

Db2 for z/OS: Database Administration

Duration: 5 Days · **Training format:** Virtual Classroom / Online

Description

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.

Delegates will learn how to

- 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.

Audience

Those responsible for the ongoing support and administration of Db2 for z/OS databases.

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, 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; DSN1CHKR 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

Prerequisites

Attendees should be familiar with the Db2 environment and have knowledge of SQL