

JES3 Operation

Course Summary

Description

This course is designed to get MVS Operators familiar with JES3 concepts, monitoring, control, and troubleshooting. Hands-on labs are used to reinforce presented topics.

Objectives

At the end of this course, students will be able to:

- Describe the interactions between JES3 and MVS
- List the stages in the life of a JES3 job
- Diagnose why a job is not running
- Control JES3 devices
- Describe the different JES3 start types and when to use each one
- Control and manage JES3 output devices and queues
- Monitor and diagnose JES3 NJE problems

Topics

- MVS Overview
- Functions of the JES3 Global
- JES3 in a Parallel Sysplex
- JES3 Spooling
- Controlling JES3 Main Services
- JES3 Dynamic Support Programs
- JES3 Job Flow
- JES3 input service
- JES3 Converter Interpreter
- JES3 GMS processing

Audience

This course is designed for MVS operations personnel.

Prerequisites

There are no prerequisites for this course.

Duration

Two days

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Course Outline

I. z/OS Overview

- A. zSeries Operating Systems
- B. zSeries vs. the Rest
- C. A Typical zSeries Data Center
- D. Real, Expanded, & Virtual Memory
- E. Multiprogramming vs. Multiprocessing
- F. Interrupts
- G. Bits and Bytes
- H. Bits and Bytes: EBCDIC vs. ASCII
- I. The CPU (Central Processing Unit)
- J. MVS in a TCP/IP Network
- K. Understanding the Network Controllers
- L. Understanding the 3270 Terminal
- M. zSeries Printer Hardware Categories
- N. Storage Devices
- O. Storage Devices: DASD
- P. Storage Device Connections
- Q. Storage Subsystems
- R. z/OS Address Spaces
- S. MVS Data Spaces
- T. z/OS 64 Bit Address Space
- U. MVS HiperSpaces
- V. MVS Dispatching
- W. MVS Customization
- X. The MCS Console
- Y. MVS Data Management
- Z. MVS Data Set Types
- AA. Sequential Datasets
- BB. Partitioned Datasets
- CC. VSAM Datasets
- DD. Systems Managed Storage (SMS)
- EE. Catalogs
- FF. Monitoring & Managing Catalogs
- GG. VTOC: Volume Table of Contents
- HH. Tape Labels
- II. Recovery / Termination Mgmt
- JJ. SMF - System Management Facilities
- KK. SMF Data Processing Flow
- LL. Serialization: ENQ / DEQ
- MM. Shared DASD & Reserve/Release
- NN. The Deadly Embrace
- OO. Shared DASD & GRS Ring
- PP. Security Overview
- QQ. JES Overview
- RR. Job Life Cycle Phases
- SS. Job Execution Phase
- TT. JES2 vs. JES3
- UU. A Parallel Sysplex
- VV. UNIX System Services

- WW. The UNIX Hierarchical File System
- XX. The UNIX Shell
- YY. Using the OMVS TSO Command
- ZZ. File Mgmt using the ISPF Shell
- AAA. Program Products
- BBB. How CICS Works
- CCC. CICS Transactions
- DDD. Program Products: DB2
- EEE. Program Products: IMS
- FFF. Classic MVS Applications
- GGG. Today's Application Architectures
- HHH. Program Products: WebSphere MQ
- III. What is a Job Scheduler?
- JJJ. MVS Overview: Quiz

II. JES3 Overview

- A. JES2 vs. JES3
- B. A Typical JES3 Configuration
- C. A JES3 Complex
- D. Functions of the JES3 Global
- E. JES3 in a Parallel Sysplex
- F. JES3 Multiprocessing
- G. JES3 Spooling
- H. JES3 Dynamic Support Programs
- I. JES3 Job Flow: Input, Conversion
- J. JES3 Job Flow: Scheduling thru Purge
- K. JES3 input service
- L. JES3 Converter Interpreter
- M. JES3 GMS processing
- N. Output processing
- O. Purge processing
- P. Standard vs. Non-standard Jobs
- Q. Unique JES3 functions (not in JES2)
- R. JES3 Console Support
- S. JES3 Command Overview
- T. JES3 Naming Conventions
- U. JES3 Documentation Bookshelf
- V. JES3 Release Chart
- W. Third-Party JES3 Management

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Course Summary (cont'd)

III. Using the MCS Console

- A. Uses of MCS Consoles
- B. MVS Command Aliases
- C. Command Groups
- D. Setting Console Authority w/ VARY
- E. The INFO Command Group
- F. The SYS Command Group
- G. The IO Command Group
- H. The CONS Command Group
- I. The MASTER Command Group
- J. MVS Route code (ROUTCDE) Info
- K. Controlling Route Codes
- L. Controlling Message Levels
- M. Controlling Msg Roll Mode & Rate
- N. Roll Delete Mode Example
- O. Non-roll Mode Example
- P. Conversational Delete Mode Example
- Q. Wrap Mode Example
- R. MPF – Console Color Example
- S. Using Console Display Areas
- T. Two Display Area Example
- U. Using Console PF Keys
- V. Display PFK Example
- W. Activating Console PF Keys
- X. Conversational PFK Example
- Y. Defining PF Key Tables
- Z. Message Processing Facility
- AA. Displaying Console Status
- BB. Managing Console Buffers
- CC. Example: WTO Buffer Shortage
- DD. DD. Console Failure Recovery

IV. Navigating MVS Documentation

- A. IBM Library Reader on CD
- B. IBM Internet Library
- C. MVS/QuickRef Overview
- D. QuickRef Main Menu: Request by Category
- E. Select Information By Category
- F. Selecting a Specific Release
- G. Selecting an Abend Code
- H. Abend Code Display
- I. QuickRef Main Menu: Request by Name
- J. Select Information By Category
- K. Selecting From Multiple Matches
- L. Sample JCL Information: NOTIFY Keyword
- M. Looking up an Error by Message ID

- N. Example Error Message Info: IOS0001
- O. Language Syntax Info: REXX Parse
- P. QuickRef Main Menu: List Vendors, etc.
- Q. Selecting Vendor, Product, Release
- R. Selecting by Vendor
- S. Selecting DASD Free Space Information
- T. DASD Free Space – Selection Details
- U. DASD Free Space – Sample Display
- V. Displaying DASD Hardware Characteristics

V. Managing JES3 Input Services

- A. JES3 input service
- B. Monitoring and Controlling Readers
- C. Canceling a Reader
- D. Starting a Disk Reader

VI. Controlling JES3 Main Services

- A. JES3 Setup Options
- B. JES3 Main Device Scheduling
- C. Initiator Concepts
- D. A Typical JES3 Initiator Structure
- E. How Many Initiators?
- F. WLM-Managed Initiators
- G. Enhanced Batch Initiator Balancing
- H. Displaying & Controlling Job Classes
- I. Example: Job Class Displays
- J. The Job Inquiry Command
- K. Example: Job Inquiry Commands
- L. JES3 Commands for WLM

VII. Controlling JES3 Job Execution

- A. Dimensions of Job Execution
- B. JES3 Job Modify Command
- C. Examples: Job Modify Commands

VIII. Controlling JES3 Output Services

- A. JES3 Output Queue Inquiry
- B. Example: Output Inquiry Commands
- C. Job Output Modify Command
- D. Example: Output Modify Commands
- E. JES3 Device Inquiry
- F. Example: Device Inquiry Commands
- G. JES3 Printer Line Limits
- H. Displaying Strings of Devices
- I. JES3 Device Vary
- J. Halting & Resuming JES3 Devices

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Course Summary (cont'd)

- K. Built-in Writer - Syslog
- L. External Writers
- M. Controlling an External Writer

IX. JES3 Networking

- A. Overview of NJE
- B. NJE Nodes
- C. Starting NJE Nodes
- D. Controlling JES3/VTAM
- E. Controlling JES3/TCPIP
- F. Controlling NJE Netserv's

X. JES3 Scheduling and DJCL

- A. Deadline Scheduling
- B. Dependent Job Control (DJC)
- C. Example DJC Network
- D. Example DJC Network JCL
- E. Successful DJC run; Error DJC Run
- F. Cleaning Up After DJC Error

XI. JES3 DSP Utilities

- A. JES3 Utility DSP Overview
- B. JES3 JCT Utility

XII. JES3 Shutdown, Initialization, and Recovery

- A. Stopping JES3 on a Local
- B. Stopping JES3 on the Global
- C. JES3 INISH Deck
- D. Example JES3 Initialization Deck
- E. Example JES3 Start Proc
- F. JES3 Start Types
- G. More JES3 Start Types
- H. JES3 Local Start
- I. JES3 Startup
- J. JES3 Messages Following *S JSS
- K. JES3 Recovery Management
- L. JES3 Program Failure Recovery
- M. MVS Failure Recovery
- N. Recovery From SPOOL Failures
- O. Dynamic System Interchange (DSI)
- P. Miscellaneous DSI Notes
- Q. Three Possible DSI Scenarios
- R. Example DSI Procedure
- S. Reconnecting SNA/RJP after DSI