Advanced MVS/JCL Programming

Keane
enabling transformation

Course No. 2216

Description

In this class, the student will get exposure to the most frequently used parts of JCL. The JOB, EXEC and DD statements are explained in detail. JCL Procedures are also discussed. In the exercises, the students code all statements of JCL and personally develop a JCL stream for an entire job. Pure JCL and JCL utilizing procedures are used in the exercises. Once the student has coded the JCL, they then verify the correctness of their work by the appropriate JCL syntax checker. Various types of data set organizations are also discussed including an in-depth discussion on the importance of Generation Data Groups (GDG). JES statements and useful IBM Utilities are also covered.

Audience

This course is best suited for students who need the exposure to the most frequently used parts of JCL.

Prerequisites

Any prior JCL knowledge would be useful but not required.

Objectives

- Understand the JOB, EXEC and DD statements and the parameters that apply to each
- Understand the submission process from ISPF to the CPU
- Understand the appropriate outlist viewer
- Understand the MVS® operating system to the point of how JCL interacts with it
- Understand the use of JCL Procedures
- Understand Generation Data Groups (GDG) and Concatenated Datasets
- Understand the use of JES2 / JES3 commands and functions

Major Topics

- Introduction to JCL
- Job Statement
- Exec Statement
- DD Statement
- Job Step Flow Control
- Data Set Management
- Procedures
- Additional Topics

Duration

4 days

Course Contents

1. Introduction to the Mainframe

- Operating System
- IBM Operating System
- Virtual Storage
- Operating System Processing
- Job Entry System
- Disk Storage
- Data Set Types
- Access Methods
- File Naming Rules
- Database Management Systems
- Communications
- Batch Processing
- On-line Processing

2. Introduction to JCL

- Job Processing
- Introduction to JCL
- JCL Statements
- Sample JCL Statement Sequence
- JCL Syntax
- Explanation of Parameter Notation

3. JOB Statement

- Operands
- Positional Parameters
- CLASS
- MSGCLASS
- MSGLEVEL
- REGION
- TIME
- Notify
- Restart
- TYPRUN
- COND
- PRTY
- ADDRSPC
- JOB Statement sample
- Exercises for the JOB Statement

4. EXEC Statement

- Positional Parameter
- PARM
- REGION
- TIME
- COND
- ACCT
- ADDRSPC
- EXEC Statement Sample
- Exercises for the EXEC Statement

5. DD Statement

- Resource Identifiers
- SYSOUT
- COPIES
- Positional Parameter - *
- DLM
- Positional Parameter - DATA
- Positional Parameter - DUMMY
- Data Set Identifiers
- DSNAME
- DISP
- DCB

6. DD Statement

- LRECL
- BLKSIZE
- RECFM
- DEN
- DSORG
- DCB Operand Samples
- UNIT
- SPACE
- VOLUME
- LABEL
- DD Statement Examples
- Special DD Statements & Exercises for DD Statements

7. Job Step Flow Control

- Job Step Flow Control
- IF/THEN/ELSE/ENDIF Statements
- Examples for IF Statement
- Example with Nested IF
- Cautions
- Examples of Testing for Abends
- Examples of Testing for Execution
- Job COND
- Step COND
- Exercises for Job Step Control

8. Data Set Management

- MVS System Catalog
- Temporary Data Sets
- Partitioned Data Sets
- Concatenated Data Sets
- Backward Reference
- Generation Data Group
- Sample Job Using Generations
- Special Catalog Job
- VSAM
- Key Sequenced Data Set (KSDS)
- Entry Sequenced Data Sets (ESDS)
- Relative Record Data Sets (RRDS)
- Data Set Security
- Storage Management Subsystem
- SMS JCL Parameters
- AVGREC
- DATACLAS
- STORCLAS
- MGMTCLAS
- SECMODEL
- LIKE REFDD
- RECORG
- KEYOFF
- DSNTYPE

9. Procedures

- Procedures
- In-stream Procedure
- Cataloged Procedure
- Symbolic Parameters
- SET Statement
- Symbolic Parameter concatenation
- EXEC Statement Modification
- DD Statement Modification
- Examples of Symbolics
- JCL Walkthrough

10. Additional Topics

- IBM Utilities & IBM Utilities JCL
- IEBGENER Utility
- IEFBR14 Utility
- IDCAMS Utility
- IDCAMS Utility Commands
- IDCAMS Utility Completion Codes
- IEBCOPY Utility
- SORT Utility and commands
- Outlist Facilities (EJES, SDSF, SAVRS, and TRMS)
- Programming Considerations

JES2 Statements

- Major Topics:
  - JES2 fundamentals
  - Stages of JES2 processing
  - Remote processing
  - Commands and messages

JES3 Statements

- Major Topics:
  - JES3 fundamentals
  - Interactive commands
  - Job Flow & Networks
  - Queues
  - Commands and messages