IBM Db2 12: SQL Workshop

Duration: 1 Day **Course Code: CLA22G** **Delivery Method: Virtual Learning**

Overview:

This course provides an introduction to the SQL language. This course utilizes IBM Data Studio on a Windows 11 operating system, but the SQL queries are appropriate for Linux, UNIX, and Windows environments.
This course introduces SQL, including syntax, retrieving data from a Db2 table, coding inner joins, arithmetic operations, and scalar and columnar functions. Learners will also explore the UNION function, inserting, updating, and deleting rows, and will use the create table and create view statements.
Additionally, learners will be introduced to advanced functions and performance optimization features in Db2 v12.
Learners will participate in hands-on exercises to practice what they have learned.

Target Audience:

This course is intended for individuals seeking to write, support, or understand SQL queries. This includes (but is not limited to) end-users, programmers, application designers, database administrators, and system administrators who do not yet have knowledge of the SQL Data Manipulation Language (DML).

Objectives:

- **After completing this course, learners should be able to:**
- Explain the role and use of SQL dialects (DDL, DML, and DCL) in managing and interaction with Db2 databases
- Summarize the new and deprecated features of Db2 v12, such as enhanced query optimization
- Retrieve rows based on comparisons to numeric or alphanumeric column values
- Implement correlation names in queries to simplify table references
- Implement rounding and truncation functions, including ROUND and DECIMAL
- Utilize the GROUP BY clause to categorize data into meaningful subsets and the HAVING clause to filter grouped results based on aggregate conditions
- Apply date and time functions to extract, manipulate, and compare date, time, and timestamp values in SQL queries
- Identify the impact of special registers, advanced window functions, and AI-driven query optimization on database performance and workload management
- Differentiate between UNION and UNION ALL and explain how each affects query performance and result set behavior
- Explain the role of subqueries in SQL and how they differ from standard joins in retrieving data
- Explain the role of transaction management using COMMIT, ROLLBACK, and SAVEPOINT to control database changes

Prerequisites:

- Participants should have the following skills:
- Familiarity with the Windows Operating System
- Basic computer literacy

Content:

Course Outline

Unit 1: SQL Introduction

Unit 2: Simple SQL Queries

Unit 3: Retrieving Data from Multiple Tables

Unit 4: Scalar Functions and Arithmetic

Unit 5: Column Functions and Grouping

Unit 6: Advanced Functions

Unit 7: Performance Optimization

Unit 8: UNION

Unit 9: Using Subqueries

Unit 10: Maintaining Data

Additional Information:

Official course book provided to participants

Further Information:

For More information, or to book your course, please call us on 0800/84.009

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