

# Oracle Database 12c R2: SQL Workshop 1

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **3 Days**

## Overview

**This course offers you an introduction to Oracle Database 12c database technology. You will learn the concepts of relational databases and the powerful SQL programming language. Discover essential SQL skills that allow developers to write queries against single and multiple tables, manipulate data in tables and create database objects.**

### Learn To:

- Understand SQL statements, as well as the Oracle Relational Database.
- Use SQL Developer.
- Write reports using SQL statements.
- Manipulate data in relational tables and save the data.
- Understand the concepts of relational databases and the powerful SQL programming language.
- Write reports using SQL Statements

### Benefits to You:

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds.

### Use Single Row Functions:

This Oracle Database course will also teach you how to use single row functions to customize output. Explore using conversion functions and conditional expressions, along with use group functions to report aggregated data.

### Reinforce Your Knowledge through Hands-On Exercises:

Demonstrations and hands-on practice reinforce the fundamental concepts you'll delve into in this course. You will discover and use Oracle SQL Developer as the main environment tool for writing SQL. SQL\*Plus is also introduced as an optional tool

### Target Audience:

- Forms Developer
- Functional Implementer
- System Analysts
- Application Developers
- PL/SQL Developer

## Prerequisites

- Familiarity with data processing concepts and techniques
- Familiarity with programming languages

## What You Will Learn

- Define the goals of the course
- List the features of Oracle Database 12c
- Describe the salient features of Oracle Cloud 12c
- Discuss the theoretical and physical aspects of a relational database
- Describe Oracle server's implementation of RDBMS and object relational database management system (ORDBMS)
- Identify the development environments that can be used for this course
- Describe the database and schema used in this course

## Outline

## Introduction

- Course Objectives, Course Agenda and Appendixes Used in this Course
- Overview of Oracle Database 12c and Related Products
- Overview of relational database management concepts and terminologies
- Introduction to SQL and its development environments
- What is Oracle SQL Developer?
- Starting SQL\*Plus from Oracle SQL Developer
- The Human Resource(HR) Schema
- Tables used in the Course

## Retrieving Data using the SQL SELECT Statement

- Capabilities of the SELECT statement
- Arithmetic expressions and NULL values in the SELECT statement
- Column aliases
- Use of concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword
- Use of the DESCRIBE command

## Restricting and Sorting Data

- Limiting the Rows
- Rules of precedence for operators in an expression
- Substitution Variables
- Using the DEFINE and VERIFY command

## Using Single-Row Functions to Customize Output

- Describe the differences between single row and multiple row functions
- Manipulate strings with character function in the SELECT and WHERE clauses
- Manipulate numbers with the ROUND, TRUNC and MOD functions
- Perform arithmetic with date data
- Manipulate dates with the date functions

## Using Conversion Functions and Conditional Expressions

- Describe implicit and explicit data type conversion
- Use the TO\_CHAR, TO\_NUMBER, and TO\_DATE conversion functions
- Nest multiple functions
- Apply the NVL, NULLIF, and COALESCE functions to data
- Use conditional IF THEN ELSE logic in a SELECT statement

## Reporting Aggregated Data Using the Group Functions

- Group Functions
- Creating Groups of Data
- Restricting Group Results

## Displaying Data From Multiple Tables Using Joins

- Introduction to JOINS
- Types of Joins
- Natural join
- Self-join
- Non equijoins
- OUTER join

## Using Subqueries to Solve Queries

- Introduction to Subqueries
- Single Row Subqueries
- Multiple Row Subqueries

## Using the SET Operators

- Set Operators
- UNION and UNION ALL operator
- INTERSECT operator
- MINUS operator
- Matching the SELECT statements
- Using ORDER BY clause in set operations

## Managing Tables using DML statements

- Data Manipulation Language
- Database Transactions

- Data Definition Language