DB2 10 for z/OS New Features

Course Summary

Description

DB2 V10 contains operational efficiencies for immediate CPU savings that can reach between 10 and 20 percent, new features to enhance its resiliency and continuous availability for business critical information, and other key features to enhance application deployment.

The class places the new features of DB2 10 in context with the current best practices for DB2 in the z/OS environment.

Topics

- Performance Improvements
- Scalability
- Availability Enhancements
- SQL Enhancements
- Temporal Tables
- XML Enhancements
- Connectivity and Application Integration
- Security and Audit Enhancements
- Planning for DB2 10 for z/OS
- Notes
- Index Design and Use
- Understanding DB2 Data Access
- Explain
- Performance Best Practices

Audience

This course is designed for DB2 database administrators and application developers.

Objectives

At the end of this class, students should be able to:

1. Understand the performance improvements in DB2 10
2. Use new SQL functionality
3. Implement temporal tables
4. Develop a plan for implementing DB2 functionality
5. Understand DB2 10 availability improvements
6. Understand how to improve index design and application performance

Prerequisites

Students should have prior experience with DB2, preferably DB2 V9

Duration

Three days

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Course Outline

I. Performance Improvements
- A. Performance out-of-the-box
- B. Performance from DBA-level changes
- C. Performance via application changes
- D. Performance from scalability

II. Scalability
- A. Reduction in catalog contention
- B. Support for deleting data sharing members
- C. Increased size limitation for SPT01
- D. Elimination of UTSERIAL lock on utilities
- E. Utilization of 64-bit run time
- F. Work file enhancements
- G. Extended address volumes (EAV) support
- H. WLM enhancements

III. Availability Enhancements
- A. Online schema enhancements
- B. Online REORG enhancements
- C. Adding an active log data set to the active log inventory
- D. Retrieving consistent data with improved concurrency
- E. Point-in-time recovery enhancements.
- F. Increased availability for CHECK utilities
- G. Support for rotating any logical partition
- H. Online member-specific location aliases
- I. Online communications database enhancements
- J. Optional TCP/IP domain names .

IV. SQL Enhancements
- A. Enhanced support for SQL scalar functions
- B. Support for SQL table functions
- C. Enhanced support for native SQL procedures
- D. Extended support for implicit casting
- E. Greater timestamp precision for applications
- F. Support for TIMESTAMP WITH TIME ZONE
- G. Support for moving sums and moving averages

V. Temporal Tables
- A. Temporal tables and versioning of data
- B. System-period data versioning
- C. Table design
- D. SQL examples

VI. XML Enhancements
- A. XML type modifier
- B. XML schema validation
- C. CHECK DATA for XML consistency
- D. Multiple versions of XML documents
- E. Updating part of an XML document
- F. XML date and time
- G. Support for XML in SQL SPs and UDFs
- H. DEFINE NO for LOBs and XML
- I. Seamless integration of XML data and relational data
- J. Support for XQuery

VII. Connectivity and Application Integration
- A. Access plan stability
- B. Instance-based statement hints
- C. Enhanced monitoring support
- D. Support for 64-bit ODBC driver
- E. DRDA support of Unicode encoding for system code pages
- F. Elimination of DDF private protocol
- G. Addition of extended indicator variables
- H. New Universal Language Interface module (DSNULI)
- I. IBM Data Server Driver for JDBC and SQLJ type 2 connectivity enhancements

VIII. Security and Audit Enhancements
- A. Support for row and column access control
- B. Finer granularity for administrative privileges
- C. Support for new z/OS security features
- D. Security improvements from managing application data based on time

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Course Outline (cont'd)

IX. Planning for DB2 10 for z/OS
- A. Catalog changes
- B. Command changes
- C. Utility changes

X. Index Design and Use
- A. Index structure and design
- B. Choice of index columns
- C. Index tuning myths
- D. Index change guidelines

XI. Understanding DB2 Data Access
- A. Types of access paths
- B. Stage 1 and indexable predicates
- C. Joins and subqueries
- D. Optimizer functional overview

XII. Explain
- Explain Mode
- Added Explain tables
- Conversion to new format
- Data Studio
- Explain exercises

XIII. Performance Best Practices
- A. General recommendations
- B. Performance discussions and case studies

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