DB2 V9 Transition

Course Summary

Description

This course is aimed at Systems Programmers, Programmers and DBA's who need to understand the new features and facilities of DB2 Version 9. This lecture based course covers all of the new features in detail. The course is purely lecture based and contains no practical exercises. A comprehensive Student Guide is supplied which contains detailed documentation of the new version together with many syntax examples where relevant. Delegates will also be able to access a free help-line with technical questions relating to topics covered on the course.

Topics

- Availability And Capacity Enhancements
- Sql Enhancements
- System Performance Enhancements
- Application Performance Enhancements
- Programming Enhancements
- Purexml
- Utility / Command Enhancements
- Data Sharing Enhancements

Audience

This course is aimed at Systems Programmers, Programmers and DBA's who need to understand the new features and facilities of DB2 Version 9. This lecture-based course covers all of the new features in detail.

Prerequisites

A strong working knowledge of DB2 Version 8 is required to attend this course.

Duration

Two days

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Course Outline

I. AVAILABILITY AND CAPACITY ENHANCEMENTS

A. Version 8 Recap - Types Of Tablespace
B. Version 8 Recap - Tablespace Definition
C. Version 9 - Universal Tablespaces
D. Universal Tablespace Benefits
E. Maximum Number Of Partitions
F. Partition-By-Growth Tablespace
G. Creating A Partition-By-Growth Tablespace
H. Partition-By-Growth Tablespaces - Behaviour
I. Partition-By-Growth - Partition Allocation
J. Partition-By-Growth Tablespaces - Insert
K. Partition-By-Growth Tablespaces - Reorg
L. Partition-By-Growth Tablespaces - Other Utilities
M. Partition-By-Range Tablespace
N. Partition-By-Range Tablespaces - Considerations
O. Universal Tablespaces - Catalog Changes
P. Implicit Object Creation
Q. Automatic Database Creation
R. Implicit Database Creation - Considerations
S. Automatic Tablespace Creation
T. Default Bufferpool Usage
U. Other Implicit System Required Objects
V. SMS Storage Classes with Db2 Defined Datasets
W. Clone Tables - Fast Data Replacement
X. Why Use Clone Tables?
Y. Creating A Clone Table
Z. Dropping A Clone Table
AA. Clone Table Considerations
BB. Creating a Clone - Catalog Activity
CC. Creating a Clone - Index and Lob Catalog Activity
DD. Clone Tables - The Exchange Command
EE. Clone Tables - Exchange Considerations
FF. Clone Tables - Locking Considerations
GG. Clone Tables - DB2 Commands
HH. Clone Tables - Authority
II. Clone Tables - Utilities
JJ. Column Renaming
KK. Column Renaming Restrictions
LL. Alter Long Varchar to Varchar
MM. Refresh EARLY Code Without an IPL
NN. Conditional Restart Log Truncation by Timestamp
OO. Improved Insert Performance - The Append Parameter
PP. Index Renaming
QQ. Catmaint Enhancement - Update Schema
RR. Update Schema Restrictions

II. QL ENHANCEMENTS

A. Trigger Recap
B. Trigger Recap - Before and After Triggers
C. Instead Of Triggers
D. Instead Of Triggers - Restrictions
E. Instead Of Triggers - Authorisation
F. Instead Of Triggers - Catalog Changes
G. The Merge Statements
H. Merge Statement Restrictions
I. Merge Statement Example
J. Get Diagnostics Recap
K. Get Diagnostics - Statement Information
L. Get Diagnostics - Condition Information
M. Get Diagnostics - Merge Example
N. Explaining Merge Statements
O. Merge Statement Authorisation
P. Select From Merge / Update / Delete Statements
Q. Select from Insert - Version 8 Recap
R. Select from Merge
S. Select from Update
T. Select from Delete
U. Order By and Fetch First in Subselect
V. The Order By Order Of Clause
W. The Truncate Statement
X. Truncate Examples
Y. Using Truncate With Multi-Level Security
Z. Truncate Restrictions
AA. Union, Intersect and Except
BB. Version 8 Recap - Union
CC. Intersect and Except
DD. Intersect and Except Examples
EE. Set Current Schema Enhancement
FF. Cultural Sort and Case Insensitive Comparison
GG. Collation Key Examples
HH. Implicitly Hidden Columns
II. Bigint - Data Type
JJ. Bigint - Scalar Function
KK. Binary / Varbinary - Data Types
LL. Binary - Data Type and Function
MM. Decfloat - Data Type
NN. Decfloat - Scalar Function
OO. New Scalar Functions
PP. New Scalar Functions

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DB2 V9 Transition

Course Outline (cont'd)

III. SYSTEM PERFORMANCE ENHANCEMENTS

A. System Z and zIIP Exploitation
B. Virtual Storage Management
C. Index Page Size
D. Index Page Size Specification
E. Index Compression
F. Index Compression Considerations
G. Index Compression - Estimation
H. Index Compression - Dsn1 Sample Output
I. Table vs. Index Compression Comparisons
J. Resource Limit Facility Enhancement
K. Buffer Manager Enhancements
L. Logging Recap
M. Not Logged Tablespaces
N. Switching On and Off Not Logged
O. Logging Considerations
P. Not Logged with XML Tablespaces
Q. Not Logged with LOB Tablespaces
R. Not Logged - SYSLGRNX and SYSCOPY
S. Recovering Not Logged Tablespaces
T. Load / Reorg with Not Logged Tablespaces
U. Rebuild Index with Not Logged Tablespaces
V. Check Data with Not Logged Tablespaces
W. Queisce with Not Logged Tablespaces
X. Internet Protocol Version 6 Support

IV. APPLICATION PERFORMANCE ENHANCEMENTS

A. Run Time Reoptimization Enhancement
B. Locking Recap - Page / Row Lock Modes
C. Locking Recap - Isolation Levels
D. Locking Recap - Sensitive Static Cursors
E. Locking Recap - Sensitive Cursor Update / Delete Holes
F. Locking Recap - Sensitive Cursor Positioned Updates
G. Optimistic Locking
H. Optimistic Locking Example
I. Row Change Timestamp Selection
J. Row Change Timestamp Insertion
K. Skip Locked Data
L. Index On Expression
M. Index On Expression Considerations
N. Relief for Sequential Key Insert
O. Randomized Index Ordering
P. Reordered Row Format
Q. Moving to Reordered Row Format
R. Histogram Statistics
S. Page-Range Screening Optimization
T. Global Query Optimization

V. PROGRAMMING ENHANCEMENTS

A. Stored Procedures Recap
B. An SQL PL Procedure Example
C. Procedure Preparation
D. Native (Internal) SQL Procedures
E. How Native SQL Procedures Work
F. Creating Native and External SQL Procedures
G. Creating Native SQL Procedures
H. Altering Native SQL Procedures
I. Native SQL Procedures - Versioning
J. Native SQL Procedures - Binding Across Servers
K. Native SQL Procedures - Command Enhancements
L. Other Sql-Pl Enhancements
M. Sql Pl - Get Diagnostics Enhancement
N. Sql Pl - FOR Statement
O. Sql Pl - Nested Compound Statements
P. SQL Procedure Example - Nested Compound Statement
Q. Sql Pl - New Special Registers
R. Debugging Native Stored Procedures
S. LOB Data Manipulation - Recap
T. LOB Definition And Manipulation
U. Base Table Definition
V. LOB Tablespace And Auxiliary Table Requirements
W. LOB Tablespace / Table Definition
X. LOB Data Manipulation
Y. Using LOB Locators
Z. Lob - Host Variables
AA. Examples using LOB Variables
BB. Examples of Lob Manipulation using Locator Variables
CC. File Reference Variables
DD. Defining File Reference Variables
EE. File Reference Variables - Example
FF. Loading Data uning File Reference Variables
GG. File Reference Variables - New Dsnzparm
HH. Fetch Continue
II. Fetch Continue Example
JJ. Fetch Continue Considerations
KK. DB2 JCC Java Driver
LL. JCC Driver Enhancements
MM. Spatial Support
NN. Change to the SPUFI Defaults Panel

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DB2 V9 Transition

Course Outline (cont'd)

VI. 1PUREXML
- A. eXtensible Markup Language Introduction
- B. Well Formed Documents
- C. XML Data
- D. Integration of XML Data
- E. XML Serialization Function - XML2Clob
- F. XML Publishing Function - XMLElement
- G. XML Publishing Function - XMLAttributes
- H. XML Publishing Function - XMLForest
- I. XML Publishing Function - XMLConcat
- J. XML Publishing Function - XMLAgg
- K. XML Publishing Function - XMLNamespaces
- L. Overview of pureXML
- M. XML Data Model
- N. XML Parser
- O. XML Schema Repository (XSR)
- P. XPATH
- Q. XPath Axes
- R. XPath Functions
- S. XML Document Storage Infrastructure
- T. Accessing XML Data
- U. SQL/XML Publishing Functions
- V. XMLCOMMENT
- W. XMLDOCUMENT
- X. XMLPI
- Y. XMLTEXT
- Z. XMLSERIALIZE
- AA. XMLPARSE
- BB. XMLQUERY
- CC. XMLEXISTS
- DD. XMLCAST
- EE. XMLTABLE
- FF. XML Indexes
- GG. Index Considerations
- HH. Application development
- II. Database Administration Support
- JJ. XML Schema
- KK. XML Decomposition
- LL. Utilities

VII. UTILITY / COMMAND ENHANCEMENTS
- A. Reduction in CPU Processing
- B. Load Enhancements - Sortkeys
- C. Unload Enhancements - Skip Locked Data
- D. Reorg Parallelism Enhancements
- E. Reorg Shrlevel Change - NPSI Enhancement
- F. Reorg Shrlevel Change - Drain Enhancement
- G. Reorg Shrlevel Change - Lob Enhancement
- H. Check Data Enhancements
- I. Copy Enhancements - Checkpage Option
- J. Copy Enhancements - Scope Pending
- K. Recover Enhancements - Restorebefore
- L. Recover Enhancements - PIT Recovery
- M. Recover Enhancements - PIT Recovery Phases
- N. Report Tablespaceset Enhancements
- O. Modify Recovery Enhancements
- P. Rebuild Index Enhancements
- Q. Template Switching
- R. Clone Table Support
- S. The Ability to Cancel DB2 Commands
- T. SECURITY ENHANCEMENTS
- U. The Existing 3 Tier Security Model
- V. 3 Tier Problems
- W. Security Enhancement - Trusted Contexts / Roles
- X. Trusted Contexts
- Y. Creating Trusted Contexts
- Z. Roles
- AA. Trusted Context / Role Examples
- BB. Authid Switching
- CC. Using a Trusted Connection in a JDBC Application
- DD. Trusted Connection - Catalog Changes
- EE. Other Security Enhancements

VIII. DATA SHARING ENHANCEMENTS
- A. Initiating Automatic GRECP Recovery
- B. Postponed Abort Units of Recovery
- C. Restart Processing - Opening Datasets
- D. New Access Database Command
- E. Index Enhancements
- F. Other Enhancements

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