Db2 for z/OS: Database Administration Training

Duration: **3 Day**

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Overview

This course provides a detailed understanding of the Db2 for z/OS facilities and procedures required to provide database users with efficient administration and support. It explains the system architecture and facilities of Db2 including monitoring, security and recovery techniques.

This course is also available for one-company, on-site presentations and for live presentation over the Internet, via the Virtual Classroom Environment service.

Prerequisites

Attendees should be familiar with the Db2 environment and have knowledge of SQL or have attended the RSM courses **Db2 for z/OS: Introduction, Concepts & Facilities** and **Db2 for z/OS: SQL for Query Users**.

What You Will Learn

- describe the Db2 environment, and understand the use of key Db2 components such as buffer pools, the Db2 catalog and directory, logging data sets, etc.
- describe the internal structure of Db2 for z/OS databases
- understand and assess security and related requirements
- use Db2 commands to monitor and control Db2 objects, processes and operations
- understand and use the full complement of Db2 online data and recovery utilities
- understand and use the Db2 stand-alone utilities
- use Db2 traces to record performance monitoring information
- understand and interpret information in Db2PM accounting and statistics reports.

Outline

Db2 System Architecture

Architecture overview; Working Storage Areas; Buffer, Sort, RID & EDM pools; Buffer Pools - 64 bit addressing; EDM pool; Sort pool; RID pool; Db2 Attachments; System datasets & databases; DB2 objects; Object characteristics; SQL overview; Db2 Interactive (DB2I); Basic Db2 operations; Db2 commands; Db2i commands panel.

Db2 Pagesets

Pagesets; Pageset structure; Page structure; Space map pages; Tablespace data pages; Row header information; Tablespace types; LOB and XML tablespaces; Determining tablespace type; Changing tablespace type; Index structure; Data compression.

Db2 Security & Data Control Language

Authorisation identifiers; Controlling Db2 access; GRANT / REVOKE overview; Controlling cascading REVOKE; System privileges; Usage privileges; Database privileges; Table & view privileges; Package,

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collection & plan privileges; Distinct type or JAR privileges; Function & procedure privileges; Schema privileges; Administrative privileges; Additional administrative privileges; Install SYSADM, SYSOPR & SECADM; Using RACF for Db2 security; Mapping Db2 authorisation to RACF; Db2 objects and RACF classes; RACF profiles for Db2; Multi-level security; Security labels; Row and column access control; Defining row permissions; Defining column masks.

Managing Data with Db2 Utilities - Overview

Db2 utilities; Data backup & recovery utilities; System backup & recovery utilities; Data integrity & consistency utilities; Other online utilities; Stand-alone utilities; Using online utilities; Utility control statements; Db2i utilities - main menu; Db2i utilities - Data Set Names panel; Db2i utilities - Control Statement Data Set Names panel; Controlling utilities; Using LISTDEF & TEMPLATE; Using pattern matching; LISTDEF syntax; TEMPLATE ; Data set sizing; Dataset naming variables; TEMPLATE syntax; OPTIONS syntax.

Online Data Utilities

RUNSTATS utility; LOAD utility; LOAD utility - SHRLEVEL; LOAD pending states; LOAD examples; UNLOAD utility; CHECK DATA utility; CHECK DATA - SHRLEVEL; CHECK DATA - SCOPE; CHECK INDEX utility; CHECK LOB utility; REORG utility; REORG utility - SHRLEVEL; REORG utility - BUILD2 phase (DB2 Version 8); REORG utility - BUILD2 phase (DB2 Version 9); REORG utility - FASTSWITCH; STOSPACE utility; Repair utility.

Online Recovery Utilities

Recovery components - historic; Recovery components - enhancements; COPY utility; COPYTOCOPY utility; MERGECOPY utility; REPORT utility; QUIESCE utility; RECOVER utility; Partial recovery - historic; Partial recovery - BACKOUT YES; Recovery and referential integrity; Recovery with large object or XML data; REBUILD INDEX utility; MODIFY utility; BACKUP SYSTEM; RESTORE SYSTEM utility.

Stand-alone Utilities

Stand-alone utilities; DSN1COPY utility; DSN1PRNT utility; DSN1LOGP utility; DSN1COMP utility; DSNJU004 utility; DSNJU003 utility; DSNJLOGF utility.

Performance Tuning

Trace types; Trace destination; Trace classes; IFCIDs activated; Constraints and filters; Controlling traces; Using trace data; Reports and traces (short / long); Monitoring response times; Elapsed and class 2 time distribution; Class 3 suspensions; Locking activity; Data sharing locking activity; Buffer pool activity; Group buffer pool activity; SQL activity; ROWID and RID list activity; Stored procedure, UDF and trigger activity; EDM pool activity; Subsystem services.

Practical Exercises

Using data utilities; using backup & recovery utilities; using stand-alone utilities