

## ISPF and JCL on z/OS

### Course Summary

#### Description

Students who complete this course will be able to accomplish work using TSO/ISPF in the z/OS environment, including the full screen editor, job submission and monitoring facilities, the utility functions, and productivity features such as command stacking and split screen processing.

They will also be able code essential JCL statements to submit batch jobs, run some batch utilities and basic SORT work. They are also introduced to procedures and SET, INCLUDE, and JOBLIB statements, among others.

This course contains most of the content from the two courses "TSO/ISPF in z/OS" (PT5543) and "z/OS JCL and Utilities" (PT5551), but is slightly reduced to work in five days instead of six.

#### Objectives

- Use full-screen terminals, including the appropriate Function keys, to accomplish work under ISPF/PDF
- Use the CUA interface (action bars, pull-downs, point-and-shoot fields, etc.), and tailor the look and feel of ISPF to meet individual preferences
- Describe the characteristics of, and differences between, sequential data sets, partitioned data sets (PDSs), and PDSEs (Partitioned Data Set Extended)
- View a sequential data set or a member of a PDS/PDSE
- Allocate, rename, and delete data sets or members, and print or display the attributes or contents of a data set
- Copy and move data sets and members
- Use productivity features such as command stacking and split screen processing, the CMDE command and command retrieval techniques
- Edit data sets or members: create new members or files, and modify existing members or files
- Understand the basic flow of work in z/OS, including JES Readers, Writers, Initiators, the role of the Interpreter, and the purpose of Allocation
- Code JCL statements as necessary to accomplish work in the z/OS environment, including JOB, EXEC, DD, OUTPUT, IF/THEN, ELSE, ENDIF, INCLUDE, SET, JCLLIB, PROC and PEND statements
- Copy files for backup, restore, and testing purposes using the IBM utility IEBGENER and use some basic services of IDCAMS, the VSAM utility
- Use a Sort/Merge program product to sort a sequential data set
- Use ISPF/PDF 3.8 and / or SDSF, Flasher, IOF, or (E)JES facilities for tracking jobs and examining job output
- Code cataloged procedures, including the use of symbolic parameters and defaults, nested procedures, and private proclibs
- Describe the implications of Storage Management Subsystem (SMS) and Partitioned Data Sets, Extended (PDSE's)

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### Course Summary (cont'd)

#### Topics

- ISPF Introduction
- ISPF Look and Feel
- Working With Data
- Allocating Data Sets
- Looking at Data — Edit, View, and Browse
- More on Edit, View, and Help
- More Utility Functions
- Productivity Tips and Techniques
- EDIT
- Edit and View Primary Commands
- More on Edit / View
- Edit / View — Passing and Receiving Data
- Edit Profiles
- Data Set List Utility and Commands
- Introduction to JCL
- Running Jobs
- Introduction to Data Management
- Tape and Disk Data Sets
- SMS - System Managed Storage
- Utilities and Job Output Viewing
- Sort / Merge
- OUTPUT Statements
- Condition Code Testing and Memory Management
- JCL procedures
- JCL procedures: inserts and overrides
- Symbolic Parameters
- JCL SETs, INCLUDEs and Nested Procedures
- Additional Data Set Handling Techniques

#### Audience

This course is designed for programmers, analysts, and users who need to know how to use ISPF/PDF to edit data, run jobs, maintain data sets, or use applications written to run under ISPF/PDF, and who need to create or maintain JCL to accomplish these tasks.

#### Prerequisite

There are no prerequisites for this course, although some experience with programming languages is helpful.

#### Duration

Five Days

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### Course Outline

#### I. *ISPF Introduction*

- A. TSO/ISPF/PDF
- B. The Logon Process
- C. ISPF/PDF Primary Option Menu
- D. Standard Panel Format, CUA Panel Formats
- E. Using Action Bars
- F. Getting Around in ISPF
- G. Leaving ISPF
  - Computer Exercise: A First Encounter with ISPF / PDF

#### II. *ISPF Look and Feel*

- A. The Settings Panel
- B. LIST and LOG Data Sets
- C. Function Keys Settings, Working With Keylists
- D. Color, Intensity, and Highlighting
- E. Look and Feel: Options, Status
  - Computer Exercise: Changing the Look and Feel of ISPF

#### III. *Working With Data*

- A. Files and Data Sets
- B. Data Set Organizations
- C. Data Set Naming
- D. Locating Data Sets
- E. Data Set Properties
- F. SMS — Storage Management Subsystem
- G. Finding a Data Set's Properties
  - Computer Exercise: Finding a Data Set's Properties

#### IV. *Allocating Data Sets*

- A. Reserving Space
- B. Allocating a Data Set Using ISPF
  - Computer Exercise: Allocating New Data Sets

#### V. *Looking at Data — Edit, View, and Browse*

- A. Edit, View, and Browse
- B. Member Selection Lists
- C. Some View / Edit Commands
  - Computer Exercise: Introduction to 'View'

#### VI. *More on Edit, View, and Help*

- A. More Edit / View Commands
- B. String types
- C. Help
  - Computer Exercise: More Edit and View, and Help

#### VII. *More Utility Functions*

- A. Move / Copy
- B. Deleting a Data Set, Renaming a Data Set
- C. The Library Utility
- D. Sorting Member Lists
  - Computer Exercise: Utility Functions

#### VIII. *Productivity Tips and Techniques*

- A. Quick Advance and Jump Functions
- B. Split Screen
- C. Command Stacking
- D. CMDE command
- E. Retrieving Commands
  - Computer Exercise: Great Tricks

#### IX. *EDIT*

- A. Sequence numbers and nulls
- B. Line Commands: COLS, I, D, R, M, C, A, B, X, F, S, L, LC, UC, (, ), <, >
  - Computer Exercise: Working With EDIT

#### X. *Edit and View Primary Commands*

- A. EXCLUDE, FLIP, HIDE, LOCATE, FIND, CHANGE
- B. RFIND, RCHANGE, DELETE
- C. SAVE, CANCEL, RESET, UNDO
  - Computer Exercise: More Work With EDIT

#### XI. *More on Edit / View*

- A. Labels
- B. LOCATE — Edit / View Primary Command
- C. Line Commands: O, TS
- D. EDIT — Under — EDIT
- E. SORT — Edit / View Primary Command
  - Computer Exercise: Sorts and Copies in Edit

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### Course Outline (cont.)

#### XII. *Edit / View — Passing and Receiving Data*

- A. CREATE, REPLACE, COPY, MOVE Edit Primary Commands
- B. CUT and PASTE Edit Primary Commands
- C. EDITSET (EDSET) Edit Primary Command
  - Computer Exercise: Copy, Cut, and Paste in Edit

#### XIII. *Edit Profiles*

- A. Profile options
- B. Bounds, Mask, Tabs lines
- C. Edit Action Bar Choices
- D. Language-sensitive Color Editing
- E. Recent Edit / View Line commands: AK, BK, OK, HX
  - Computer Exercise: Using Tabs and other Profile Characteristics

#### XIV. *Data Set List Utility and Commands*

- A. Option 3.4: Data Set List Does It All
- B. Commands
  - Computer Exercise: DSLIST and Commands .

#### XV. *Introduction to JCL*

- A. MVS - Multiple Virtual Storages
- B. The Road to z/OS
- C. z/OS Workflow
- D. JES - The Job Entry Subsystem
- E. JCL statement syntax
- F. JOB, EXEC Statements
  - Computer Exercise:

#### XVI. *Running Jobs*

- A. The Work Load Manager (WLM)
- B. The SCHENV parameter
- C. Submitting Jobs
- D. SUBMIT Edit - Browse - View Primary Command
- E. Monitoring Jobs and Examining Job Output Using ISPF Option 3.8
  - Computer Exercise: Running a Job

#### XVII. *Introduction to Data Management*

- A. Data Management Terms
- B. SYSIN-type data and SYSOUT-type data
- C. Reserved DDnames
  - Computer Exercise: SYSIN and SYSOUT Files

#### XVIII. *Tape and Disk Data Sets*

- A. Tape and Disk Data Sets
- B. Tape layout
- C. DASD Concepts
- D. Data Set Naming Rules
- E. Units, Volumes, Catalogs
- F. Tape and DASD DD Statements
- G. Building Tape and DASD DD statements
- H. Sample DD Statements
- I. Data Flow Diagrams
  - Computer Exercise: JOB Using Tape And Disk Data Sets

#### XIX. *SMS - System Managed Storage*

- A. STORCLAS, DATACLAS, MGMTCLAS
- B. ISMF
- C. Output DD Statements With SMS
- D. Looking at Job output
- E. Other DD techniques and parameters
- F. Temporary data sets
- G. Concatenation
  - Computer Exercise: NEWF2F

#### XX. *Utilities and Job Output Viewing*

- A. IEFBR14, IEBGENER, IDCAMS
- B. SDSF, Flasher, IOF, (E)JES
  - Computer Exercise: Utilities

#### XXI. *Sort / Merge*

- A. JCL Requirements
- B. Control Statements
  - Computer Exercise: SORT

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### Course Outline (cont.)

#### XXII. *OUTPUT Statements*

- Computer Exercise: OUTPUT Statements

#### XXIII. *Condition Code Testing and Memory Management*

- A. REGION parameter
- B. MEMLIMIT parameter
- C. Program termination
- D. JOBRC parameter
- E. IF / THEN / ELSE / ENDIF statements
- Computer Exercise: Conditional Processing

#### XXIV. *JCL procedures*

- A. Cataloged procedures
- B. JCLLIB statement
- Computer Exercise: A Cataloged Procedure

#### XXV. *JCL procedures: inserts and overrides*

- A. Procedures and inserts
- B. Procedures and overrides
- Computer Exercise: Inserts and Overrides

#### XXVI. *Symbolic Parameters*

- A. Symbolic parameters
- B. SYSUID
- Computer Exercise: A Procedure With Symbolic Parameters

#### XXVII. *JCL SETs, INCLUDEs and Nested Procedures*

- A. The SET Statement; The INCLUDE statement
- B. Nested Procedures
- Computer Exercise: Using Nested Procedures and INCLUDEs

#### XXVIII. *Additional Data Set Handling Techniques*

- A. Generation Data Groups
- B. PDSE - Partitioned Data Set, Extended
- C. Sources of Information
- D. IBM publications
- E. IBM Web-based information
- F. Book Manager
- G. Quick Reference