

## Db2 for z/OS Database Recovery and Advanced Utilities

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### Course Summary

#### Description

Personnel who will be participating in the Recovery of Db2 for z/OS Databases and Applications require a comprehensive understanding of the recovery environment and procedures. Our hands-on workshops detail Unit of Work Recovery, Current and prior point in time recovery, failure analysis, recovering from media failures, as well as building and implementing Db2 Recovery related procedures. During our training exercises we will build and execute online and stand-alone utilities to support the recovery scenarios for their private databases. Both data sharing and non-data sharing recovery considerations are covered.

#### Objectives

At the end of this course, students will be able to:

- Describe the Db2 Recovery Environment
- Develop and implement Backup and Recovery procedures
- Analyze failures and identify what type of recovery procedure is appropriate
- Perform media recovery of their database objects
- Perform prior-point-in-time recovery
- Demonstrate a working knowledge of the Db2 stand-alone utilities

#### Topics

- Db2 Recovery Environment Overview
- Db2 Recovery Related Commands
- Preparing for Recovery
- Database Recovery
- Stand-alone Utilities
- Unloading Data
- Recovery Scenarios Unique to a Data Sharing Environment

#### Audience

Db2 Database and System Administrators who will be managing and recovering Db2 Databases.

#### Prerequisites

Db2 for z/OS Database Administration or equivalent experience. A basic understanding of Db2 for z/OS utilities is assumed.

#### Duration

Three days

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### Course Outline

#### I. Db2 Recovery Environment Overview

- A. Db2 Recovery Related System Objects
- B. Bootstrap Dataset (BSDS)
- C. Db2 Logs
- D. Units of Recovery
- E. Log Records
- F. Db2 Catalog Objects
- G. Db2 Directory
- H. Types of Recovery
- I. Backup & Recovery Procedures

#### II. Db2 Recovery Related Commands

- A. Database Commands
- B. Starting Databases
- C. Monitoring Databases
- D. Restricted Statuses
- E. Database Use
- F. Database Locks
- G. CLAIMERS
- H. Pages in Error
- I. Stopping Databases
- J. Thread & Related Commands
- K. Display Threads
- L. Terminate Threads
- M. Reset Indoubt
- N. Recover Indoubt
- O. Display DDF
- P. Logging Environment Commands
- Q. Display Log
- R. Set Log to modify logging environment
- S. Monitoring using Db2 Commands

#### III. Preparing for Recovery

- A. COPY Utility
- B. Data Checking
- C. Copy Pending Status
- D. Conditional Image Copies
- E. Using FlashCopy
- F. Copy Phases
- G. Restart Considerations
- H. Copy Parallelism
- I. QUIESCE Utility
- J. LISTDEF & TEMPLATE
- K. Merging Image Copies
- L. COPYTOCOPY Utility
- M. OPTIONS PREVIEW
- N. MODIFY RECOVERY Utility
- O. Recommendations

#### IV. Database Recovery

- A. Backup and Recovery Procedures
- B. What Happens During Recovery
- C. Complete Recovery Cycles
- D. Recovery Information
- E. REPORT Utility
- F. Problem Analysis
- G. Recovery Pending Status
- H. RECOVER Utility
- I. Recovery Phases
- J. Recovery Objects
- K. Point in Time Recovery
- L. Recommendations
- M. Rebuilding Indexes
- N. Complete Referential Set Recovery
- O. Types of Recovery
- P. Log-Only Backout
- Q. ERROR RANGE Recovery
- R. LPL Errors
- S. Invalid LOBs
- T. Down-Level Pageset
- U. LOGONLY Recovery
- V. REPAIR Utility
- W. MODIFY Utility
- X. Recommendations

#### V. Stand-alone Utilities

- A. Print Log Map Utility
- B. DSNJU004 Utility
- C. Report output analysis
- D. Recovery Log Contents
- E. DSN1LOGP Utility
- F. Control Statements
- G. Report output analysis
- H. When to use DSN1LOGP
- I. DSN1COPY
- J. Usage
- K. Requirements
- L. Validation
- M. Stand-alone Utility Recommendations

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### Course Outline (cont'd)

#### *VI. Unloading Data*

- A. UNLOAD utility
- B. Usage
- C. Concurrency
- D. Control Statements
- E. Output
- F. DSNTIAUL Sample Application
- G. Usage
- H. Concurrency
- I. Parameters
- J. Output
- K. Recommendations

#### *VII. Recovery Scenarios Unique to a Data Sharing Environment*

- A. Data Sharing Overview
- B. Logging Environment
- C. Recovery from CF failures
- D. Group Buffer Pools
- E. Lock Structure
- F. SCA Structure
- G. Recommendations