



# SDSF for New Users – Hands-on Lab

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Chip Wood  
SDSF Design/Development  
IBM Poughkeepsie  
chipwood@us.ibm.com



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# Objectives

- Explain SDSF to the new or intermediate user:
  - Familiar with SDSF but not expert
  - Might include:
    - End users
    - Operators
    - System programmers
- Along the way, include tips for everyone

# System Display and Search Facility

SDSF provides an easy & efficient way to:

- Control job processing
- Control output and browse jobs, without printing
- Control devices such as printers, lines, and initiators
- Manage system resources
- Work with checks for IBM Health Checker for z/OS

## SDSF Organizes Data

- Data is presented in tabular format on 20+ different panels
- Panels are customizable by the system programmer and the user
- SDSF security controls the panels users see and the functions they can use

# SDSF Main Panel

```
HQX7780----- 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  
  
LOG     System log                                NODE   Nodes  
SR      System requests                          SO     Spool offload  
MAS     Members in the MAS                       SP     Spool volumes  
JC      Job classes                               RM     Resource monitor  
SE      Scheduling environments                 CK     Health checker  
RES     WLM resources                            ULOG   User session log  
ENC     Enclaves  
PS     Processes
```

# Manage Jobs

```
Display  Filter  View  Print  Options  Help
-----
HQX7780  -----  SDSF  PRIMARY  OPTION  MENU  -----
COMMAND INPUT ===>

DA      Active users
I       Input queue
O       Output queue
H       Held output queue
ST      Status of jobs
```

This is what the typical “End User” sees on the menu.

# SDSF Panels - Layout

```

Display  Filter  View  Print  Options  Help
-----
SDSF DA AQTS SYS1 PAG 10 SIO 113 CPU 114/007
COMMAND INPUT ===>_
NP JOBNAME   SysName  Real  Paging   SIO   CPU%   SrvCl
 *MASTER*  AQFT      10T   0.00    7.06  0.15   SYSTE
 *MASTER*  AQTS     3594  0.00    0.12  0.04   SYSTE
 ABOWEN    AQTS      742   0.00    0.00  0.00   TSOPR
 ADAM      AQTS     1310  0.00    0.00  0.00   TSOPRIME
 ADANPL    AQTS     1128  0.00    0.00  0.00   TSOPRIME
 ADINELL   AQTS      564   0.00    0.00  0.00   TSOPRIME
 ADOOLEY   AQFT     1472  0.00    0.00  0.00   TSOPRIME
  
```

Select a function

Type SDSF and system commands

More

Type short commands here

Sysplex-wide data, current and customizable

Modify values by typing over them



# Tips – Other settings

## Display settings: set display

```
SDSF STATUS DISPLAY ALL CLASSES LINE 1-20 (24651)
COMMAND INPUT ==> SCROLL ==> PAGE
PREFIX=BKELLER* DEST=(ALL) OWNER=* FILTERS=2
NP JOBNAME JobID Owner Prty Queue C
BKELLER TSU23637 BKELLER 15 EXECUTION
```

## Display action characters: set action (long|short)

```
SDSF HELD OUTPUT DISPLAY ALL CLASSES LINES 452,893 LINE 429-449 (449)
COMMAND INPUT ==> SCROLL ==> CSR
ACTION=//-Block,=-Repeat,+ -Extend,?-JDS,A-Release,C-Cancel,H-Hold,L-List
ACTION=O-Release,P-Purge,Q-Outdesc,S-Browse,X-Print
NP JOBNAME JOBID OWNER PRTY C ODISP DEST TOT-REC
DB2LU32 JOB09111 DB2JOB 7 H HOLD LOCAL 730
```

# Customizing Panels

Use commands to show just your own jobs

- ISFPARMS can also limit jobs

```
SDSF STATUS DISPLAY ALL CLASSES
COMMAND INPUT ===>
NP  JOBNAME  JobID   Owner   Status  Prty  Queue
   BKELLER TSU23995 BKELLER
   BKELLER  JOB13185 BKELLER
   BKELLER  JOB06091 BKELLER
   BKELLERA JOB30922 BKELLER
```

Filter on job name:  
PREFIX BKELLER\*

Filter on owning userid:  
OWNER BKELLER

- PREFIX and OWNER commands apply to all job panels

# Manage Jobs – Active (DA)

Display	Filter	View	Print	Options	Help	
SDSF DA AQTS SYS1 PAG 10					CPU/L/Z 26/26/0	
COMMAND INPUT ==>_						
NP	JOBNAME	SysName	Real	Paging	SIO	CPU%
	*MASTER*	AQFT	10T	0.00	7.06	0.15
	*MASTER*	AQTS	3594	0.00	0.12	0.04
	ABOWEN	AQTS	742	0.00	0.00	0.00
	ADAM	AQTS	1310	0.00	0.00	0.00
	ADANPL	AQTS	1128	0.00	0.00	0.00
	ADINELL	AQTS	564	0.00	0.00	0.00
	ADOOLEY	AQFT	1472	0.00	0.00	0.00

CPU use for the system

CPU use for each address space – useful for sorting

- DA shows only active jobs (address spaces)
  - MVS and performance info such as CPU use
  - Includes address spaces not running under JES
  - Data comes from RMF

# Manage Jobs – CPU Values

MVS, LPAR and zAAP views of CPU use on the title line:

CPU/L/Z 26/26/0

## Many CPU-related columns

- GCP-Time Accumulated general processor service time, in seconds
- zAAP-Time Accumulated zAAP service time, in seconds
- zACP-Time Accumulated general processor service time that was eligible for a zAAP, in seconds
- GCP-Use% Percent of the total general processor time used by the address space in the most recent interval (not normalized)
- zAAP-Use% Percent of the total zAAP time used by the address space in the most recent interval (not normalized)
- SzAAP% zAAP view of CPU use **for the system**, in the most recent interval
- SzIIP% zIIP view of CPU use **for the system**, in the most recent interval

# Tip: Help

Detailed help on each of the CPU fields is available

1. Press F1 from DA, then select "Fields on the DA panel"

2. Tab to any highlighted phrase and press F1...

```
HELP: Display Active Users Panel -- Fields
COMMAND INPUT ==>

The title line shows the following:

SDSF DA IPO1 IP* PAG 0 CPU/L/Z 26/ 26/ 0
| | | | | | | |
System ID | Total demand | Percentage of time
of system | paging rate | the CPU is busy,
you are | | MVS, LPAR and zAAP
logged | | views
on to | |
Systems displayed
(MVS value or
SYSNAME value)
```

# Tip: Help for CPU Values

Further help on that topic is displayed (7 panels on CPU)

```
HELP: Display Active Users Panel -- CPU Fields   Panel 1 of 7
COMMAND INPUT ==>
```

Title line: You may see one, two or three values depending on your configuration. If three values are shown, the label preceding the values indicates the order. All three values are obtained from RMF.

MVS view: is the first value, or the only value if just one is present. It is the best indicator of a CPU bottleneck. It is

```
      CPU-time
      ----- * 100
      online-time
```

LPAR view: is the second value, if present. It takes into account several states related to PR/SM. A value of \*\*\* indicates RMF Monitor I CPU Report is not active.

# Manage Jobs – Status (ST) Panel

```

Display  Filter  View  Print  Options  Help
-----
SDSF STATUS DISPLAY ALL CLASSES          LINE 1-20 (24651)
COMMAND INPUT ===>                        SCROLL ===> PAGE
NP      JOBNAME  JobID      Owner      Prty Queue      C
      BKELLER  TSU23637 BKELLER      15 EXECUTION
      BKELLERA JOB23991 BKELLER      15 INPUT      J
  
```

- ST - basic panel for managing jobs and output
  - Jobs on any queue
    - o Including started tasks that are executing
  - Held and non-held output
  - Overtypes for job cols like service class, priority
  - I panel shows jobs on the input queue or executing
    - o Columns and actions nearly identical to ST

# Tip – Canceling Active Jobs

```

Display Filter View Print Options Help
-----
SDSF DA AQTS (ALL) MVS Cancel PU/L 11/ 11 LINE 1-16 (916)
COMMAND INPUT ==> SCROLL ==> CSR
ACTION=//-Block,=-Repeat,+-Extend,?-JDS,A-Release,C-Cancel,
ACTION=D-Display,E-Restart,H-Hold,K-SysCancel,L-List,P-Purge
ACTION=Q-Outdesc,R-Reset,S-Browse,W-Spin,X-Print,Y-SysStop,
ACTION=Z-SysForce
NP JOBNAME StepName ProcStep JobID Owner C Pos DP Real
 *MAST MVS FORCE STC10277 +MASTER+ N MVS P (Stop)
 PCAUTH PCAUTH NS FF 268
  
```

- Five different forms of “cancel”
  - Note Y (MVS Stop) for started tasks
    - New with z/OS V1R5
- SET ACTION (LONG|SHORT) shows valid actions



## Tip: Scaling and Arrange

- SDSF scales numbers to make them fit the column width

```

Display  Filter  View  Print  Options  Help
-----
SDSF DA AQTS SYS1 PAG 10          CPU/L/Z 26/26/0
COMMAND INPUT ==>_
NP JOBNAME  SysName Real  Paging  SIO  CPU%
 *MASTER*  AQFT      12T   0.00   7.06  0.15
 *MASTER*  AQTS     3594   0.00   0.12  0.04
 ABOWEN    AQTS      742   0.00   0.00  0.00
 ADAM      AQTS     1310   0.00   0.00  0.00
 ADANPL    AQTS     1128   0.00   0.00  0.00
 ADINELL   AQTS      564   0.00   0.00  0.00
 ADOOLEY   AQFT     1472   0.00   0.00  0.00
  
```

12T means  
12 thousand

T=thousands, M=millions, B=billions, plus KB, MB, GB, TB, PB (bytes)

## Tip: Scaling and Arrange

- To see the actual number, use Arrange to increase the column width

```

Display  Filter  View  Print  Options  Help
-----
SDSF DA AQTS SYS1 PAG 10          CPU/L/Z 26/26/0
COMMAND INPUT ==> arr real 8
NP JOBNAME  SysName Real Paging  SIO  CPU%
 *MASTER* AQFT      12T   0.00  7.06  0.15
  
```

```

Display  Filter  View  Print  Options  Help
-----
SDSF DA AQTS SYS1 PAG 10 SIO 113  CPU/L/Z 26/26/0
COMMAND INPUT ==> _
NP JOBNAME  SysName Real    Paging  SIO  CPU%
 *MASTER* AQFT      12,831  0.00  7.06  0.15
 *MASTER* AQTS      3594    0.00  0.12  0.04
  
```

Full number

# Customizing Panels

Arrange and resize columns

Move  
Real  
after  
Stepname

Change widths

Arrange		Column	Width
—		SysName	8
/		Real	4
—		Paging	6
—		SIO	6
—		CPU%	6
—		SrvClass	8
a		StepName	8
—		ProcStep	8
—		Owner	8
—		Status	6
—		C	1

## Tip: Alternate Field Lists

- Every panel has two sets of columns, a primary and a secondary, or alternate
  - Defined in ISFPARMS
- Secondary includes things like output descriptors (Programmer name, Room number, Account number, etc. ) that may take longer to obtain
- Different sets of ARRANGE criteria can be used for each
- Access the alternate set with ?

# Manage Output – Output (O) Panel

Display	Filter	Completion info & high return code	Overtypes	Operations	Help
SDSF	OUTPUT ALL CLASSES	ALL FORMS	LINES 1,442		
	COMMAND INPUT	===>	SCROLL	===>	PAGE
NP	JOBNAME	Max-RC	C Forms	JobID	Tot-Rec
	BKELLERA	CC 0000	A REC	JOB18690	1,178
	BKELLERB	ABEND S622	A REC	TSU01320	485

- Output (O) panel displays information about output that is ready to be printed.
  - Overtypes for output characteristics
- Output panel can be filtered by output class by issuing Ox to see output class x. Up to 7 output classes can be listed.

## Manage Output - O Panel

O shows a row for each output group, so a job can have multiple rows:

JOBNAME	JobID	Owner	O-Grp-N	OGID1	OGID2	C
ABCGR2XX	JOB01736	ABCARSO	2	1	1	4
ABCGR2XX	JOB01736	ABCARSO	1	1	1	6
ABCGR3XX	JOB01738	ABCARSO	2	1	1	4
ABCGR3XX	JOB01738	ABCARSO	1	1	1	6
ABCGR4XX	JOB01740	ABCARSO	2	1	1	4
ABCGR4XX	JOB01740	ABCARSO	1	1	1	6

Output groups have identical characteristics, such as forms, class, destination, address and building

## Tip: Held Output (H) Panel

H panel shows *held* output.

- O and H have nearly identical columns and actions
- H has a built-in filter that limits it to your own jobs.
- To display output for all jobs on the H panel:
  - **prefix \*\* then h**
  - or -
  - **prefix then h all**

## Tip: Time/Date Columns

- O and H panels have a CRDate column:
  - Default width shows just a date
  - Expand with **arr crdate 20** to see the time

```
JOBNAME CrDate  
SRVLIB 01/12/2011  
SRVLIB 01/12/2011
```

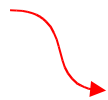
```
JOBNAME CrDate  
SRVLIB 01/12/2011 16:39:39  
SRVLIB 01/12/2011 16:39:49
```

- When filtering on any date/time field, use GT or LT, not EQ
  - Time will never match precisely



## Browse

- Output as it is being created, consisting of:
  - Data written to SPOOL
  - In-memory buffers (most recent data) if:
    - Job is running on the local system or
    - You have SDSF's sysplex support
  - See earlier slide...
- Input data sets for jobs being processed or waiting to be processed



NP	JOBNAME	JOBID	OWNER	C
<b>S</b>	BKELLERZ	JOB32343	BKELLER	D
	WLMBKP#	JOB30138	KJONAS	D

# Browse

Data sets are concatenated

```
SDSF OUTPUT DISPLAY BKELLERZ JOB32343 DSID      2
COMMAND INPUT ==>
09.25.05 JOB32343  IRR010I  USERID BKELLER  IS ASSIGNED
09.25.06 JOB32343  ICH70001I BKELLER  LAST ACCESS AT 09:25:06
09.25.06 JOB32343  $HASP373 BKELLERZ STARTED - INIT 12
09.25.07 JOB32343  IEF403I  BKELLERZ - STARTED - TIME=09.
-----
      1 //BKELLERZ  JOB    '141691,B001D49A', 'WR KELLERZ'
          //          MSGCLASS=H,NOTIFY=BKELLER,CLASS=F
      2 //OUT OUTPUT FORMDEF=010111,PAGEDEF=V06481
-----
16 IEF001I PROCEDURE COMPARE WAS EXPANDED USING
ICH70001I BKELLER LAST ACCESS AT 09:25:06 ON MONDAY,
```

Job  
log

JCL

Messages

- Use NEXT and PREV to move between data sets

## Tip: ISPF Edit or Browse

Instead of S (SDSF browse), you can use

- SE to browse using ISPF Edit
- SB to browse using ISPF Browse
  
- Then you can use any ISPF Edit or Browse commands or macros
  
- SDSF NEXT and PREV actions cannot be used.

## Tip: Default Browse Action

- Default browse action
  - Browse a job by pressing Enter next to it
  - No action character required
- ==> SET BROWSE S

```
SDSF STATUS DISPLAY ALL CLASSES  
COMMAND INPUT ==>
```

```
NP   JOBNAME   JobID  
    BKELLER   TSU09  
-   BKELLER   JOB07  
    BKELLER   TSU26
```

```
SDSF OUTPUT DISPLAY BKELLER  JOB07810  
COMMAND INPUT ==>
```

```
***** TOP OF DATA *****  
  \INMR01      S390VM      BKELLER  
12113  \INMR07      BKELLER  R17JSHP2  2
```

# Browse JCL and Resubmit

Use SJ action to browse just the JCL

- Make changes and resubmit

```
SDSF EDIT HOLDE (JOB00017) JCLEEDIT          Columns 00001 00072
Command ==> SUB                               Scroll ==> PAGE
***** Top of Data *****
000001//HOLDE JOB CLASS=E,MSGCLASS=E
000005 //STEP1 EXEC PGM=IEBDG
000006 //OUTA DD SYSOUT=E,DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
000007 //SYSPRINT DD SYSOUT=E
000008 //SYSIN DD *
```

- Uses ISPF Edit
- Changes you make are not saved

## Tip: Save Changes

To save changes, use ISPF's **CREATE** or **REPLACE** commands

```
SDSF EDIT HOLDE (JOB00017) JCLEDIT          Columns 00001 00072
Command ==> create                          Scroll ==> PAGE
***** Top of Data *****
cc0001//HOLDE JOB CLASS=E,MSGCLASS=E
000005 //STEP1EXEC PGM=IEBDG
000006 //OUTA DD SYSOUT=E,DCB=(LRECL=80,RECFM=FB,BLKSIZE=800)
000007 //SYSPRINT DD SYSOUT=E
cc0008 //SYSIN DD *
```

- Displays a panel that lets you specify where to save

# Work with Job Data Sets (JDS)

The ? action lists the data sets for a job:

```
NP  JOBNAME  JOBID  OWNER  PRTY  C
?  BKELLERZ  JOB32343  BKELLER  7  D
```

```
SDSF JOB DATA SET DISPLAY - JOB BERKEA5 (JOB00042)
COMMAND INPUT ===>                SCROLL ===> PAGE
NP  DDNAME  StepName ProcStep DSID Owner C Dest
    JESJCLIN                1 BEVK  R LOCAL
    JESMSG LG  JES2          2 BEVK  R LOCAL
    JESJCL   JES2          3 BEVK  R LOCAL
    JESYSMSG JES2          4 BEVK  R LOCAL
S   ISFOUT   FINDDA        104 BEVK  R LOCAL
```

Browse, print, purge release

Change class, dest,  
output descriptors

## Tip: Working with Data Sets

Overtyping long columns:

- Entire column must be visible
- Use LOC *column-name*

```
SDSF JOB DATA SET DISPLAY - JOB BERKEA5 (JOB00042)
COMMAND INPUT ===> loc userlib          SCROLL ===> PAGE
NP   DDNAME      StepName ProcStep DSID Owner C Dest
      JESJCLIN                    1 BEVK  R LOCAL
```

Scrolls to that column

```
SDSF JOB DATA SET DISPLAY - JOB BERKEA5 (JOB00042)
COMMAND INPUT ===>
NP   DDNAME      UserLib
      JESJCLIN _____
```



# Tip: Working with Data Sets

## Overtyping related fields:

```
SDSF JOB DATA SET DISPLAY - JOB BKELLER (7)
COMMAND INPUT ===>
NP DDNAME Address-Line1 Address-Line2 Address-Line3 CSR
SYS00139 +
```

Other columns  
not overtypeable

Type + in  
first column

```
Overtyping Extension
Column Address-Line1
Maximum length 60
Type values or use blanks to erase values.
===>
===>
===>
===>
```

Pop-up  
shows all  
values

# Printing

You can print:

- Output data
- Data from the log panels
- Screen images of SDSF panels

The print output can be sent to:

- SYSOUT
- Data set
- Print file (specified with a *ddname*).

# Printing – Fast Path

```
SDSF OUTPUT ALL CLASSES ALL FORMS LINES 499 LINE 1-2 (18)
COMMAND INPUT ==>
NP   JOBNAME  JOBID      OWNER      PRTY C  FORMS  FCB   DEST
     TCAS      STC00007  IBMUSER    144  A  STD   ****  LOCAL
XDC  CLRMANB  STC00009  ++++++++  144  A  STD   ****  LOCAL
```

Print with the X action:  
D – Data Set, S – SYSOUT,  
F – File, C - Close

Print from browse

```
SDSF OUTPUT DISPLAY BKELLERZ JOB32343  DSID      2
COMMAND INPUT ==> print
09.25.05 JOB32343  IRR010I  USERID BKELLER  IS ASSIGNED
09.25.06 JOB32343  ICH70001I BKELLER  LAST ACCESS AT 09:
09.25.06 JOB32343  $HASP373 BKELLERZ  STARTED - INIT 12 -
09.25.07 JOB32343  IEF403I  BKELLERZ  - STARTED - TIME=09
```

# Printing - Control

PRINT command and pop-ups provide more control:

```
                                SDSF Open Print
COMMAND INPUT ===>

Enter SYSOUT attributes below:

Class          ===>          (A through Z, 0 through 9)
Copies         ===>          (1to 255)
Forms          ===>          **
Destination    ===>
FCB            ===>
UCS            ===>
Process Mode   ===>          **
Pagedef        ===>          **
Formdef        ===>          **
```

## Tip – Printing As Is

SDSF's print function inserts ANSI carriage control, or converts machine carriage control, if present, to ANSI, unless:

- You use the PRINT FILE command or the XF or XFC action character
- The data is page-mode. SYSOUT files containing both page-mode data and machine character data are not defined as page-mode in JES2.

# Manage Other (non-JES) Workload

- WLM enclaves

```

SDSF ENCLAVE DISPLAY (ALL) ALL LINE 1-6 (6)
COMMAND INPUT ==> SCROLL==
NP TOKEN SSType Status SrvClass CPU-Time zIIP-Time
240000149E DDF INACTIVE SYSOTHER 34.51 0.00
640000145B DDF INACTIVE SYSOTHER 63.24 0.00
2C00000004 DDF INACTIVE SYSOTHER 7.64 0.00
3000000020 DDF INACTIVE SYSOTHER 0.15 0.00
3800000033 DDF INACTIVE SYSOTHER 0.31 0.00
4000000021 DDF INACTIVE SYSOTHER 0.15 0.00
  
```

- zIIP and zAAP use columns
- Actions to resume, quiesce

# Manage Other (non-JES) Workload

- Unix System Services processes

```

SDSF PROCESS DISPLAY SY1 ALL LINE          1- 10 (10)
COMMAND INPUT===>_                        SCROLL===> CSR
NP JOBNAME  Status                          Owner   State CPU-
  BPXOINIT  SWAPPED, RUNNING                SYSTASK MRI    1
  MQS1CHIN  RUNNING                          MQS     1R    11
  MQS1CHIN  RUNNING                          MQS     1R    12
  MQS1CHIN  FILE SYS KERNEL WAIT           MQS     1F    20
  KDMQDKJ   RUNNING                          SYSTASK HR
  
```

- Actions for Cancel (address space) and Unix Kill

# Customizing Panels

- Filter by any column or combination of columns, including boolean operators
  - Set for a single panel
  - FILTER ?
  
- Sort using 1 or 2 columns
  - SORT ?
  
- Set screen colors and other attributes
  - SET SCREEN



## Tips – Other settings

- Require confirmation of destructive actions
  - **Set confirm** displays a confirmation pop-up for cancel & purge on job and output panels
  
- Control cursor placement
  - **Set cursor on** keeps the cursor on the row you are working with
  - **Set cursor top** returns cursor to the command line (V1R7)

# Operators and System Programmers

```
HQX7780----- 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
		NODE	Nodes
LOG	System log	SO	Spool offload
SR	System requests	SP	Spool volumes
MAS	Members in the MAS		
JC	Job classes	RM	Resource monitor
SE	Scheduling environments	CK	Health checker
RES	WLM resources		
ENC	Enclaves	ULOG	User session log
PS	Processes		

Devices

System resources

# Operators and System Programmers

Monitor and control:

- Initiators
- Printers, punches
- Readers
- Lines, nodes
- Job classes
- Spool volumes
- Spool offloaders
- Members in the MAS
- WLM scheduling environment, resources
- IBM Health Checker for z/OS
- JES2 resources
- SYSLOG

```
SDSF PR DISPLAY
```

```
SDSF NODE DISPLAY
```

```
SDSF LINE DISPLAY
```

NP	DEVICE	STATUS	UNIT
	LINE1	ACTIVE	B00
	L1.JR1	INACTIVE	
	L1.JT1	INACTIVE	
	L1.SR1	ACTIVE	
	L1.ST1	ACTIVE	

# View the System Log

- View the system log online
- View a merged sysplex log (LOG O)

```
COMMAND INPUT===> FIND HASP395
N 4000000 AQFT 01303 16:37:20.94 JOB23185 0000009
NC0000000 AQFT 01303 16:37:21.33 INTERNAL 0000028
N 0000000 AQFT 01303 16:37:21.37 TSU21704 00000081 IEF126I RIMFIRE - LOGG
N 4000000 AQFT 01303 16:37:21.37 TSU21704 00000091 $HASP395 RIMFIRE ENDED
N 0000000 AQFT 01303 16:37:26.65 00000291 IEA989I SLIP TRAP ID=X33
N 0200000 AQFT 01303 16:37:29.08 JOB23211 00000081 $HASP100 D75CEM1C ON I
8000000 AQFT 01.10.09 STC17351 *60 DSI802A CNM03 REPLY WITH VALID NOCF SY
8000000 AQFT 01.04.42 *57 DSI802A M03AO REPLY WITH
0002000 AQFT 01.49.45 STC15235 *12 DENQ002D ENQ Mon
*****
***** BOTTOM OF DATA *****
```

Search log data

WTORs listed  
below the  
log data

# Tip – Auto-refresh the Log

- New log data is added to the bottom
- & command repeats a command at an interval

```

COMMAND INPUT===> BOT &15 ←
N 4000000 AQFT 01303 16:37:20.94 JOB23185 0000
NC0000000 AQFT 01303 16:37:21.33 INTERNAL 0000
N 0000000 AQFT 01303 16:37:21.37 TSU21704 0000
N 4000000 AQFT 01303 16:37:21.37 TSU21704 0000
N 0000000 AQFT 01303 16:37:26.65 00000291 IEA9
N 0200000 AQFT 01303 16:37:29.08 JOB23211 00000081 $HASPI00 D75CEMIC ON INT
8000000 AQFT 01.10.09 STC17351 *60 DSI802A CNM03 REPLY WITH VALID NCCF SY
8000000 AQFT 01.04.42 *57 DSI802A M03AO REPLY WITH VALID NCCF SY
0002000 AQFT 01.49.45 STC15235 *12 DENQ002D ENQ Monitor - Reply 'ENQ' or 'E
*****
***** BOTTOM OF DATA *****
  
```

Scroll the log  
to the bottom  
every 15 seconds

# Tip: Emulator

Wide 3270 emulator session shows more data:

```
SDSF SYSLOG 12.101 SY1 SY1 01/18/2007 0W 3021 COLUMNS 1 80
COMMAND INPUT ==> SCROLL ==> CSR
N 4040000 SY1 2011018 09:01:16.49 00000090 CEA0107I COMMON EVENT
M 4040000 SY1 2011018 09:02:07.76 S0000014 00000090 HZS0001I CHECK(IBMCSV,
E 310 00000090 CSVH0957E Problem(s) w
M 4040000 SY1 2011018 09:02:16.61 S0000014 00000090 *HZS0003E CHECK(IBMRACTF
D 311 00000090 IRRH204E The RACF_SENS
```

80-char  
session

Command line  
is unchanged

132-char  
session

```
SDSF SYSLOG 12.101 SY1 SY1 01/18/2007 0W 3032 COLUMNS 1 132
COMMAND INPUT ==> SCROLL ==> CSR
N 4040000 SY1 2011018 09:01:16.49 00000090 CEA0107I COMMON EVENT ADAPTER IS RUNNING IN FULL FUNCTION MODE.
M 4040000 SY1 2011018 09:02:07.76 S0000014 00000090 HZS0001I CHECK(IBMCSV,CSV_APF_EXISTS): 310
E 310 00000090 CSVH0957E Problem(s) were found with data sets in the APF list.
M 4040000 SY1 2011018 09:02:16.61 S0000014 00000090 *HZS0003E CHECK(IBMRACTF,RACF_SENSITIVE_RESOURCES): 311
D 311 00000090 IRRH204E The RACF_SENSITIVE_RESOURCES check has found one or
```

More message  
text is visible

# Work with Action Messages

## SR panel shows system requests

```
SDSF SYSTEM REQUESTS ALL 6 WTORS LINE 1-16 (16)
COMMAND INPUT ==>          SCROLL ==> CSR
NP REPLYID SysName  JobName  Message-Text
r  43      AQTS     AUTONET  *43 DSI802A M05AO REPLY WITH
   52      AQTS     WHOSP2   *52 DENQ002D ENQ Monitor - R
   53      AQTS     NETVNET  *53 DSI802A CNM05 REPLY WITH
```

R action displays a pop-up for replying to the message

# Control Devices

Information displayed about devices includes:

- Status and characteristics (such as selection criteria)
- The job currently being processed

Control with action characters and overtypes

```

SDSF PRINTER DISPLAY                               LINE 33-54 (102)
COMMAND INPUT ===>                                SCROLL ===> PAGE
NP PRINTER STATUS SFORMS SCLASS JOBNAME JOBID
PRT33 ACTIVE STD UIC12 TDOOLY JOB02733
PRT34 ACTIVE NAR UIC12 KHODGE JOB02539
  
```

Start, stop,  
forward space, etc.

Overtyping to change attributes



# Sysplex-wide Data

Users can work with devices anywhere in the sysplex.

```
SDSF LINE DISPLAY SY1 LINE 1-5 (5)
COMMAND INPUT ===>                SCROLL ===> CSR
NP DEVICE Status SysName Unit  Node      Jobname
LINE1  ACTIVE  SY1    SNA
LINE2  ACTIVE  SY1    F00C
LINE3  ACTIVE  SY1    F012  POKVMXA1
LINE10 DRAINED SY2    0406
LINE11 DRAINED SY2    0407
```

# System Commands - /

Enter system commands from within SDSF

COMMAND INPUT ==> /setprog apf,add,ddname=isf +

Type /, then cmd.

Trailing + displays the pop-up

## System Command Extension

Type or complete typing a system command, then press Enter.

```
==> setprog apf,add,ddname=isf.isfload,vol=us1
```

```
==> _____
```

Place the cursor on a command and press Enter to retrieve it.

More: +

```
=> D IPLINFO  
=> $JDDETAILS  
=> $jdhhistory
```

Previous  
commands

# Tip: Long System Commands

Two input lines -- can be a problem with Insert

```
System Command Extension

Type or complete typing a system command, then press Enter

===> SETPROG APF,ADD,DSNAME=isftest.hqx7730.bkelledata,volume=*****
===> _____
```

Insert ran out of room

Press F5 for a full-screen version with a single input line:

```
SDSF - System Command Extension

Type or complete typing a system command, then press Enter.

===> setprog apf,add,dsname=isftest.hqx7730.bkeller.data,volume=*****
_____
```

Insert complete

# View a Log for Your Session

ULOG captures commands and msgs. for a user.

```

Display  Filter  View  Print  Options  Help
-----
SDSF ULOG  CONSOLE BKELLER                LINE 0          COLU
COMMAND INPUT ===>                          SCROLL
***** TOP OF DATA *****
AQFT      2011040  17:30:22.29      ISF031I CONSOLE BKELLER ACT
AQFT      2011040  17:30:55.58      -$CJ(5903),P
AQFT      2011040  17:30:55.59      JOB05903  $HASP890 JOB(BKELLER)
                                                $HASP890 JOB(BKELLER)
                                                $HASP890
                                                $HASP890
AQFT      2011040  17:31:53.22      -$RALL,J=J30922,D=BKELLER
AQFT      2011040  17:31:53.72      $HASP000 OK
***** BOTTOM OF DATA *****

```

Generated command

Messages

# Customizing SDSF

System programmers use SDSF's internal parameters, ISFPARMS, to customize SDSF:

- Global initialization values (data set names, etc.)
- Columns on SDSF panels
- Action bar on or off, confirmation on or off, etc.
- Systems to include

# ISFPARMS example (excerpt)

```
GROUP TSOAUTH (JCL , OPER , ACCT) ,  
      XUID (XLIST) ,  
      AUTH (LOG , I , O , H , DA , INIT , PR , NO , DEST) ,  
      IFIELDS (DFLD)
```

```
NTBL NAME (XLIST)  
      NTBLENT STRING ($S) , OFFSET (1)  
      NTBLENT STRING (OPER) , OFFSET (3)
```

```
FLD NAME (DFLD) TYPE (IN)  
      FLDENT COLUMN (JNUM) , TITLE ( ' JOB NUM ' ) , WIDTH (7)  
      FLDENT COLUMN (JPRIOR) , TITLE (PRTY) , WIDTH (4)
```

Columns definition

Name list used in group definition

Group definition

## Processing ISFPARMS

- Processed by an SDSF server (address space ) at initialization
- Server reads from PARMLIB member ISFPRMxx or from a PDS defined in the server JCL.
  - Can specify the xx suffix when starting the server, for example s sdsf,m=01

Note: ISFPARMS can also be coded with ASSEMBLER macros if JES2 is being used, but is not recommended.

## Controlling the SDSF Server

- **START** *proc-name* to start the server
  - Example: **s sdsf**
  
- **MODIFY** *server-name* to refresh the statements or check syntax without activating
  - Example: **f sdsf,refresh,test**
  
- **STOP** *server-name* to stop the server
  - Example: **p sdsf**



## Tip: Starting the SDSF Server

- After starting a server, be sure ISFPRMxx read okay
  - Check the console for error messages
  - Or, in SDSF, browse the job log for the server

```
SDSF JOB DATA SET DISPLAY - JOB SDSF      (
COMMAND INPUT ===>
NP  DDNAME      StepName ProcStep DSID Owner
   JESJCLIN                1 SDSF
S   JESMSGLG JES2                2 SDSF
JES SDSF OUTPUT DISPLAY SDSF      S0000007  DSID      2 LINE 0
COMMAND INPUT ===>
***** TOP OF DATA *****
                J E S 2  J O B  L O G  --  S Y S T E M

09.39.27 S0000007 ---- MONDAY,      29 JAN 2007 ----
09.39.27 S0000007 IEF695I START SDSF      WITH JOBNAME SDSF
09.39.27 S0000007 $HASP373 SDSF      STARTED
09.39.28 S0000007 ISF724I SDSF level HQX7740 initialization
```

# Providing Security

- ISFPARMS
  - Combination of group definitions and auth lists
  
- SAF
  - Recommended! Required for JES3!
  - Dynamic
  - Granular
  - Better audit trail
  - Falls back to ISFPARMS when there is no decision in JES2 only

# REXX!

- Available since z/OS V1R9 SDSF
- Access SDSF data and function with REXX execs
  - Invoke SDSF with ISFEXEC and ISFACT commands
  - Data is returned in REXX stem variables with variable name corresponding to column name and subscript corresponding to row.
- Type REXXHELP in SDSF for information and examples
- Also described in the SDSF book

## Where to Learn More

- Online interactive tutorial demonstrates the most common tasks. → TUTOR command
- Help panels describe SDSF panels, commands, and messages. → PF1 or Help command
  - Over 1,800 help and tutorial panels
- *SDSF Operation and Customization* provides detailed information for the system programmer
- The SDSF Web site has tips, presentations, & links:  
→ [www.ibm.com/servers/eserver/zseries/zos/sdsf/](http://www.ibm.com/servers/eserver/zseries/zos/sdsf/)