

# 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

\$4,750 USD

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
  - ☒ Qualifying 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**

- Buffer Pools and Logging
- Normal Db2 Shutdown
- Restart phases
- Starting Db2 after a normal shutdown
- Abnormal Db2 shutdown
- 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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