

Oracle Database 11g R2: SQL Fundamentals II

Length of Course: 3 Days

This Oracle 11g courseware training guide book will prepare students for the Oracle certification exams (OCP).

This course book can be used as a user guide tutorial for ongoing reference long after the course is completed. In addition to receiving the print copy of this course book, all students will receive e-Learning modules.

Target 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. Further, this course is well suited for non-Oracle professionals already experienced in the SQL but who wish to become acquainted with the unique and advanced features of Oracle SQL. Among the specific groups for whom this course will be helpful are application developers and database administrators.

Prerequisites

A mandatory prerequisite for this course is:

- ORACLE DATABASE 11G: SQL FUNDAMENTALS I

Certification

To prepare for the "Exam 1Z0-047: Oracle Database: SQL Certified Expert" certification, one must complete this course as well as the following courses:

- ORACLE DATABASE 11G: SQL FUNDAMENTALS I
- ORACLE DATABASE 11G: NEW & ADVANCED FEATURES FOR DEVELOPERS.

Objectives

The primary objective of this training course book is to consider advanced subjects and techniques pertaining to the SQL database language, based upon the latest features available with the Oracle release. Even professionals experienced in other implementations of the industry-standard SQL language will benefit from the advanced and Oracle-specific features of SQL discussed in this course.

This enhanced and expanded revision includes many new and expanded conceptual subjects, including:

- Learn to use the SQL99 join syntax and learn about the full range of join operations available, such as natural join, inner join, cross join, outer joins and others.
- Perform advanced SQL queries using techniques such as CASE structures, rollup and cube operations.
- Moving beyond basic table definitions, learn to define the full range of database objects, such as advanced table definitions and the creation of indexes, sequences, views and others.
- Use the powerful set of built-in SQL functions. These functions provide sophisticated manipulation of character, numeric and date data elements.
- Taking advantage of the latest features found within the Oracle release, such as the handling and tolerating DML errors without application interruption, newly added functions, and other topics.
- Obtain database object metadata from the data dictionary.
- Understand basic database security and object privileges.
- Protect database integrity and extend the conceptual data model using declarative constraints.



- Using SQL Developer and other available SQL interfaces.
- Develop complex SQL*Plus reports and reusable SQL*Plus scripts, as well as control the SQL*Plus environment.

Contents

SQL99 Join Techniques

- Cross joins
- Natural joins
- Inner joins
- Outer joins
- Anti joins
- Using named subqueries

Enhancing Groups with Rollup & Cube

- Using rollup
- Using cube

Using the Case Expression

- SQL functions: character
- String formatting functions
- Ascii codes functions
- Pad & trim functions
- String manipulation functions
- String comparison functions
- Phonetic search functions

SQL Functions: Numeric

- About the numeric functions
- Null value functions

SQL Functions: Date

- Date format functions
- Date arithmetic functions

Database Objects: Relational Views

- About database objects
- About relational views
- Updating view data
- Maintaining view definitions
- Alter view
- Drop view

Database Objects: Data Dictionary Storage

- About the data dictionary
- Object-specific dictionary views
- User_updatable_columns
- Understanding the data dictionary structure

Database Objects: Indexes

- About indexes
- Use b-tree indexes



Database Objects: Other Objects

- More about creating tables
- About sequences
- Alter sequence & drop sequence
- Alter sequence
- Drop sequence
- About synonyms
- Drop synonym
- Create schema authorization

Database Objects: Security

- User 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

Managing Constraint Definitions

- Renaming & dropping constraints
- Enabling & disabling constraints
- Deferred enforcement
- Set constraints
- Handling constraint exceptions
- Constraints with views
- Data dictionary storage

Advanced SQL*Plus Reports

- Break
- Compute
- Column
- Ttitle & btitle

Optional - Advanced SQL*Plus Reports

- Report-1
- Report-2
- Solutions
- Report-1
- Report-2

Optional - Building SQL*Plus Scripts

- Using SQL*plus variables
- Define & undefine
- Accept
- Prompt
- Pause



Optional - SQL*Plus Session Control

- Controlling system variables
- Set
- Show

