

z/OS Introduction and Workshop

TSO, ISPF, and SDSF



Unit Objectives

After completing this unit, you should be able to:

- Describe and use TSO
- Describe and use ISPF
- Describe and use SDSF
- Describe and use ISPF editor
- Locate TSO, ISPF, and SDSF Manuals

Terminology

TSO - Time Sharing Option

Interactive command line interface (CLI)
Ready prompt without full screen support

ISPF – Interactive System Productivity Facility

Interactive panel driven interface with full screen support
Requires TSO as base environment

SDSF – System Display and Search Facility

Interactive panel driven interface with full screen support
Requires TSO as base environment

z/OS 3270 Applications

TSO, ISPF, and SDSF

- are fundamental z/OS navigation interfaces
- are primarily accessed using a TN3270 emulator (text based)
- are used for application development
- are used for system and operation tasks
- can be executed in background (batch)

ISPF 3270

Keyboard Function

<u>Function</u>	<u>Key</u>
Enter	Ctrl (right side)
Help	F1
Split	F2
Exit, end, or return	F3
Page Up	F7
Page Down	F8
Swap	F9
Right	F10
Left	F11
Cancel	F12
PA1 or Attention	Alt-Ins or Esc
PA2	Alt-Home
Cursor movement	Arrow keys, Tab key
Clear	Pause
Reset locked keyboard	Ctrl (left side)

z/OS 3270 Navigation and Data Entry

Protected Fields - data entry denied

Unprotected Fields - data entry allowed

Cursor Movement and Positioning

- **Arrow keys** - up, down, right, left
- **Tab key** - position into next unprotected field for data entry
- **Mouse click** - place cursor at position of pointer

PA1 - program attention interrupt

RESET - unlock keyboard

******* requires enter to proceed writing output to terminal screen

TN3270 emulator connection

```
=====
=====
===
===      ==WELCOME==TO  THE=====
===    IBM Innovation Center - Dallas==
===
=====
=====
```

MVR22GA *** z/OS V2 R2 via TCPIP Telnet ***

Choose from the following commands:
(Not all applications are available in every system.)

TSO - Logon TSO (24x80)
IMS - Logon IMS
CICS - Logon CICS TS 5.3
CICS42 - Logon CICS TS 4.2

ISPF Primary Option Menu

using TN3270 emulator
x - terminate ISPF

```
Menu Utilities Compilers Options Status Help
-----
ISPF Primary Option Menu
Option ==> =x
More: +
0 Settings Terminal and user parameters User ID . : ZIBM050
1 View Display source data or listings Time. . . : 14:04
2 Edit Create or change source data Terminal. : 3278
3 Utilities Perform utility functions Screen. . : 1
4 Foreground Interactive language processing Language. : ENGLISH
5 Batch Submit job for language processing Appl ID . : ISR
6 Command Enter TSO or Workstation commands TSO logon : DBPROCBG
7 Dialog Test Perform dialog testing TSO prefix: ZIBM050
8 LM Facility Library administrator functions System ID : S0M1
9 IBM Products IBM program development products MVS acct. : FB3
10 SCLM SW Configuration Library Manager Release . : ISPF 7.2
11 Workplace ISPF Object/Action Workplace

----- Other Install Products -----

D Debug Tool Debug Tool Utility V13.1
SD SDSF System Display and Search Facility
IP IPCS Inter Problem Control Facility
IS ISMF Inter Storage Management Facility
SM SMP/E SMP/E and CBIPO Dialogs
HC HCD HW Configuration Definition Dialog
R RACF Resource Access Control Facility
S DFSORT Data Facility Sort
OE OEDIT OpenEdition MVS Edit files
OB OBROWSE OpenEdition MVS Browse files
OS OSHELL OpenEdition MVS ISPF Shell
BR READ BookManager READ/MVS
BB BUILD BookManager BUILD/MVS
BI READ INDEX BookManager Index Utility
DU MVS/DITTO MVS/DITTO Utility
IN INSPECT INSPECT for C/370 and PL/I
MQ MQSeries MQSeries 8.0.0
D2 DB2I Perform DB2 Interactive functions
DM DB2ADM DB2 Admin Tool
QM QMF Query Management Facility for DB2
CO CICS PD/MVS CICS PD/MVS Online Customization

Enter X to Terminate using log/list defaults
```


TSO READY prompt command line interface

then execute SDSF environment

```
READY
sdsf[]
HQX77A0 ----- SDSF PRIMARY OPTION MENU -----
COMMAND INPUT ===> █ SCROLL ===> PAGE

DA   Active users          INIT  Initiators
I    Input queue          PR    Printers
O    Output queue         PUN   Punches
H    Held output queue    RDR   Readers
ST   Status of jobs      LINE  Lines
JG   Job groups          NODE  Nodes
SYM  System symbols      SO    Spool offload
LOG  System log          SP    Spool volumes
SR   System requests     NS    Network servers
MAS  Members in the MAS  NC    Network connections
JC   Job classes         RM    Resource monitor
SE   Scheduling environments CK    Health checker
RES  WLM resources      LNK   Link list data sets
ENC  Enclaves           LPA   Link pack data sets
PS   Processes          APF   APF data sets
SYS  System information  PAG   Page data sets
ENQ  Enqueues           PARM  Parmlib data sets
DYNX Dynamic exits      PROC  Proclib data sets
AS   Address space memory ULOG  User session log

END   Exit SDSF
```

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TSO READY prompt command line interface

then execute ISPF environment

```
READY  
ispf █
```

```
Menu Utilities Compilers Options Status Help  
-----  
ISPF Primary Option Menu  
Option ==> █  
More: +  
0 Settings Terminal and user parameters User ID . : IBMUSER  
1 View Display source data or listings Time. . . : 16:30  
2 Edit Create or change source data Terminal. : 3278  
3 Utilities Perform utility functions Screen. . : 1  
4 Foreground Interactive language processing Language. : ENGLISH  
5 Batch Submit job for language processing Appl ID . : ISR  
6 Command Enter TSO or Workstation commands TSO logon : DBPROCBG  
7 Dialog Test Perform dialog testing TSO prefix: IBMUSER  
8 LM Facility Library administrator functions System ID : S0W1  
9 IBM Products IBM program development products MVS acct. : FB3  
10 SCLM SW Configuration Library Manager Release . : ISPF 7.2  
11 Workplace ISPF Object/Action Workplace  
  
----- Other Install Products -----  
FA IDI Fault Analyzer 13.1.0  
D Debug Tool Debug Tool Utility V13.1  
SD SDSF System Display and Search Facility  
IP IPCS Inter Problem Control Facility  
IS ISMF Inter Storage Management Facility  
SM SMP/E SMP/E and CBIPO Dialogs  
HC HCD HW Configuration Definition Dialog  
R RACF Resource Access Control Facility  
S DFSORT Data Facility Sort  
OE OEDIT OpenEdition MVS Edit files  
OB OBROWSE OpenEdition MVS Browse files  
OS OSHELL OpenEdition MVS ISPF Shell  
BR READ BookManager READ/MVS  
BB BUILD BookManager BUILD/MVS  
BI READ INDEX BookManager Index Utility  
DA DXT ADMIN Invoke DXT Administrative Dialogs  
  
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Use, duplication or disclosure restricted panels  
by GSA ADP Schedule Contract with IBM Corp.  
  
Enter X to Terminate using log/list defaults
```

TSO command line interface

the ready prompt

- Primarily a base environment for ISPF and SDSF Rarely used interactively
- Limited set of commands Execute programs and scripts
- TSO environment can be executed using JCL (Batch)

Examples of using TSO environment interactively follow

TSO PROFILE and LISTC commands

```
READY
profile
CHAR(0) LINE(0) PROMPT INTERCOM NOPAUSE NOMSGID NOMODE NOWTPMSG NORECO
VER PREFIX(ZIBM050) PLANGUAGE(ENU) SLANGUAGE(ENU) VARSTORAGE(LOW)
DEFAULT LINE/CHARACTER DELETE CHARACTERS IN EFFECT FOR THIS TERMINAL
READY
time
TIME-04:34:56 PM. CPU-00:00:00 SERVICE-27861 SESSION-00:00:25 FEBRUARY 13,2017
READY
profile msgid
READY
time
IKJ56650I TIME-04:35:40 PM. CPU-00:00:00 SERVICE-27959 SESSION-00:01:09 FEBRUAR
Y 13,2017
READY
profile nomsgid
READY
time
TIME-04:35:50 PM. CPU-00:00:00 SERVICE-28053 SESSION-00:01:19 FEBRUARY 13,2017
READY
listc
IN CATALOG.CATALOG.USERAA
ZIBM050.DATA
ZIBM050.DB2.JCL
ZIBM050.DB2.SOURCE
ZIBM050.DB2.SQL
ZIBM050.EXEC
ZIBM050.INSTRUCT
ZIBM050.JCL
ZIBM050.LOAD
ZIBM050.OUTPUT
ZIBM050.RDZ.COBOL
ZIBM050.SOURCE
ZIBM050.SOW1.ISPF.ISPPROF
READY
profile noprefix
READY
listc
LISTING FROM CATALOG -- MASTERY.CATALOG
CLUSTER ----- 0000000000000000000000000000000000000000000000000000000
DATA ----- MASTERY.CATALOG
INDEX ----- MASTERY.CATALOG.CATINDEX
*** █
```

Why? Same command with completely different results. This will be explained later. PA1 is needed to stop writing output.

TSO PROFILE and LISTC commands

```
|  
READY  
profile prefix(zibm050)  
READY  
listc  
IN CATALOG:CATALOG.USERAA  
ZIBM050.DATA  
ZIBM050.DB2.JCL  
ZIBM050.DB2.SOURCE  
ZIBM050.DB2.SQL  
ZIBM050.EXEC  
ZIBM050.INSTRUCT  
ZIBM050.JCL  
ZIBM050.LOAD  
ZIBM050.OUTPUT  
ZIBM050.RDZ.COBOL  
ZIBM050.SOURCE  
ZIBM050.SOW1.ISPF.ISPPROF  
READY  
|
```

TSO PROFILE, LISTC, and SEND commands

```
|  
READY  
profile prefix(zibm050)  
READY  
listc  
IN CATALOG:CATALOG.USERAA  
ZIBM050.DATA  
ZIBM050.DB2.JCL  
ZIBM050.DB2.SOURCE  
ZIBM050.DB2.SQL  
ZIBM050.EXEC  
ZIBM050.INSTRUCT  
ZIBM050.JCL  
ZIBM050.LOAD  
ZIBM050.OUTPUT  
ZIBM050.RDZ.COBOL  
ZIBM050.SOURCE  
ZIBM050.SOW1.ISPF.ISPPROF  
READY  
send 'test message' user(zibm050)  
test message ZIBM050  
READY  
ispf
```

ISPF Interactive System Productivity Facility

Menu-driven panels

User can select options and specify parameters

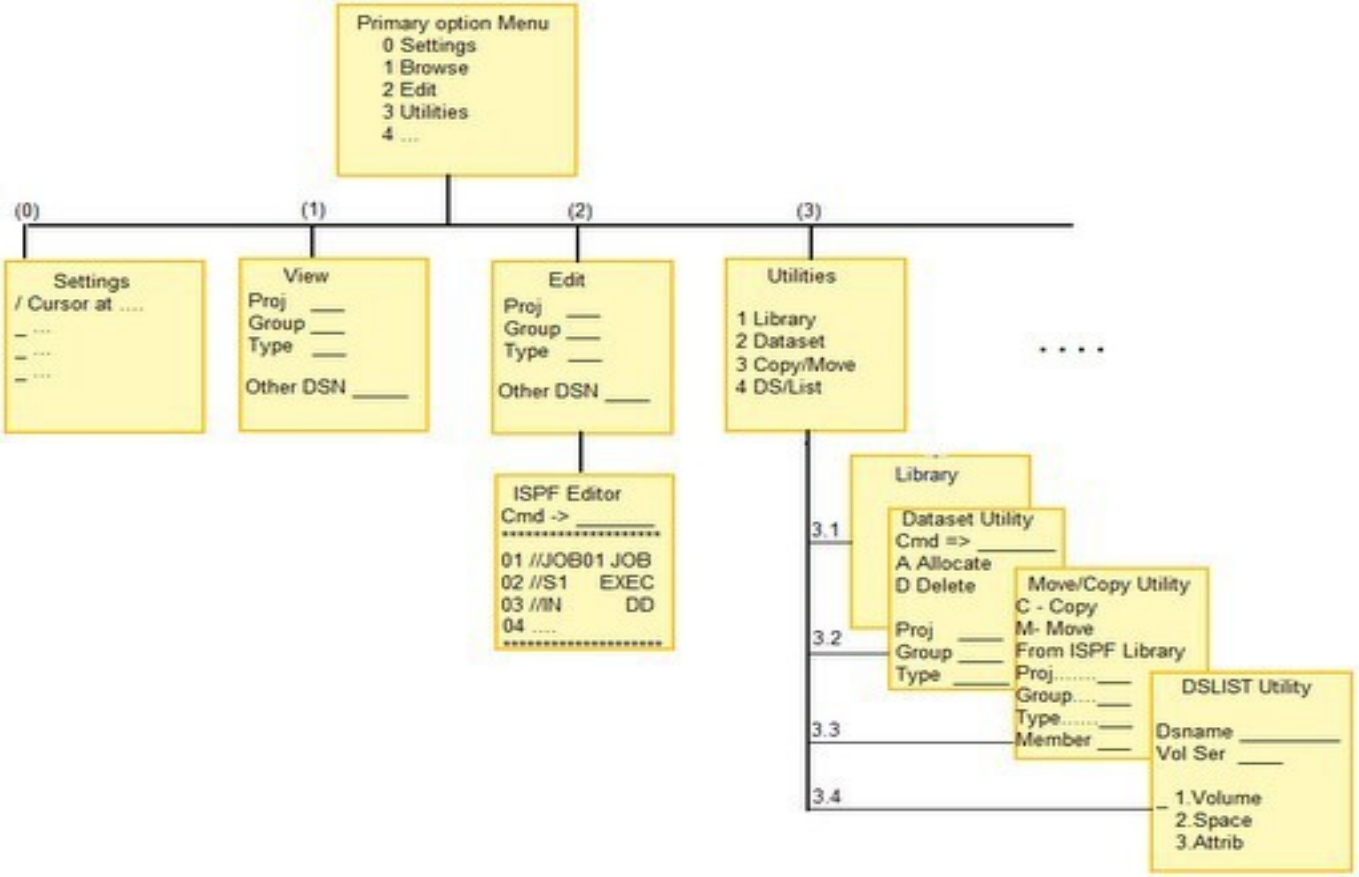
Program function (PF) keys available to simplify requests for common functions

Full screen format for information display and editing

When data does not fit on the screen, ISPF provides scrolling in all four directions

Menus, panels, selections and navigation can be customized

ISPF – A Panel Driven Interface



ISPF Panel Navigation

<u>M</u> enu	<u>U</u> tilities	<u>C</u> ompilers	<u>O</u> ptions	<u>S</u> tatus	<u>H</u> elp

ISPF Primary Option Menu					
Option ==> 3					
			More:	+	
0	Settings	Terminal and user parameters	User ID . :	ZIBM050	
1	View	Display source data or listings	Time. . . :	16:42	
2	Edit	Create or change source data	Terminal. :	3278	
3	Utilities	Perform utility functions	Screen. . :	1	
4	Foreground	Interactive language processing	Language. :	ENGLISH	
5	Batch	Submit job for language processing	Appl ID . :	ISR	
6	Command	Enter TSO or Workstation commands	TSO logon :	DBPROC BG	
7	Dialog Test	Perform dialog testing	TSO prefix:	ZIBM050	
8	LM Facility	Library administrator functions	System ID :	SOW1	
9	IBM Products	IBM program development products	MVS acct. :	FB3	
10	SCLM	SW Configuration Library Manager	Release . :	ISPF 7.2	
11	Workplace	ISPF Object/Action Workplace			
----- Other Install Products -----					
FA	IDI	Fault Analyzer 13.1.0			
D	Debug Tool	Debug Tool Utility V13.1			
SD	SDSF	System Display and Search Facility			
IP	IPCS	Inter Problem Control Facility			
IS	ISMF	Inter Storage Management Facility			
SM	SMP/E	SMP/E and CBIPO Dialogs			

ISPF Panel Navigation

<u>M</u> enu	<u>H</u> elp
Utility Selection Panel	
Option ==>	4
1	Library Compress or print data set. Print index listing. Print, rename, delete, browse, edit or view members
2	Data Set Allocate, rename, delete, catalog, uncatalog, or display information of an entire data set
3	Move/Copy Move, or copy members or data sets
4	Dslist Print or display (to process) list of data set names. Print or display VTOC information
5	Reset Reset statistics for members of ISPF library
6	Hardcopy Initiate hardcopy output
7	Transfer Download ISPF Client/Server or Transfer data set
8	Outlist Display, delete, or print held job output
9	Commands Create/change an application command table
11	Format Format definition for formatted data Edit/Browse
12	SuperC Compare data sets (Standard Dialog)
13	SuperCE Compare data sets Extended (Extended Dialog)
14	Search-For Search data sets for strings of data (Standard Dialog)
15	Search-ForE Search data sets for strings of data Extended (Extended Dialog)
16	Tables ISPF Table Utility
17	Udlist Print or display (to process) z/OS UNIX directory list

ISPF Panel Navigation

Data Set Name Pattern Matching

```
Menu  RefList  RefMode  Utilities  Help
-----
Data Set List Utility

Option ==> _____

blank Display data set list          P Print data set list
  V Display VTOC information          PV Print VTOC information

Enter one or both of the parameters below:
Dsname Level . . . zibm050
Volume serial . . . _____

Data set list options
Initial View          Enter "/" to select option
 1 1. Volume          / Confirm Data Set Delete
 2 2. Space           / Confirm Member Delete
 3 3. Attrib          / Include Additional Qualifiers
 4 4. Total           / Display Catalog Name
                        - Display Total Tracks
                        - Prefix Dsname Level

When the data set list is displayed, enter either:
"/" on the data set list command field for the command prompt pop-up,
an ISPF line command, the name of a TSO command, CLIST, or REXX exec, or
"=" to execute the previous command.
```

ISPF Command Column in DSLIST Panel

```
  _Menu  _Options  _View  _Utilities  _Compilers  _Help
-----
DSLIST - Data Sets Matching ZIBM050                               Row 1 of 13
Command ===> _____ Scroll ===> PAGE

Command - Enter "/" to select action                               Message                               Volume
-----
      ZIBM050                                                       *ALIAS
      ZIBM050.DATA                                                  VPWRKD
      ZIBM050.DB2.JCL                                              VPWRKB
      ZIBM050.DB2.SOURCE                                           VPWRKA
      ZIBM050.DB2.SQL                                              VPWRKA
      ZIBM050.EXEC                                                 VPWRKC
      ZIBM050.INSTRUCT                                             VPWRKB
/  ZIBM050.JCL                                                      VPWRKB
      ZIBM050.LOAD                                                 VPWRKB
      ZIBM050.OUTPUT                                               VPWRKD
      ZIBM050.RDZ.COBOL                                           VPWRKA
      ZIBM050.SOURCE                                               VPWRKA
      ZIBM050.SOW1.ISPF.ISPPROF                                    VPWRKC
***** End of Data Set list *****
```


ISPF Panel Navigation

<u>M</u> enu	<u>U</u> tilities	<u>C</u> ompilers	<u>O</u> ptions	<u>S</u> tatus	<u>H</u> elp

ISPF Primary Option Menu					
Option ==> =3.4					
More: +					
0	Settings	Terminal and user parameters		User ID . . :	ZIBM050
1	View	Display source data or listings		Time. . . :	16:48
2	Edit	Create or change source data		Terminal. :	3278
3	Utilities	Perform utility functions		Screen. . :	1
4	Foreground	Interactive language processing		Language. :	ENGLISH
5	Batch	Submit job for language processing		Appl ID . :	ISR
6	Command	Enter TSO or Workstation commands		TSO logon :	DBPROCBG
7	Dialog Test	Perform dialog testing		TSO prefix:	ZIBM050
8	LM Facility	Library administrator functions		System ID :	S0M1
9	IBM Products	IBM program development products		MVS acct. :	FB3
10	SCLM	SW Configuration Library Manager		Release . :	ISPF 7.2
11	Workplace	ISPF Object/Action Workplace			
----- Other Install Products -----					
FA	IDI	Fault Analyzer 13.1.0			
D	Debug Tool	Debug Tool Utility V13.1			
SD	SDSF	System Display and Search Facility			
IP	IPCS	Inter Problem Control Facility			
IS	ISMF	Inter Storage Management Facility			
SM	SMP/E	SMP/E and CBIPO Dialogs			

Edit 'e' ZIBM050.JCL partitioned data set

```
Menu Options View Utilities Compilers Help
-----
DSLIST - Data Sets Matching ZIBM050                               Row 1 of 13
Command ===> _____ Scroll ===> PAGE

Command - Enter "/" to select action                               Message                               Volume
-----
      ZIBM050                                                       *ALIAS
      ZIBM050.DATA                                                  VPWRKD
      ZIBM050.DB2.JCL                                               VPWRKB
      ZIBM050.DB2.SOURCE                                            VPWRKA
      ZIBM050.DB2.SQL                                               VPWRKA
      ZIBM050.EXEC                                                  VPWRKC
      ZIBM050.INSTRUCT                                              VPWRKB
e[] ZIBM050.JCL                                                    VPWRKB
      ZIBM050.LOAD                                                  VPWRKB
      ZIBM050.OUTPUT                                                VPWRKD
      ZIBM050.RDZ.COBOL                                             VPWRKA
      ZIBM050.SOURCE                                                VPWRKA
      ZIBM050.SOW1.ISPF.ISPPROF                                     VPWRKC
***** End of Data Set list *****
```

Select 's' new member edittest

```
Menu  Functions  Confirm  Utilities  Help
EDIT          ZIBM050.JCL          Row 0000001 of 0000029
Command ===> s edittest          Scroll ===> PAGE
Name      Prompt      Size  Created      Changed      ID
-----
ADDAMT
AREACODE
ASMRUN
CBL0001J
CBL0002J
CBL0003J
CBL0004J
CBL0005J
CBL0006J
COBOLCL
COBRUN
CRUN
DEFVSAM
JCLERROR
JCLTEST
LOG
LOG1
LOG2
LOG3
LOG4
MINE
NETRPT
RACFCMD
RACFRPT
SENDMSG
SORT
SORTCNTL
SORTPROC
ZFS
**End**
```


Type characters into text input area

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT ZIBM050.JCL(EDITTEST) - 01.00 Columns 00001 00072
Command ==> Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
----- abcdefgh
----- 12345678
----- Line 3
----- Line 4
-----
-----
```

Tab to newlines – wait to 'enter'

Only 'enter' after Line 4

Observe line numbers now present to left of text

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT ZIBM050.JCL(EDITTEST) - 01.00 Columns 00001 00072
Command ==> profile Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4
***** ***** Bottom of Data *****
```

Type characters into text input area

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      ZIBM050.JCL(EDITTEST) - 01.00          Columns 00001 00072
Command ==> profile                               Scroll ==> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4
***** Bottom of Data *****
```

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      ZIBM050.JCL(EDITTEST) - 01.00          Columns 00001 00072
Command ==>                                     Scroll ==> PAGE
***** Top of Data *****
==PROF> ....JCL (FIXED - 80)...RECOVERY OFF WARN...NUMBER DISPLAY STD.....
==PROF> ....CAPS OFF...HEX OFF...NULLS ON STD...TABS OFF.....
==PROF> ....AUTOSAVE ON...AUTONUM OFF...AUTOLIST OFF...STATS ON.....
==PROF> ....PROFILE UNLOCK...IMACRO NONE...PACK OFF...NOTE ON.....
==PROF> ....HILITE OFF CURSOR FIND.....
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4
***** Bottom of Data *****
```

ISPF primary edit command

'reset' will remove the '=PROF>' and '==MSG>' lines

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT          ZIBM050.JCL(EDITTEST) - 01.00          Columns 00001 00072
Command ==> reset                                     Scroll ==> PAGE
***** Top of Data *****
=PROF> ....JCL (FIXED - 80)....RECOVERY OFF WARN....NUMBER DISPLAY STD.....
=PROF> ....CAPS OFF....HEX OFF....NULLS ON STD....TABS OFF.....
=PROF> ....AUTOSAVE ON....AUTONUM OFF....AUTOLIST OFF....STATS ON.....
=PROF> ....PROFILE UNLOCK....IMACRO NONE....PACK OFF....NOTE ON.....
=PROF> ....HILITE OFF CURSOR FIND.....
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4
***** Bottom of Data *****
```

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT          ZIBM050.JCL(EDITTEST) - 01.00          Columns 00001 00072
Command ==> █                                         Scroll ==> PAGE
***** Top of Data *****
000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4
***** Bottom of Data *****
```

Example of using line commands

```
EDIT      ZIBM050.JCL(EDITTEST) - 01.00          Columns 00001 00072
Command ==>                                     Scroll ==> PAGE
***** ***** Top of Data *****
d 0100 abcdefgh
r3 200 12345678
000300 Line 3
i2 400 Line 4
***** ***** Bottom of Data *****
```

Result of 'enter'

```
EDIT      ZIBM050.JCL(EDITTEST) - 01.01          Columns 00001 00072
Command ==>                                     Scroll ==> PAGE
***** ***** Top of Data *****
000200 12345678
000210 12345678
000220 12345678
000230 12345678
000300 Line 3
000400 Line 4
-----
-----
***** ***** Bottom of Data *****
```

Example of using primary and line commands at same time

```
EDIT          ZIBM050.JCL(EDITTEST) - 01.01          Columns 00001 00072
Command ===> c "Line" "statement" all                Scroll ===> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
dd 200 12345678
000210 12345678
dd 220 12345678
000230 12345678
000300 Line 3
000400 Line 4
----- ISPF has primary and line edit commands
----- Both primary and line edit commands can be typed before enter
***** Bottom of Data *****
```

Result of 'enter'

```
EDIT          ZIBM050.JCL(EDITTEST) - 01.01          CHARS "LINE" changed
Command ===> reset                                   Scroll ===> PAGE
***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG> your edit profile using the command RECOVERY ON.
000230 12345678
==CHG> statement 3
==CHG> statement 4
==CHG> ISPF has primary and statement edit commands
==CHG> Both primary and statement edit commands can be typed before enter
***** Bottom of Data *****
```

Result of reset, then 'enter'

```
EDIT          ZIBM050.JCL(EDITTEST) - 01.01          Columns 00001 00072
Command ===>                                         Scroll ===> PAGE
***** Top of Data *****
000230 12345678
000300 statement 3
000400 statement 4
000500 ISPF has primary and statement edit commands
000600 Both primary and statement edit commands can be typed before enter
***** Bottom of Data *****
```

ISPF EDIT online tutorial

```
Tutorial ----- Edit ----- Tutorial
Option ==> █
```

Edit allows you to create or change source data.

The following topics are presented in sequence, or may be selected by number:

- | | |
|--|-------------------------------------|
| 0 - General introduction | 11 - Automatic recovery |
| 1 - Types of data sets | 12 - Edit profiles |
| 2 - Edit entry panel | 13 - Edit line commands |
| 3 - SCLM edit entry panel | 14 - Edit primary commands |
| 4 - Member selection list | 15 - Labels and line ranges |
| 5 - z/OS UNIX directory selection list | |
| 6 - Display screen format | The following topics are presented |
| 7 - Scrolling data | only if selected by number: |
| 8 - Sequence numbering | 16 - Ending an edit session |
| 9 - Display modes (CAPS/HEX/NULLS) | 17 - Edit models |
| 10 - Tabbing (hardware/software/logical) | 18 - Miscellaneous notes about edit |

Edit Tutorial help on 'primary commands'

```
Tutorial ----- Edit ----- Tutorial
Option ==> 14
```

Edit allows you to create or change source data.

The following topics are presented in sequence, or may be selected by number:

- | | |
|--|-------------------------------------|
| 0 - General introduction | 11 - Automatic recovery |
| 1 - Types of data sets | 12 - Edit profiles |
| 2 - Edit entry panel | 13 - Edit line commands |
| 3 - SCLM edit entry panel | 14 - Edit primary commands |
| 4 - Member selection list | 15 - Labels and line ranges |
| 5 - z/OS UNIX directory selection list | |
| 6 - Display screen format | The following topics are presented |
| 7 - Scrolling data | only if selected by number: |
| 8 - Sequence numbering | 16 - Ending an edit session |
| 9 - Display modes (CAPS/HEX/NULLS) | 17 - Edit models |
| 10 - Tabbing (hardware/software/logical) | 18 - Miscellaneous notes about edit |

```
Tutorial ----- Edit Primary Commands ----- Tutorial
Option ==> 
```

The following topics are presented in sequence, or may be selected by number. Individual commands may be selected by entering the command name.

- 0 - Primary commands (general information)
- 1 - Miscellaneous commands
- 2 - FIND/CHANGE/EXCLUDE commands
- 3 - Number control commands
- 4 - Display mode control commands
- 5 - Termination control commands
- 6 - External data commands
- 7 - Macro control commands
- 8 - Data editing commands
- 9 - Edit settings command

Note: Select >CANCEL to see information for the CANCEL command.

F3 will automatically save changes and return

```
EDIT          ZIBM050.JCL          Member EDITTEST saved
Command ==> █          Scroll ==> PAGE
          Name      Prompt      Size  Created      Changed      ID
-----
          EDITTEST  *Edited      5    2017/02/13   2017/02/13 18:09:11  ZIBM050
          JCLERROR
          JCLTEST
          LOG
          LOG1
          LOG2
          LOG3
          LOG4
          MINE
          NETRPT
          RACFCMD
          RACFRPT
          SENDMSG
          SORT
          SORTCNTL
          SORTPROC
          ZFS
          **End**
```

ISPF – Navigate to SDSF environment

sd is SDSF option selection

*preceding = is executing option as if on
ISPF Primary Option Menu*

```
Menu  RefList  RefMode  Utilities  Help
-----
Data Set List Utility

Option ==> =sd

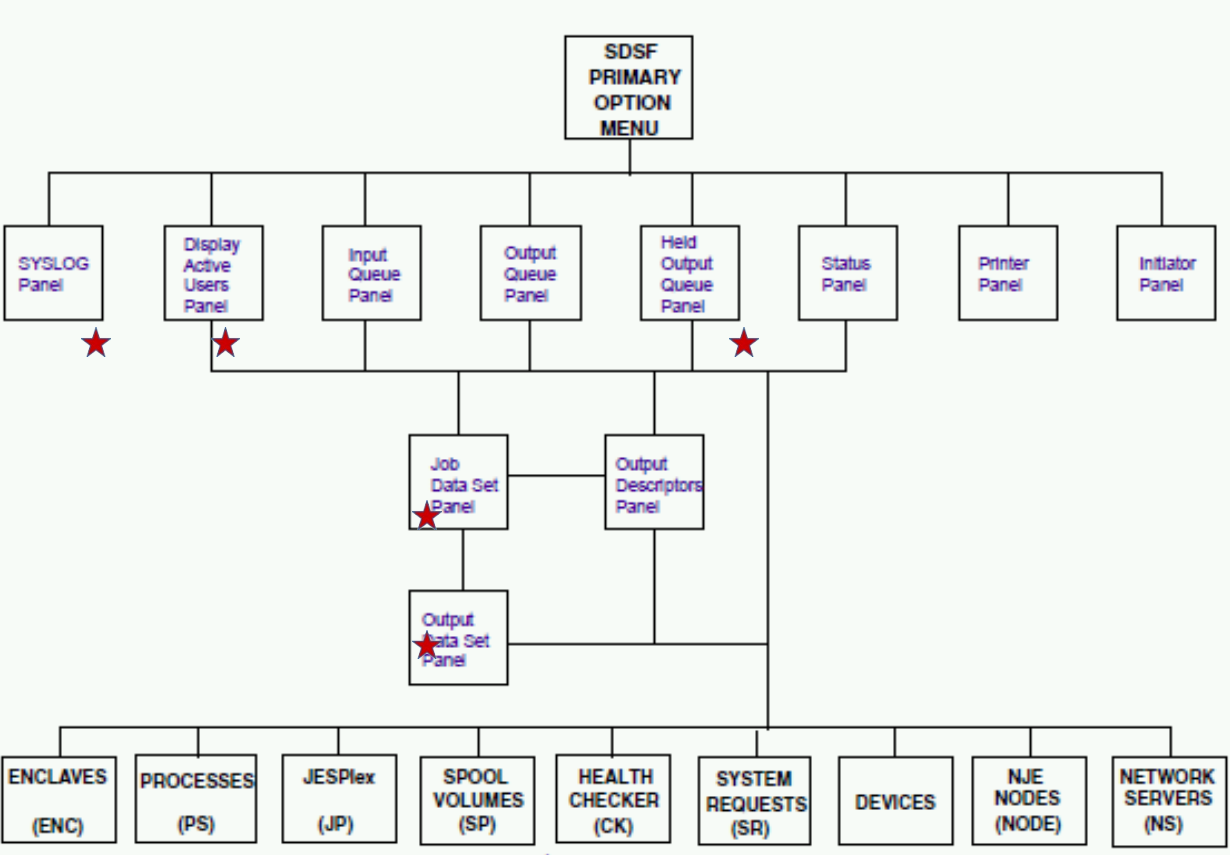
blank Display data set list          P Print data set list
  V Display VTOC information          PV Print VTOC information

Enter one or both of the parameters below:
Dsname Level . . . ZIBM050
Volume serial . . . _____

Data set list options
Initial View          Enter "/" to select option
 1 1. Volume          / Confirm Data Set Delete
 2 2. Space           / Confirm Member Delete
 3 3. Attrib          / Include Additional Qualifiers
 4 4. Total           / Display Catalog Name
                        - Display Total Tracks
                        - Prefix Dsname Level

When the data set list is displayed, enter either:
"/" on the data set list command field for the command prompt pop-up,
an ISPF line command, the name of a TSO command, CLIST, or REXX exec, or
"=" to execute the previous command.
```

SDSF – A Panel Driven Interface



SDSF Panel Driven Interface

enter help or F1 from Primary Option Menu

```
HELP: SDSF -- Table of Contents
COMMAND INPUT ==> █

Select a topic by number, or press Enter to view topics in sequence.

  1 - What's new
  2 - Job and workload panels
  3 - Device and resource panels
  4 - System information panels
  5 - Search and scroll commands
  6 - Filter commands
  7 - View commands
  8 - Printing data
  9 - Options commands
 10 - Other commands
 11 - Server commands
 12 - SDSF command

 13 - Help commands
 14 - Action bar
 15 - PF keys and keylists
 16 - Action characters
 17 - Overtypable fields
 18 - JES and MVS commands
 19 - Point-and-shoot
 20 - Online library

 99 - SDSF messages

REXXHelp - SDSF REXX (ISPF only)

SEARCH - Search the help (ISPF only)

F1 = Help      F10 = Previous      Enter = Forward
F3 = Exit      F7 = Up              TOC = Menu
```

SDSF - LOG command

```
Display Filter View Print Options Search Help
-----
HQX77A0 ----- SDSF PRIMARY OPTION MENU -----
COMMAND INPUT ==> log SCROLL ==> PAGE

★DA Active users INIT Initiators
I Input queue PR Printers
O Output queue PUN Punches
H Held output queue RDR Readers
★ST Status of jobs LINE Lines
JG Job groups NODE Nodes
SYM System symbols SO Spool offload
★LOG System log SP Spool volumes
SR System requests NS Network servers
MAS Members in the MAS NC Network connections
JC Job classes RM Resource monitor
SE Scheduling environments CK Health checker
RES WLM resources LNK Link list data sets
ENC Enclaves LPA Link pack data sets
PS Processes APF APF data sets
SYS System information PAG Page data sets
ENQ Enqueues PARM Parmlib data sets
DYNX Dynamic exits PROC Proclib data sets
AS Address space memory ULOG User session log

END Exit SDSF

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disclosure restricted by GSA ADP Schedule Contract with IBM Corp.
```

SDSF – System Log (SYSLOG)

Display	Filter	View	Print	Options	Search	Help		
SDSF SYSLOG		266.101	SOW1	SOW1	02/14/2017	0W	4,791	COLUMNS 02- 81
COMMAND INPUT		====>						SCROLL ====> PAGE
ER					661	00000090	\$HASP003	MATCH
M 0000000	SOW1	17045	07:50:56.46			00000090	\$HASP249	COMMAND RECEIVE
E					662	00000090	\$OT(1-9999)	
MR0000000	SOW1	17045	07:50:56.46	INTERNAL		00000090	\$HASP003	RC=(52),_0 663
DR					663	00000090	\$HASP003	RC=(52),_0 T(1-9
ER					663	00000090	\$HASP003	MATCH
M 0000000	SOW1	17045	07:50:56.58			00000090	\$HASP249	COMMAND RECEIVE
E					664	00000090	\$POJOBQ_READY_Q=W	
NR0000000	SOW1	17045	07:50:56.58	STC00336		00000090	\$HASP686	OUTPUT(BPXAS)
NR0000000	SOW1	17045	07:50:56.58	STC00338		00000090	\$HASP686	OUTPUT(SMFDUMPS
NR0000000	SOW1	17045	07:50:56.58	STC00342		00000090	\$HASP686	OUTPUT(BPXAS)
NR0000000	SOW1	17045	07:50:56.58	STC00343		00000090	\$HASP686	OUTPUT(SMFDUMPS
NR0000000	SOW1	17045	07:50:56.58	STC00344		00000090	\$HASP686	OUTPUT(SMFDUMPS
M 0000000	SOW1	17045	07:50:56.59			00000090	\$HASP249	COMMAND RECEIVE
E					670	00000090	\$DSPPOOL_ALL	
MR0000000	SOW1	17045	07:50:56.59	INTERNAL		00000090	\$HASP893	VOLUME(VPSPON)
DR					671	00000090	\$HASP893	VOLUME(VPSPON)
DR					671	00000090	\$HASP893	
DR					671	00000090	\$HASP893	
ER					671	00000090	\$HASP893	
MR0000000	SOW1	17045	07:50:56.59	INTERNAL		00000090	\$HASP893	VOLUME(VPSPOP)
DR					672	00000090	\$HASP893	VOLUME(VPSPOP)
DR					672	00000090	\$HASP893	
DR					672	00000090	\$HASP893	
DR					672	00000090	\$HASP893	
ER					672	00000090	\$HASP893	
MR0000000	SOW1	17045	07:50:56.59	INTERNAL		00000090	\$HASP893	VOLUME(VPSPOL)
DR					673	00000090	\$HASP893	VOLUME(VPSPOL)
DR					673	00000090	\$HASP893	
DR					673	00000090	\$HASP893	
ER					673	00000090	\$HASP893	
NR0000000	SOW1	17045	07:50:56.59	INTERNAL		00000090	\$HASP646	6.3787 PERCENT
N 0200000	SOW1	17045	07:50:56.71	STC00336		00000090	\$HASP250	BPXAS PURGED --
N 0200000	SOW1	17045	07:50:56.71	STC00342		00000090	\$HASP250	BPXAS PURGED --
N 0200000	SOW1	17045	07:50:56.71	STC00338		00000090	\$HASP250	SMFDUMPS PURGED
N 0200000	SOW1	17045	07:50:56.71	STC00343		00000090	\$HASP250	SMFDUMPS PURGED
NC0000000	SOW1	17045	07:54:44.41	INSTREAM		00000290	LOGON	
N 0200000	SOW1	17045	07:54:54.03	TSU00345		00000281	\$HASP100	ZIBM050 ON TSO
N 4000000	SOW1	17045	07:54:54.39	TSU00345		00000090	\$HASP373	ZIBM050 STARTE
***** BOTTOM OF DATA *****								

SDSF Help

enter help or F1 while in system log

```
                                HELP: SYSLOG Panel
COMMAND INPUT ==> █

Select a topic by number, or press Enter to view them in sequence.

1 - Introduction to the SYSLOG panel
2 - Using the SYSLOG panel in the JES3 environment
3 - Syntax of the LOG command
4 - Fields on the SYSLOG panel
5 - Commands: display WTOR messages, search, etc.

These topics are displayed only if selected:

97 - What's new
98 - Search and navigate the help
99 - Messages

For system messages, use LookAt at:
http://www.ibm.com/systems/z/os/zos/bkserv/lookat/

F1 = Help           F10 = Previous      Enter = Forward
F3 = Exit           F7 = Up             TOC = Menu
```


Time Sharing Option & hosted full screen applications

TSO is a command line interface with a limited set of commands

ISPF is a full screen panel driven interface used to edit data sets, edit unix files, and execute system utilities

SDSF is a full screen panel drive interface used to view input queue, execution queue, output queue, system log (syslog), and enter system commands when authorized.

Note: TSO, ISPF, and SDSF interactive functions can be executed using JCL (Batch)

IBM z/OS Manuals

Web Based Bookshelves

+ z/OS TSO/E

+ ISPF

+ SDSF

Unit Summary

Having completed this unit, you should be able to:

- Describe and use TSO command line interface
- Describe and use ISPF panels
- Describe and use SDSF panels
- Describe and use ISPF editor
- Locate TSO, ISPF, and SDSF manuals

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