

DB2 for z/OS Advanced SQL

Course Summary

Description

This 3-day course for DB2 on z/OS covers intermediate SQL coding techniques. This course assumes a good understanding of basic SQL and builds on that knowledge to provide a good understanding of the entire SQL language as implemented within DB2. This class is heavily hands-on with exercises for each SQL related topic.

Objectives

By the end of this course, students will be able to:

- Code more advanced SQL
- Understand how to information and debug SQL coding errors
- Access multiple tables properly and efficiently
- Use more advanced SQL constructs
- Use and code user defined functions
- Develop stored procedures and triggers
- Understand temporal SQL and tables
- Understand DB2 access path selection and processing implications
- Understand index structure and how to redesign indexes when necessary
- Understand how DB2 works
- Interpret explain output
- Understand program integrity and locking implications

Topics

- Review of Common SQL Constructs
- Finding errors
- Accessing multiple tables
- More advanced constructs
- Functions
- Stored Procedures and Triggers
- Index Design
- Access path selection
- Explaining access paths
- Concurrency Control

Audience

This course is designed for experienced DB2 developers

Prerequisites

This course assumes a good understanding of basic SQL and builds on that knowledge to provide a good understanding of the entire SQL language as implemented within DB2 for z/OS.

Duration

Three days

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Course Outline

- I. Review of Common SQL Constructs**
 - A. IN, LIKE
 - B. CASE expressions
 - C. CAST expressions
- II. Finding errors**
 - A. Common errors
 - B. SQLCODE and SQLSTATE messages
 - C. Debugging techniques for complex statements
 - D. Testing complex SQL
- III. Accessing multiple tables**
 - A. Joins
 - B. Subselects
 - C. Outer joins
 - D. Unions
 - E. Star joins
- IV. More advanced constructs**
 - A. Temporary tables
 - B. In-line SQL
 - C. Common table expressions
 - D. Recursive queries
 - E. Merge statements
- V. Functions**
 - A. Scalar, column, row and table functions
 - B. External, SQL, and sourced user-defined functions
 - C. OLAP expressions and window partitioning
- VI. Stored Procedures and Triggers**
 - A. Client server architecture
 - B. Procedural constructs
 - C. User Defined Functions
 - D. Temporal Tables
 - E. Temporal tables and versioning of data
 - F. System-period data versioning
 - G. Application-period data versioning
 - H. Temporal table demonstration
- VII. Index Design**
 - A. Index structure
 - B. Cardinality
 - C. Multidimensional clustering
 - D. When to use indexes
 - E. An approach to index redesign
- VIII. Access path selection**
 - A. Overview of access path selection
 - B. When indexes are used
 - C. Factors used in access path selection
- IX. Explaining access paths**
 - A. Explain tables and db2exfmt
 - B. db2expln
 - C. Design advisor
- X. Concurrency Control**
 - A. Purpose of locks
 - B. Lock sizes & types
 - C. Suspensions, timeouts & deadlocks
 - D. Locking design in various environments