUNCTIONS

• ABOUT SUMMARY FUNCTIONS
• SUMMARY FUNCTIONS WITH DISTINCT

USING SUB-QUERIES

• ABOUT SUB-QUERIES
• STANDARD SUB-QUERIES
• CORRELATED SUB-QUERIES

AGGREGATING DATA WITHIN GROUPS

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

BUILD SIMPLE SQL*PLUS REPORTS

• FORMAT COLUMN OUTPUT WITH COLUMN
• DEFINING REPORT BREAKS WITH BREAK
• PRODUCE SUBTOTALS WITH COMPUTE

USE DATA DEFINITION LANGUAGE TO CREATE & MANAGE TABLES

• CREATE TABLE STATEMENT
• NOT NULL
• DEFAULT
• ALTER TABLE STATEMENT
• DROP TABLE STATEMENT
• SUPPORTIVE STATEMENTS
• DESCRIBE
• RENAME

USE DATA MANIPULATION LANGUAGE TO MANIPULATE DATA

• ABOUT THE INSERT STATEMENT
• ABOUT THE DELETE STATEMENT
• ABOUT THE UPDATE STATEMENT
• ABOUT TRANSACTIONS
• ROLLBACK
• COMMIT

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- SYSDATE
- USER & UID
- USING THE DUAL TABLE
- SESSIONTIMEZONE FUNCTION

- SAVEPOINT
- SET TRANSACTION
- TRUNCATE TABLE
- COMPLEX TABLE REFERENCES

JOINING TABLES

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

APPENDIX A

- REFERENCE INFORMATION
- SQL DDL STATEMENT REFERENCE
- SQL DML STATEMENT REFERENCE
- SQL TRANSACTION CONTROL STATEMENT REFERENCE
- SQL OPERATORS REFERENCE

USING THE SET OPERATORS

- ABOUT THE SET OPERATORS
- SET OPERATOR EXAMPLES

**For more information, or to book your course, please call Sense IT on 0870 4296445
Or visit our web site –www.sensetraining.co.uk**