DB2 10 for z/OS Application Performance and Tuning

Course ID#: 0370-380-DB-W
35 Hrs

Course Content

Course Description:

This course is designed to teach you how to prevent application performance problems and to improve the performance of existing applications.

Prerequisites:

You should have:
Familiarity with DB2 for z/OS application programming

Audience:

This advanced course is for DB2 for z/OS application developers, DB2 for z/OS DBAs and anyone else with a responsibility for application performance and tuning in a DB2 for z/OS environment.

Topics:

The **DB2 10 for z/OS Application Performance and Tuning** course will cover the topics listed below.

Introduction to Application Performance and Tuning

- Why Performance Disappoints
- Causes of Performance Problems
- A Simple Example
- SQL EXPLAIN Information
- Modify the Index
- The Accounting Trace
- Accounting Trace Information
- Filter Factors
- Another Index Modification
- Who Detects Problems?
- When Should Problems be Detected?
- VQUBE2
- What is a Touch?
- Further Analysis (1 of 2)
- Further Analysis (2 of 2)
- The Message

Performance Analysis Tools

- Components of Response Time
- Methodology Formulas
- VQUBE2
- Simple Example in VQUBE2
- SQL EXPLAIN
- The Plan Table
- Running the Explain
- Interpreting the Results
- The Accounting Trace
- Reading an Accounting Trace
- The Bubble Chart
- Monitoring Execution
- Performance Thresholds
- Tuning Potential

Towards Better Indexes

- Section 3.1 DB2 Index Structure and Usage, Part 1
- Section 3.2 DB2 Index Structure and Usage, Part 2
- Section 3.3 Tuning Methodology and Index Cost
- Section 3.4 Lab 1: Customer Order Application
- Section 3.5 Index Design
- Section 3.6 Lab 2: Poorly Performing Application
- Section 3.7 Advanced Access Paths

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Multiple Table Access
- Section 4.1 Joining Issues
- Section 4.2 Lab 3: Joining Tables
- Section 4.3 Subqueries and Global Query Optimization
- Section 4.4 Lab 4: Different Implementations of One Problem
- Section 4.5 Union, Except, and Intersect

Towards Better Tables
- Section 5.1 Table Design
- Section 5.2 Materialized Query Tables
- Section 5.3 Temporal Tables

Learning to Live with the Optimizer
- Section 6.1 Dangerous Predicates
- Section 6.2 Lab 5: Introduction to Browsing
- Section 6.3 Filter Factors
- Section 6.4 Helping the Optimizer

Massive Batch
- Section 7.1 Batch Performance Issues
- Section 7.2 Benefit Analysis
- Section 7.3 Massive Delete

Locking Issues
- Section 8.1 Serialization
- Section 8.2 Transaction Locking
- Section 8.3 Application Design

Course Summary

Components of CPU Time