DB2 12 FOR ZOS: BASICS FOR DBA BEGINNERS

Course Code: 821633

Db2 12 for z/OS beginning DBAs can develop fundamental skills or recognition through lectures and hands-on exercises.

Db2 12 for z/OS beginning DBAs can develop fundamental skills or recognition through lectures and hands-on exercises of:

- TSO/E and ISPF
- Data sets
- Db2 Objects
- Structured Query Language
- Db2 Commands
- JCL and SDSF
- Db2 Utilities
- Db2 Logging
- Db2 Program Preparation

The course materials cover Db2 12 for z/OS

What You'll Learn

Students will learn to,

- Describe several services provided in a z/OS environment
- Explain workloads in the batch environment
- Explain workloads in the online environment
- Describe job roles in a z/OS environment
- Log On to TSO/E
- Navigate TSO/E and ISPF
- Use TSO commands
- Setup and utilize JCL (Job Control Language)
- Utilize SDSF
- Describe the different types of data sets in a z/OS environment
- Allocate data sets and list data set information and content
- Create and modify data set content
- Give an overview of the Db2 9 environment
- Describe and utilize Db2 Objects
- Describe and utilize several DB2 Utilities

- Describe the Db2I (Db2 Interactive Facility) environment
- Use SPUFI (SQL Processing Using File Input) to compose and execute SQL
- Setup and execute Db2 Commands
- Understand Db2 Logging
- Describe Db2 program preparation process
- Understand Db2 startup and shutdown
- Understand and utilize Db2 recovery strategies

Who Needs to Attend

This beginning Db2 basic course is for z/OS database administrators who need to acquire the basic skills required to administer a Db2 database in a z/OS environment.

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CLASSROOM LIVE	$6,175 CAD	5 Day

Classroom Live Outline

Unit 1 Introduction

- The modern Mainframe Environment
- Defining z/OS
- What are the benefits of z/OS-
- Typical z/OS workloads
- Batch processing
- Online Transaction Processing
- Job roles in the Mainframe environment
- z/OS Components and Services
- UNIX System Services
- The Parallel Sysplex Environment
- z/OS Management Interfaces

Unit 2 TSO/E and ISPF

- Emulators
- z/VM systems
- 2.1. TSO/E
    - ▢ TSO Logon panel
    - ▢ Changing passwords
    - ▢ Additional logon panel options
    - ▢ The Reconnect option
    - ▢ TSO READY prompt
    - ▢ TSO HELP command
    - ▢ LISTALC command
    - ▢ PROFILE command
    - ▢ Changing PROFILE
    - ▢ LOGOFF command

- ⬚ Scripting support
- 2.2. ISPF
  - ⬚ What is ISPF
  - ⬚ ISPF command
  - ⬚ ISPF Primary Option Menu
  - ⬚ Primary Option Menu Areas
  - ⬚ Action Bar
  - ⬚ Options option
  - ⬚ ISPF Settings
  - ⬚ Global Color Change Utility
  - ⬚ Function Keys
  - ⬚ Option or Command Prompt
  - ⬚ Keylist Utility
  - ⬚ F3 Exit
  - ⬚ F1 Help
  - ⬚ F2 Split
  - ⬚ ISPF Navigation Techniques
  - ⬚ PFSHOW
  - ⬚ More ISPF commands
  - ⬚ Option listing
  - ⬚ ISPF Command Shell
  - ⬚ TSO Command Prefix

Unit 3 Data Sets

- Data sets
- Types of data sets
- DASD versus Tape
- Volumes
- Storage allocation
- Data set naming conventions
- Catalogs
- Storage Management
- Checkpoint
- 3.2. Sequential Data Sets
  - ⬚ Creating data sets
  - ⬚ Utility Selection Panel
  - ⬚ Data Set Utility Panel
  - ⬚ Creating a data set
  - ⬚ Allocate New Data Set
  - ⬚ Creating a sequential data set
  - ⬚ Editing a sequential data set
  - ⬚ ISPF Editor
  - ⬚ ISPF Editor primary commands
  - ⬚ ISPF Editor line commands
  - ⬚ Data Set List Utility
  - ⬚ Data set name wild cards

- ⊠ Data Set List Utility
- ⊠ DSLIST results
- ⊠ Select Action
- ⊠ HELP on Line Commands
- ⊠ DSLIST by volume
- 3.3. Partitioned Data Sets
  - ⊠ Partitioned data sets
  - ⊠ Creating a PDS
  - ⊠ PDS members
  - ⊠ Creating a PDS member - Library Utility Panel
  - ⊠ DSLIST Utility
  - ⊠ PDS Member List
  - ⊠ Member Actions
- 3.4. VSAM Data Sets
  - ⊠ VSAM data sets
  - ⊠ VSAM data set components
  - ⊠ Creating a VSAM data set

Unit 4 JCL and SDSF

- 4.1. JCL
  - ⊠ Batch Jobs versus Online Transactions
  - ⊠ Batch job activities
  - ⊠ Creating the batch job
  - ⊠ JCL: Job Control Language
  - ⊠ Statement format
  - ⊠ JOB statement
  - ⊠ EXEC statement
  - ⊠ DD statement
  - ⊠ Instream Input Data Set
  - ⊠ Instream Output Data Set
  - ⊠ DD DUMMY
  - ⊠ Sample Jobstream 1
  - ⊠ Sample Jobstream 2
  - ⊠ Submitting the job
  - ⊠ Notification
- 4.2. SDSF
  - ⊠ SDSF
  - ⊠ SDSF Primary Option Menu
  - ⊠ Output and Held queues
  - ⊠ PREFIX command
  - ⊠ Working with queue query
  - ⊠ Select command
  - ⊠ Canceling or Purging output
  - ⊠ Sample jobstream 1 revisited
  - ⊠ Sample jobstream 2 revisited

Unit 5 Db2 Relational Database Concepts

- Relational Database Systems
- Db2 for z/OS and Db2 family
- The Db2 Optimizer
- Benefits of Db2 for z/OS
- Database
- Tables
- Indexes
- Primary Key
- Relationships
- Referential Integrity
- Integrity Rules
- Data domains
- Table scan access
- Index access
- Interacting with Db2
- Transactions

UNIT 6 Structured Query Language (SQL) and SPUFI

- Structured Query Language (SQL)
- SQL categories
- SELECT statement
- SELECT list
- FROM clause
- Simple SELECT statement
- SUBSTR function
- SELECT with SUBSTR function
- WHERE clause
- SELECT with WHERE clause
- IN operator
- WHERE with IN operator
- BETWEEN operator
- WHERE with BETWEEN operator
- LIKE operator
- WHERE with LIKE operator
- ORDER BY clause
- The NULL value
- SELECT with ORDER BY
- Putting it all together
- Joining tables
- Correlation Names
- Additional criteria
- Cartesian products
- Executing SQL
- SQLCODE

Unit 7 Db2 Objects

- 7.1. Databases and Table Spaces
  - ▯ Db2 objects
  - ▯ The Db2 catalog
  - ▯ Storage group
  - ▯ Database
  - ▯ Table Space
  - ▯ Segmented table space
  - ▯ Partitioned table space
  - ▯ Partition By Growth table space
  - ▯ Partition By Range table space
  - ▯ VSAM data sets
- 7.2. Tables, Indexes and Views
  - ▯ Table
  - ▯ Partitioned table
  - ▯ Index
  - ▯ Clustering index
  - ▯ Index space
  - ▯ Partitioned index
  - ▯ View
- 7.3. Qualified names, Implicit Object Creation, and SQL statements
  - ▯ Qualyfing Db2 objects
  - ▯ Implicit object creation
  - ▯ DML statements
  - ▯ Insert statement
  - ▯ UPDATE statement
  - ▯ DELETE statement
  - ▯ COMMIT statement
  - ▯ ROLLBACK statement

Unit 8 The Db2 System

- The Db2 system
- System parameters
- Required address spaces
- Optional address spaces
- Started tasks
- Master address space
- System databases
- Directory
- Catalog
- System database data sets
- Data pages
- Buffer pools
- Buffer pools: Read operations
- Buffer pools: Write operations
- System buffer pools
- Db2 logging

- Bootstrap data set
- Db2 locking
- Integrity issues
- Transaction locks
- Isolation Levels
- User interfaces

Unit 9 Db2 Commands and Program Preparation

- Accessing Db2
- 9.1. Db2 Commands
  - ⬚ Db2 commands
  - ⬚ Command format
  - ⬚ DISPLAY DATABASE
  - ⬚ DISPLAY DATABASE SPACENAM
  - ⬚ Other DISPLAY DATABASE options
  - ⬚ DISPLAY BUFFERPOOL
  - ⬚ DISPLAY DDF
  - ⬚ DISPLAY LOG
  - ⬚ DISPLAY THREAD
  - ⬚ ARCHIVE LOG
  - ⬚ STOP DATABASE
  - ⬚ START DATABASE
  - ⬚ STOP DATABASE SPACENAM
  - ⬚ START DABATASE SPACENAM
  - ⬚ Executing commands
  - ⬚ Executing commands: TSO
  - ⬚ Executing commands: Batch
  - ⬚ Executing commands: SDSF
- 9.2. Program Preparation
  - ⬚ Db2 program preparation
  - ⬚ Source program
  - ⬚ Precompiler
  - ⬚ Compile and link edit
  - ⬚ Database Request Module
  - ⬚ Bind plan
  - ⬚ Bind plan
  - ⬚ EXPLAIN
  - ⬚ Program execution

Unit 10 Db2 Utilities

- Utility categories
- Utility and Tools Packaging
- Standalone utilities
- Service aids and samples
- Online utilities
- UNLOAD utility

- UNLOAD control statement
- LOAD utility
- LOAD utility steps
- Restrictive states
- Db2| Utility Generator
- Utility Panel One
- Utility Panel Two
- Utility batch job
- DSNUPROC
- SYSUTIL table
- DISPLAY UTILITY command

Unit 11 Db2 Shutdown, Startup, and Recovery

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- Normal Db2 Shutdown
- Restart phases
- Starting Db2 after a normal shutdown
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- Starting Db2 after an abnormal shutdown
- Log initialization
- Current status rebuild
- Forward log recovery
- Backward log recovery
- Object backup and recovery
- COPY utility
- Table space recovery
- RECOVER utility

Unit 12 Course Summary

- z/OS topics
- Db2 for z/OS topics
- Other Db2 courses
- Db2 for z/OS certifications
- Course Evaluation

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PRIVATE GROUP TRAINING	5 Day

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