

DB2 SQL Workshop for Experienced Users

Course#: CE131G

Duration: 2.5 Days

Price: 2200.00

Course Description

This course teaches you how to make use of advanced SQL techniques to access DB2 databases in different environments. This course is appropriate for customers working in all DB2 environments, specifically for z/OS, Linux, UNIX, and Windows.

Learning Journeys that reference this course:

Db2 for z/OS - System Administrator

IBM Db2 - Application Programmer

Db2 for z/OS - Database Administrator

Db2 for z/OS - Application Programmer

Objectives

Discuss basic relational database concepts

Use some of the OLAP features of DB2, such as GROUPing and RANKing functions

Create tables, views and indexes

Use referential integrity, check constraints and triggers

Use outer joins, and join tables to themselves

Use CASE expressions, and the CAST function

Identify the impact of Summary Tables, Materialized Query Tables, and temporary tables

Use complex subqueries

Use a greater number of scalar SQL functions

Use advanced SQL constructs, such as recursive SQL and table expressions

Define User-Defined Distinct Types and User-Defined Functions

Avoid several of the most common causes for poorly-performing SQL

Audience

This intermediate course is for experienced SQL end users, application programmers, database administrators, and user support staff who need more advanced knowledge of SQL.

Prerequisites

You should have experience with:

coding and executing basic SQL statements.

These skills can be developed by attending

SQL Workshop (CE120), or equivalent experience.

Content

Introduction

Identify the purpose of the clauses in the SELECT statement

Describe the key differences among the IBM DB2 platforms

Describe and use some of the OLAP features of DB2, such as GROUPING functions like CUBE and ROLLUP, and the RANK, DENSE_RANK and ROW_NUMBER functions

Create Objects

Code statements to: Create tables and views, Alter tables, Create indexes, Implement referential integrity (RI), and Define triggers and check constraints

Identify impacts and advantages of referential integrity, including impacts of delete rules

Identify considerations when using triggers and check constraints

Define and make use of INSTEAD OF triggers

Join

Retrieve data from more than one table via inner and outer joins

Use outer joins (LEFT, RIGHT, FULL)

Use ANTI JOINS

Join a table to itself

Use UNION and UNION ALL

CASE, CAST, Summary Tables, and Materialized Query Tables

Identify when CASE expressions can be used

Code CASE expressions in SELECT list and in the WHERE clause

Identify when CAST specifications can be used

Identify the advantages of using Summary (Materialized Query) Tables and Temporary tables

Identify the advantages of using Materialized Query Tables (MQTs)

Identify when and how to use Temporary tables

Using Subqueries

Code subqueries using the ALL, ANY/SOME, and EXISTS keywords

Code correlated subqueries

Choose the proper type of subquery to use in each case

Scalar Functions

Extend your knowledge of scalar functions which: Manipulate arithmetic data, Manipulate date values, and Manipulate character data

Examples of scalar functions that are addressed in this course:

SUBSTR

POSSTR

COALESCE/VALUE

DECIMAL

ROUND

DIGITS

CHAR

DATE/TIME

Table Expressions and Recursive SQL

Identify reasons for using table expressions and recursive SQL

Use nested and common table expressions

Identify the difference between views and table expressions

Code recursive SQL

Control the depth of recursion when coding recursive SQL

UDTs/UDFs and Performance

Describe the concepts behind User-Defined Types, User-Defined Functions and Stored Procedures

Predict when queries will use indexes to get better performance

Identify concepts of predicate processing

State introductory concepts about index structure

State general best practices advice

Use EXCEPT and INTERCEPT