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Module Title : CL463G: DB2 10.5 for LUW Advanced Database Administration with DB2 BLU Acceleration

Duration : 5 Days

Overview

Advanced Monitoring

Advanced Table Space Management

DB2 10.5 BLU Acceleration Concepts

DB2 10.5 BLU Acceleration Implementation and Use

DB2 10.5 BLU Acceleration Implementing Shadow Tables and User Maintained MQTs

Using Optimizer Profiles to control Access Plans

Table Partitioning

Advanced Table Reorganization

Multiple Dimension Clustering

Advanced Data Movement

DB2 Database Auditing

Day 1

- (00:20) Welcome
- (02:00) Unit 1: Advanced Monitoring
- (01:00) Exercise 1: DB2 Advanced Monitoring with SQL
- (02:00) Unit 2: Advanced Table Space Management
- (01:00) Exercise 2: DB2 Advanced DMS Table Space Management

Day 2

- (01:30) Unit 3: DB2 10.5 BLU Acceleration Concepts
- (01:30) Unit 4: DB2 10.5 BLU Acceleration Implementation and Use
- (01:00) Exercise 3:Using DB2 BLU Acceleration to improve performance for analytics query processing.
- (01:15) Unit 5: DB2 10.5 BLU Acceleration Implementing Shadow Tables and User Maintained MQTs
- (01:00) Exercise 4:Implement Shadow Tables and User Maintained Materialized Query Tables

Day 3

- (02:30) Unit 6: Using Optimizer Profiles to control Access Plans
- (01:00) Exercise 5: Using Optimizer Profiles to control Access Plans
- (02:30) Unit 7: Table Partitioning
- (01:30) Exercise 6: Range-partitioned Tables

Day 4

- (02:30) Unit 8: Advanced Table Reorganization
- (01:15) Exercise 7: Advanced Table Reorganization
- (02:00) Unit 9: Multiple Dimension Clustering
- (01:00) Exercise 8: DB2 Multidimensional Clustering

Day 5

- (02:30) Unit 10: Advanced Data Movement
- (01:15) Exercise 8: DB2 Advanced Data Movement
- (01:00) Unit 11: DB2 Database Auditing
- (01:00) Exercise 9: DB2 Database Audit implementation

Training Paths that reference this course are:

- PureData System for Transactions - Database Administrator
- IBM Smart Analytics System
- PureData for Operational Analytics
- Advanced Database Administration – Single Partition and DB2 pureScale
- Database Administration - Multiple Partition

Audience

This is an advanced course for DB2 LUW experienced database administrators who support DB2 for UNIX, Windows, and Linux databases.

Prerequisites

You should have completed:

- *DB2 10 for LUW: Basic Administration for Linux and Windows (CL2X3)* **or**
- *DB2 10 for LUW: Basic Administration for AIX (CL213)* **or**
- *DB2 10.1 for Linux, UNIX, and Windows Quickstart for Experienced Relational DBAs (CL484)*

Or have equivalent experience.

Key Topics

- Advanced Monitoring
- Advanced Table Space Management
- DB2 10.5 BLU Acceleration Concepts
- DB2 10.5 BLU Acceleration Implementation and Use

- Using Optimizer Profiles to control Access Plans
- Table Partitioning
- Advanced Data Movement
- Advanced Table Reorganization
- Multiple Dimension Clustering
- DB2 Database Auditing

Agenda

Day 1

- (00:20) Welcome
- (02:00) Unit 1: Advanced Monitoring
- (01:00) Exercise 1: DB2 Advanced Monitoring with SQL
- (02:00) Unit 2: Advanced Table Space Management
- (01:00) Exercise 2: DB2 Advanced DMS Table Space Management

Day 2

- (02:00) Unit 3: DB2 10.5 BLU Acceleration Concepts
- (01:45) Unit 4: DB2 10.5 BLU Acceleration Implementation and Use
- (01:00) Exercise 3:Using DB2 BLU Acceleration to improve performance for analytics query processing.

Day 3

- (02:30) Unit 5: Using Optimizer Profiles to control Access Plans
- (01:00) Exercise 4: Using Optimizer Profiles to control Access Plans
- (02:30) Unit 6: Table Partitioning
- (01:30) Exercise 5: Range-partitioned Tables

Day 4

- (02:30) Unit 7: Advanced Table Reorganization
- (01:15) Exercise 6: Advanced Table Reorganization
- (02:00) Unit 8: Multiple Dimension Clustering
- (01:00) Exercise 7: DB2 Multidimensional Clustering

Day 5

- (02:30) Unit 9: Advanced Data Movement
- (01:15) Exercise 8: DB2 Advanced Data Movement
- (01:00) Unit 10: DB2 Database Auditing
- (01:00) Exercise 9: DB2 Database Audit implementation

Objectives

- Monitor a DB2 LUW database using command line processor queries
- Implement DB2 BLU Acceleration, column-organized table support, for a new or existing DB2 database.
- Configure a DB2 database that uses DB2 BLU Acceleration, column-organized tables, including sort memory and utility heap memory considerations
- Describe the default workload management used for DB2 BLU Acceleration processing and how you can tailor the WLM objects to efficiently use system resources
- Implement DB2 Instance audit data collection using the db2audit command or database level auditing by creating audit policy objects and assigning the policies to objects using the AUDIT command.
- Analyze REORGCHK reports to determine if the table or the index reorganization would improve database efficiency. Invoke and monitor the processing for the REORG utility running offline or online
- Manage the disk space allocated in DMS table spaces using ALTER TABLESPACE to extend or to reduce the containers, and monitor the progress of the DB2 rebalancer process
- Implement automatic resize for DMS table spaces or Automatic Storage management for table spaces to reduce the complexity of managing DB2 LUW databases
- Describe the conditions that would impact selection of the INGEST utility rather than using LOAD
- Set the options for the INGEST utility and monitor ingest processing
- Plan and execute the DB2MOVE utility to copy selected table data for an entire schema for objects from one DB2 database to another
- Implement an optimization profile to control a portion of the access plan selected by the DB2 Optimizer to achieve specific application performance results
- Select options and processing modes for the online table move procedure, ADMIN_MOVE_TABLE, to implement changes to tables with minimal loss of data access by applications
- Plan and implement MDC tables to improve application performance, including selecting the appropriate table space extent size
- Utilize range-based partitioned tables to support large DB2 tables that require very efficient roll-in and roll-out capabilities