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

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

tso
ISPF Primary Option Menu using TN3270 emulator
x - terminate ISPF program

--- Other Install Products ---

D Debug Tool Debug Tool Utility V13.1
SD SDSF System Display and Search Facility
IP IPCS Inter Program Control Facility
IS ISMF Inter Storage Management Facility
SM SMF/E SMF/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 OBRONSE OpenEdition MVS Browse files
OS OSHHELL 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

**inq**

HGX77AO  --------------  SDSF PRIMARY OPTION MENU  --------------
COMMAND INPUT ===>  SCROLL ===> PAGE

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

END  Exit SDSF

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TSO READY prompt command line interface, then execute ISPF environment

ispf

Menu Utilities Compilers Options Status Help

------------------------------

ISPF Primary Option Menu

Option ==>  

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 : DBPROCIBG
7 Dialog Test Perform dialog testing  TSO prefix: IBMUSER
8 IM Facility Library administrator Functions  System ID : SOWI
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 CBPDO 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 OBROWS OpenEdition MVS Browse files
OS OSHLL 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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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
I0(J56650I TIME-04:35:40 PM. CPU-00:00:00 SERVICE-27959 SESSION-00:01:09 FEBRUARY 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 ------- 0000000000000000000000000000000000000000000000000
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.COBO |  
ZIBM050.SOURCE |  
ZIBM050.S0W1.ISPF.ISPPROF |  
READY |
TSO PROFILE, LISTC, and SEND command

| READY |
profile prefix(zimb050) |
| 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(zimb050) |
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

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>More:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Settings</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>View</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Edit</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Utilities</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Foreground</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Batch</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Command</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Dialog Test</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>LM Facility</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>IBM Products</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>SCLM</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Workplace</td>
<td></td>
</tr>
</tbody>
</table>

--- Other Install Products ---

- FA IDI: Fault Analyzer 13.1.0
- DD 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 CB IPO Dialogs

User ID : ZIBM050
Time...: 16:42
Terminal.: 3278
Screen..: 1
Language.: ENGLISH
Appl ID ..: ISR
TSO logon : DBPROCBG
TSO prefix: ZIBM050
System ID : SOW1
MYS acct. : FB3
Release ..: ISPF 7.2
# ISPF Panel Navigation

**Utility Selection Panel**

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

**Command** — Enter "/" to select action

<table>
<thead>
<tr>
<th>Command</th>
<th>Message</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIBM050</td>
<td></td>
<td>*ALIAS</td>
</tr>
<tr>
<td>ZIBM050.DATA</td>
<td></td>
<td>VPWRKD</td>
</tr>
<tr>
<td>ZIBM050.DB2.JCL</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.DB2.SOURCE</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.DB2.SQL</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.EXEC</td>
<td></td>
<td>VPWRKC</td>
</tr>
<tr>
<td>ZIBM050.INSTRUCT</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.JCL</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.LOAD</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.OUTPUT</td>
<td></td>
<td>VPWRKD</td>
</tr>
<tr>
<td>ZIBM050.RDZ.COBO</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.SOURCE</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.SOW1.ISPF.ISPProfiler</td>
<td></td>
<td>VPWRKC</td>
</tr>
</tbody>
</table>

*End of Data Set list*
ISPF Command Column in DSLIST Panel

Data Set List Actions

Data Set: ZIBM050.JCL

More: +

<table>
<thead>
<tr>
<th>DSLIST Action</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Edit</td>
<td>15. Reset</td>
</tr>
<tr>
<td>2. View</td>
<td>16. Move</td>
</tr>
<tr>
<td>3. Browse</td>
<td>17. Copy</td>
</tr>
<tr>
<td>4. Member List</td>
<td>18. Refadd</td>
</tr>
<tr>
<td>5. Delete</td>
<td>19. Exclude</td>
</tr>
<tr>
<td>6. Rename</td>
<td>20. Unexclude ˈNXˈ</td>
</tr>
<tr>
<td>7. Info</td>
<td>21. Unexclude first ˈNXFˈ</td>
</tr>
<tr>
<td>8. Short Info</td>
<td>22. Unexclude last ˈNXLˈ</td>
</tr>
<tr>
<td>10. Catalog</td>
<td>24. SuperCE ˈSCEˈ</td>
</tr>
<tr>
<td>11. Uncatalog</td>
<td>25. Search-For ˈSFˈ</td>
</tr>
<tr>
<td>12. Compress</td>
<td>26. Search-ForE ˈSFEˈ</td>
</tr>
<tr>
<td>13. Free</td>
<td>27. Allocate</td>
</tr>
<tr>
<td>14. Print Index</td>
<td></td>
</tr>
</tbody>
</table>
ISPF Panel Navigation

Menu  Utilities  Compilers  Options  Status  Help

---

ISPF Primary Option Menu

Option ==>  3.4

More: +

0  Settings  Terminal and user parameters
1  View  Display source data or listings
2  Edit  Create or change source data
3  Utilities  Perform utility functions
4  Foreground  Interactive language processing
5  Batch  Submit job for language processing
6  Command  Enter TSO or Workstation commands
7  Dialog Test  Perform dialog testing
8  LM Facility  Library administrator functions
9  IBM Products  IBM program development products
10 SCLM  SW Configuration Library Manager
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

User ID  :  ZIBM050
Time...  :  16:48
Terminal.:  3278
Screen..  :  1
Language.:  ENGLISH
Appl ID .:  ISR
TSO logon :  DBPROCDBG
TSO prefix:  ZIBM050
System ID :  SOM1
MYS acct.  :  FB3
Release ..:  ISPF 7.2
Edit ‘e’ ZIBM050.JCL partitioned data set

<table>
<thead>
<tr>
<th>Command</th>
<th>Message</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIBM050</td>
<td>✕ALIAS</td>
<td>VPWRKD</td>
</tr>
<tr>
<td>ZIBM050.DATA</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.DB2.JCL</td>
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<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.DB2.SOURCE</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.DB2.SQL</td>
<td></td>
<td>VPWRKA</td>
</tr>
<tr>
<td>ZIBM050.EXEC</td>
<td></td>
<td>VPWRKC</td>
</tr>
<tr>
<td>ZIBM050.INSTRUCT</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td><strong>e</strong></td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.JCL</td>
<td></td>
<td>VPWRKB</td>
</tr>
<tr>
<td>ZIBM050.LOAD</td>
<td></td>
<td>VPWRKB</td>
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<tr>
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<td></td>
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<td>ZIBM050.RDZ.COBOL</td>
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<td>ZIBM050.SOURCE</td>
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<td>VPWRKA</td>
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********************************************************************** End of Data Set list **********************************************************************
Select ‘s’ new member edittest

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<td><strong>End</strong></td>
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</tbody>
</table>
ISPF EDIT mode on data set ZIBM050.JCL member name EDITTEST

Text input area

Tab to first open line
Type characters into text input area

Observe line numbers now present to left of text

Tab to newlines – wait to ‘enter’

Only ‘enter’ after Line 4
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 your edit profile using the command RECOVERY ON.

000100 abcdefgh
000200 12345678
000300 Line 3
000400 Line 4

Top of Data ...

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 ...

**MSG** -Warning- The UNDO command is not available until you change 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

```plaintext
FILE    Edit   Edit Settings  Menu   Utilities  Compilers  Test  Help
EDIT    ZIB050.JCL(EDITTEST) - 01.00
Command ===>
reset

Scroll ===>
PAGE

********  ********************************** Top of Data  **********************************
=PROF>    JCL (FIELD - 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 your edit profile using the command RECOVERY ON.
=MSG>
000100  abcdefgh
000200  12345678
000300  Line 3
000400  Line 4

********  ********************************** Bottom of Data  **********************************

FILE    Edit   Edit Settings  Menu   Utilities  Compilers  Test  Help
EDIT    ZIB050.JCL(EDITTEST) - 01.00
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  
Command ==>  
Columns 00001 00072  
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  
Command ==>  
Columns 00001 00072  
Scroll ==> PAGE  

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

Result of 'enter'

EDIT  ZIBM050.JCL(EDITTEST) - 01.01
Command ===> reset

Result of reset, then 'enter'

==MSG> -Warning- The UNDO command is not available until you change 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 ***********

-------- *********** Bottom of Data ***********

-------- *********** 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
1 - Types of data sets
2 - Edit entry panel
3 - SCLM edit entry panel
4 - Member selection list
5 - z/OS UNIX directory selection list
6 - Display screen format
7 - Scrolling data
8 - Sequence numbering
9 - Display modes (CAPS/HEX/NULLS)
10 - Tabbing (hardware/software/logical)
11 - Automatic recovery
12 - Edit profiles
13 - Edit line commands
14 - Edit primary commands
15 - Labels and line ranges

The following topics are presented only if selected by number:
16 - Ending an edit session
17 - Edit models
18 - Miscellaneous notes about edit
Edit Tutorial help on ‘line commands’

Option ==> 13

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

The following topics are presented only if selected by number:

TUTORIAL ----------------- EDIT - LINE COMMANDS ----------------- TUTORIAL
OPTION ==> 1

| EDIT |
| LINE COMMANDS |

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

0 - Line commands: General information
1 - Basic commands: I  D  R
2 - Move/Copy commands: C  M  A  B  O
3 - Shifting commands: )  (  >  <
4 - Exclude/Show commands: X  F  L  S
5 - Text handling commands: TE  TF  TS  LC  UC
6 - Miscellaneous commands: BNDS  COLS  MASK  TABS
7 - Data commands: MD  HX
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
1 - Types of data sets
2 - Edit entry panel
3 - SCLM edit entry panel
4 - Member selection list
5 - z/OS UNIX directory selection list
6 - Display screen format
7 - Scrolling data
8 - Sequence numbering
9 - Display modes (CAPS/HEX/NULLS)
10 - Tabbing (hardware/software/logical)
11 - Automatic recovery
12 - Edit profiles
13 - Edit line commands
14 - Edit primary commands
15 - Labels and line ranges

The following topics are presented only if selected by number:
16 - Ending an edit session
17 - Edit models
18 - Miscellaneous notes about edit

Tutorial ------------------ Edit Primary Commands ------------------ Tutorial
Option ==> 1

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
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ISPF – Navigate to SDSF environment

sd is SDSF option selection
preceeding = is executing option as if on ISPF Primary Option Menu

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
1  1. Volume
   2. Space
   3. Attrib
   4. Total

Enter "/" to select option
/  Confirm Data Set Delete
   Confirm Member Delete
   Include Additional Qualifiers
   Display Catalog Name
   Display Total Tracks
   Prefix Dname 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
**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 REXXHelp - SDSF REXX (ISPF only)
13 - Help commands
14 - Action bar
15 - PF keys and keylists
16 - Action characters
17 - Overtypeable fields
18 - JES and MVS commands
19 - Point-and-shoot
20 - Online library
99 - SDSF messages

**SEARCH - Search the help (ISPF only)**

F1 = Help  F10 = Previous  Enter = Forward
F3 = Exit   F7 = Up     TOC = Menu
### SDSF - LOG command

<table>
<thead>
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<th>Available Options</th>
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<tbody>
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<tr>
<td>I</td>
<td>Input queue</td>
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<td>O</td>
<td>Output queue</td>
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<td>H</td>
<td>Held output queue</td>
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<tr>
<td>ST</td>
<td>Status of jobs</td>
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<td>JG</td>
<td>Job groups</td>
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<td>System symbols</td>
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**END**

Exit SDSF

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## SDSF – System Log (SYSLOG)

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<tr>
<th>Display</th>
<th>Filter</th>
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<th>Print</th>
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<td>N 0200000 SOW1</td>
<td>17045</td>
<td>07:50:54.03 TSU00345</td>
<td>00000000</td>
</tr>
<tr>
<td>N 4000000 SOW1</td>
<td>17045</td>
<td>07:50:54.39 TSU00345</td>
<td>00000000</td>
</tr>
</tbody>
</table>

---------------------------------------------------------------------
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 WTO 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)

TSO Bookshelf

ISPF Bookshelf

SDSF Bookshelf

hyperlinks
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