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## Oracle Database 11g: SQL Fundamentals I

**Duration: 3 Days**    **Course Code: O11GF1**

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### Overview:

This course is designed for application developers with basic SQL language skills. In this course, students learn to control privileges at the object and system level. This course covers creating indexes and constraints, and altering existing schema objects. Students also learn to create and query external tables and use the advanced features of SQL to query and manipulate data within the database.

Students learn to use the dictionary views to retrieve metadata and create reports about their schema objects. Students learn some of the date time functions available in the Oracle 11g Database and use the regular expression support in SQL.

In this course, students use Oracle SQL Developer as the main tool and SQL\*Plus is introduced as an optional tool.

This course counts towards the Hands-on course requirement for the Oracle Database 11g Administrator Certification. Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses DO NOT meet the Hands-on Requirement.

This is appropriate for a 10g audience too. There are few minor changes between 10g and 11g features.

Learn To: Control database access to specific objects  
Manage schema objects and use data dictionary views  
Manipulate large data sets in the Oracle database by using subqueries  
Manage data in different time zones  
Retrieve data by using advanced subqueries  
Use the regular expression support in SQL to search, match, and replace strings in terms of regular expressions

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### Target Audience:

Application Developers Business Intelligence Developer Database Administrators Developer Forms Developer PL/SQL Developer Support Engineer System Analysts

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### Objectives:

- Manage schema objects
  - Manage objects with data dictionary views
  - Manipulate large data sets in the Oracle database by using subqueries
  - Manage data in different time zones
  - Write multiple-column subqueries
  - Use scalar and correlated subqueries
  - Use the regular expression support in SQL
  - Add new users with different levels of access privileges
  - Control database access to specific objects
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### Prerequisites:

- Basic Knowledge of SQL
  - Familiarity with Oracle SQL Developer and SQL\*Plus
  - Oracle Database 11g: SQL Fundamentals I
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## Content:

### Introduction

- The Human Resources (HR) Schema
- Review of Using Oracle SQL Developer
- Review of some basic concepts of SQL

### Controlling User Access

- System versus Object Privileges
- Creating Users
- Granting System Privileges
- Creating and Granting Privileges to a Role
- Changing Your Password
- Granting Object Privileges
- Passing On Your Privileges
- Revoking Object Privileges

### Managing Schema Objects

- Adding, Modifying and Dropping a Column
- Adding, Dropping and Deferring a Constraint
- Enabling and Disabling a Constraint
- Creating and Removing Indexes
- Creating a Function-Based Index
- Performing Flashback Operations
- Creating an External Table by Using ORACLE\_LOADER and by Using ORACLE\_DATAPUMP
- Querying External Tables

### Managing Objects with Data Dictionary Views

- The Data Dictionary
- How to Use the Dictionary Views
- USER\_OBJECTS and ALL\_OBJECTS Views
- Table and Column Information
- Querying the dictionary views for constraint information
- Querying the dictionary views for view, sequence, index and synonym information
- Adding a comment to a table
- Querying the dictionary views for comment information

### Manipulating Large Data Sets

- Using Subqueries to Manipulate Data
- Retrieving Data Using a Subquery as Source
- Inserting Using a Subquery as a Target
- Using the WITH CHECK OPTION Keyword on DML Statements
- Types of Multitable INSERT Statements
- Using Multitable INSERT Statements
- Merging rows in a table
- Tracking Changes in Data over a period of time

### Managing Data in Different Time Zones

- Time Zones
- CURRENT\_DATE, CURRENT\_TIMESTAMP, and LOCALTIMESTAMP
- Comparing Date and Time in a Session's Time Zone
- DBTIMEZONE and SESSIONTIMEZONE
- Difference between DATE and TIMESTAMP
- INTERVAL Data Types
- Using EXTRACT, TZ\_OFFSET and FROM\_TZ
- Using TO\_TIMESTAMP, TO\_YMINTERVAL and TO\_DSINTERVAL

### Retrieving Data Using Subqueries

- Multiple-Column Subqueries
- Pairwise and Nonpairwise Comparison
- Using Scalar Subquery Expressions
- Solving problems with Correlated Subqueries
- Updating and Deleting Rows Using Correlated Subqueries
- Using the EXISTS and NOT EXISTS operators
- Using the WITH clause

### Regular Expression Support

- Using the Regular Expressions Functions and Conditions in SQL
- Using Meta Characters with Regular Expressions
- Performing a Basic Search using the REGEXP\_LIKE function
- Finding patterns using the REGEXP\_INSTR function
- Extracting Substrings using the REGEXP\_SUBSTR function
- Replacing Patterns Using the REGEXP\_REPLACE function
- Using Sub-Expressions with Regular Expression Support
- Using the REGEXP\_COUNT function

## Further Information:

For More information, or to book your course, please call us on +254 713 027 191

[training@clclearningafrica.com](mailto:training@clclearningafrica.com)

[www.clclearningafrica.com](http://www.clclearningafrica.com)

Computer Learning Centre 2nd Floor Museum Hill Centre, Muthithi Road, Westlands, Nairobi, Kenya