

## Db2 12 for zOS: Basics for DBA Beginners

**Duration: 5 Days    Course Code: CV042G    Delivery Method: Virtual Learning**

### Overview:

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

### Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

### Target Audience:

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.

### Objectives:

- 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

## Content:

### 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

### 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

### 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 DATABASE 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

- 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
- ? command
- Canceling or Purging output
- Sample jobstream 1 revisited
- Sample jobstream 2 revisited

- 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

- 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

### Further Information:

For More information, or to book your course, please call us on 00 20 (0) 2 2269 1982 or 16142

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