

z/OS JCL Advanced Topics

Experienced programmers, operators, analysts, support staff and users who need to know how to code JCL to run jobs in a z/OS environment. Anyone who needs to work with procedures, handle JCL errors, and design / code JCL to deal with multi-volume data sets, restart, SMS data sets, or HFS files

PRE-REQ. Attendees are expected to have a working understanding of JCL.

Students who complete this course will be able to code JCL to run test and production batch jobs, use some common batch utility programs, and use a Sort / Merge program product, including using symbolic names; debug many JCL errors; set up JCL for restart; use some JES2 or JES3 control statements.

Major Topics Include:

- * Data sets and libraries; DASD organization, VTOCs and catalogs

- * z/OS organization and workflow

- * Introduction to Work Load Manager (WLM)

- * JCL: rules of syntax

- * JOB, EXEC, DD, OUTPUT statements

- * OPEN processing

- * Sources of Information

- * Debugging JCL

- * Multi-volume data sets

- * Extended Format data sets

- * Striped data sets

- * HFS files

- * Utilities: IEFBR14, IEBCOPY, IEBGENER

- * Introduction to IDCAMS

- * Conditional JCL: IF/THEN, ELSE, ENDIF

- * Cataloged procedures

- * Symbolic parameters in procedures and in open JCL

- * JES internal readers

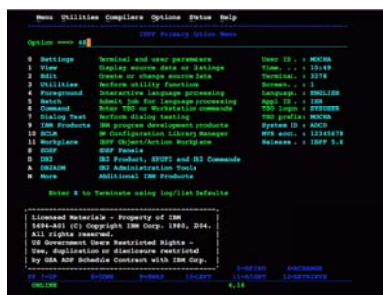
- * Step restart, checkpoint restart

- * JES control statements

- * SMS - Storage Management Subsystem and PDSEs

- * INCLUDE, SET, JCLLIB

- * Sort / Merge, including multiple output files and symbolic name capabilities



Unique Features

Course materials developed by Steve Comstock using classroom experience since 1975.

Instructor: Instructor has worked in the IBM Mainframe Environment, supporting DOS/VSE, MVS, OS/390, z/OS, CICS/VSAM, IMS and DB2 since 1988.

Duration: 3 Days

Format: Classroom (with five standard exercises and two optional exercises, all hands-on.)

Certification: All attendees will receive an attendance certificate.



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z/OS JCL Advanced Topics - Topical Outline

Day One

Operating system concepts

Operating system concepts

The Application Program Environment

MVS - Multiple Virtual Storages

The Road to z/OS

z/OS Workflow

JES - the Job Entry Subsystem

Introduction to Work Load Manager

Initiators and scheduling

Allocation

JCL syntax

JOB, EXEC Statements

Introduction to Data Management

Data Set Organizations

DCBs / ACBs

DDNAMES

JOB Step setup

OPEN Processing

SYSIN-type data and SYSOUT-type data

Named Data Sets

Tape and Disk Data Sets

Tape Layout

DASD Concepts

Data Set Naming Rules

Units, Volumes, Catalogs

Tape DD Statements

Tape Output - DD Statement

Tape Input - DD Statement

SMS - System Managed Storage

STORCLAS, DATACLAS, MGMTCLAS

ISMF

DASD Concepts

DASD Track Layout

Extents

DASD Organization

DD Statements for DASD

Temporary data sets

Concatenation

Condition Code Testing and JCL Debugging

IF / THEN / ELSE / ENDIF Statements

The JOBRC parameter

JCL problem solving

Sources of Information (IBM Publications, BookManager, QuickReference)

Computer Exercise: JCL ONION

Day Two

Special DD Situations

Virtual I/O - VIO

Reference and Affinity

Multi-volume Data sets

Extended format data sets

Striped data sets

Hierarchical File System (HFS)

Paths

JCL and HFS files

Computer Exercise: Accessing an HFS file

IBM Utilities

IEFBR14

IEBGGENER

IEBCOPY

IDCAMS

Computer Exercise: Using Utilities

SORT

Introduction to SORT

JCL for SORT

SORT Control Statements

Computer Exercise: Using the SORT

Some Advanced Sort Topics

Additional COND Tests

Symbolic names

The OUTFIL Statements

Generating reports

Computer Exercise: Symbolic names and multiple output files

OUTPUT Statements

Introduction to OUTPUT Statements

The REGION parameter

The MEMLIMIT parameters

Day Three

JCL Procedures

Cataloged Procedures

Procedures and Inserts

Procedures and Overrides

Symbolic Parameters

SYSUID

The SET Statement

The INCLUDE statement

Private Proclibs: JCLLIB

Nested Procedures

Computer Exercise: Using Nested Procedures and INCLUDES

Additional Techniques

GDGs - Generation Data Groups

Internal Readers

Step Restart

PDSEs - Partitioned Data Set, Extended

JES Control Statements

Some Additional JCL Statement Parameters

JOB Statement Parameters: GROUP, PASSWORD, PERFORM, SCHENV, SECLABEL, USER

EXEC Statement Parameter: PERFORM

DD Statement Parameters: DCB, DDNAME, SPIN

Optional Exercise: Using OUTPUT Statements