z/OS

SDSF User's Guide

Version 2 Release 3

SC27-9028-30

Note

Before using this information and the product it supports, read the information in "Notices" on page 311.

This edition applies to Version 2 Release 3 of z/OS (5650-ZOS) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this information

This book provides general user information for SDSF. The book is designed to help system users understand the function and use of the SDSF panels.

This book assumes that readers have a working knowledge of:

- The z/OS operating system
- ISPF
- JCL
- REXX
- Java

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z/OS information

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When possible, this information uses cross document links that go directly to the topic in reference using shortened versions of the document title. For complete titles and order numbers of the documents for all products that are part of z/OS, see *z/OS Information Roadmap*.

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Summary of changes, Version 2 Release 3 (V2R3) as updated October 2018

Changes made to z/OS V2R3 as updated October, 2018

Changed

- Minor technical and editorial updates have been made.

Summary of changes, Version 2 Release 3 (V2R3) as updated June 2018

Changed

The following changes have been made:

- "Invoking SDSF" on page 1 is updated to add information on ISPF stacking commands.
- The fixed field for multiple panels, including DA , ST and H, is enabled as of Version 2 Release 3 for point-and-shoot. Placing the cursor anywhere within the fixed field and pressing Enter results in the associated panel being displayed. This is equivalent to entering the corresponding action character. Fixed field point-and-shoot is enabled by default. You can use the **SET FFPS** command to disable or enable this feature. For more information about fixed field point-and-shoot, see "Setting fixed field point-and-shoot" on page 14.
- See *z/OS SDSF Operation and Customization* for a summary of other changes in this release.

Summary of changes, Version 2 Release 3 (V2R3) as updated January 2018

Changed

The following panels have been updated with new action characters or columns:

- The **TRESGROUP** column is added to "Display Active Users panel (DA)" on page 46.
- The **TRESGROUP** column is added to "Enclaves panel (ENC)" on page 53.

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Chapter 1. Introduction to SDSF

SDSF provides you with information to monitor, manage, and control your z/OS system. It can help you run your business and save you time and money.

SDSF provides a powerful and secure way to monitor and manage your z/OS sysplex, in both JES2 and JES3 environments. Data is presented in tabular format on more than fifty different panels. The panels are customizable by the system programmer and the user.

The easy-to-use interface lets you control:

- Jobs and output
- Devices, such as network connections and servers, printers, readers, lines, and spool offloaders
- Checks from IBM Health Checker for z/OS
- System resources, such as WLM scheduling environments, the members of your MAS, and JES job classes
- System information about systems in the sysplex such as CPU busy, storage utilization, and IPL information; system storage utilization for all address spaces in the sysplex; and system static and dynamic symbols for each system in the sysplex.
- System log and action messages

For example, for jobs you can:

- Cancel, hold or release jobs
- Find out if jobs are waiting to be processed
- Filter the jobs to show just the jobs that interest you
- View output before it is printed
- Change a job's priority, class, or destination
- Edit and resubmit the JCL without leaving SDSF

SDSF security controls the panels you see and the functions you can use. SDSF can be tailored either through SAF or through its own parameters (ISFPARMS) so that various panels and functions within those panels are available only to select users or groups.

Invoking SDSF

There are two ways to invoke SDSF, from ISPF and from TSO.

Invoking SDSF from ISPF

You can invoke SDSF from the ISPF Primary Option Menu by entering **S** or option 13.14.

When you invoke SDSF this way:

- The action bar is displayed at the top of screen. Your security access determines what menu options are displayed and accessible.
- You can save your customization of the environment.

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Invoking SDSF with ISPF stacked commands

Under ISPF, you can use a combination of SDSF and ISPF stacked commands to invoke SDSF. ISPF stacked commands use a special delimiter between them. The default delimiter is a semicolon. ISPF stacked commands are described in *z/OS ISPF User's Guide Vol I* .

Consider the following examples:

- From the ISPF Primary Option Menu, **S.DA** invokes SDSF and then the Active Users panel.
- **S;DA** from the ISPF Primary Option Menu invokes SDSF and then the Active Users panel, using ISPF stacked commands.
- **S.DA;S T*** from the ISPF Primary Option Menu invokes SDSF and then the Active Users panel. ISPF then processes the stacked **S T*** command.

  S T* is an SDSF fast path select (S), that displays the data sets for all jobs that begin with **T***.

Invoking SDSF from TSO

You can invoke SDSF from the TSO READY panel by entering **SDSF** or **ISF**. You can also enter **TSO SDSF** or **TSO ISF** from the ISPF Primary Option Menu.

When you invoke SDSF this way:

- The action bar is not displayed. Your security access determines which options are displayed and accessible.
- You cannot save your customization of the environment.

SDSF panel format

SDSF panels provide current information about jobs, output, devices, sysplex, memory, OMVS, network, log, JES, WLM, system information, and more.

With SDSF panels, there is no need to learn or remember complex command syntax. Action characters, overtypeable fields, action bar pull-downs, and pop-up windows allow you to select available functions.

Sample panel format

Under ISPF, you can select most SDSF functions from the action bar at the top of the screen. To display a pull-down menu of choices, place the cursor on an option on the action bar and press Enter.

Figure 1 on page 3 uses a sample tabular panel to show the layout of an SDSF panel.

```
  Display  Filter  View  Print  Options  Search  Help  1
-------------------------------------------------------------------------------
SDSF DA RS86  2     RS86     PAG  0  CPU  27   3  LINE 1-18 (72)
PREFIX=*  DEST=(ALL)  OWNER=*  SYSNAME=  5
NP   JOBNAME   6 StepName ProcStep JobID    Owner    C Pos DP Real Paging    SIO
 7   *MASTER*                      STC04388 +MASTER+   NS  FF 3518   0.00   0.00
     PCAUTH   PCAUTH                                   NS  FF  115   0.00   0.00
     RASP     RASP                                     NS  FF  460   0.00   0.00
     TRACE    TRACE                                    NS  FF 5850   0.00   0.00
     DUMPSRV  DUMPSRV  DUMPSRV                         NS  FF  646   0.00   0.00
     XCFAS    XCFAS    IEFPROC                         NS  FF 6419   0.00   0.00
     GRS      GRS                                      NS  FF  24T   0.00   0.00
     SMSPDSE  SMSPDSE                                  NS  FF  679   0.00   0.00
     SMSPDSE1 SMSPDSE1                                 NS  FF 1575   0.00   0.00
COMMAND INPUT ===> 4                          SCROLL ===> PAGE
```

Figure 1. A Sample SDSF Tabular Panel

See	Name	Description
1	**Action bar**	The action bar permits you to select a pull-down menu to accomplish various SDSF tasks.
2	**Title line**	The title line shows the panel name as well as other information.
3	**Message area**	Short error and confirmation messages appear here.
4	**Command line**	The command line lets you enter SDSF, MVS, or JES commands.
5	**Message and information lines**	Longer messages appear below the command line. The information lines display responses when you issue some SDSF commands. The example shows the response to SET DISPLAY, which displays settings for filters.
6	**Data area**	The data area contains the system data. On tabular panels, the data is in columns and rows. Each row represents a single job, TSO user, data set, device or system resource, depending on the panel. The column titles may be customized by the system programmer. For that reason, when using the programming interfaces, you refer to columns by their internal *names* rather than by their titles. The names cannot be modified. When customizing the columns, system programmers can define a primary list of columns, which is shown when the panel is first displayed, and an alternate list, which you display with the ? command. Typically, the alternate list contains all of the columns in the primary list plus some additional columns. The additional columns may require additional work by SDSF to retrieve the data. These columns are referred to as *delayed* or *delayed-access*. The first column is the *fixed field*; when you scroll right or left, it remains in the same position. In the sample panel, the `JOBNAME` field is fixed. The REXX and Java interfaces allow you to control which columns are included when you access a panel. Typically, you want to include only those columns that are required.
7	**NP column**	Input (i**NP**ut) field for brief commands, known as action characters.

Understanding the SDSF main panel

Regardless of how you invoke SDSF, the SDSF main panel uses a table layout, similar to all other SDSF tabular panels.

The main panel shows the command name, description, group, and status. You can scroll to view additional pages.

The SDSF main panel lists the panels that you are authorized to use, and the commands that display the panels. (A few panels are accessed with action

characters instead of commands, and do not appear on the main panel.) The tabular panels have a fixed field, at the left, that does not move as you scroll right and left.

Tip: You can use the **MENU** command to return to the main panel from any tabular panel.

The SDSF main panel layout is as follows:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF MENU V2R3    RSPLEX0G  RS86
 1 NP 2 NAME   3 Description      4 Group     5 Status
     DA       Active users             Jobs
     I        Input Queue              Jobs
     O        Output Queue             Output
     H        Held output Queue        Output
     ST       Status of jobs           Jobs
     J0       Job zero                 JES      JES3 environment only
     JG       Job groups               JES
     SYM      System symbols           System
     LOG      System log               Log
     SR       System requests          Log
     MAS      Members in the MAS       JES
     JC       Job classes              JES
     SE       Scheduling environments  WLM
     RES      WLM resources            WLM
     ENC      Enclaves                 WLM
     PS       Processes                OMVS
     SYS      System information       System
     ENQ      Enqueues                 System
     DYNX     Dynamic exits            System
COMMAND INPUT ===>                                   SCROLL ===> PAGE
```

You can scroll to view additional pages. The main panel shows the following rows:

1 iNPut
The 'NP' column means 'iNPut' field and the line commands are called 'action characters'.

2 Command name
The SDSF main panel lists the panels that you are authorized to use, and the commands that display the panels.

3 Description
A brief description of the command.

4 Group
The SDSF tabular commands are organized by groups, which are defined by SDSF. The groups are shown in Table 1.

Table 1. Main Panel Groups

Group	Panel
Devices	DEV, SMSG, SMSV
Jobs	AS, DA, I, ST
JES	INIT, JC, JG, J0, MAS, PR, PROC, PUN, RDR, RM, SO, SP
Log	LOG, SR, ULOG
Memory	CSR, VMAP
Network	LINE, NA, NC, NODE, NS
Output	H, O

Table 1. Main Panel Groups (continued)

Group	Panel
Sysplex	CFC, CFS
System	APF, CK, DYNX, ENQ, GT, LNK, LPA, PAG, PARM, SSI, SYM, SYS
USS	FS, PS
WLM	RES, SE

5 Status

The status value shows a reason why the command is not available, such as a subsystem restriction (for example, a JES3-only command when SDSF is running in a JES2 environment), or the command is not authorized. The reasons are:

- JES2 environment only
- JES3 environment only
- JES*x* not active
- Global not acceptable
- Command not authorized

Panels available only from other panels

The following panels do not appear on the SDSF main panel and are available only by using action characters from other panels:

Table 2. Panels Available Only From Other Panels

Panel	Available From	Action Character
CKH Health Check History	CK	L
JC Job Module	DA, AS	JC
JD Job Device	AS, DA, I, INIT, NS and ST	JD
JDS Job Data Set	DA, I, ST, H and O	?
JM Job Memory	AS, DA, I, INIT, NS and ST	JM
JS Job Step	DA, H, I, O and ST	JS
JP Job Dependency	JG, I, and ST	JP
JY Job Delay	DA	JY
OD Output Descriptors	DA, H, I, JDS, O, and ST	Q
S Output Data Set	DA, I, O, H, ST, JG, JS	To view output formatted for a line-mode device, use the S action character. To invoke ISPF Browse or Edit, use the SB, SE, or SJ action characters.

Selecting a row on the main panel

SDSF provides mechanisms to navigate and work with the SDSF panels.

You can select a command row on the main panel by using the S action character in the NP column. Multiple selects are not allowed; select only a single row with the S action.

For example, you might select the DA command from the main panel:

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF MENU V2R3     RSPLEX0G  RS86                       INVALID COMMAND
NP   NAME     Description              Group    Status
S    DA       Active users             Jobs
     I        Input Queue              Jobs
     O        Output Queue             Output
     H        Held output Queue        Output
     ST       Status of jobs           Jobs
     J0       Job zero                 JES      JES3 environment only
     JG       Job groups               JES
     SYM      System symbols           System
     LOG      System log               Log
     SR       System requests          Log
     MAS      Members in the MAS       JES
     JC       Job classes              JES
     SE       Scheduling environments  WLM
     RES      WLM resources            WLM
     ENC      Enclaves                 WLM
     PS       Processes                OMVS
```

The repeat (=) and block (//) actions are not available on the main panel.

Using SDSF help

From any panel, F1 opens a general help page for that panel. You can also invoke help from the Help pull-down menu.

For example, if you invoke help for the DA panel, the following help panel is displayed:

```
                    HELP: Display Active Users Panel

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

         1 - Introduction to the DA panel
         2 - Syntax of the DA command
         3 - Action characters: display output, cancel jobs, etc.
         4 - Fields on the DA panel
         5 - Overtyping fields to change their values
         6 - Commands: limit jobs displayed, search, etc.

        These topics are displayed only if selected:

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

There are options you can follow by number to get more specific help, or you can view the help topics in sequence. Within the help, you may also find highlighted phrases that you can tab to and press F1 to find help relevant to that specific phrase.

Searching the help

Use the **SEARCH** command to search SDSF's help and tutorial. This command requires ISPF.

The parameter usage is as follows:

SEARCH *phrase*

If the phrase includes blanks, enclose the phrase in quotation marks. If you do not pass a phrase, a pop-up panel appears.

Consider the following examples:

- **SEARCH cpu use** - Searches for cpu use, cpu, and use.
- **SEARCH 'cpu use'** - Searches for cpu use.

Note: The **SRCH** command provides a different capability from the **SEARCH** command. **SRCH** implements a member search using a data set list, whereas **SEARCH** searches the SDSF help and tutorial. The resulting table shows all data sets containing that member pattern.

See "Search panel (SRCH)" on page 133 for a description of **SRCH**.

Working with SDSF panels

SDSF provides mechanisms to navigate and work with the SDSF panels.

This section describes how you can work with SDSF panels, and includes the following topics:

- "Querying authorized SDSF commands"
- "Displaying row numbers" on page 8
- "Using action characters" on page 8
- "Overtyping values in columns" on page 9
- "Displaying all columns for a panel" on page 11
- "Displaying action characters" on page 11
- "Showing all column values for a row" on page 12
- "Hiding unavailable options" on page 13
- "Setting fixed field point-and-shoot" on page 14
- "Filtering, sorting, and arranging panel information" on page 15
- "Issuing MVS or JES commands" on page 23

Querying authorized SDSF commands

You can display the SDSF commands for which you are authorized.

Enter the **QUERY AUTH** command from any tabular panel to display a list of the commands you are authorized to use. Only commands that require authorization are included.

The example is for demonstration purposes only; your authorized commands may be different.

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF MENU V2R3    RSPLEX0G  RS86                        Cursor not on choice
AUTH=ABEND,ACTION,APF,AS,CFC,CFS,CK,CSR,DA,DEST,DEV,DYNX,ENC,ENQ,ENQC,FINDLIM,
AUTH=FS,GT,H,I,INIT,INPUT,JC,JG,JP,J0,LINES,LNK,LOG,LPA,MAS,NA,NC,NODES,NS,O,
AUTH=OWNER,PAG,PAGE,PARM,PR,PREFIX,PROC,PS,PUN,RDR,RES,RM,RSYS,SE,SMSG,SMSV,
AUTH=SO,SP,SR,SSI,ST,SYM,SYS,SYSID,SYSNAME,SYSTEM,TRACE,ULOG,VMAP
```

Displaying row numbers

Display row numbers with the **SET ROWNUM** or **SET ROWNUM ON** command.

```
-------------------------------------------------------------------------------
SDSF INPUT QUEUE DISPLAY ALL CLASSES                    SET COMMAND COMPLETE
NP   #### JOBNAME  JobID    Owner    Prty C  Pos  PrtDest              Rmt  Nod
        1 JOBB     JOB03289 TS5485      9 A       LOCAL
        2 ISFUSER1 JOB06434 TS5479      9 X       LOCAL
```

Turn row numbers off with the **SET ROWNUM OFF** command.

Using action characters

The 'NP' column means 'iNPut' field and the line commands are called 'action characters'.

You take action against or display more information about an object, such as a job or a device, with action characters. Action characters are short commands, usually one or two characters. When using SDSF interactively, you type action characters in the NP column.

To display valid action characters with a description, use the `SET ACTION` command, as described in "Displaying action characters" on page 11.

This example shows the results of SET ACTION SHORT:

```
  SDSF INPUT QUEUE DISPLAY ALL CLASSES                      LINES 1-5 (5)
  COMMAND INPUT ===>                                     SCROLL ===> HALF
ACTION=//,=,+,?,A,C,CA,CD,CDA,D,E,H,L,P,PP,Q,S,SB,SE,SJ,X,XC,
ACTION=XD,XDC,XF,XFC,XS,XSC
  NP   JOBNAME  JOBID    OWNER    PRTY C  POS  PRTDEST              RMT  NODE
       ISF2CMDS JOB08765 DLR         7 H   16  LOCAL                        1
       ISF2ALL  JOB08871 DLR         7 H    3  LOCAL                        1
       ISF2FILT JOB08883 DLR         7 H   14  LOCAL                        1
```

You can also issue action characters against rows on a tabular panel from the command line. The syntax for action characters from the command line is:

rows action-character

where *rows* can be one or more row numbers or ranges of row numbers.

On the SDSF main panel, the only available action is S (Select). On other panels, some useful action characters include:

- +(n) - Expand the NP column, where *n* is 4-20.
- ? - List a job's data sets
- c - Cancel a job
- p - Purge output
- q - Display output descriptors
- s - Browse line-mode output
- x - Print data sets

A few action characters access a secondary panel. For example, you use the ? action character on a job-related panel to display the Job Data Set panel, which lets you work with individual data sets.

Using repeat and block repeat action characters

You can repeat the previous action character or overtype, and select a block repeat.

The = action character repeats the previous action character or overtype.

To perform a block repeat, enter // on the first row, the action character to be repeated, and another // on the last row to be processed.

For example, you might select the DA command from the main panel and select a block of jobs to display:

```
  Display  Filter  View  Print  Options  Search  Help
------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                        LINE 1-19 (280)
NP   JOBNAME  JobID    Owner    Prty Queue      C Pos   SAff  ASys Status
     JOBB     JOB03289 TS5485      9 EXECUTION  A        RS86       HOLD
//D  TS5485   TSU05289 TS5485     15 EXECUTION           RS86  RS86
     TS5536   TSU05294 TS5536     15 EXECUTION           RS86  RS86
     BPXAS    STC04924 BPXAS      15 EXECUTION           RS86  RS86
     VTAM     STC04925 VTAM       15 EXECUTION           RS86  RS86
     SYSLOG   STC04928 +MASTER+   15 EXECUTION           RS86  RS86
//   HZSPROC  STC04931 HZSPROC    15 EXECUTION           RS86  RS86
```

The display (D) action character is repeated for the block, as follows:

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                        6 COMMANDS ISSUED
RESPONSE=RS86
 $HASP890 JOB(TS5485)
 $HASP890 JOB(TS5485)    STATUS=(EXECUTING/RS86),CLASS=TSU,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
 $HASP890 JOB(TS5536)
 $HASP890 JOB(TS5536)    STATUS=(EXECUTING/RS86),CLASS=TSU,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
 $HASP890 JOB(BPXAS)
 $HASP890 JOB(BPXAS)     STATUS=(EXECUTING/RS86),CLASS=STC,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
 $HASP890 JOB(VTAM)
 $HASP890 JOB(VTAM)      STATUS=(EXECUTING/RS86),CLASS=STC,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
 $HASP890 JOB(SYSLOG)
 $HASP890 JOB(SYSLOG)    STATUS=(EXECUTING/RS86),CLASS=STC,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
 $HASP890 JOB(HZSPROC)
 $HASP890 JOB(HZSPROC)   STATUS=(EXECUTING/RS86),CLASS=STC,
 $HASP890                PRIORITY=15,SYSAFF=(RS86),HOLD=(NONE)
     INIT     STC04943 INIT       15 EXECUTION           RS86  RS86
COMMAND INPUT ===>                                            SCROLL ===> PAGE
```

Note: The repeat (=) and block (//) actions are not available on the main panel.

Overtyping values in columns

You can change the values in some columns by typing over them. SDSF refers to this as *overtyping*. The columns you can overtype are panel specific. For example, on the ST panel you can overtype columns such as service class and priority:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                        LINE 1-18 (256)
PREFIX=*  DEST=(ALL)  OWNER=*  SYSNAME=
NP   JOBNAME  JobID    Owner   1 Prty Queue   2 C  Pos   3 SAff  ASys Status
     JOBB     JOB03289 TS5485      9 EXECUTION  A       RS86       HOLD
     TS5485   TSU05243 TS5485     15 EXECUTION          RS86  RS86
     TS5536   TSU05245 TS5536     15 EXECUTION          RS86  RS86
```

where:

- **1** is the priority field that you can overtype.
- **2** is the class field you can overtype.
- **3** is the JES execution system affinity (if any) that you can overtype.

You can also overtype the values in columns from the command line. The syntax is:

rows column-title=value

where *rows* can be one or more row numbers or ranges of row numbers.

Some overtypeable columns are part of a set of values, which you can view with the COLSHELP command described in "Displaying all columns for a panel" on page 11. SDSF typically handles these related fields by providing a single overtypeable column. You work with a set of related values by entering a plus sign + alone in the column, which opens the Overtype Extension pop-up. The Overtype Extension pop-up shows as many input fields as are valid for that column. (If there are no related columns, the pop-up has only one field.)

For example, there are eight SFORMS values for printers, and only the first one is overtypeable. To overtype multiple SFORMS, enter + in the SFORMS column to display the Overtype Extension pop-up.

```
Overtype Extension

 Column SForms
 Maximum length 8

 Type values or use blanks to
 erase values.
 ===>________
 ===>________
 ===>________
 ===>________
 ===>________
 ===>________
 ===>________
 ===>________
```

Locating overtypeable fields

SDSF uses colors on the tabular panels to identify active objects (such as jobs) and overtypeable fields:

- Blue - Not active; the field is not overtypeable.
- White - Active; the field is not overtypeable.
- Green - Not active; the field is overtypeable.
- Red - Active; the field is overtypeable.

You can change these colors with the command **SET SCREEN** from ISPF.

Displaying all columns for a panel

The **COLSHELP** command displays a table of the columns that can be displayed on SDSF tabular panels. This command requires ISPF. The **COLSHELP** is often used when writing REXX execs because the exec needs to reference the column name.

The function of the **COLSHELP** command depends on where you invoke it:

- If you invoke the **COLSHELP** command on the main menu, it displays all columns for all commands, including commands that are available only from other panels.

```
                          Columns on SDSF Panels    Row 144 to 156 of 1,970

Sort with F5 (panel), F6 (column), F10 (title). Use Filter to filter rows.

 _ All panels         _ Descriptions

Panel     Column      Title                Delayed  Overtype   Help
CK        SYSNAME     SysName
CK        EINTERVAL   EInterval                     X
CK        EXECNAME    ExecName
CK        LOCALE      Locale
CK        ORIGIN      Origin
CK        VERBOSE     Verbose                       X
CK        REXXIN      RexxIn
CK        REXXOUT     RexxOut
CK        LOGSTREAM   LogStream
CKH       COUNT       Count
CKH       OWNER       CheckOwner
CKH       STATUS      Status
CKH       RESULT      Result

Command ===>
```

- If you invoke the **COLSHELP** command on a command panel, it displays all columns for that command.

```
                          Columns on SDSF Panels         Row 185 from 1970

Sort with F5 (panel), F6 (column), F10 (title). Use Filter to filter rows.

 _ All panels         _ Descriptions

Panel     Column      Title                Delayed  Overtype   Help
DA        JNAME       JOBNAME
DA        STEPN       StepName
DA        PROCS       ProcStep
DA        JTYPE       Type
DA        JNUM        JNum
DA        JOBID       JobID
DA        OWNERID     Owner
DA        JCLASS      C
DA        POS         Pos                                    Values
DA        DP          DP
DA        REAL        Real
DA        PAGING      Paging
DA        EXCPRT      SIO
```

Displaying action characters

The **SET ACTION** command displays the valid action characters for a panel. The selected values are saved across SDSF sessions when running under ISPF. On the SDSF main panel, the only available action is S (Select). The actions available on other panels are panel specific.

The **SET ACTION** command displays the available action characters you can enter in the NP column. **SET ACTION** is interpreted as **SET ACTION LONG**, which displays both the action characters and their descriptions.

Consider the following example from the ST panel:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                        LINE 1-9 (481)
ACTION=+-Extend,/-Show,//-Block,%-RunExec,?-JDS,=-Repeat,A-Release,C-Cancel,
ACTION=CA-CancelARM,CD-CancelDump,CDA-CancelARMDump,D-Display,DL-DisplayLong,
ACTION=DP-DisplayDependencies,E-Restart,EC-RestartCancel,ES-RestartStep,
ACTION=ESH-RestartStepHold,H-Hold,I-Info,J-Start,JD-JobDevices,JM-JobMemory,
ACTION=JP-JobDependencies,JS-JobStep,L-List,LL-ListLong,O-ReleaseOutput,
ACTION=P-Purge,PO-PurgeOutput,PP-PurgeProtected,Q-OutDesc,S-Browse,
ACTION=Sn-BrowseLocDS,SB-ISPFBrowse,SE-ISPFEdit,SJ-JCLEdit,W-Spin,X-Print,
ACTION=XC-PrintClose,XD-PrintDS,XDC-PrintDSClose,XF-PrintFile,
ACTION=XFC-PrintFileClose,XS-PrintSysout,XSC-PrintSysoutClose
NP   JOBNAME  JobID    Owner    Prty Queue      C  Pos  SAff  ASys Status
     JOBB     JOB03289 TS5485      9 EXECUTION  A       RS86       HOLD
     TS5485   TSU04654 TS5485     15 EXECUTION          RS86  RS86
     TS5536   TSU04656 TS5536     15 EXECUTION          RS86  RS86
COMMAND INPUT ===>                                           SCROLL ===> PAGE
```

Additional SET ACTION commands

The **SET ACTION SHORT** command displays the available action characters you can enter in the NP column, without descriptions.

Consider the following example from the ST panel:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                        LINE 1-16 (484)
ACTION=+,/,//,%,?,=,A,C,CA,CD,CDA,D,DL,DP,E,EC,ES,ESH,H,I,J,JD,JM,JP,JS,L,LL,O,
ACTION=P,PO,PP,Q,S,Sn,SB,SE,SJ,W,X,XC,XD,XDC,XF,XFC,XS,XSC
NP   JOBNAME  JobID    Owner    Prty Queue      C  Pos  SAff  ASys Status
     JOBB     JOB03289 TS5485      9 EXECUTION  A       RS86       HOLD
     TS5485   TSU04654 TS5485     15 EXECUTION          RS86  RS86
     TS5536   TSU04679 TS5536     15 EXECUTION          RS86  RS86
COMMAND INPUT ===>                                           SCROLL ===> PAGE
```

The **SET ACTION ?** command displays the current setting for SET ACTION.

The **SET ACTION OFF** command stops the current SET ACTION.

Showing all column values for a row

The Show Columns pop-up displays all column values for a row in a scrollable pop-up.

You access the pop-up with the / (slash) action character from a row when running in the ISPF environment. This pop-up is especially useful when viewing a table with many columns because there is no need to scroll. All possible columns are included.

The pop-up contains two options. The selected values are saved across SDSF sessions when running under ISPF. The values are global across all SDSF tables.

- All values - When selected, all columns will be shown, even if the value is blank. When deselected, only columns with values are shown.

- Column width - When selected, values will be formatted using the same width as the underlying panel. When deselected, a maximum width is used. This results in longer string values being shown.

Consider the following example. From the ST panel, locate a job and enter / in the NP column next to the job name:

```
/    SDSF     STC04612 SDSF       15 EXECUTION         RS86  RS86
```

A pop-up similar to the following appears:

```
                              Show Columns              Row 1 to 13 of 26

Sort column with F5. Use Locate to position to column.

 _ All values       _  Column width

Column              ##  Value
JOBNAME             01  SDSF
JobID               01  STC04612
Owner               01  SDSF
Prty                01  15
Queue               01  EXECUTION
SAff                01  RS86
ASys                01  RS86
PrtDest             01  LOCAL
TGNum               01  4
TGPct               01  0.02
OrigNode            01  LOCAL
ExecNode            01  LOCAL
WPos                01  0
```

Note the following usage:

- All tabular panels except the SDSF main panel and OD support the show columns action. The **SET ACTION** command response contains the "/-Show" string on panels that support the action.
- The actual columns that are available depend on any customization of field lists in ISFPARMS.
- Values for delayed columns are fetched even if the column was not visible on the underlying panel.
- Long character values will be split across as many lines as are needed.
- For columns with multiple values, each value is shown with a value count under the ## heading.
- By default, the columns on the pop-up appear in the same order as the underlying table. Press F5 to sort the columns alphabetically. The column title on the pop-up is then underlined to indicate that sorting is in effect.
- Enter **L** *column-name* to locate a specific column. **Locate** positions to the first column matching all or part of the command parameter.

Hiding unavailable options

The **SET MENU** command controls whether unavailable options are shown or hidden. The selected value is saved across SDSF sessions when running under ISPF.

Use the **SET MENU HIDE** command to hide unavailable options.

Use the **SET MENU ALL** command to show unavailable options.

Consider the following SDSF main menu panel shown with **SET MENU ALL**. Notice that the J0 option is shown even though it is currently unavailable running under JES2.

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF MENU V2R3    RSPLEX0G  RS86
NP   NAME     Description              Group    Status
     DA       Active users             Jobs
     I        Input Queue              Jobs
     O        Output Queue             Output
     H        Held output Queue        Output
     ST       Status of jobs           Jobs
     J0       Job zero                 JES      JES3 environment only
     JG       Job groups               JES
     SYM      System symbols           System
     LOG      System log               Log
     SR       System requests          Log
     MAS      Members in the MAS       JES
     JC       Job classes              JES
     SE       Scheduling environments  WLM
     RES      WLM resources            WLM
     ENC      Enclaves                 WLM
     PS       Processes                OMVS
     SYS      System information       System
     ENQ      Enqueues                 System
     DYNX     Dynamic exits            System
COMMAND INPUT ===>                                          SCROLL ===> PAGE
```

The **SET MENU ?** command displays the current settings for SET MENU.

Setting fixed field point-and-shoot

The **SET FFPS** command controls fixed field point-and-shoot. The selected value is saved across SDSF sessions when running under ISPF.

When point-and-shoot is enabled, placing the cursor anywhere within the fixed field and pressing Enter results in the associated panel being displayed. This is equivalent to entering the corresponding action character.

By default, point-and-shoot is enabled for the fixed field on the panel. (The fixed field for each panel is described in the panels listed in Chapter 2, "SDSF panels," on page 37.) For example, for the DA panel, the fixed field is JOBNAME.

The panels in Table 3 support fixed field point-and-shoot.

Table 3. Fixed Field Point-and-Shoot Targets

Panel	Fixed Field Point-and-Shoot Target
DA, I, ST, O, H, J0	JDS
JG	Job Dependencies
JC	ST
SE	RES
AS	Job Memory
CK	CKH
SMSG	SMSV
JDS	Output data set
SRCH	ISPF browse

For example:

1. From the DA panel, select the job you are interested in.
2. Place the cursor in the JOBNAME for that job.
3. Press Enter.
   The JDS panel for the job is displayed.

Additional SET FFPS commands

The additional **SET FFPS** commands are shown in Table 4.

Table 4. Additional SET FFPS Commands

Command	Description
SET FFPS ON	Enables point-and-shoot for the fixed field. This is the default.
SET FFPS OFF	Disables point-and-shoot for the fixed field.
SET FFPS ?	Displays the current setting for **SET FFPS**.

Filtering, sorting, and arranging panel information

SDSF lets you control which jobs are displayed on the SDSF panels by:

- Adding parameters to the commands that access panels, such as the O command.
- Issuing other SDSF commands, such as **FILTER**.

You can limit the data on your SDSF panels by using SDSF commands. Table 5 provides a high-level introduction to filtering. For important details, including syntax, refer to the online help. For quick access to information about a command, use this SEARCH command from the SDSF command line:

```
SEARCH 'FORMAT: command-name'
```

Table 5. Summary of Commands for Filtering

Command	Use	Panels
DEST	Filter data by destination. You set a single value that filters all of the affected panels.	H, I, J0, O, PR, PUN, ST
FILTER	Filter data on any column or combination of columns. You can set a unique filter for each panel. For more information, refer to “Setting complex filters” on page 17.	Tabular, OPERLOG
OWNER	Filter data by owning user ID (primarily). You can use wild cards (% and *). OWNER with no operands is the same as OWNER *. You set a single value that filters all of the affected panels. **Tip:** OWNER generally requires a trailing generic character; otherwise, it looks for an exact match. You can modify the generic character with the **SET SCHARS** command. **Tip:** **OWNER ?** displays a pop-up panel. You will probably find this easiest to use.	DA, H, I, J0, O, PS, ST

Table 5. Summary of Commands for Filtering (continued)

Command	Use	Panels
PREFIX	Filter data by job name (primarily). You can use wild cards (% and *). PREFIX with no operands is the same as PREFIX *. You set a single value that filters all of the affected panels. **Tip:** PREFIX generally requires a trailing generic character; otherwise, it looks for an exact match. You can modify the generic character with the **SET SCHARS** command. **Tip:** **PREFIX ?** displays a pop-up panel. You will probably find this easiest to use. **Tip:** Using PREFIX ** eliminates the need to specify "H ALL" on the H panel to display all jobs.	DA, H, I, O, PS, ST
SELECT	Temporarily limits data displayed on a tabular panel, overriding any filters, until you exit the panel. For example: • **SELECT IEB** - Displays only jobs with the name IEB. • **S BILLJ JOB00011** - Displays only jobs with the job name BILLJ and the jobid JOB00011. **Note:** The available parameters are panel specific. See the online help for a complete description.	Tabular panels
SYSNAME	Limit rows to include only selected systems in a sysplex. You set a single value that filters all of the affected panels.	APF, AS, CK, CSR, DA, DEV, DYNX, ENC, FS, GT, INIT, LI, LNK, LPA, NA, NO, PAG, PARM, PR, PS, PUN, RDR, RM, SMSG, SMSV, SO, SSI, SYS, VMAP

Filtering the data can reduce storage and improve performance. For best results, use the PREFIX, OWNER, DEST or SYSNAME commands, or parameters on the panel commands. Use the FILTER command, which SDSF processes after the data is gathered, if you cannot accomplish the desired filtering using the other commands.

Tip: You can set other filters using the **FILTER** command but it's easier from the FILTER pulldown.

You can sort panels on up to two columns, in ascending or descending order, with the SORT command or up to 10 columns using the SORT pop-up.

Querying filters

You can display the values of filters.

Enter the **QUERY FILTER** command to display the values of these filters: APPC, DEST, INPUT, OWNER, PREFIX and SYSNAME.

Note: The example is for demonstration purposes only; your filters may be different.

```
Display  Filter  View  Print  Options  Search  Help
 ------------------------------------------------------------------------
 SDSF MENU V2R3    RSPLEX0G  RS86                    LINE 1-18 (50)
 PREFIX=*,OWNER=*,DEST=,SYSNAME=,APPC=ON,INPUT=ON
```

Display the filter and sort criteria

You can display the filter and sort criteria.

You can use the command **SET DISPLAY** or **SET DISPLAY ON** to see the number of filters as well as the values for other commands that control the information displayed: PREFIX, DEST, OWNER, and SORT. ON is the default. **SET DISPLAY** puts the settings on the information line (the line above the column headings). If data is not being displayed, this can indicate why.

Table 6. SET DISPLAY Usage

Parameter	Description
PREFIX	Displays the current value for PREFIX.
SORT	Displays up to two criteria: column/order or column//order (for delayed access), plus a count of additional columns. Use **SET DISPLAY LONG** to show complete sort criteria.
DEST	Displays the current value for DEST.
OWNER	Displays the current value for OWNER.
FILTER	Displays a count for FILTER. Use **SET DISPLAY LONG** to show complete filter criteria.
SYSNAME	Displays the current value for SYSNAME.

For example, if you enter **SET DISPLAY**, the values are displayed above the tabular data:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------
SDSF DA RS86     RS86     PAG  0  CPU  22             LINE 1-18 (73)
PREFIX=*  DEST=(ALL)  OWNER=*  SYSNAME=
```

Additional SET DISPLAY commands

The additional **SET DISPLAY** commands are shown in Table 7.

Table 7. Additional SET DISPLAY Commands

Command	Description
SET DISPLAY LONG	Shows complete sort and filter criteria.
SET DISPLAY OFF	Disables the display of values.
SET DISPLAY ?	Displays the current setting for **SET DISPLAY**.

Setting complex filters

You can use the **FILTER** command to define up to 25 filters with boolean operators. The filter criteria are column, operator and value, and can include pattern matching. When entering multiple filters, you can specify AND or OR to define the relationship between filters.

The FILTER parameters are shown in Table 8 on page 18.

The parameter usage is as follows:

```
FILTER ON | OFF | OR | AND
 FIL    (+|-) column (operator) value
         ?
```

Consider the following examples:

- **FILTER STATUS EQ A*** - Displays only jobs with a status that begins with A.
- **FIL +SYSN SY1** - Adds filtering on the SYSNAME column and makes filters active.
- **FILTER JOBNAME EQ TS55*** - Displays jobs with a job name that begins with TS55.
- **FIL +OWNER EQ TS5536** - Adds filter for OWNER equal to TS5536.
- **FIL –JOBNAME** - Removes filters for JOBNAME.

Table 8. FILTER Parameters

Parameter	Description
ON | OFF | OR | AND	Can be one of the following: • ON - Turns filtering on. • OFF - Turns filtering off but retains filter criteria. • OR - Specifies the relationship between both within a column and between columns. • AND - Specifies the relationship between both within a column and between columns.
+ | - column	*column* names a column for filtering and turns filtering on. *column* can be abbreviated to the shortest unique name. • + adds the filter to any previous filters. There is a limit of 25 filters under ISPF. • - discards all filters for the column (ISPF only). .
operator	*operator* is one of the following: • EQ or = Equal (the default) • LT or < Less than • NE or ¬= Not equal • GT or > Greater than • GE or >= Greater than or equal Operators with less than or greater than are valid only when the value does not contain pattern matching characters (* and % by default).
value	*value* can contain pattern matching characters or system symbols. If it includes embedded blanks, enclose it in quotation marks.
?	Displays filters and their current state. Under ISPF, it displays the **FILTER** pop-up.

Additional FILTER commands

The additional **FILTER** commands are shown in Table 9.

Table 9. Additional FILTER Commands

Command	Description
FILTER OFF	Turns off filtering.

Table 9. Additional FILTER Commands (continued)

Command	Description
FILTER ?	When using SDSF interactively under ISPF, use **FILTER ?** to display the FILTER pop-up, then type values on the pop-up or select from lists of valid values.
SET DISPLAY	Displays the number of filters in effect.

Sorting columns

The **SORT** command sorts data on the current tabular panel, including its alternate form (displayed with the ? command).

The **SORT** command sorts columns in ascending or descending order. The **SORT** command applies only to the current panel, and each panel can contain uniquely sorted columns. Under ISPF, the sort criteria for each panel are saved.

The SORT parameters are shown in Table 10.

The parameter usage is as follows:

```
SORT (column) (A | D) column (A | D)
       (+ | -) column (A | D)
       (OFF | ON)
       (?)
```

SORT with no parameters sorts a panel using the fixed (first) column.

Consider the following examples:

- **SORT** - Sorts using the fixed output field, ascending.
- **SORT FO A TOT-REC D** - Sorts using the FORMS column, ascending, and then the TOT-REC column, descending.

Column headers are point-and-shoot fields. To sort a column in ascending order using point-and-shoot fields, place the cursor on the column header and press Enter:

- 1st time will sort ascending.
- 2nd time will sort descending.
- 3rd time will remove sort criteria and turn off sorting.

Table 10. SORT Parameters

Parameter	Description
column	The title of the column to be sorted. Specify the title as it appears on the panel, or abbreviate it to a name that is unique on the panel. If the title contains blanks, either use an abbreviation that contain no blanks or enclose the title in quotation marks. The titles for the same column on the primary and alternate form of a panel may be different. SDSF recognizes the difference and sorts both the primary and alternate forms of the panel. SDSF does not distinguish between duplicate column names that vary only by case.

Table 10. SORT Parameters (continued)

Parameter	Description
A | D	Specifies that the sort order is to be ascending (A) or descending (D). A is the default, but you must specify either A or D when you enter two columns.
+*column* | -*column*	Adds (+) or removes (-) sort criteria for a column. You can sort on up to 10 columns.
OFF	Turns sorting off for the current panel but retains the sort criteria.
ON	Turns sorting on.
?	Under ISPF, displays the sort criteria pop-up. Under TSO, if the criteria do not fit on the command line, they are displayed on the message line.

Additional SORT commands

The additional **SORT** commands are shown in Table 11.

Table 11. Additional SORT Commands

Command	Description
SORT OFF	Turns sorting off for the current panel but retains the sort criteria.
SORT ?	Under ISPF, use **SORT ?** to display the sort pop-up.

Arranging columns

The **ARRANGE** command reorders and changes the widths of columns on the current panel.

The **ARRANGE** command (**ARR**) applies only to the current panel. Each panel can contain uniquely arranged columns. Under ISPF, ARRANGE criteria are saved (one set for each JES type).

Note: Arranging some columns to the first screen of columns may impact SDSF performance. Where this is true, the help for the panel's fields indicates that the fields have delayed access.

SDSF scales numbers to make them fit the column width. To see the actual number, use **ARRANGE** to increase the column width.

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF DA RS86     RS86     PAG  0  CPU  26              LINE 1-19 (73)
NP   JOBNAME  StepName ProcStep JobID    Owner    C Pos DP Real Paging    SIO
     *MASTER*                  STC04928 +MASTER+   NS  FF 3440   0.00   0.00
     PCAUTH   PCAUTH                                NS  FF  110   0.00   0.00
     RASP     RASP                                  NS  FF  326   0.00   0.00
     TRACE    TRACE                                 NS  FF 5850   0.00   0.00
     DUMPSRV  DUMPSRV  DUMPSRV                      NS  FF  414   0.00   0.00
     XCFAS    XCFAS    IEFPROC                      NS  FF 3799   0.00   0.00
     GRS      GRS                                   NS  FF  21T 1    0.00   0.00
```

Callout Notes:

- **1** 21T means 21 thousand. T=thousands, M=millions, B=billions, plus KB, MB, GB, TB, PB (bytes).

The ARRANGE parameters are shown in Table 12.

The parameter usage is as follows:

```
ARRANGE parameters
 ARRANGE from-column A|B to-column
 ARR     from-column FIRST|LAST|width
         DEFAULT
         ?
```

Consider the following examples:

- **ARRANGE SIO A DP** - Moves the SIO column after the DP column on the current panel.
- **ARR DEST 8** - Makes the DEST column 8 characters wide.

Table 12. ARRANGE Parameters

Parameter	Description
from-column to-column	*from-column* and *to-column* each name a column on an SDSF panel. The column can be abbreviated to the shortest name that is unique for that panel.
A	Moves **from-column** after **to-column**.
B	Moves **from-column** before **to-column**.
FIRST | F	Makes **from-column** the first column after the fixed field (the first column). The fixed field cannot be moved.
LAST | L	Makes **from-column** the last column (farthest to the right).
width	Sets the width of from-column; it is 4-20 for NP, 1-127 for other columns. You may need to press F11 (RIGHT) several times to view the width.
DEFAULT	Resets the column arrangement to the default.
?	Under ISPF, displays the **ARRANGE** pop-up.

Additional ARRANGE commands

The **ARRANGE DEFAULT** command resets the column arrangement to the default.

Under ISPF, **ARRANGE ?** displays the pop-up. You may find this to be the most convenient method of arranging and resizing columns.

This pop-up example moves **Real** to be after **StepName**.

```
                          Arrange           Row 1 to 9 of 55

To move a column, select with / (// for a block), then type A
(after) or B (before). Special function keys:
F5/17=Refresh list  F11/23=Clear input  F6/18=Default order

     NP width              _  Current width: 4

     Column            Width   Description
  A   StepName              8
  _   ProcStep              8
  _   JobID                 8
  _   Owner                 8
  _   C                     1
  _   Pos                   3
  _   DP                    2
  _   PGN                   3   Not shown in goal mode
  /  Real                   4
```

Viewing the number of columns

The **COLS** command has two purposes. The first is to change the title line message to indicate the number of the top line displayed and the columns displayed on any panel except the Log, Output Data Set, and the Primary Option Menu. The second is to display a scale (or columns) line on the Log and Output Data Set panels. This setting is not saved

COLS changes the small message in the upper right hand corner to display the number of columns. (The default is to display the number of lines.) Or, it displays a ruler below the command line when viewing a report. You must enter **COLS** for each panel.

To remove the columns or ruler, enter **RESET**

Setting primary function keys

You can display and set the primary function (PF) keys.

Enter the **KEYS** command from ISPF or select the "Non-Keylist PF Key settings" pulldown from Settings to change the PF keys. The PF Key Definitions and Labels panel is displayed.

```
                        PF Key Definitions and Labels
                                                                More:     +
Number of PF Keys . . . 12                        Terminal type  . : 3278

PF1 . . . HELP__________
PF2 . . . SPLIT_________
PF3 . . . END___________
PF4 . . . RETURN________
PF5 . . . IFIND_________
PF6 . . . BOOK__________
PF7 . . . UP____________
PF8 . . . DOWN__________
PF9 . . . SWAP__________
PF10  . . LEFT__________
PF11  . . RIGHT_________
PF12  . . RETRIEVE______

PF1  label  . .__________  PF2  label  . .__________  PF3  label  . .__________
PF4  label  . .__________  PF5  label  . .__________  PF6  label  . .__________
PF7  label  . .__________  PF8  label  . .__________  PF9  label  . .__________
PF10 label  . .__________  PF11 label  . .__________  PF12 label  . .__________
Command ===>
```

Use the panel to assign PF keys to ISPF commands. You can assign PF keys to system commands (such as HELP or END), function commands (such as edit FIND and CHANGE), and line commands (such as edit "I" and "D").

The PF Key Definitions and Labels panel also allows you to optionally assign labels to the function key definitions. A label is used for display in place of its corresponding PF key definition when you issue the PFSHOW command.

Issuing MVS or JES commands

You can issue any MVS and JES command from the SDSF command line. Type a slash (/) followed by the command. For example, the **DISPLAY USER** command `/F SDSF,D USER` displays the active connected users of the SDSF server. As another example, **/D A,L** lists all active jobs in the system.

The messages issued in response to the commands are displayed on the information lines of the panel. The complete set of responses is in the user session log (ULOG).

You can set a delay interval, which is the maximum amount of time SDSF will wait for messages, with this command: `SET DELAY` *seconds*. The default is 1 second. A delay of 0 specifies that messages issued in response to / commands should not be displayed on the message lines.

Using the system command extension pop-up

When using SDSF interactively, you can specify a longer command by typing slash (/) by itself to display the system command extension pop-up, and then typing the command on the pop-up.

```
  Edit  Options  Help

                      System Command Extension

===>___________
===>___________
                                                        STORELIMIT
Comment___________

Group___________            Show_*___________        (F4 for list)
                                                         More:     +
=>  D M=CPU
=>
=>

F5=FullScr F6=Details F7=Up F8=Down F10=Save F11=Clear F12=Cancel
```

Using `SET CONMOD` and `SET CONSOLE`

The **SET CONMOD** command determines whether a new extended console name is used if the default extended console name is in use, or whether SDSF attempts to share the console. New extended console names allow for a unique ULOG for each session for split screen or multiple logons. You can change the extended console name with the **SET CONSOLE** command.

The ULOG display allocates an extended console for ULOG based on either the user ID or the value of the **SET CONSOLE** command. Prior to the implementation of **SET CONMOD**, if you had multiple instances of SDSF such as split screen or multiple

logons, you would have had to explicitly set the console name for each instance or they would all send messages to the initial session's ULOG.

SET CONMOD

The console name used by SDSF defaults to the user ID. The **SET CONMOD** command controls whether SDSF uses a modified name if the extended console cannot be activated because the default name is already in use:

- If console name modification is on and the default console name is already in use, SDSF attempts to use a different extended console name for each session.

  The modified name consists of the default name plus a single-character suffix. SDSF can try up to 32 different characters until a unique console name is obtained. The original console name must be fewer than 8 characters.
- If console name modification is off and the default extended console name is in use, SDSF attempts to share the console.

  For example, if you use ISPF split screen and access SDSF in multiple logical screens, SDSF shares the console activated in the first logical screen with subsequent logical screens. As a result, ULOG in the first logical screen contains system messages for all of the logical screens. SDSF shares the console only when the console is activated in the same address space. If the console cannot be shared, activation of the console fails.

Under ISPF, the value of **SET CONMOD** is saved across SDSF sessions.

The SET CONMOD parameters are shown in Table 13.

The parameter usage is as follows:

```
SET CONMOD (ON|OFF|?)
```

SET CONMOD with no parameters is the same as **SET CONMOD ON**.

Consider the following example:

- **SET CONMOD OFF** - Disables console name modification.

Table 13. SET CONMOD Parameters

Parameter	Description
ON	SDSF uses a modified name if the extended console cannot be activated because the name is already in use.
OFF	Disables console name modification. SDSF attempts to share the console.
?	Under ISPF, displays the current setting in a pop-up. Under TSO, displays the current setting on the command line.

SET CONSOLE

You can change the extended console name with the **SET CONSOLE** command. **SET CONSOLE** sets the name of the extended console to be used by SDSF.

The SET CONSOLE parameters are shown in Table 14 on page 25.

The parameter usage is as follows:

```
SET CONSOLE console-name
            ?
```

SET CONSOLE with no parameters resets the console name to your user ID.

Consider the following example:

- **SET CONSOLE TAPE** - Specifies that an extended console name of TAPE will be used.

Table 14. SET CONSOLE Parameters

Parameter	Description
console-name	Specifies the console name (2-8 characters) to be used when an extended console is activated for the ULOG panel. The console must have been activated by SDSF, and it cannot have been activated in another address space.
?	Under ISPF, displays the current setting in a pop-up. Under TSO, displays the current setting on the command line.

Searching a data set list

The SRCH command searches for matching members in a data set list. The resulting table shows all data sets containing the member pattern.

Note: SRCH provides a different capability from the SEARCH command. SRCH implements a member search using a data set list, whereas SEARCH searches the SDSF help and tutorial.

Access the SRCH panel with the **SRCH** command from the APF, LNK, LPA, PARM, or PROC panels.

The parameter usage is as follows:

```
SRCH member-pattern
```

where *member-pattern* is the string for which to search for matching members in the data set list. *member-pattern* can include * (any string of characters) or % (any single character).

Consider the following use:

- **SRCH IEA*** - Displays the SRCH results for member pattern IEA*.

For example, assume that the PARM panel displays the following data sets:

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF PARMLIB DISPLAY  RS86     RS86     EXT    29      LINE 1-5 (5)
NP   DSNAME                  Seq VolSer BlkSize Extent SMS LRecL DSOrg RecFm Cr
     RSPLEX0G.PARMLIB.ZOS202   1 MCPG00   27920      1 NO     80 PO    FB    20
     RSPLEX0G.PARMLIB          2 MCPG00   27920     10 NO     80 PO    FB    20
     RSRTE.PARMLIB             3 R3P104   27920      1 YES    80 PO    FB    20
     ROCKET.USER.PARMLIB       4 S1PG00   27920     16 YES    80 PO    FB    20
     SYS1.PARMLIB              5 RZ203A   27920      1 NO     80 PO    FB    20
```

Of these data sets, you want to know which have members that match the *member-pattern* IEA*. From the PARM panel, enter `SRCH IEA*`. The resulting SRCH

panel indicates which data sets have members that match the pattern. The **STATUS** column displays FOUND or NOT FOUND.

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF SRCH DISPLAY  IEA*                                  LINE 1-5 (5)
NP   DSNAME                  Seq VolSer Status            DSOrg BlkSize Extent S
     RSPLEX0G.PARMLIB.ZOS202   1 MCPG00 NOT FOUND         PO      27920      1 N
     RSPLEX0G.PARMLIB          2 MCPG00 FOUND             PO      27920     10 N
     RSRTE.PARMLIB             3 R3P104 FOUND             PO      27920      1 Y
     ROCKET.USER.PARMLIB       4 S1PG00 FOUND             PO      27920     16 Y
     SYS1.PARMLIB              5 RZ203A FOUND             PO      27920      1 N
```

If you were to limit *member-pattern* to IEASYMSG, the resulting SRCH panel indicates which data sets have members that match IEASYMSG.

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF SRCH DISPLAY  IEASYMSG                              LINE 1-5 (5)
NP   DSNAME                  Seq VolSer Status            DSOrg BlkSize Extent S
     RSPLEX0G.PARMLIB.ZOS202   1 MCPG00 NOT FOUND         PO      27920      1 N
     RSPLEX0G.PARMLIB          2 MCPG00 NOT FOUND         PO      27920     10 N
     RSRTE.PARMLIB             3 R3P104 NOT FOUND         PO      27920      1 Y
     ROCKET.USER.PARMLIB       4 S1PG00 FOUND             PO      27920     16 Y
     SYS1.PARMLIB              5 RZ203A NOT FOUND         PO      27920      1 N
```

See “Search panel (SRCH)” on page 133 for a description of **SRCH**.

Managing jobs

You can use several panels to manage jobs. This section describes using the DA and ST panels.

DA panel

Display Active Users (DA) shows only active jobs (address spaces). This command describes the performance of the system while it processes the job. It includes MVS and performance info such as CPU use and address spaces not running under JES. The CPU use for each address space is useful for sorting purposes.

Assume that you want to examine TSO job TS5536 from the DA panel.

1. You can either scroll to find the job, or you can enter "FIND TS5536" to go directly to that job.
2. Decide what action you want to perform. If you are unsure of the available actions for this panel, enter **SET ACTION** (or the **SET ACTION SHORT** and **SET ACTION LONG** variants) to display the possible actions.
3. Assume that you want to see the data sets for this job. Place the cursor in the NP column for the TS5536 job, enter **S** and press Enter.

   Or, to display a list of data sets for a job (access the Job Data Set panel), place the cursor in the NP column for the TS5536 job, enter ? and press Enter.
4. Other common actions you can perform include:
   - / - Show the column values for row. (ISPF only)
   - A - Release a held job.
   - D - Display job information in the log.

ST panel

ST is the basic panel for managing jobs and output. It shows jobs on any queue, including started tasks that are executing, as well as held and non-held output.

Note: The I panel shows jobs on the input queue or that are executing. The columns and actions are similar to that of the ST panel.

Assume that you want to examine TSO job TS5536 from the ST panel.

1. Optionally, enter **OWNER TS5536** to limit the display to jobs with the owner TS5536.
2. Decide what action you want to perform. If you are unsure of the available actions for this panel, enter **SET ACTION** (or the **SET ACTION SHORT** and **SET ACTION LONG** variants) to display the possible actions.
3. Assume that you want to display a list of data sets for a job (access the Job Data Set panel). Place the cursor in the NP column for the TS5536 job, enter ? and press Enter.
4. Other common actions you can perform include:
   - / - Show the column values for row. (ISPF only)
   - C - Cancel a job. For JES3, also process output data sets. Note that there are 5 ways to cancel a job:
     - C - Cancel a job.
     - K - Cancel an address space using the MVS CANCEL command.
     - P - Cancel a job and purge its output.
     - Y - Stop a started task (system stop).
     - Z - Cancel an address space using the MVS FORCE command.
   - D - Display job information in the log.
   - H - Hold a job.
5. Enter **OWNER *** to once again see all jobs from all owners.

Monitoring jobs

SDSF lets you monitor a job as it passes from the JES input queue to the processor and generates data sets for the output queue.

You monitor a job using these panels:

- Input Queue (I). Describes the submission of the job and, if the job is being processed, some aspects of the processing.
- Status (ST). Identifies the queue containing the job and describes aspects of its submission, processing, and output.
- Output Queue (O). Describes the output generated by the job, as well as aspects of its submission and processing. (JES2 only)
- Held Output Queue (H). Describes the output, submission, and processing of a job on any held output queue. (JES2 only)
- Display Active Users (DA). Describes the performance of the system while it processes the job.

The ST panel is the basic panel for managing jobs and output. It provides:

- Jobs on any queue
- Started tasks that are executing

- Held and non-held output
- Overtypes for job columns such as service class and priority

The I panel shows jobs on the input queue or that are executing. The columns and actions are similar to that of the ST panel.

Displaying output

You can browse the output for a job.

You can see the JES output data sets from the following panels:

- I - Input Queue
- DA - Display Active Users
- O - Output queue
- H - Held output queue
- ST Status panel

The O and H panels are described in this section.

Output Queue

The Output Queue (O) panel displays information about output that is ready to be printed. It displays information about output for jobs, started tasks, and TSO users on any non-held queue.

You can filter output by output class by issuing O*x* to see output class x. For example, **OABC**. You can list up to 7 output classes.

For example, assume that you enter the **?** action character in the NP column for a job named *IOS050*.

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF OUTPUT ALL CLASSES ALL FORMS    LINES 165,536     LINE 54-71 (102)
NP   JOBNAME  JobID    Owner    Prty C Forms    Dest                 Rec-Cnt
     TS5485   TSU05289 TS5485    144 F STD      LOCAL                      8
     TS5536   TSU05245 TS5536    144 F STD      LOCAL                      3
     TS5536   TSU05294 TS5536    144 F STD      LOCAL                      3
?    IOS050   JOB05127 SUBJCL    144 X STD      LOCAL                    166
```

```
  Display  Filter  View  Print  Options  Search  Help
--------------------------------------------------------------------------------
SDSF JOB DATA SET DISPLAY - JOB IOS050   (JOB05127)    LINE 1-3 (3)
NP   DDNAME   StepName ProcStep DsID Owner    C Dest               Rec-Cnt Page
     JESMSGLG JES2                 2 SUBJCL   X LOCAL                   19
     JESJCL   JES2                 3 SUBJCL   X LOCAL                   26
     JESYSMSG JES2                 4 SUBJCL   X LOCAL                  121
```

Three DDNAME names are displayed:

- The JES2 messages log file.
- The JES2 JCL file.
- The JES2 system messages file.

Enter the **?** action character in the NP column to select the DDNAME name you want. This option is useful when there are jobs with many files directed to SYSOUT and you want to display one associated with a specific step.

Tip: To see all files concatenated together, instead of a ?, enter **S** in the NP column. The JES2 job log is displayed.

Held Output Queue

The H panel shows held output. O and H have nearly identical columns and actions. However, H has a built-in filter that limits it to your own jobs. To display output for all jobs on the H panel, use **PREFIX **** or **H ALL**.

Tip: The O and H panels have a CRDate column, which by default shows only a date. Use the ARRANGE command (ARR CRDATE 20) to expand the column to see the time.

When filtering on any date/time field, use < or >, and not =. This avoids the issue of time never matching precisely.

Using the system log

The LOG command provides access to both the OPERLOG and the SYSLOG. The OPERLOG panel is very similar to the SYSLOG panel, the chief difference being that the OPERLOG panel can show data for all systems in a sysplex, while the SYSLOG panel shows data for only one system.

The OPERLOG panel allows authorized users to display a merged, sysplex-wide system message log, which contains console messages, operator commands, and operator responses for the MVS systems. Access it with the **LOG O** command.

The SYSLOG panel allows authorized users to display the system log, which is a collection of JES data sets that contain console messages, operator commands, and operator responses for a z/OS system. Access it with the **LOG S** command.

The OPERLOG panel offers the function of the SYSLOG panel (FIND, PRINT, and so on) plus some enhancements, including filtering and scrolling by day, hour, minute, and second. One other difference between the function for OPERLOG and SYSLOG is that the OPERLOG panel does not use absolute line numbers. A line number is not displayed on the title line, and line numbers are not used in functions such as LOCATE and PRINT.

Displaying the SYSLOG for a particular system

From the SYSLOG panel, you can display the SYSLOG for another LPAR in the sysplex with the SYSID parameter:

```
SYSID lpar
```

Expanding the number of lines searched

You can use the FINDLIM command to expand the maximum number of lines searched by the FIND command for OPERLOG and SYSLOG so that you do not have to search multiple times. For example:

```
FINDLIM 999999
```

Locating a log entry based on hh:mm:ss

You can locate an entry in the OPERLOG or SYSLOG by hh:mm:ss. For example:

```
LOCATE 13:08:43
```

Note: For the OPERLOG, you may find it more convenient to instead filter based on date or time using less than (<) or greater than (>), and not equal to (=), if you do not know the exact time of the log entry.

Filtering the OPERLOG

You can use the FILTER command described in “Setting complex filters” on page 17 to filter the OPERLOG. You might want to filter on the following fields:

- SYSNAME
- DATE
- TIME
- DATETIME
- JOBNAME
- JOBID
- CONSOLE
- MSGID
- MSGTEXT

For example, the following example filters messages for the string "DEVICE".

```
FILTER MSGTEXT EQ *DEVICE*
```

Using SET SCREEN to define highlighting in OPERLOG

The Set Screen Characteristics pop-up for OPERLOG lets you set values for message color and highlighting on the OPERLOG panel, based on descriptor code. The values you specify override the color and highlighting that were used when the message was originally issued. Leaving a field blank means that the message will appear on the OPERLOG panel using the original color and highlighting.

To make informational (descriptor 12) messages more visible, SDSF provides a default value of Yellow for the color. The Use color and highlighting field lets you disable or enable the use of color for messages on the OPERLOG panel. The values you set are saved across ISPF SDSF sessions. The results depend on your terminal type.

1. Enter SET SCREEN without any parameters.
2. On the Set Screen Characteristics pop-up, select the OPERLOG.
3. The Set Screen Characteristics: OPERLOG Panel pop-up is displayed:

```
       Set Screen Characteristics: OPERLOG Panel

                                                   More:     +
Use color and highlighting    1   1. Yes   2. No

Type values to override the original color and highlighting.
Press F5/17 to see changes.

Descriptor code                  Color    Highlight  Intensity
 1 - System failure
 2 - Immediate action required
 3 - Eventual action required
 4 - System status
 5 - Immediate command response
 6 - Job status
 7 - Task-related
 8 - Out of line
 9 - Operator's request
10 - Not defined
11 - Critical eventual action
12 - Important information
```

4. Enter values to override the defaults. The valid values are as follows:
   - Colors: Blue, Green, Pink, Red, Turq, White, Yellow
   - Highlighting: Blink, Normal, Reverse, Uscore
   - Intensity: High, Low

   To see your changes reflected on the pop-up, press F5.

Printing OPERLOG and SYSLOG

You can use the mechanisms described in "Printing from SDSF Panels" on page 32 to print data from OPERLOG and SYSLOG.

As one example, the following **PRINT** command prints messages from 01:00:00 to 02:00:00 to SYSOUT:

```
PT S; PT 01:00:00 02:00:00; PT CLOSE
```

Purging output

You can purge output before it is printed.

After browsing your output, you may decide the output is not what you wanted and prefer to purge it before it is printed. You can use the purge (P) action character to purge output data sets (JES2 only). Additional panel-specific purge action characters are also available. See the online help for more information.

You may want to require confirmation (SET CONFIRM ON) of destructive actions such as purge. SET CONFIRM displays a confirmation pop-up.

```
  Confirm Action

 1  1.  Process action character
    2.  Discard action character
    3.  Process action character and
        set confirmation off

Line number: 49      TS5536
```

Printing from SDSF Panels

You can print output data, data from the Log or ULOG, or screen images. The print output can go to SYSOUT, a data set, or a print file (specified with a DDNAME).

After you submit a job, you can use SDSF to review the output and correct JCL errors. SDSF allows you to display printed output held in the JES spool area. You may find that you do not need to print much of the output sent to JES by batch jobs (and other jobs). Instead, you can inspect it using SDSF and delete or use it as needed.

Using the PRINT command

Using the PRINT command consists of three steps:

1. Open a print data set. You open the print data set to specify the target of the output, either SYSOUT, a DASD data set, or a pre-allocated ddname. This step is optional except when printing the screen. The default target is SYSOUT.
2. Print the data. You can print output data, log data and screens to the print data set.
3. Close the print data set. This step frees the SYSOUT data set and makes it available for printing (if printing to SYSOUT) or closes the data set or print file.

Consider the following examples of the **PRINT** command:

- Example #1: Print an entire output data set to SYSOUT with default attributes (issued from the Output Data Set panel).

  PRINT without any parameters opens a default SYSOUT data set if the print data set is not already open. On the Output Data Set panel, it also prints the entire data set.

  ```
  PRINT
  ```

  The number of lines printed is displayed at the top right of the panel. This means the listing has now been placed in the data set that you created.

  ```
  PRINT CLOSE
  ```

  At the top right of the panel, you should now see PRINT CLOSED.
- Example #2: Save an output listing to a data set.

  At the command input line, enter PRINT D to open a print data set panel and specify a data set name in which to save it.

  ```
  PRINT D
  ```
- Example #3: Open a new print data set with the default attributes.

  ODSN specifies that a DASD data set will receive the output.

  ```
  PRINT ODSN 'RPT2.PRINT' * NEW
  ```

  Verify the data set you created. You can now return to SDSF and purge your listing because you now have a permanent copy.
- Example #4: Print part of the SYSLOG to a preallocated data set.

  MOD specifies that you want to append the data to a sequential data set. If the data set does not already exist, one is created.

  ```
  PT ODSN SDSF.PRINT * MOD
  PT 06.00.00 04/15/2017 10.00.00 04/15/2017
  PT CLOSE
  ```

Using the X action character

You can print the output of jobs, and checks for IBM Health Checker for z/OS, with the X action character.

As with the **PRINT** command, printing with the **X** action character involves three steps: opening a print data set, printing the data, and closing the print data set. You will probably find that he **PRINT** command and pop-ups provide more control.

You can print to SYSOUT, a data set, or a print file (specified with a *ddname*), with different forms of the X action character.

Consider the following forms:

- X - Print the file.
- XC - Print and close the file.
- XD - Display the data set panel and print the file.
- XDC - Display the data set panel, print and close the file.
- XF - Display the ddname panel and print the file.
- XFC - Display the ddname panel, print and close the file.
- XS - Display the SYSOUT panel and print the file.
- XSC - Display the SYSOUT panel, print and close the file.

Using panels to open a print data set

SDSF provides panels to open a print data set. For SYSOUT, the panel lets you specify class, copies, form, and destination. For a data set, the panel lets you allocate a new data set in addition to opening it.

Consider the following example of the SYSOUT panel:

```
TS5536   TSU05294              SDSF Open Print


Enter SYSOUT attributes below:

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

Output Descriptor Name ===>          (Omit with fields marked with **)
Writer name            ===>          **
Record format          ===> VBA
Record length          ===> 240
Use source attributes  ===>          (YES or NO)
```

To display the panels, use the commands or action characters shown in Table 15.

Table 15. Using Print Panels

To Open..	Command	Action Character
SYSOUT	PRINT S	XS or XSC
Data set	PRINT D	XD or XDC

Table 15. Using Print Panels (continued)

To Open..	Command	Action Character
DDNAME	PRINT F	XF or XFC

ANSI carriage control

The SDSF 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.

Browsing jobs, output, and checks

You can use the **S** (SDSF browse) action character to browse. However, you may find the ISPF Edit and Browse mechanisms to be more convenient.

You can use the **S** (SDSF browse) action character to browse the following:

- Output as it is being created, consisting of data written to SPOOL and in-memory buffers (most recent data) if running on the local system or you have sysplex support.
- Input data sets for jobs being processed or waiting to be processed.
- Checks for IBM Health Checker for z/OS.

For example, assume that you want to browse the output for a job on the ST panel. Enter the **S** action character in the NP column to select the job you want.

Tip: When browsing jobs and output, instead of **S**, enter **?** in the NP column. This option is useful when there are jobs with many files directed to SYSOUT and you want to display one associated with a specific step.

```
  Display  Filter  View  Print  Options  Search  Help
-------------------------------------------------------------------------------
SDSF STATUS DISPLAY ALL CLASSES                          DATA SET DISPLAYED
NP   JOBNAME  JobID    Owner    Prty Queue      C  Pos  SAff  ASys Status
     JOBB     JOB03289 TS5485      9 EXECUTION  A       RS86       HOLD
     TS5479   TSU05884 TS5479     15 EXECUTION          RS87  RS87
     PDSCOT   TSU05970 PDSCOT     15 EXECUTION          RS88  RS88
S    TS5536   TSU05972 TS5536     15 EXECUTION          RS88  RS88
```

The resulting panel is job-dependent, and can include the JES job log, JCL for the job, job-related messages, and so forth. The data sets are concatenated, and you can use NEXT and PREV to move between them.

ISPF Edit or Browse

Instead of SDSF browse, you can instead use ISPF mechanisms and take advantage of ISPF Edit and Browse commands or macros:

- SB - Use ISPF Browse.
- SE - Use ISPF Edit.
- SJ - Use ISPF Edit to edit the JCL. You can make changes and resubmit the JCL.
- S*n* - Start browsing with data set *n* (a number).

To commit edit changes, use PF3 or `save`. To exit the data set without saving your changes, enter `cancel` on the edit command line.

Setting default browse action

The **SET BROWSE** command controls the default browse action character that is issued when you place the cursor in the NP column and press Enter. Under ISPF, the value is saved across sessions.

Note: When SDSF is not running under ISPF, SDSF converts an SB or SE action character to S. You can issue the **SET BROWSE** command from any SDSF panel, but it affects only job and output panels and the CK panel.

If you set a default browse action character, you may want to check the setting for **SET CURSOR** and set it to OFF.

The SET BROWSE parameters are shown in Table 16.

The parameter usage is as follows:

```
SET BROWSE (S|SB|SE|NONE|?)
```

Table 16. SET BROWSE Parameters

Parameter	Description
S	SDSF browse. This is the default.
SB	ISPF browse.
SE	ISPF edit.
NONE	Specifies that no action character is issued by default.
?	Displays the current setting on the command line or pop-up.

Chapter 2. SDSF panels

This section describes the SDSF panels in a tabular format.

In the tables, an X in the *Delay* column indicates that obtaining the data may require an I/O operation. These columns are typically in the alternate field list. I/O operations are performed only when the columns are visible on the screen or being sorted. SDSF performance is best when columns that require an I/O operation are at the end of the field list. If there are no columns requiring I/O, the Delay column is not included.

Address Space Memory panel (AS)

The Address Space Memory (AS) panel allows you to display the storage utilization of address spaces in the sysplex.

It provides a convenient means for identifying address spaces that are consuming the most common storage area (CSA) and system queue area (SQA). It also shows memory object usage, such as the number of memory objects owned, the current size of the memory object, and the highest size used.

Actions on the AS panel provide access to the Job Memory (JM) panel and the Job Device (JD) panel for the selected address space. JM complements AS by showing subpool usage within the address space. JD shows allocations, TCP/IP connections, and coupling facility connection (CF) usage.

You can use the fast path select (S) command to filter results, as follows. Leading zeros are not required when specifying the job number.

- **jobname** *jobid*, where *jobid* is optional and is the job type (JOB, TSU, STC, J, T, S) followed by the job number.
- **jobname** *job-number*, where *job-number* is optional
- *job-number*

Command keyword

Access the AS panel with the **AS** command from any SDSF panel.

Customizing the display with parameters

AS ALL displays all address spaces. **AS** without any parameters displays all address spaces except initiators.

AS command action characters

The action characters for the AS command are shown in Table 17.

Table 17. AS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.

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Table 17. AS Command Action Characters (continued)

Action Character	Description
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20.. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
JC	Display the CDEs for the job. (Access Job Module panel.)
JD	Display the job's use of devices. (Access the Job Device panel.)
JM	Display the job's use of memory. (Access the Job Memory panel.)
JT	Display the TCBs for the job. (Access the Job Tasks panel.)

Columns on the AS panel

The columns on the AS panel are shown in Table 18.

Table 18. Columns on the AS Panel

Column name	Title (Displayed)	Width	Description
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
ASIDX	ASIDX	5	Address space identifier in hexadecimal
REAL	Real	5	Current utilization of real storage in frames
FIXED	Fixed	5	Number of fixed real storage frames
CSA	CSA	8	CSA storage below the 16MB line in bytes
CSAPCT	CSA%	6	Percentage of CSA storage below the line being used
ECSA	ECSA	8	CSA storage above the 16MB line in bytes
ECSAPCT	ECSA%	6	Percentage of CSA above the 16MB line being used
SQA	SQA	8	SQA storage below the 16MB line in bytes
SQAPCT	SQA%	6	Percentage of SQA below the line being used
ESQA	ESQA	8	SQA storage above the 16MB line in bytes
ESQAPCT	ESQA%	6	Percentage of SQA above the line being used
AUX	Aux	6	Non-VIO slots being used
MEMLIMIT	MemLimit	8	Memory limit for 64-bit storage objects
MOBJNUM	MemObjNum	9	Number of memory objects for address space
MOBJ	MemObjUsed	10	Total allocated memory object size in MB
MOBJHWM	MemObjHWM	9	High-water mark allocated to memory objects in MB
HVCOMNUM	HVComNum	8	Number of high virtual common memory objects
HVCOM	HVComUsed	9	High virtual common memory size in MB
HVCOMHWM	HVComHWM	8	High virtual common memory high-water mark in MB
SHRMONUM	ShrMONum	8	Number of shared memory objects for address space

Table 18. Columns on the AS Panel (continued)

Column name	Title (Displayed)	Width	Description
SHRMO	ShrMOUsed	9	Total size of shared memory objects in MB
SHRMOHWM	ShrMOHWM	8	Shared memory objects high-water mark in MB
FIXEDB	FixedB	6	Number of fixed frames below 16MB line
STEPN	StepName	8	Step name
PROCS	ProcStep	8	Procedure step name
JOBID	JobID	8	JES job ID, or work ID
OWNERID	Owner	8	User ID of job creator
POS	Pos	3	Address space position. For example: swapped in, swapped out, non-swappable, in transition
SWAPR	SR	2	Swap-out reason code
JTYPE	Type	4	Job type (STC, TSU, JOB)
ASID	ASID	5	Address space identifier
SUBSYS	SSName	6	Subsystem name
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of the operating system
SCSAPCT	SCSA%	5	System CSA usage percentage
SECSAPCT	SECSA%	6	System ECSA usage percentage
SSQAPCT	SSQA%	5	System SQA usage percentage
SESQAPCT	SESQA%	6	System ESQA usage percentage
AUXPCT	Aux%	4	Auxiliary storage utilization
REALAFC	RealAFC	8	Current real storage available frame count
PRIV	Priv	4	Private storage below 16MB line (bytes)
PRIVUSE	PrivUsed	8	Private storage below 16MB line used (bytes)
PRIVPCT	Priv%	6	Percentage of private storage below 16MB line used
EPRIV	EPriv	5	Private storage above 16MB line (bytes)
EPRIVUSE	EPrivUsed	9	Private storage above 16MB line used (bytes)
EPRIVPCT	EPriv%	6	Percentage of private storage above 16MB line used

Authorized Program Facility panel (APF)

The APF List (APF) panel allows you to display the data sets in the APF list for each system in the sysplex.

Command keyword

Access the APF panel with the **APF** command from any SDSF panel.

APF command action characters

The action characters for the APF command are shown in Table 19.

Table 19. APF Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display information.
DA	Display information, all data sets.
SB	Browse (ISPF only).
SE	Edit (ISPF only).

Columns on the APF panel

The columns on the APF panel are shown in Table 20.

Table 20. Columns on the APF Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number
VOLSER	VolSer	6	Volume serial
STATUS	Status	8	Data set status
BLKSIZE	BlkSize	7	Data set block size
EXTENT	Extent	6	Number of extents
SMS	SMS	3	SMS indicator. YES if the data set is SMS managed. Otherwise, NO
LRECL	LRecL	5	Logical record length
DSORG	DSOrg	5	Data set organization
RECFM	RecFm	5	Record format
DEFVOL	DefVol	6	Defined volume
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last referenced date
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Operating system level

CF Connection panel (CFC)

The CF Connection (CFC) panel allows you to display CF connections defined to the sysplex.

Command keyword

Access the CF Connection panel with the **CFC** command from any SDSF panel.

CFC command action characters

The action characters for the CFC command are shown in Table 21.

Table 21. CFC Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display connection information.
DA	Display information about all sconnections.
DS	Display structure information.

Columns on the CFC panel

The columns on the CFC panel are shown in Table 22.

Table 22. Columns on the CFC Panel

Column name	Title (Displayed)	Width	Description
CONNAME	CONNAME	16	Connection name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
CONSTATE	ConState	18	Connection state (active, failed-persistent, disconnecting, failing)
STRNAME	StrName	16	Structure name
STRTYPE	StrType	8	Structure type
STATUS	Status	16	Structure status
JNAME	JobName	8	Job name
ASID	ASID	5	Address space identifier
ASIDX	ASIDX	5	Address space identifier (hexadecimal)
CONDISP	ConDisp	6	Connection disposition (keep or delete)
CONID	ID	2	Structure connection ID
VERSION	Version	8	Structure connection version
CFLEVEL	CFLevel	8	Coupling facility code level
CONNDATA	ConData	16	Connection data
DISCDATA	DiscData	16	Disconnect data

Table 22. Columns on the CFC Panel (continued)

Column name	Title (Displayed)	Width	Description
POLICY	Policy	8	Policy name
CFNAME	CFName	8	Coupling facility name
CFNUM	NumCF	5	Number of coupling facilities
CTOKEN	ConTokenX	32	Connection token (hexadecimal)
LEVEL	ConLevel	16	Connection level
STOKEN	SToken	16	Address space SToken for connection requestor
CONFLAGS	ConFlags	8	Connection flags
SYSNUM	SysNum	6	Connection system number
SYSSEQ	SysSeq	6	Connection system sequence number
SYSNAME	SysName	8	System name

CF Structure panel (CFS)

The CF Structure (CFS) panel allows authorized users to display CF structures defined to the sysplex.

Command keyword

Access the CFS panel with the **CFS** command from any SDSF panel.

CFS command action characters

The action characters for the CFS command are shown in Table 23.

Table 23. CFS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display connection information.
DA	Display information about all structures.

Columns on the XCFS panel

The columns on the XCFS panel are shown in Table 24.

Table 24. Columns on the CFS Panel

Column name	Title (Displayed)	Width	Description
STRNAME	STRNAME	16	Structure name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STRTYPE	Type	8	Structure type

Table 24. Columns on the CFS Panel (continued)

Column name	Title (Displayed)	Width	Description
STATUS	Status	16	Structure status
DISP	Disp	8	Structure disposition
SIZE	Size	8	Size
SIZE%	Size%	6	Size percentage
USERNUM	Conn	5	Number of connections for the structure
LISTNUM	Lists	5	List count for the structure
ENTPCT	Entry%	6	Entry percentage
ELEMPCT	Elem%	6	Element percentage
ENTUSED	EntryInUse	10	Number of entries in use
ENTTOT	EntryTotal	10	Total entries
ENTCHG	EntryChange	11	Entries changed
ENTCPCT	EntryChange%	12	Entries changed percentage
ELEMUSED	ElemInUse	9	Elements in use
ELEMTOT	ElemTotal	9	Total elements
ELEMCHG	ElemChanged	10	Elements changed
ELEMCPCT	ElemChanged%	11	Elements changed percentage
LOCKNUM	Locks	8	Number of locks
VERSION	Alloc-Date-Time	19	Date and time of allocation
DUPLEX	Duplex	16	Duplex option (allowed, disabled, or enabled)
ALLOWAA	AutoAlt	7	Allow auto alt (yes or no)
ALLOWRA	Realloc	7	Allow realloc (yes or no)
FULLTHRESH	Full%	8	Full threshold percentage
REBLDPCT	Rebuild%	8	Rebuild percentage
POLSIZE	PolSize	8	Policy size (kilobytes)
INITSIZE	InitSize	8	Initial size (kilobytes)
MINSIZE	MinSize	8	Minimum size (kilobytes)
MAXSIZE	MaxSize	8	Maximum size (kilobytes)
POLNAME	Policy	8	Policy name
CFNAME	CFName	8	Coupling facility name

Common Storage Remaining panel (CSR)

The Common Storage Remaining (CSR) allows you to list all address with common storage that were not released at the end of the job.

Command keyword

Access the CSR panel with the **CSR** command from any SDSF panel.

CSR command action characters

The action characters for the CSR command are shown in Table 25.

Table 25. CSR Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).

Columns on the CSR panel

The columns on the CSR panel are shown in Table 26.

Table 26. Columns on the CSR Panel

Column name	Title (Displayed)	Width	Description
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
JOBID	JobID	8	Job identifier
ASID	ASID	5	Address space identifier
ASIDX	ASIDX	5	Address space identifier (hexadecimal)
CSA	CSA	5	CSA not released (bytes)
CSAPCT	CSA%	7	CSA percentage not released
SQA	SQA	5	SQA not released (bytes)
SQAPCT	SQA%	7	SQA percentage not released
ECSA	ECSA	5	ECSA not released (bytes)
ECSAPCT	ECSA%	7	ECSA percentage not released
ESQA	ESQA	5	ESQA not released (bytes)
ESQAPCT	ESQA%	7	ESQA percentage not released
DATE	Date	19	Timestamp storage not released
SCSAPCT	SCSA%	5	Current system CSA utilization
SECSAPCT	SECSA%	7	Current system ECSA utilization
SSQAPCT	SSQA%	5	Current system SQA utilization
SESQAPCT	SESQA%	6	Current system ESQA utilization
AUXPCT	Aux%	4	Current auxiliary storage utilization
REALAFC	RealAFC	8	Current real storage available frame count
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Device Activity panel (DEV)

The Device Activity (DEV) panel allows you to show online DASD volume activity in the system.

Command keyword

Access the DEV panel with the **DEV** command from any SDSF panel.

Customize the display with parameters

The parameter shown in Table 27 allows you to customize the DEV display.

The parameter usage is as follows:

```
DEV(ACT)
```

DEV with no parameters displays all devices.

Consider the following examples:

- **DEV ACT** - Displays devices with activity.
- **DEV** - Displays all devices.

Table 27. DEV Parameters

Parameter	Description
ACT	Limits the panel to devices with activity.

DEV command action characters

The action characters for the DEV command are shown in Table 28.

Table 28. DEV Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display unit information.
DA	Display allocations for the unit.
DI	Display IPL volume.
DSP	DevServ path.
DSQD	DevServ QDASD.
DSQP	DevServ QPATH.
DSS	DevServ SMS.
V	Vary device online.
VF	Vary device offline.

Columns on the DEV panel

The columns on the DEV panel are shown in Table 29.

Table 29. Columns on the DEV Panel

Column name	Title (Displayed)	Width	Description
VOLSER	VOLSER	6	Volume serial. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
UNIT	Unit	4	Unit address
STORGRP	StorGrp	8	Storage group
IOINTENS	IOIntens	8	I/O intensity (the higher the greater the impact)
QINTENS	QIntens	7	Queuing intensity (the higher the greater the impact)
SSCHRATE	SSCH	8	SSCH rate (SSCH per second)
RESPONSE	Response	8	Average response time (milliseconds)
IOSQ	IOSQ	8	Average IOSQ (milliseconds)
CONNECT	Connect	8	Average connect time (milliseconds)
DISCONN	Disc	8	Average disconnect time (milliseconds)
PENDING	Pending	8	Average pending time (milliseconds)
UTILPCT	Util%	6	Device utilization percentage
RESVPCT	Resv%	6	Device reserve percentage
PAVNUM	PAVNum	6	Number of parallel access volume (PAV) exposures
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Display Active Users panel (DA)

The Display Active Users (DA) panel allows authorized users to display information about jobs, users, started tasks, and initiators that are active in the sysplex. It also shows system data, such as CPU usage and paging information.

In a JES3 environment, the DA panel requires RMF. In a JES2 environment, RMF is required for sysplex-wide data and some columns and actions.

Note: Some of the values on the DA panel, such as CPU% and SIO, are approximate. For detailed and precise performance monitoring, use RMF.

Command keyword

Access the DA panel with the **DA** command from any SDSF panel.

Customizing the display with parameters

The parameters shown in Table 30 on page 47 allow you to customize the DA display as follows:

- Types of address spaces: jobs (JOB), TSO users (TSU), started tasks (STC), or initiators (INIT).
- Positions of address spaces: swapped in (IN), swapped out (OUT), in transition (TRANS), or ready (READY).

The parameter usage is as follows:

- **Position** and **Type** parameters include those address spaces.
- **Only** parameters limit the display to those types or positions. Use only one parameter from this column.
- **No** parameters exclude those types or positions.
- **All** parameters show all address spaces, or all types (ALLT) or positions (ALLP). They cannot be used with other parameters.

For example, the following command displays only address spaces that are swapped in (OIN), not including TSO users (NOTSU):

```
DA OIN NOTSU
```

Note: The maximum number of parameters is four. The information displayed may also be limited by your authorization, and by settings for filters such as FILTER, PREFIX, and SYSNAME. When parameters conflict, the last one is used.

Table 30. DA Parameters

Position	Type	Only	No	All
IN	JOB	OJOB	NOJOB	ALL
OUT	TSU	OTSU	NOTSU	ALLT
TRANS	STC	OSTC	NOSTC	ALLP
READY	INIT	OINIT	NOINIT	
		OIN	NOIN	
		OOUT	NOOUT	
		OTRANS	NOTRANS	
		OREADY	NOREADY	

DA command action characters

The action characters for the DA command are shown in Table 31.

Table 31. DA Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
A	Release a held job.

Table 31. DA Command Action Characters (continued)

Action Character	Description
C	Cancel a job. For JES3, also process output data sets. You can add: • A - Job that is defined to Automatic Restart Manager (ARM) • D - And take a dump • DA - Job that is defined to ARM, and take a dump • DP - And take a dump but do not purge the job's output (JES3 only). • P - And print data sets ready for printing (JES3 only).
D	Display job information in the log. You can add: • E - Line, page, record and card counts (JES3 only). • L - Long form • SD - DDNAMES of spool data sets that contain data (JES3 only). • SH - DDNAMES of spool data sets in spool hold that contain data (JES3 only). • SP - Spool partition name (JES3 only). • X - Extended (JES3 only).
E	Process a job again. You can add (JES2 only): • C - Cancel and hold the job prior to execution • S - After the current step completes • SH - After the current step completes, restart and hold
H	Hold a job.
JD	Display the job's use of devices. (Access the Job Device panel.)
JM	Display the job's use of memory. (Access the Job Memory panel.)
JS	Display the job steps. (Access the Job Step panel.)
JY	Display reasons for delay. (Access the Job Delay panel.)
K	Cancel an address space using the MVS CANCEL command.
KD	Cancel an address space and take a dump using MVS CANCEL.
L	List output status of a job in the log. For JES3, this is job output in the writer queue. You can add: • B - SNA/NJE output (JES3 only). • H - Output on the hold queue (JES3 only). • L - Long form • T - TCP/IP job output (JES3 only).

Table 31. DA Command Action Characters (continued)

Action Character	Description
N	Display enqueues.
P	Cancel a job and purge its output.
PP	Cancel a protected job and purge its output (JES2 only).
Q	Display output descriptors for all of the data sets in an output group.
R	Reset and resume a job. (RMF)
RQ	Reset and quiesce a job. (RMF)
S	Display the data sets for a job. You can add: • B - Use ISPF Browse • E - Use ISPF Edit • J - Use ISPF Edit to edit the JCL • n - Number of the data set where browsing starts
W	Cause job and message logs to spin. (RMF)
X	Print output data sets. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)
Y	Stop a started task (system stop). (RMF)
Z	Cancel an address space using the MVS FORCE command.
?	Display a list of data sets for a job. (Access the Job Data Set panel.)

Columns on the DA panel

The columns on the DA panel are shown in Table 32.

Table 32. Columns on the DA Panel

Column Name	Title (Displayed)	Width	Description	Delay
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
STEPN	StepName	8	Job step name (TSO logon procedure name for TSO users)	
PROCS	ProcStep	8	Procedure step name (terminal ID for TSO users)	
JTYPE	Type [1]	4	Type of address space	
JNUM	JNum[1]	6	JES job number	
JOBID	JobID	8	JES job ID	

Table 32. Columns on the DA Panel (continued)

Column Name	Title (Displayed)	Width	Description	Delay
OWNERID	Owner	8	User ID of job owner, or default values of ++++++++ or ????????, if user ID not defined to RACF®	
JCLASS	C	1 or 8	JES input class at the time the job was selected for execution. Default width expands to 8 if there are long class names in the MAS.	
POS	Pos	3	Address space position	
DP	DP	2	Address space dispatching priority in hexadecimal	
REAL	Real	4	Current real storage usage in frames	
PAGING	Paging	6	Demand paging rate for address space	
EXCPRT	SIO	6	EXCP rate in EXCPs per second for address space. The value is approximate, and derived from this calculation: the job delta EXCP count (from RMF or the ASCB) divided by the total time interval.	
CPUPR	CPU% [2]	6	Percent of CPU time consumed by and on behalf of the address space during the most recent interval measured	
ASID	ASID	4	Address space identifier	
ASIDX	ASIDX	5	Address space identifier in hexadecimal	
EXCP	EXCP-Cnt	9	Accumulated EXCP count for the current job step for the address space. Uses hexadecimal scaling.	
CPU	CPU-Time	10	Accumulated CPU time consumed by and on behalf of the address space, for the current job step, in seconds	
SWAPR	SR	2	Swap out reason code	
STATUS	Status	6	JES job status	
SYSNAME [RMF]	SysName	8	System name where job is executing	
SPAGING [RMF]	SPag	4	System demand paging rate for system that the job is executing on. The value is the same for all rows for a system.	
SCPU [RMF]	SCPU%	5	System CPU percentage for system that is processing the job. The value is the same for all rows for a system.	
WORKLOAD [RMF]	Workload	8	Workload name	
SRVCLASS [RMF]	SrvClass	8	Service class name	
PERIOD [RMF]	SP	2	Service class period	
RESGROUP [RMF]	ResGroup	8	Resource group name	
SERVER [RMF]	Server	8	Server indicator (resource goals are not being honored)	
QUIESCE [RMF]	Quiesce	7	Quiesce indicator (address space is quiesced)	
ECPU [RMF]	ECPU-Time	10	Total CPU time consumed by and within the address space, for the current job step, in seconds	
ECPUPR [RMF]	ECPU%	6	CPU usage by and within the address space	

Table 32. Columns on the DA Panel (continued)

Column Name	Title (Displayed)	Width	Description	Delay
CPUCRIT RMF	CPUCrit	7	Current address space CPU-protection	
STORCRIT RMF	StorCrit	8	Current address space storage protection	
RPTCLASS RMF	RptClass	8	Report class	
MEMLIMIT RMF	MemLimit	8	Memory limit	
TRANACT RMF	Tran-Act	10	Elapsed time the transaction has been active	
TRANRES RMF	Tran-Res	10	Elapsed time the transaction was swapped in	
SPIN RMF	Spin	4	Indicator of whether job can be spun	
SECLABEL	SecLabel	8	Security label of the address space	
GCPTIME RMF	GCP-Time	8	Accumulated general processor service time, in seconds	
ZAAPTIME RMF	zAAP-Time	9	Accumulated IBM zEnterprise Application Assist Processor (zAAP) service time, in seconds	
ZAAPCPTM RMF	zACP-Time	9	CPU time consumed on general processors by work that was eligible for a zAAP, in seconds	
GCPUSE RMF	GCP-Use%	8	Percent of the total general processor time used by the address space in the most recent interval	
ZAAPUSE RMF	zAAP-Use%	9	Percent of the total zAAP time used by the address space in the most recent interval	
SZAAP RMF	SzAAP%	6	zAAP view of CPU use for the system, in the most recent interval. The value is the same for all rows for a system.	
SZIIP RMF	SzIIP%	6	IBM z Integrated Information Processor (zIIP) utilization for the system that is processing the job. This is a system value and so is the same for all rows for a system.	
PROMOTED RMF	Promoted	8	Indicates whether the address space is currently promoted due to a chronic resource contention	
ZAAPNTIM RMF	zAAP-NTime	10	Normalized zAAP service time, in seconds	
ZIIPTIME RMF	zIIP-Time	9	CPU time consumed on zIIPs, in seconds	
ZIIPCPTMRMF	zICP-Time	9	CPU time consumed on general processors by work that was eligible for a zIIP, in seconds	
ZIIPNTIM RMF	zIIP-NTime	10	Normalized zIIP service time, in seconds	
ZIIPUSE RMF	zIIP-Use%	9	Percent of the total zIIP time used by the address space in the most recent interval	
SLCPU RMF	SLCPU%	6	Percentage of time the LPAR is busy for the system, in the most recent interval. The value for SLCPU% is the same for all rows for a system.	
IOPRIOGRPRMF	IOPrioGrp	9	WLM I/O priority group	
JOBCORR	JobCorrelator	32	User portion of the job correlator (JES2 only)	
TRESGROUP	TenantResGroup	14	Tenant resource group indicator (YES or NO, RMF)	

Notes on the table:

1. Not included in the default field list.
2. SDSF calculates the value for the CPU% column. It is the ratio between the CPU time used by one job and the CPU time used by all jobs, in the interval between times that the user presses Enter.
3. Columns with information for zAAPs and zIIPs are shown only if at least one of the appropriate specialized processors (zAAP or zIIP) has been configured for a system that is within the scope of the systems being shown on the panel. Note that changing the systems being shown (with the SYSNAME or FILTER commands) once the DA panel is displayed does not affect whether SDSF includes or omits the column.

Dynamic Exits panel (DYNX)

The Dynamic Exits (DYNX) panel allows you to display the properties of dynamic exits defined to the system. The DYNX panel shows all of the dynamic exits in the sysplex, their status, and the modules that implement the exit.

You can use the fast path select (S) command with an EXITNAME to filter results.

Command keyword

Access the DYNX panel with the **DYNX** command from any SDSF panel.

DYNX command action characters

The action characters for the DYNX command are shown in Table 33.

Table 33. DYNX Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display dynamic exit.
DA	Display all dynamic exits.
DAI	Display all implicitly defined dynamic exits.
DD	Display dynamic exit with diagnostic information.
DI	Display exits defined with type installation.
DNP	Display exits not defined with type program.
DP	Display exits defined with type program.
H	Modify state to inactive.
P	Delete exit routine from exit.
PF	Delete exit routine from exit (forced).

Table 33. DYNX Command Action Characters (continued)

Action Character	Description
U	Undefine an implicitly defined exit.

Columns on the DYNX panel

The columns on the DYNX panel are shown in Table 34.

Table 34. Columns on the DYNX Panel

Column name	Title (Displayed)	Width	Description
EXITNAME	EXITNAME	16	Dynamic exit name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number for module in list
MODNAME	ModName	8	Module name implementing exit
ACTIVE	Active	6	Exit active (YES or NO)
FASTPATH	FastPath	8	Exit FASTPATH option (YES or NO). FASTPATH processing means that the system does not provide as much function, and therefore the overall processing time is less.
MODEPA	ModEPA	8	Module entry point address
MODLOADPT	LoadPt	8	Module load point address if available
MODSIZE	ModLen	8	Module length if available
JNAME	FiltJob	8	Jobname for which exit is to get control
STOKEN	FiltSTok	16	Address space token (STOKEN) for which exit is to get control
ABENDNUM	NumAbend	8	Number of abends before exit inactivates
ABENDCON	ConAbend	8	Consecutive abend option (YES – consecutive abends before inactivation, NO – cumulative abends before inactivation)
SEQMAX	SeqMax	6	Maximum module sequence number
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of the operating system
TYPE	Type	12	Exit type

Enclaves panel (ENC)

The Enclaves (ENC) panel allows you to display information about Workload Manager (WLM) enclaves.

A WLM enclave is an anchor for a transaction that can be spread across multiple dispatchable units in multiple address spaces. The enclave is a group of one or more logically related z/OS task control blocks (TCB) and service request blocks (SRB) that manage the work in entities.

Command keyword

Access the ENC panel with the **ENC** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 35 allow you to customize the ENC display.

The parameter usage is as follows:
`ENC (ACTIVE|ALL)`

Consider the following examples:
- **ENC ACTIVE** - Displays all active enclaves.
- **ENC ALL** - Displays all enclaves.

Table 35. ENC Parameters

Parameter	Description
ACTIVE	Displays only active enclaves.
ALL	Displays all enclaves. This is the default.

ENC command action characters

The action characters for the ENC command are shown in Table 36.

Table 36. ENC Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
I	Display additional information about the enclave.
M	Match the enclave by export token, to display only the instances of a multisystem enclave. Valid only for multisystem enclaves, as indicated in the Scope column. To see all enclaves again, reaccess the panel.
R	Reset and resume an enclave.
RQ	Reset and quiesce an enclave.

Note: If you reset a dependent enclave, the owner address space is reset.

Columns on the ENC panel

The columns on the ENC panel are shown in Table 37.

Table 37. Columns on the ENC Panel

Column name	Title (Displayed)	Width	Description
NAME	NAME	16	Token that identifies the enclave. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SSTYPE	SSType	6	Subsystem type (for example, DB2).
STATUS	Status	8	Active or inactive
ESRVCLS	SrvClass	8	Service class
PERIOD	Per	3	Period number
PGN	PGN	3	Performance group
RPTCLS	RptClass	8	Report class
RESGROUP	ResGroup	8	Resource group
CPU	CPU-Time	10	Total CPU time
OWNSYS	OwnerSys	8	Enclave owner system
JNAME	OwnerJob	8	Enclave owner jobname
ASID	OwnerAS	7	Enclave owner ASID (displayed only if this enclave is the original)
ASIDX	OwnerASXA	8	Enclave owner ASID in hexadecimal (displayed only if this enclave is the original)
ORIGINAL	Original	8	Indicates, for an enclave that has been exported, if this is the original. Value is YES or NO.
ESCOPE	Scope	8	Scope of the enclave; LOCAL (single-system) or MULTISYS (multisystem capable; there is an export token for the enclave)
TYPE	Type	4	IND (Independent) or DEP (dependent)
WORKLOAD	Workload	8	Workload name
QUIESCE	Quiesce	12	Indicates if the enclave is in a quiesce delay, which occurs if the address space has been reset with the MVS RESET,QUIESCE command. Value is YES, YES-IMPLICIT (quiesced through enclave server quiesce) or NO.
SYSNAME	SysName	8	Name of the system that provided the data
SYSLEVEL	SysLevel	25	Level of the operating system
SUBSYS	Subsys	8	Subsystem name
ZAAPTIME	zAAP-Time	9	Cumulative zAAP time consumed by dispatchable units running in the enclave on the local system. See note below.
ZAAPCPTM	zACP-Time	9	Cumulative zAAP on CP time consumed by dispatchable units running in the enclave on the local system. See note below.
ZIIPTIME	zIIP-Time	9	Cumulative zIIP time consumed by dispatchable units running in the enclave on the local system. See note below.

Table 37. Columns on the ENC Panel (continued)

Column name	Title (Displayed)	Width	Description
ZIIPCPTM	zICP-Time	9	Cumulative zIIP on CP time consumed by dispatchable units running in the enclave on the local system. See note below.
PROMOTED	Promoted	8	Indicates whether the address space is currently promoted due to a chronic resource contention
ZAAPNTIM RMF	zAAP-NTime	10	zAAP service time, in seconds, normalized for the slower CP
ZIIPNTIM RMF	zIIP-NTime	10	zIIP service time, in seconds, normalized for the slower CP
ARRTIME	Arrival-Time	19	Date and time the enclave was created
ARRINTV	Arrival-Int	11	Interval since the enclave was created (*hh:mm:ss*)
CPUCRIT	CPUCrit	7	CPU protection
IOPRIOGRP	IOPrioGrp	9	WLM I/O priority group
USERID	UserID	8	User ID associated with the request
TRESGROUP	TenantResGroup	14	Tenant resource group indicator (YES or NO, RMF).

Enqueue panel (ENQ)

The Enqueue (ENQ) panel allows authorized users to display active system enqueues. Enqueuing is the mechanism by which a program requests control of a serial reusable resource. The panel shows the major and minor names for the enqueuer, as well as the job name waiting for or holding the enqueue. Parameters on the ENQ command control which major and system names are shown. By default, only major SYSDSN enqueues on the local system are shown.

The **ENQC** command provides a convenient means of showing all enqueues with contention. That is, **ENQC** shows currently held enqueues that are required by another job.

Command keyword

Access the ENQ and ENQC panels with the **ENQ** and **ENQC** commands, respectively, from any SDSF panel. You can also access the ENQ panel from the DA panel using the N action character. When ENQ is accessed in this way, all enqueues used by the selected address space are shown.

Customize the display with parameters

The parameters shown in Table 38 on page 57 allow you to customize the ENQ display. **ENQC** displays all enqueues with contention. **ENQC** does not accept any parameters.

The parameter usage is as follows:

```
ENQ major-name system-name
```

Table 38. ENQ Parameters

Parameter	Description
major-name	The enqueue major name to process including * (any string of characters) or % (any single character). The default is SYSDSN.
system-name	The MVS system name, up to 8 characters including * (any string of characters) or % (any single character). The default is the local system name.

ENQ command action characters

The action characters for the ENQ command are shown in Table 39.

Table 39. ENQ Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 3-5. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display enqueues.

Note: If you reset a dependent enclave, the owner address space is reset.

Columns on the ENQ panel

The columns on the ENQ panel are shown in Table 40.

Table 40. Columns on the ENQ Panel

Column name	Title (Displayed)	Width	Description
MINOR	MINOR	52	Minor name (RNAME). This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro. Control characters are translated to periods.
MAJOR	Major	8	Major name (QNAME). Control characters are translated to periods.
REQTYPE	Req	3	Request type (SHR or EXC)
JOBNAME	JobName	8	Job name holding or requesting enqueue
ASID	ASID	4	Job name ASID (decimal)
ASIDX	ASIDX	6	Job name ASID (hexadecimal)
LEVEL	Level	10	Request level: ENQ-normal enqueuer, Reserve-hardware reserve, Global enq-hardware reserve converted to global enqueue
SMC	SMC	3	Step must complete indicator
SCOPE	Scope	8	Enqueue scope (step, system, systems, global)

Table 40. Columns on the ENQ Panel (continued)

Column name	Title (Displayed)	Width	Description
STATUS	Status	6	Resource status (own, wait)
OWNERS	Owners	6	Number of resource owners for enqueuer
WAITERS	Waiters	7	Number of tasks waiting for enqueue
WAITEXC	WaitExc	7	Number of tasks waiting for exclusive use
WAITSHR	WaitShr	7	Number of tasks waiting for shared use
UNIT	Unit	4	Device address for reserves
USERDATA	UserData	32	User data passed on ISGENQ
REQTIME	ReqTime	19	Date and time of request
ENQTOKEN	EnqToken	64	Enqueue token
RNAMEL	RNameLong	127	Longer version of minor name, up to 127 characters. Control characters are translated to periods.
SYSNAME	SysName	8	System name

File System panel (FS)

The File System (FS) panel allows you to list the file systems being used by the system.

Command keyword

Access the FS panel with the **FS** command from any SDSF panel.

FS command action characters

The action characters for the FS command are shown in Table 41.

Table 41. FS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display file system.
DA	Display all file systems.
DE	Display file system exceptions.

Columns on the FS panel

The columns on the FS panel are shown in Table 42.

Table 42. Columns on the FS Panel

Column name	Title (Displayed)	Width	Description
DEVICE	DEVICE	6	Unique device value (character format). This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
PATH	Path	36	Directory name where file system is mounted (truncated to 63 characters)
TYPE	Type	8	File system type
MODE	Mode	4	File system mode (READ or RDWR)
OWNER	Owner	8	System that owns this file system
DSNAME	Name	44	Name of file system
STATUS	Status	16	File system status
STATUSNUM	StatNum	7	Status code corresponding to status value
AUTOMOVE	AutoMove	8	Automove indicator
CLIENT	Client	6	Client indicator (yes or no)
LATCHNUM	Latch	5	Latch number for the file system
MOUNTTIME	Mount-Time-Date	19	Timestamp file system was mounted
MOUNTPARM	MountParm	57	Parameter specified on mount truncated to 57 characters
QSYSNAME	QSysName	9	System that quiesced this file system
QJOBNAME	QJobName	9	Jobname that quiesced this file system
QPID	QPID	8	PID that quiesced this file system
DEVICENUM	DevNum	6	Unique device value (decimal)
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Generic Tracker panel (GT)

The Generic Tracker (GT) panel allows you to list all generic tracking events that have been recorded by the system.

Command keyword

Access the GT panel with the **GT** command from any SDSF panel.

GT command action characters

The action characters for the GT command are shown in Table 43.

Table 43. GT Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.

Table 43. GT Command Action Characters (continued)

Action Character	Description
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display tracking events by owner.
DA	Display all tracking events.
DD	Display active debug statements.
DE	Display exclude statements.
DH	Display tracking events by home job.
DS	Display generic tracker status.

Columns on the GT panel

The columns on the GT panel are shown in Table 44.

Table 44. Columns on the GT Panel

Column name	Title (Displayed)	Width	Description
OWNER	OWNER	8	Owner of tracked instance. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SOURCE	Source	8	Source of tracked instance
PROGRAM	Program	8	Program name
PROGOFS	ProgramOffset	16	Offset into program issuing track request
EVENTDESC	EventDesc	64	Event description
EVENTDATA	EventData	32	Data associated with the event
EVENTJOB	EJobName	9	Event job name
HOMEJOB	HJobName	9	Home job name
EVENTASID	EASIDX	6	Event address space identifier (hexadecimal)
HOMEASID	HASIDX	6	Home address space identifier (hexadecimal)
AUTH	Auth	4	Authorized indicator (yes or no)
COUNT	Count	5	Number of events
FIRST	First-Date-Time	19	Timestamp of first event
SPATHLEN	SPathLen	8	Actual length of source path
SOURCEPATH	SourcePath	127	Source path for event (may be truncated)
PPATHLEN	PPathLen	8	Actual length of program path
PROGRAMPATH	ProgramPath	127	Program path for event (may be truncated)
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Health Check panel (CK)

The Health Checker (CK) panel allows you to display information from IBM Health Checker for z/OS. The panel shows the active checks. Checks that are currently running are highlighted.

Command keyword

Access the CK panel with the **CK** command from any SDSF panel.

Customize the display with parameters

The **CK** command without parameters displays checks that are not deleted. The parameters shown in Table 45 allow you to customize the CK display.

The parameter usage is as follows:

```
CK (category|E|EH|EM|EL|EN|D|ALL)
```

CK with no parameters displays checks that are not deleted.

Table 45. CK Parameters

Parameter	Description
category	Shows only checks for that category. The value can include * (any string of characters) or % (any single character).
E	Displays all exception checks. You can add: • H - exception high • M - exception medium • L - exception low • N - exception none
D	Displays deleted checks.
ALL	Displays deleted as well as non-deleted checks.

CK command action characters

The action characters for the CK command are shown in Table 46.

Table 46. CK Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
A	Activate.
D	Display information.

Table 46. CK Command Action Characters (continued)

Action Character	Description
DD	Display information, diagnostic form.
DL	Display information, long form.
DP	Display policies.
DPO	Display policies that are outdated and not applied.
DS	Display status.
E	Refresh.
H	Deactivate.
L	List history (display the CKH panel). The check must have a history (see the Log-Date-Time column).
P	Delete.
PF	Delete force: delete even if it is running.
R	Run.
S	Browse (access SDSF's Output Dataset Panel.)
SB	Browse using ISPF Browse.
SBI	Browse REXX input data set using ISPF browse.
SBO	Browse REXX output data set using ISPF browse.
SE	Browse using ISPF Edit.
SEI	Browse REXX input data set using ISPF edit.
SEO	Browse REXX output data set using ISPF edit.
U	Remove all categories for the check.
X	Print the check output. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)

Columns on the CK panel

The columns on the CK panel are shown in Table 47.

Table 47. Columns on the CK Panel

Column name	Title (Displayed)	Width	Description
NAME	NAME	32	Check name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
OWNER	CheckOwner	16	Check owner
STATE	State	18	Check state

Table 47. Columns on the CK Panel (continued)

Column name	Title (Displayed)	Width	Description
STATUS	Status	18	Check status
RESULT	Result	6	Result code from the last invocation of the check
DIAG1	Diag1	8	Diagnostic data from check, word 1
DIAG2	Diag2	8	Diagnostic data from check, word 2
DIAGFROM	DiagFrom	8	Source of the diagnostic data, words 1 and 2: ABEND, HCHECKER or CHECKRTN
GLOBAL	Global	6	Indicator of whether the check is global
GLOBALSYS	GlobalSys	9	Name of the system on which the global check is running
EXCOUNT	ExcCount	8	Number of exceptions detected by this check on the last iteration
COUNT	RunCount	8	Number of times the check has been invoked
FAIL	Fail	4	Number of times the check failed
SEVERITY	Severity	8	Severity level of the check (HIGH, MEDIUM, LOW, NONE)
SEVCODE	SevCode	7	Numeric severity level of the check
WTOTYPE	WTOType	9	WTO type issued when an exception is found (EVENTUAL, CRITICAL, INFO, HC, NONE or a descriptor code)
MODIFIED	ModifiedBy	26	How the check was modified
POLSTAT	PolicyStatus	18	Policy error status
WTONUM	WTONum	6	Number of WTOs issued by the check
NUMCAT	NumCat	6	Number of categories in which the check is defined
CATEGORY	Category	16	Category name. Users can view the complete set of categories by typing + alone in this column.
CATEGORY2 -CATEGORY4	Category2 – Category4	16	Category names 2 to 4.
CATEGORY5 -CATEGORY16	Category5 – Category16	16	Category names 5 to 16. By default, these appear only in the alternate field list.
EXITNAME	ExitName	8	Exit modname that added the check
MODNAME	ModName	8	Check module name
MSGNAME	MsgName	8	Message load module name
USERDATE	UserDate	8	Current date of the check
DEFDATE	DefDate	8	Default date of the check
DEBUG	Debug	5	Debug mode indicator
DATEE	Start-Date-Time	19	Date and time the check last started (YYYY.DDD HH:MM:SS)
INTERVAL	Interval	8	Time interval at which the check runs (HHH:MM)
SCHDATE	NextSch-Date-Time	19	Date and time the check is next scheduled to run (YYYY.DDD HH:MM:SS)
SCHINT	NextSch-Int	11	Time remaining to the date and time the check is next scheduled to run, in HHHHH:MM:SS
LOGDATE	Log-Date-Time	19	Date and time of the last successful write to System Logger

Table 47. Columns on the CK Panel (continued)

Column name	Title (Displayed)	Width	Description
DELDATE	Deleted-Date-Time	19	Date and time the check was deleted
PROCNAME	ProcName	8	Health Checker procedure name
STCID	TaskID	8	Health Checker started task ID
REASON	Reason	126	Description of the reason for check
UPDREAS	UpdateReason	48	Description of updates to the check. The width can be increased to 126.
PARMLEN	ParmLen	7	Length of the check parameters
PARM	Parameters	32	Check parameters. Only characters A-Z, 0-9, #, @, $ and blanks are shown. Any other value is translated to a period.
SYSLEVEL	SysLevel	25	Level of the operating system
SYSNAME	SysName	8	System name
EINTERVAL	EInterval	9	Interval at which the check will run when it has raised an exception
EXECNAME	ExecName	8	Name of the exec to run
LOCALE	Locale	8	Where the check is running
ORIGIN	Origin	8	Origin of the check
VERBOSE	Verbose	7	Verbose mode for the check
REXXIN	RexxIn	44	REXX input data set name
REXXOUT	RexxOut	44	REXX output data set name
LOGSTREAM	LogStream	26	Name of the logstream used to record this check

Held Output panel (H)

The Held Output panel shows the user information about SYSOUT data sets for jobs, started tasks, and TSO users on any *held* JES output queue. There is one row for each output group for each job.

Command keyword

Access the H panel with the **H** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 48 on page 65 allow you to customize the H display.

The parameter usage is as follows:

```
H(classes) (string|ALL)
```

Consider the following examples:

- **HDE ALL** - Displays information for all jobs in output classes D and E.
- **H ABC** - Displays information for jobs with the name abc.
- **H ABC*** - Displays information for jobs with names that begin with abc.

Table 48. H Parameters

Parameter	Description
classes	A list of up to 7 output classes. **Note:** Do not use blanks between H and the classes or between classes.
string	A character string that limits the panel to jobs with names that match the character string. *string* may be up to 8 characters, including * (any string of characters) and % (any single character).
ALL	Displays all jobs.

H command action characters

The action characters for the H command are shown in Table 49.

Table 49. H Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
?	Display a list of the data sets for an output group. (Access the Job Data Set panel.)
/	Show column values for row (ISPF only).
A	Release a job's output (JES2 only).
C	Purge a job's output (JES2 only).
H	Hold a job's output (JES2 only).
JS	Display job steps. (Access the Job Step panel.)
L	List a job's output in the log (JES2 only).
LL	List a job's output in the log, long form (JES2 only).
O	Release output to be printed, then purged (JES2 only).
OK	Release output to be printed and kept (JES2 only).
P	Purge output data sets (JES2 only).
Q	Display output descriptors for all of the data sets for an output group.
S	Display the data sets for an output group. You can add: • B - Use ISPF Browse. • E - Use ISPF Edit. • J - Use ISPF Edit to edit the JCL.

Table 49. H Command Action Characters (continued)

Action Character	Description
X	Print the check output. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)

Columns on the H panel

The columns on the H panel are shown in Table 50.

Table 50. Columns on the H Panel

Column name	Title (Displayed)	Width	Description	Delay
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
JNUM	JNum[1]	6	JES job number	
JOBID	JobID	8	JES job ID	
OWNERID	Owner	8	User ID of SYSIN/SYSOUT owner, or default values of ++++++++ or ????????, if user ID not defined to RACF	
DPRIO	Prty	4	JES output group priority	
OCLASS	C	1	JES output class	
OUTDISP	ODisp	5	JES output disposition	
DESTN	Dest	18	JES print destination name	
RECCNT	Tot-Rec	9	Output total record count (lines). Blank for page-mode data.	
PAGECNT	Tot-Page	9	Output page count (lines). Blank if not for page-mode data.	
FORMS	Forms	8	Output form number	
FCBID	FCB	4	Output FCB ID	
STATUS	Status	16	JES job status	
UCSID	UCS	4	Output UCS ID (print train required)	
WTRID	Wtr	8	Output external writer name	
FLASHID	Flash	5	Output flash ID	
BURST	Burst	5	3800 burst indicator	
PRMODE	PrMode	8	Printer process mode	
DEST	Rmt	5	JES print routing. Remote number if routing is not local. (JES2 only)	
NODE	Node	5	JES print node (JES2 only)	
SECLABEL	SecLabel	8	Security label of data sets	
OGNAME	O-Grp-N	8	Output group name (JES2 only)	
OGID	OGID1	5	Output group ID 1 (JES2 only)	

Table 50. Columns on the H Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
OGID2	OGID2	5	Output group ID 2 (JES2 only)	
JPRIO	JP	2	Job priority	
DSDATE	CrDate	10	Data set creation date. The installation can change the CRDATE column to 19, so that the date and time is included. (JES2 only)	
OHREASON	OHR	3	Output hold reason code	
OHRSNTXT	Output-Hold-Text	37	Output hold reason text	
DEVID	Device	18	Output device name	
DSYSID	SysID	5	Printing system (JES2 only)	
OFFDEVS	Offs	4	List of offload devices for a job or output that has been offloaded (JES2 only)	
RETCODE	Max-RC	10	Return code information for the job	
JTYPE	Type	4	Type of address space	
ROOMN	RNum	8	JES job room number	X
PNAME	Programmer-Name	20	JES programmer name	X
ACCTN	Acct	4 (JES2) 8 (JES3)	JES account number	X
NOTIFY	Notify	8	TSO user ID from NOTIFY parameter on job card	X
ISYSID	ISys	4 (JES2) 8 (JES3)	JES input system ID	X
TIMER	Rd-Time	8	Time that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
DATER	Rd-Date	8	Date that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
ESYSID	ESys	4 (JES2) 8 (JES3)	JES execution system ID	X
TIMEE	St-Time	8	Time that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
DATEE	St-Date	8	Date that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
TIMEN	End-Time	8	Time that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
DATEN	End-Date	8	Date that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
ICARDS	Cards	5	Number of cards read for job	X
JCLASS	JC	1 or 8	JES input job class. Default width expands to 8 if there are long class names in the MAS.	
MCLASS	MC	2	Message class of job	X
SUBGROUP	SubGroup	8	Submittor group	X

Table 50. Columns on the H Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
JOBACCT1	JobAcct1[1]	20	Job accounting field 1	X
JOBACCT2	JobAcct2[1]	20	Job accounting field 2	X
JOBACCT3	JobAcct3[1]	20	Job accounting field 3	X
JOBACCT4	JobAcct4[1]	20	Job accounting field 4	X
JOBACCT5	JobAcct5[1]	20	Job accounting field 5	X
JOBCORR	JobCorrelator	32	User portion of the job correlator (JES2 only)	
DATETIMER	Rd-DateTime	19	Date and time that the job was read in. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the Rd-Date and Rd-Time columns.	X
DATETIMEE	St-DateTime	19	Date and time that execution began. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the St-Date and St-Time columns.	X
DATETIMEN	End-DateTime	19	Date and time that execution ended. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the End-Date and End-Time columns.	X
BERTNUM	BERTNum	7	Number of BERTs used by this JOE (JES2 only)	

Notes on the table:

1. This column is not included in the default field list.

Initiator panel (INIT)

The INIT panel allows you to display information about JES-managed and WLM-managed initiators.

Command keyword

Access the INIT panel with the **INIT** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 51 allow you to customize the INIT display.

The parameter usage is as follows:

```
INIT (JES | WLM | ALL)
```

Table 51. INIT Parameters

Parameter	Description
JES	Displays JES-managed initiators.
WLM	Displays WLM-managed initiators.
ALL	Displays all initiators. This is the default.

INIT command action characters

The action characters for the INIT command are shown in Table 52.

Table 52. INIT Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display information about an initiator.
DL	Display the long form of information about an initiator.
JD	Display the job's use of devices. (Access the Job Detail Device panel.)
JM	Display the job's use of memory. (Access the Job Detail Memory panel.)
P	Stop an initiator when the current job completes. (JES-managed initiators only.)
S	Start an initiator.
Z	Halt an initiator when the current job completes. This suspends, rather than stops, the initiator (JES2 only).

Columns on the INIT panel

The columns on the INIT panel are shown in Table 53.

Table 53. Columns on the INIT Panel

Column name	Title (Displayed)	Width	Description
INTNAME	ID	4 (JES2) 8 (JES3)	Initiator ID (JES2) or group or class name (JES3). This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	10	Initiator status
ICLASS	Classes	8	JES2 initiator classes (JES2 only). Multi-character classes and groups shows as periods (.).
JNAME	JobName	8	Job name
STEPN	StepName	8	Job step name
PROCS	ProcStep	8	Procedure step name (JES2 only)
JTYPE	Type	4	Type of address space
JNUM	JNum[1]	6	JES job number
JOBID	JobID	8	JES job ID or work ID
JCLASS	C	8	JES input class at time job was selected for execution
ASID	ASID	4	Address space identifier

Table 53. Columns on the INIT Panel (continued)

Column name	Title (Displayed)	Width	Description
ASIDX	ASIDX	5	Address space identifier in hexadecimal
OWNERID	Owner	8	User ID of the owner of the active job
SYSNAME	SysName	8	System name
DSYSID	SysID	5 (JES2) 8 (JES3)	JES member name (JES2) or the system on which the job is active under the class (JES3, resource type of INIT)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	JES level
SECLABEL	SecLabel	8	Security label of the job
SRVCLASS	SrvClass	8	For JES-managed initiators, shows the service class of the active job. For WLM-managed initiators, shows the service class the initiator is running.
IMODE	Mode	4	Initiator mode (group rows only)
BARRIER	Barrier	7	Group scheduling barrier (JES3 only, group rows only)
DEFAULT	Default	7	Default group indicator (JES3 only)
DEFCNT	DefCount	8	Defined initiator count (JES3 only, group rows only)
ALLOCCNT	AllocCount	10	Allocated initiator count (JES3 only)
USECOUNT	UseCount	8	In-use initiator count
ALLOC	Alloc	5	Allocation option (JES3 only, group rows only), which determines when the execution resources are to be allocated to the JES-managed group
UNALLOC	Unalloc	7	Unallocation indicator (JES3 only, group rows only)
GROUP	Group	8	Group name
RESTYPE	ResType	7	Resource type (group or class)
ICLASS1-8	Class1-8	8	JES2 initiator classes 1-8, including multi-character classes and groups (JES2 only)
INTNUM	IntNum	6	Initiator number (JES2 only)

Notes on the table:

1. JNUM is not included in the default field list.

Input Queue panel (I)

The Input Queue panel allows you to display information about jobs that are on the JES input queue, or that are executing.

Command keyword

Access the I panel with the **I** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 54 on page 71 allow you to customize the I display.

The parameter usage is as follows:

```
I(class) (H|NH)
```

I with no parameters displays all jobs in all classes and the converter queue (but not TSO users or started tasks). The jobs displayed may be limited by your authorization and by settings for filters such as PREFIX or FILTER.

Consider the following examples:

- **IAC H** - Displays jobs in classes A and C that are held.
- **IA NH** - Displays jobs in class A that are not held.
- **I$** - Displays the input queue for all TSO users.

Table 54. I Parameters

Parameter	Description
class	Limits the job classes. For JES2, type up to 7 one-character classes, with no blanks. Classes are A-Z and 0-9, plus special characters. For JES3, type one class, up to 7 characters. For more complex filters, use the FILTER command. **Note:** Do not use blanks between I and the classes or between classes. You can also use special characters for class (JES2 and JES3): • @ - jobs waiting to be transmitted to another node. • * - converter queue • # - started tasks • $ - TSO users • ! - hardcopy queue **Note:** The hardcopy queue contains all jobs that have any type of output in the system. Accessing the hardcopy queue by using the I command allows you to find output for a job, whether it is on a held or nonheld JES output queue. You can also use the hardcopy queue to display output that has been printed but that remains in the JES spool.
H	Displays only held jobs.
NH	Displays only jobs that are not held.

I command action characters

The action characters for the I command are shown in Table 55.

Table 55. I Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).

Table 55. I Command Action Characters (continued)

Action Character	Description
/	Show column values for row (ISPF only).
?	Display a list of the data sets for a job. (Access the Job Data Set panel.)
A	Release a held job.
C	Cancel a job. You can add: • A - Job that is defined to Automatic Restart Manager (ARM) • D - And take a dump • DA - Job that is defined to ARM, and take a dump • DP - And take a dump but do not purge the job's output (JES3 only). • P - And print data sets ready for printing (JES3 only).
D	Display job information in the log. You can add: • E - Line, page, record, and card counts (JES3 only). • L - Long form (JES2 only). • M - Mains on which the job is eligible to run (JES3 only). • MA - MDS allocate queue information (JES3 only). • ME - MDS error queue information (JES3 only). • MR - MDS restart queue information (JES3 only). • MSS - MDS system select queue information (JES3 only). • MSV - MDS system verify queue information (JES3 only). • MU - MDS unavailable volumes information (JES3 only). • P - Dependencies. • SD - DDNAMEs of all spool data sets that contain data (JES3 only). • SH - DDNAMEs of data sets in spool hold status that contain data (JES3 only). • SP - Spool partition name (JES3 only). • X - Extended (JES3 only).
E	Process a job again. You can add (JES2 only): • C - Cancel and hold the job prior to execution • S - After the current step completes • SH - After the current step completes, restart and hold
H	Hold a job.
I	Display job delay information.

Table 55. I Command Action Characters (continued)

Action Character	Description
J	Start a job immediately.
JD	Display the job's use of devices. (Access the Job Device panel.)
JM	Display the job's use of memory. (Access the Job Memory panel.)
JP	Display job dependencies. (Access the Job Dependency panel.)
JS	Display the job steps. (Access the Job Step panel.)
L	List output status of a job in the log. For JES3, this is job output in the writer queue. You can add: • B - SNA/NJE output (JES3 only). • H - Output on the hold queue (JES3 only). • T - TCP/IP job output (JES3 only).
P	Cancel a job and purge its output.
PP	Cancel a protected job and purge its output (JES2 only).
Q	Display output descriptors for all of the data sets for an output group.
S	Browse the data sets for a job. You can add: • B - Use ISPF Browse. • E - Use ISPF Edit. • J - Use ISPF Edit to edit the JCL.
W	Cause job and message logs to spin.
X	Print the check output. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)

Columns on the I panel

The columns on the I panel are shown in Table 56.

Table 56. Columns on the I Panel.

Column name	Title (Displayed)	Width	Description	Delay
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
JOBID	JobID	8	JES job ID	
JTYPE	Type	4	Type of address space	
JNUM	JNum[1]	6	JES job number	

Table 56. Columns on the I Panel (continued).

Column name	Title (Displayed)	Width	Description	Delay
OWNERID	Owner	8	User ID of job owner, or default values of ++++++++ or ????????, if user ID not defined to RACF 1.9 and later	
JPRIO	Prty	4	JES2 input queue priority	
JCLASS	C	1 or 8	JES input class. Default width expands to 8 if there are long class names in the MAS.	
POS	Pos	5	Position within JES input queue class	
PRTDEST	PrtDest	18	JES print destination name	
ROUTE	Rmt	5	JES print routing. Remote number if routing is not local. (JES2 only)	
NODE	Node	5	JES print node (JES2 only)	
SYSAFF	SAff	5 (JES2) 8 (JES3)	JES execution system affinity (if any)	
ACTSYS	ASys	4 (JES2) 8 (JES3)	JES execution system ID (for logged-on users only)	
STATUS	Status	17	Status of job	
SECLABEL	SecLabel	8	Security label of job	
TGNUM	TGNum	5	Track groups used by job	
TGPCT	TGPct	6	Percentage of total track group usage	
ORIGNODE	OrigNode	8	Origin node name	
EXECNODE	ExecNode	8	Execution node name	
DEVID	Device	18	JES device name	
SRVCLS	SrvClass	8	Service class	
WLMPOS	WPos	5	Position on the WLM queue	
SCHENV	Scheduling-Env	16	Scheduling environment for the job	
DELAY	Dly	3	Indicator that job processing is delayed	
SSMODE	Mode	4	Subsystem managing the job (JES or WLM)	
ROOMN	RNum	8	JES job room number	X
PNAME	Programmer-Name	20	JES programmer name field	X
ACCTN	Acct	4 (JES2) 8 (JES3)	JES account number field	X
NOTIFY	Notify	8	TSO user ID from NOTIFY parameter on job card	X
ISYSID	ISys	4 (JES2) 8 (JES3)	JES input system ID	X
TIMER	Rd-Time	8	Time that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
DATER	Rd-Date	8	Date that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
ESYSID	ESys	4 (JES2) 8 (JES3)	JES execution system ID	X

Table 56. Columns on the I Panel (continued).

Column name	Title (Displayed)	Width	Description	Delay
TIMEE	St-Time	8	Time that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
DATE	St-Date	8	Date that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
ICARDS	Cards	5	Number of cards read for job	X
MCLASS	MC	2	MSGCLASS of job	X
TSREC	Tot-Lines	10	Total number of spool records for job	X
SPIN	Spin	4	Indicator of whether the job is eligible to be spun	
SUBGROUP	SubGroup	8	Submitter group	X
PHASENAME	PhaseName	20	Name of the phase the job is in	
PHASE	Phase	8	Number of the phase the job is in	
JOBACCT1	JobAcct1[1]	20	Job accounting field 1	X
JOBACCT2	JobAcct2[1]	20	Job accounting field 2	X
JOBACCT3	JobAcct3[1]	20	Job accounting field 3	X
JOBACCT4	JobAcct4[1]	20	Job accounting field 4	X
JOBACCT5	JobAcct5[1]	20	Job accounting field 5	X
SUBUSER	SubUser	8	Submitting user ID	
DELAYRSN	DelayRsn	32	Reason for the job delay (JES2 only). The width can be expanded to 127.	
JOBCORR	JobCorrelator	32	User portion of the job correlator (JES2 only)	
ASID	ASID	5	ASID of the active job	
ASIDX	ASIDX	5	ASID of the active job, in hexadecimal	
SYSNAME	SysName	8	MVS system name where the job is executing	
JOBGROUP	JobGroup	8	Name of the job group associated with job (JES2 only)	
JOBGRPID	JobGrpId	8	JES2 job group job ID	
JOBSET	JobSet	8	Job set within the job group to which this job belongs (JES2 only)	
JGSTATUS	JGStatus	8	Status of the job within the dependency network (JES2 only)	
FLUSHACT	FlushAct	8	Flush action indicator (JES2 only)	
HOLDUNTIL	HoldUntil	19	HOLDUNTIL date and time (JES2 only)	
STARTBY	StartBy	19	STARTBY date and time (JES2 only)	
WITH	With	19	Name of the job or started task that the job must run with (on the same system) (JES2 only)	
DATETIMER	Rd-DateTime	19	Date and time that the job was read in. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the Rd-Date and Rd-Time columns.	X

Table 56. Columns on the I Panel (continued).

Column name	Title (Displayed)	Width	Description	Delay
DATETIMEE	St-DateTime	19	Date and time that execution began. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the St-Date and St-Time columns.	X
EMAIL	Email	48	Email address (JES2 only)	X
BEFOREJOB	BeforeJob	9	Name of job that must run before this one (JES2 only)	
BEFOREJID	BeforeJID	4	JobID of job that must run before this one (JES2 only)	
AFTERJOB	AfterJob	8	Name of job that must run after this one (JES2 only)	
AFTERJID	AfterJID	8	JobID of job that must run after this one (JES2 only)	
SCHDELAY	SchDelay	8	Job delayed due to schedule hold or after (JES2 only)	
BERTNUM	BERTNum	7	Number of BERTs used by this job (JES2 only)	
JOENUM	JOENum	6	Number of JOEs used by this job (JES2 only)	
JOEBERTNUM	JOEBERTs	7	Number of BERTs used for this job's JOEs (JES2 only)	
DUBIOUS	Dubious	7	NJE job flagged as dubious (yes or no)	
NETONHOLD	OrigNHold	9	Original number of job completions before this job can be released (JES2 only)	
NETCNHOLD	CurrNHold	9	Current number of job completions before this job can be released (JES2 only)	
NETNORM	Normal	6	Action to be taken when any predecessor job completes normally (D, F, or R) (JES2 only)	
NETABNORM	Abnormal	6	Action to be taken when any predecessor job completes abnormally (D, F, or R) (JES2 only)	
NETNRCMP	NrCmp	5	Network job normal completion (HOLD, NOHO, or FLSH) (JES2 only)	
NETABCMP	AbCmp	5	Network job abnormal completion (NOKP or KEEP) (JES2 only)	
NETOPHOLD	OpHold	6	Operator hold (YES or NO) (JES2 only)	

Notes on the table:

1. This column is not included in the default field list.

JESPLEX panel (JP)

The JESPLEX (JP) panel allows you to display and control the members of a JES3 JESPLEX.

The JESPLEX (JP) panel simplifies the display and control of members in a JES3 JESPLEX. It is analogous to the JES2 MAS panel, and they share a common field list.

Command keyword

Access the JP panel with the **JP** command from any SDSF panel (JES3 only).

JP command action characters

The action characters for the JP command are shown in Table 57.

Table 57. JP Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
C	Connect a member.
D	Display a member of the JESPLEX in the log.
DL	Display a member of the JESPLEX in the log, long form.
F	Flush jobs currently running on the main.
JS	Display the current status of JES3.
P	Stop a member of the JESPLEX.
S	Start a member of the JESPLEX.
SM	Start the JES3 monitor.
V	Start scheduling jobs for the member.
VF	Stop scheduling jobs for the member.
ZM	Stop the JES3 monitor.

Columns on the JP panel

The columns on the JP panel are shown in Table 58.

Table 58. Columns on the MAS and JP Panel

Column name	Title (Displayed)	Width	Panel	Description
NAME	NAME	4 (JES2) 8 (JES3)	MAS, JP	Member name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	12	MAS, JP	Member status
SYSID	SID	3	MAS	The system ID number
PREVCKPT	PrevCkpt	8	MAS	Number of seconds elapsed since the previous checkpoint (ss.hh format)
CKPTHOLD	Hold	8	MAS	Checkpoint hold in hundredths of seconds
ACTHOLD	ActHold	8	MAS	Actual checkpoint hold in hundredths of seconds

Table 58. Columns on the MAS and JP Panel (continued)

Column name	Title (Displayed)	Width	Panel	Description
DORMANCY	Dormancy	11	MAS	Checkpoint dormancy (minimum,maximum). Format in hundredths of seconds.
ACTDORM	ActDorm	7	MAS	Actual checkpoint dormancy in hundredths of seconds
SYNCTOL	SyncTol	7	MAS	Checkpoint synchronization tolerance in seconds
SYSMODE	Ind	3	MAS	Independent mode
RSYSID	RSID	4	MAS	Name of member performing a $ESYS
SYSNAME	SysName	8	MAS, JP	System name of the MVS image on which this JES system is active
VERSION	Version	8	MAS, JP	JES version the system is running
LASTCKPT	Last-Checkpoint	22	MAS	Last date and time checkpoint was taken
COMCHAR	C	1 (JES2) 8 (JES3)	MAS, JP	Command character
JESNAME	JESN	4	MAS, JP	JES subsystem name
SLEVEL	SLevel	6	MAS, JP	JES service level
BOSS	Boss	4	MAS	Indicates if this member is a manager or "boss" of WLM service class queues
GLOBAL	Global	6	JP	JES3 Global member indicator
COMMAND	Command	8	MAS	Command in progress
TYPE	Start-Type	18	MAS, JP	Last start type for the member
DATEE	Start-Date-Time	19	MAS, JP	Date and time the member was started
LASTGCON	LastGCon-Date-Time	18	JP	Last time the global was contacted
PTRACK	PrimTG	6	JP	Primary track group allocation
STRACK	SecTG	6	JP	Secondary track group allocation
WTOLIM	WTOLim	6	JP	WTO message limit
WTOINT	WTOInt	6	JP	WTO message interval
PCSALIM	PBufCSA	7	JP	Protected buffer CSA limit
PAUXLIM	PBufAux	7	JP	Protected buffer JES3 auxiliary limit
PFIXED	PBufFixed	9	JP	Fixed protected buffers
USRPAGE	UserPages	9	JP	User pages per open SYSOUT dataset
SELMNAME	SelectModeName	14	JP	Selection mode name
SPARTN	PartName	8	JP	Spool partition name
MSGPRF	MsgPrefix	11	JP	Message prefix
MSGDEST	MsgDest	7	JP	Message destination
CONSTAT	ConnStat	13	JP	Connect status
ATTSTAT	AttStat	11	JP	Attach status

Job Class panel (JC)

The Job Class (JC) panel allows you to display and control the job classes in the JES2 MAS or JES3 JESPLEX. It shows both JES and WLM managed classes.

Command keyword

Access the JC panel with the **JC** command from any SDSF panel.

Customize the display with parameters

JC with no parameters displays all job classes. The parameter shown in Table 59 allows you to customize the JC display.

The parameter usage is as follows:

```
JC(classes)
```

Consider the following example:

- **JCah** - Displays job classes A and H.

Table 59. JC Parameters

Parameter	Description
classes	A list of up to 6 classes (JES2), or one class (JES3), to include. For JES2, classes are one character, A-Z, 0-9, $ (TSO users) or # (started tasks). Use the FILTER command for longer class names. **Note:** Do not use blanks between JC and the classes or between classes.

JC command action characters

The action characters for the JC command are shown in Table 60.

Table 60. JC Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display information about a job class in the logs and ULOG.
DC	Display status for the class in the logs and ULOG (JES3 only).
DG	Display status for the group in the logs and ULOG (JES3 only).
DL	Display job class information in long format (JES2 only) .
ST	Display the ST panel for all jobs in the class. For JES2, valid only when the job class is 1 character.

Columns on the JC panel

The columns on the JC panel are shown in Table 61.

Table 61. Columns on the JC Panel

Column name	Title (Displayed)	Width	Description
JOBCL	CLASS	8	Job class. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
JSTATUS	Status	8	Class status
MEMBER	Member	8	Member name (JES3 only)
GROUP	Group	8	Group name
JMODE	Mode	4	Manager of the class
WAITCNT	Wait-Cnt	8	Number of jobs waiting for execution (non-WLM jobs only) (JES2 only)
XEQCNT	Xeq-Cnt	8	Number of active jobs
HOLDCNT	Hold-Cnt	8	Number of held jobs (JES2 only)
JCODISP	ODisp	13	Output disposition for normal and abnormal end of the job (JES2 only)
QHELD	QHld	4	Job class hold indicator (JES2 only)
JHOLD	Hold	4	Job hold indicator (JES2 only)
XBM	XBM	8	Name of the execution batch monitor (XBM) procedure to be executed by jobs running in the class (JES2 only)
JCLIM	JCLim	5	Job class limit for the system (JES2 only)
TDEPTH	TDepth	6	Maximum job count for the class (JES3 only). This is analogous to the JCLim column for JES2.
JPGN	PGN	3	Default performance-group number (JES2 only)
JAUTH	Auth	4	MVS operator command groups that are to be executed (JES2 only)
BLP	BLP	3	Perform bypass label processing (JES2 only)
COMMAND	Command	7	Disposition of commands read from the input stream (JES2 only)
JLOG	Log	3	Job log indicator
MSGLEVEL	MsgLV	5	Message level value (JES2 only)
OUTPUT	Out	3	SYSOUT write indicator (JES2 only)
PROCLIB	PL	2	Default procedure library number (JES2 only)
PROMORT	PromoRt	7	STARTBY promotion rate (JES2 only)
REGION	Region	6	Default region size assigned to each job step (JES2 only)
SWA	SWA	5	Placement of SWA control blocks created for jobs, in relation to 16 megabytes in virtual storage (JES2 only)
TIME	Max-Time	11	Default for the maximum time that each job step may run (JES2 only)
ACCT	Acct	4	Requirement for the account number on a JCL JOB statement (JES2 only)
COPY	Cpy	3	Queue jobs for output processing as though TYPRUN=COPY were specified on the JOB statement (JES2 only)

Table 61. Columns on the JC Panel (continued)

Column name	Title (Displayed)	Width	Description
JOURNAL	Jrnl	4	Save job-related information in a job journal
PGMRNAME	PgNm	4	Programmer name required on a JCL JOB statement (JES2 only)
RESTART	Rst	3	Requeue for execution jobs that had been executing before the IPL of the system was repeated and a JES2 warm start was performed
SCAN	Scn	3	Queue jobs for output processing immediately after JCL conversion (JES2 only)
IEFUJP	UJP	3	Take the IEFUJP exit when a job is purged (JES2 only)
IEFUSO	USO	3	Take the IEFUSO installation exit when the SYSOUT limit is reached for a job (JES2 only)
TYPE6	Tp6	3	Produce type 6 SMF records (JES2 only)
TYPE26	Tp26	4	Produce type 26 SMF records (JES2 only)
CONDPURG	CPr	3	Conditionally purge system data sets in this time-sharing user class (JES2 only)
JMCLASS	MC	2	Message class for all time-sharing sessions (default logon message class for all TSO/E logons) (JES2 only)
SCHENJC	Scheduling-Env	16	Scheduling environment for the job (JES2 only)
JESLOG	JESLog	13	Spin options for the jobs' JES2 joblog and messagelog
XBMPROC	XBMProc	8	Procedure name for XBM/2 job (JES2 only)
DUPJOB	DupJob	6	Duplicate job names acceptable for this class (JES2 only)
SDEPTH	SDepth	6	Setup depth (JES3 only)
PARTNAM	PartName	8	Spool partition name (JES3 only)
PRITRK	PriTrk	6	Primary track group allocation (JES3 only)
SECTRK	SecTrk	6	Secondary track group allocation (JES3 only)
PRIO	Prio	4	Priority (JES3 only)
JOBRC	JobRC	6	Indicates whether the last (LASTRC) or max (MAXRC) step completion code is reported as the job completion code (JES2 only)
CLACTIVE	Active	6	Indicates if the class is currently active (JES2 only)
DSENQSHR	DSEnqShr	8	Indicates if JES should change data set enqueues to shared access when exclusive access is not required (JES2 only)
SYSSYM	SysSym	8	Indicates if system symbols are allowed in batch jobs
GDGBIAS	GDGBias	7	GDG bias default (STEP or JOB)

Job Group panel (JG)

The Job Group panel allows you to view information about JES2 job groups, or execution zones. Execution zones are created when JCL is submitted that describes a relationship between a set of jobs.

Command keyword

Access the Job Group panel with the **JG** command from any SDSF panel. (JES2 only)

Customize the display with parameters

The parameter shown in Table 62 allows you to customize the JG display.

The parameter usage is as follows:

```
JG (string)
```

JG with no parameters displays all job groups.

Consider the following example:

- **JG PAYROLL*** - Displays all job groups with names that begin with PAYROLL.

Table 62. JG Parameters

Parameter	Description
string	A character string that limits the panel to job groups with names that match the string. The string can be up to 8 characters, including: • * - any character or string of characters. • % - any single character.

JG command action characters

The action characters for the JG command are shown in Table 63.

Table 63. JG Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
A	Release the job group.
C	Cancel the job group.
CP	Cancel and purge the job group.
D	Display information in the log. You can add: • E - Jobs in the group that encountered an error. • J - Jobs associated with the group. • L - Information about the group, long form. • N - Network. • P - Dependencies for the group.

Table 63. JG Command Action Characters (continued)

Action Character	Description
H	Hold the job group.
JP	Dependencies for the group (access the JP panel).
P	Purge the job group.
S	Browse data sets associated with the step. You can add: • B - Browse using ISPF Browse. • E - Browse using ISPF Edit. • J - Edit JCL for the entire job.
ST	Display details for the job group (access the ST panel).
X	Print output data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC) .
?	Display a list of data sets for a job. (Access the Job Data Set panel.)

Columns on the JG panel

The columns on the JG panel are shown in Table 64.

Table 64. Columns on the JG Panel

Column name	Title (Displayed)	Width	Description
JOBGROUP	JOBGROUP	8	Job group name. It is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
JOBGRPID	JobGrpID	8	Group ID – JobId(job number) of associated logging job for the group
OWNER	Owner	8	User ID of the owner of the job group
STATUS	Status	10	Status of the job group
CRETCODE	Current-CC	10	Completion code of the job group.
SYSAFF	SAff	5	List of JES members (affinity mask) where jobs in the zone (group) can run
SHCENV	Scheduling-Env	16	Scheduling environment where jobs in the group can run
ONERR	OnError	7	Action to take when a job group is determined to be in error.
ERRSTAT	ErrStat	7	Current error status
ERRCOND	ErrorCond	18	Error condition
SECLABEL	SecLabel	8	Security label associated with the job group

Job Tasks panel (JT)

The Job Tasks panel allows you to list the TCBs for an address space.

Command keyword

You access the Job Tasks panel using the JT action character from the DA or AS panel.

JT action characters

The action characters for JT are shown in Table 65.

Table 65. JT Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).

Columns on the JT panel

The columns on the JT panel are shown in Table 66.

Table 66. Columns on the JT Panel

Column name	Title (Displayed)	Width	Description
TCBADDR	TCB	24	TCB address formatted based on task level for as many levels that fit. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
RB	RB	8	RB address
TYPE	Type	8	RB type
PROGRAM	Program	8	Module associated with TCB
STORAGE	Storage	7	TCB storage in bytes
FREESTOR	FreeStor	8	TCB free storage in bytes
CPUTIME	CPU-Time	10	CPU time (seconds)
TCBCMP	TCBCMP	8	TCB completion code
TCBFLAGS	TCBFlags	8	TCB flags (TCBFLGS1 through TCBFLGS8)
INTCOD	IntC	4	Interrupt code from RBINTCOD
STCB	STCB	8	Secondary TCB address
XSB	XSB	8	XSB address
OPSW	OPSW	17	Old PSW from RB
ASID	ASID	5	Address space identifier
ASIDX	ASIDX	5	Address space identifier in hexadecimal
TCB	TCBPtr	8	TCB address (hexadecimal)

Table 66. Columns on the JT Panel (continued)

Column name	Title (Displayed)	Width	Description
LEVEL	Level	5	TCB or RB level
JNAME	JobName	8	Job name
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Job 0 (J0)

The Job 0 panel allows you to display information about JES3 job JOB0. It is available only in a JES3 environment. With this panel, you can work with data sets that were created by JES3.

Command keyword

Access the Job 0 panel with the **J0** command from any SDSF panel. (JES3 only)

J0 command action characters

The action characters for the J0 command are shown in Table 67.

Table 67. J0 Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
?	Display a list of the data sets.
C	Purge a data set.
D	Display information in the SYSLOG.
H	Hold a data set.
O	Release a data set.
P	Purge a data set.
Q	Display output descriptors for the data set.
P	Purge the job group.
X	Print a data set. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)

Columns on the J0 panel

The columns on the J0 panel are shown in Table 68.

Table 68. Columns on the J0 Panel

Column name	Title (Displayed)	Width	Description
NAME	DSPNAME	8	DSP that created the data. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
DSID	DSID	4	Data set ID number
OWNERID	Owner	8	User ID of SYSIN/SYSOUT owner, or default values of ++++++++ or ????????, if user ID not defined to RACF 1.9 and later
OCLASS	C	1	JES3 output class
COPYCNT	CC	2	Data set copy count
PRMODE	PrMode	8	Data set process mode
BURST	Burst	5	Data set burst indicator
FORMS	Forms	8	Output form number
FCBID	FCB	4	Output FCB ID
UCSID	UCS	4	Output UCS ID
WTRID	Wtr	8	External writer name
FLASHID	Flash	5	Output flash ID
FLASHC	FlashC	6	Flash copies
SEGID	SegID	5	Data set segment number
CHARS	Chars	21	Character arrangement table names
CPYMOD	CpyMod	8	Copy modification module name
QUEUE	Queue	5	Queue the data set is on (TCP, BDT, HOLD, WTR)
DESTN	Dest	18	SYSOUT destination
SECLABEL	SecLabel	8	Security label
DSDATE	CrDate-CrTime	19	Data set creation date and time, or, if ***** N/A *****, the creation date and time were not available.
SPIN	Spin	4	Indicates whether this is a spin data set
SELECT	Sel	3	Indicates whether the data set is selectable
RECCNT	Rec-Cnt	7	Data set record count
PAGECNT	Page-Cnt	8	Data set page count. Blank if not page-mode data.
BYTECNT	Byte-Cnt	8	Data set byte count
RECFM	RecFm	5	Record format
DDNAME	DDName	8	DD name
DSNAME	DSName	44	Data set name
STEPN	StepName	8	Job step that created the SYSOUT
PROCS	ProcStep	8	Procedure step that created the SYSOUT

Lines panel (LI)

The Lines (LI) panel allows you to display information about JES lines and their associated transmitters and receivers.

Command keyword

Access the Lines panel with the **LI** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 69 allow you to customize the JG display.

The parameter usage is as follows:

```
LINES (line-list)
LINE
LI
```

LI with no parameters displays all lines and their associated transmitters and receivers.

Consider the following examples:

- **LI 1-3 6** - Displays lines 1, 2, 3, and 6.
- **LINES SHORT** - Displays information about all lines, but no transmitters or receivers.

Table 69. LI Parameters

Parameter	Description
line-list	A line-list is made up of 1 to 4 of the following: • line-number - a line number (1-32767). • line-number-range - a range of line numbers, specified by the first and last numbers in the range separated by a hyphen (e.g. 1-10).
SHORT | *S*	Displays information about lines only. Transmitters and receivers are not displayed.

Line numbers are valid only for JES2.

LI command action characters

The action characters for the LI command are shown in Table 70.

Table 70. LI Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)

Table 70. LI Command Action Characters (continued)

Action Character	Description
/	Show column values for row (ISPF only).
C	Cancel a transmitter or receiver (JES2) or line (JES3)
D	Display the line, transmitter or receiver in the log. You can add: • L - long form, for the line • S - status of the names of the BSC line (JES3 only). • E - cumulative error statistics for the line (JES3 only).
E	Restart the transmitter or receiver (JES2 only) or line.
I	Interrupt the line.
L	Fail the line DSP (JES3 only).
LD	Fail the line DSP with a dump (JES3 only).
P	Drain the line, transmitter, or receiver (JES2 only).
Q	Quiesce the line (JES2 only).
S	Start the transmitter or receiver (JES2 only) or line.
SL	Start the line with tracing (JES3 only).
SNL	Start the line without tracing (JES3 only).
SN	Start network communication (JES2 only).
SNR	Start but prevent network jobs from being received (JES3 only).
SR	Start and allow network jobs to be received (JES3 only).
SRJP	Start RJP on the line (JES3 only).
V	Vary online (JES3 only).
VF	Vary offline (JES3 only).

Columns on the LI panel

The columns on the LI panel are shown in Table 71.

Table 71. Columns on the LI Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	DEVICE	12	Device name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8	Line status
UNIT	Unit	5	Line address or type
NNODE	Node	8	Node that the line is connected to
JNAME	JobName	8	Job name
JOBID	JobID	8	JES2 job ID

Table 71. Columns on the LI Panel (continued)

Column name	Title (Displayed)	Width	Description
JTYPE	no default	4	Type of address space
JNUM	JNum	6	JES2 job number
OWNERID	Owner	8	User ID of owner
RECPRT	Proc-Lines	10	Number of lines processed for the job.
RECCNT	Tot-Lines	10	Number of lines in the job.
TYPE	Type	4	Type of line
LINELIM	Line-Limit	13	Line limit for the line (JES2 only)
PAGELIM	Page-Limit	13	Page limit for the line (JES2 only)
PRTWS	Work-Selection	14	Line work selection criteria (JES2 only)
SESSION	Session	8	Session name (JES2 only)
TOTERRS	Tot-Errs	8	Error count (JES2 only)
AUTODISC	ADisc	5	Line disconnect option
CODE	Code	4	BSC adaptor code
COMPRESS	Comp	4	BSC data compression option
APPLID	ApplID	8	Application name for NJE line (JES2 only)
DUPLEX	Duplex	6	BSC line mode
INTERFAC	Intf	4	BSC adapter interface
LINECCHR	LineCChr	8	BSC line control characters configuration (JES2 only)
LOG	Log	3	Message logging option (JES2 only)
REST	Rest	4	Resistance rating of line (JES2 only)
SPEED	Speed	5	Speed of the line
PTRACE	Tr	3	Trace I/O option
TRANSPAR	Transp	6	BSC transparency feature
PSWD	Password	8	Password
DISC	Discon	9	Disconnect status: NO, INTERRUPT, or QUIESCE (only for active lines).
RMTSHR	RmtShr	6	Indicates whether the line is allowed to be dedicated (JES2 only)
JRNUM	JRNum	7	Job receivers associated with the line, either a count or D, for default (JES2 only)
JTNUM	JTNum	7	Job transmitters associated with the line, either a count or D, for default (JES2 only)
SRNUM	SRNum	7	SYSOUT receivers associated with the line, either a count or D, for default (JES2 only)
STNUM	STNum	7	SYSOUT transmitters associated with the line, either a count or D, for default (JES2 only)
SYSNAME	SysName	8	System Name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	z/OS JES2 level
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)
SOCKETN	SocketN	8	Socket name (JES2 only)

Table 71. Columns on the LI Panel (continued)

Column name	Title (Displayed)	Width	Description
IPADDR	IPAddr	24	IP address (JES2 only)
IPNAME	IPName	32	IP name (JES2 only)
PORT	Port	5	TCP/IP port number (JES2 only)
PORTNAME	PortName	8	TCP/IP port name. Blank if a port number has been set explicitly. (JES2 only)
SECURE	Secure	6	Secure socket (JES2 only)
NSNAME	NSName	8	Network server name (JES2 only)
ANODE	ANode	8	Adjacent node (JES2 only)
LINELIML	Line-Lim-Lo	11	Line limit, minimum (JES2 only)
LINELIMH	Line-Lim-Hi	11	Line limit, maximum (JES2 only)
PAGELIML	Page-Lim-Lo	11	Page limit, minimum (JES2 only)
PAGELIMH	Page-Lim-Hi	11	Page limit, maximum (JES2 only)
CTRACE	CTr	3	Common tracing (JES2 only)
VTRACE	VTr	3	Verbose tracing (JES2 only)
JTRACE	JTr	3	JES tracing (JES2 only)
CONNECT	Connect	7	Connect line automatically (JES2 only)
CTIME	Conn-Int	10	Connection interval in minutes (JES2 only)
RESTART	Restart	8	Restart line automatically (JES2 only)
RTIME	Rest-Int	10	Restart interval, in minutes (JES2 only)
SODISP	SODsp	5	Selection output disposition 1 (JES2 only)
SODISP2	SODsp2	5	Selection output disposition 2 (JES2 only)
SODISP3	SODsp3	5	Selection output disposition 3 (JES2 only)
SODISP4	SODsp4	5	Selection output disposition 4 (JES2 only)

Notes on the table:

1. JNUM is not included in the default field list.

Link List panel (LNK)

The LnkLst (LNK) panel allows you to display the data sets in the active link list. The panel shows the data sets in the link list.

Command keyword

Access the Link List panel with the **LNK** command from any SDSF panel.

LNK command action characters

The action characters for the LNK command are shown in Table 72.

Table 72. LNK Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.

Table 72. LNK Command Action Characters (continued)

Action Character	Description
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display information. You can add: • N - display data set names
SB	Browse (ISPF only).
SE	Edit (ISPF only).

Columns on the LNK panel

The columns on the LNK panel are shown in Table 73.

Table 73. Columns on the LNK Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name.This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number
VOLSER	VolSer	6	Volume serial
BLKSIZE	BlkSize	7	Data set block size
EXTENT	Extent	6	Number of extents
SMS	SMS	3	SMS indicator. YES if the data set is SMS managed. Otherwise, NO.
APF	APF	3	APF indicator. YES if the data set is APF authorized. Otherwise, NO.
LRECL	LRecL	5	Logical record length
DSORG	DSOrg	5	Data set organization
RECFM	RecFm	5	Record format
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last referenced date
SETNAME	SetName	16	Link list set name
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Operating system level

Link Pack Area panel (LPA)

The LPA List (LPA) panel allows you to display the data sets in the LPA list.

Command keyword

Access the Link Pack Area panel with the **LPA** command from any SDSF panel.

LPA command action characters

The action characters for the LPA command are shown in Table 74.

Table 74. LPA Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
SB	Browse (ISPF only).
SE	Edit (ISPF only).

Columns on the LPA panel

The columns on the LPA panel are shown in Table 75.

Table 75. Columns on the LPA Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number
VOLSER	VolSer	6	Volume serial
BLKSIZE	BlkSize	7	Data set block size
EXTENT	Extent	6	Number of extents
SMS	SMS	3	SMS indicator. YES if the data set is SMS managed. Otherwise, NO.
APF	APF	3	APF indicator: YES if the data set is APF authorized. Otherwise, NO.
LRECL	LRecL	5	Logical record length
DSORG	DSOrg	5	Data set organization
RECFM	RecFm	5	Record format
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last referenced date
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Operating system level

Multi-Access Spool panel (MAS)

The Multi-Access Spool (MAS) panel allows you to display and control the members of a JES2 MAS. The analogous JES3 JESPLEX panel simplifies the display and control of members in a JES3 JESPLEX.

Command keyword

Access the Multi-Access Spool panel with the **MAS** command from any SDSF panel. Under JES3 it is treated as a JESPLEX **JP** command.

Customize the display with parameters

The parameters shown in Table 76 allow you to customize the MAS display.

The parameter usage is as follows:

```
MAS ALL
```

MAS with no parameters displays only those members that are currently defined.

Consider the following example:

- **MAS** - Display only the defined members of the MAS.

Table 76. MAS Parameters

Parameter	Description
ALL	Displays all members in the MAS, even those that are not currently defined.

MAS command action characters

The action characters for the MAS command are shown in Table 77.

Table 77. MAS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display a member of the MAS in the log.
E	Restart a member of the MAS.
ER	Reset a member of the MAS.
J	Display the current state of monitor subtasks. You can add: • D - Display monitor details. • H - Display resource history. • J - Display the current state of JES2. • S - Display the current status of JES2.

Table 77. MAS Command Action Characters (continued)

Action Character	Description
P	Stop a member of the MAS. You can add: • A - Stop a member of the MAS (abend). • Q - Stop a member of the MAS, ignoring cross-system activity. • T - Stop a member of the MAS, ignoring active programs. • X - Stop scheduling of jobs for the member of the MAS.
S	Start a member of the MAS.
SX	Start scheduling of jobs for a member of the MAS.
ZM	Stop the JES2 monitor.

Columns on the MAS panel

The columns on the MAS panel are shown in Table 78.

Table 78. Columns on the MAS and JP Panel

Column name	Title (Displayed)	Width	Panel	Description
NAME	NAME	4 (JES2) 8 (JES3)	MAS, JP	Member name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	12	MAS, JP	Member status
SYSID	SID	3	MAS	The system ID number
PREVCKPT	PrevCkpt	8	MAS	Number of seconds elapsed since the previous checkpoint (ss.hh format)
CKPTHOLD	Hold	8	MAS	Checkpoint hold in hundredths of seconds
ACTHOLD	ActHold	8	MAS	Actual checkpoint hold in hundredths of seconds
DORMANCY	Dormancy	11	MAS	Checkpoint dormancy (minimum,maximum). Format in hundredths of seconds.
ACTDORM	ActDorm	7	MAS	Actual checkpoint dormancy in hundredths of seconds
SYNCTOL	SyncTol	7	MAS	Checkpoint synchronization tolerance in seconds
SYSMODE	Ind	3	MAS	Independent mode
RSYSID	RSID	4	MAS	Name of member performing a $ESYS
SYSNAME	SysName	8	MAS, JP	System name of the MVS image on which this JES system is active
VERSION	Version	8	MAS, JP	JES version the system is running
LASTCKPT	Last-Checkpoint	22	MAS	Last date and time checkpoint was taken
COMCHAR	C	1 (JES2) 8 (JES3)	MAS, JP	Command character
JESNAME	JESN	4	MAS, JP	JES subsystem name
SLEVEL	SLevel	6	MAS, JP	JES service level

Table 78. Columns on the MAS and JP Panel (continued)

Column name	Title (Displayed)	Width	Panel	Description
BOSS	Boss	4	MAS	Indicates if this member is a manager or "boss" of WLM service class queues
GLOBAL	Global	6	JP	JES3 Global member indicator
COMMAND	Command	8	MAS	Command in progress
TYPE	Start-Type	18	MAS, JP	Last start type for the member
DATEE	Start-Date-Time	19	MAS, JP	Date and time the member was started
LASTGCON	LastGCon-Date-Time	18	JP	Last time the global was contacted
PTRACK	PrimTG	6	JP	Primary track group allocation
STRACK	SecTG	6	JP	Secondary track group allocation
WTOLIM	WTOLim	6	JP	WTO message limit
WTOINT	WTOInt	6	JP	WTO message interval
PCSALIM	PBufCSA	7	JP	Protected buffer CSA limit
PAUXLIM	PBufAux	7	JP	Protected buffer JES3 auxiliary limit
PFIXED	PBufFixed	9	JP	Fixed protected buffers
USRPAGE	UserPages	9	JP	User pages per open SYSOUT dataset
SELMNAME	SelectModeName	14	JP	Selection mode name
SPARTN	PartName	8	JP	Spool partition name
MSGPRF	MsgPrefix	11	JP	Message prefix
MSGDEST	MsgDest	7	JP	Message destination
CONSTAT	ConnStat	13	JP	Connect status
ATTSTAT	AttStat	11	JP	Attach status

Network Activity panel (NA)

The Network Activity (NA) panel allows you to show all TCP/IP activity in the system.

Command keyword

Access the NA panel with the **NA** command from any SDSF panel.

NA command action characters

The action characters for the NA command are shown in Table 79.

Table 79. NA Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).

Table 79. NA Command Action Characters (continued)

Action Character	Description
D	Display all connection information.
DAL	Display all connection information, long form.
DB	Display byte count information.
DBL	Display byte count information, long form.
DN	Display connection.
DNL	Display connection, long form.
DR	Display routing information.
DRD	Display routing information, detailed.
DRL	Display routing information, long form.
DRDL	Display routing information, detailed, long form.

Columns on the NA panel

The columns on the NA panel are shown in Table 80.

Table 80. Columns on the NA Panel

Column name	Title (Displayed)	Width	Description
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8	Status
IPADDR	IPAddr	24	IP address
PORT	Port	5	Port number
INBUFSZ	InBufSz	7	Receive buffer size
OUTBUFSZ	OutBufSz	8	Send buffer size
EXCPCT	EXCP-Cnt	8	Number of requests
BYTESIN	BytesIn	8	Number of bytes received
BYTESOUT	BytesOut	8	Number of bytes sent
APPL	Appl	8	Application name
LUNAME	LUName	8	Logical unit name
CLIENT	Client	8	Client user ID
APPLDATA	ApplData	40	Application data
STACK	Stack	8	Stack name
ASID	ASID	5	Address space identifier
ASIDX	ASIDX	5	Address space identifier (hexadecimal)
RESID	ResourceID	10	Resource ID
STIME	Start-Time	19	Connection start time
LASTTIME	Last-Time	19	Connection last activity time
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Network Connections panel (NC)

The Network Connection (NC) panel allows you to display information about networking connections to an adjacent node:

- SOCKET devices that represent a TCP/IP networking connection
- APPL devices that represent a SNA connection (JES2 only)
- Active BSC NJE lines
- Associated NJE transmitters and receivers

Command keyword

Access the Network Connections panel with the **NC** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 81 allow you to customize the NC display.

The parameter usage is as follows:

```
NC SHORT
```

NC with no parameters displays network connections, transmitters and receivers.

Consider the following example:

- **NC** - Display network connections, transmitters and receivers.

Table 81. NC Parameters

Parameter	Description
SHORT or *S*	Displays information about network connections only. Transmitters and receivers are not displayed.

NC command action characters

The action characters for the NC command are shown in Table 82.

Table 82. NC Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only).
/	Show column values for row (ISPF only).
C	Cancel the connection (JES3 only).
D	Display the network connection in the log. You can add: • L - Display the line (JES2 only).

Table 82. NC Command Action Characters (continued)

Action Character	Description
E	Restart the network connection, transmitter or receiver (JES2 only).
P	Stop the transmitter or receiver (JES2 only).
S	Start a transmitter or receiver (JES2 only).
SN	Start network communication.

Columns on the NC panel

The columns on the NC panel are shown in Table 83.

Table 83. Columns on the NC Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	DEVICE	10	Name of the connection, transmitter or receiver. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8	Device status
TYPE	Type	4	Connection type (SNA, BSC, TCP)
ANODE	ANode	8	Adjacent node
JNAME	Jobname	8	Job name of job being processed
JOBID	JobID	8	JES job ID of job being processed
JTYPE	JType	8	Type of address space being processed
OWNERID	Owner	8	User ID of job creator
RECPRT	Proc-Lines	10	Number of lines processed for the job
RECCNT	Tot-Lines	10	Number of lines in the job
LINE	Line	5	Number of line to use (JES2 only)
UNIT	Unit	5	Unit associated with line
JRNUM	JRNum	5	Job receiver count
JTNUM	JTNum	5	Job transmitter count
SRNUM	SRNum	5	SYSOUT receiver count
STNUM	STNum	5	SYSOUT transmitter count
CONNECT	Connect	7	Connect automatically (JES2 only)
CTIME	Conn-Int	8	Connection interval (JES2 only)
PTRACE	Tr	3	Tracing (JES2 only)
CTRACE	CTr	3	Common tracing
JTRACE	JTr	3	JES tracing
VTRACE	VTr	3	Verbose tracing
LOGMODE	LogMode	8	Logon mode table entry (JES2 only)
REST	Rest	5	Resistance of the connection (JES2 only)
COMPACT	Compact	8	Compaction table name (JES2 only)
IPADDR	IPAddr	24	IP address (JES2 only)
IPNAME	IPName	32	IP host name
PORT	Port	5	TCP/IP port number

Table 83. Columns on the NC Panel (continued)

Column name	Title (Displayed)	Width	Description
PORTNAME	PortName	16	TCP/IP port name (JES2 only)
SECURE	Secure	6	Secure (TLS) connection
LOGON	Logon	5	Number of the associated LOGON device (JES2 only)
NETSRV	Netsrv	5	Number of the associated NETSRV device (JES2 only)
RELCONN	RelConn	8	Related connection name
SRVNAME	SrvName	10	Name of the associated server device
DSECLABEL	DSecLabel	9	Security label of the adjacent node (JES2 only)
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	z/OS JES version and release
PRTWS	Work-Selection	14	Work selection criteria (JES2, transmitters and receivers)
LINELIM	Line-Limit	13	Line limit for selection (JES2, transmitters and receivers)
PAGELIM	Page-Limit	13	Page limit for selection (JES2, transmitters and receivers)
LINELIML	Line-Lim-Lo	11	Line limit, minimum (JES2 only)
LINELIMH	Line-Lim-Hi	11	Line limit, maximum (JES2 only)
PAGELIML	Page-Lim-Lo	11	Page limit, minimum (JES2 only)
PAGELIMH	Page-Lim-Hi	11	Page limit, maximum (JES2 only)
SODISP	SODsp	5	Selection output disposition (JES2 only)
SODISP2-4	SODsp2-4	6	Selection output disposition 2-4 (JES2 only)

Network Server panel (NS)

The Network Server (NS) panel allows you to display information about server-type networking devices on the node:

- NETSERV devices used to communicate between JES and TCP/IP
- LOGON devices used to communicate between JES2 and VTAM

Command keyword

Access the Network Server panel with the **NS** command from any SDSF panel.

NS command action characters

The action characters for the NS command are shown in Table 84.

Table 84. NS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.

Table 84. NS Command Action Characters (continued)

Action Character	Description
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only).
/	Show column values for row (ISPF only).
C	Cancel a network server (JES3 only).
D	Display the network server in the log. You can add: • A - For the application (JES2 only). Not valid for NETSRVs. • L - Long form. Not valid for LOGONs. • S - For the socket (JES2 only). Not valid for LOGONs.
E	Restart the network server.
JD	Display the job's use of devices. (Access the Job Device panel.)
JM	Display the job's use of memory. (Access the Job Memory panel.)
K	Cancel the network server address space. You can add: • D - Cancel the network server address space with a dump.
L	Fail the device DSP (JES3 only). You can add: • D - Fail the device DSP with a dump (JES3 only).
P	Stop the device (JES2 only).
S	Start the device.
X	Invoke the network server DSP (JES3 only).
Z	Force the network server address space.

Columns on the NS panel

The columns on the NS panel are shown in Table 85.

Table 85. Columns on the NS Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	DEVICE	10	Name of the network server. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8	Device status
DSPNAME	DSPName	8	Dynamic support program name (JES3 only)
APPL	Appl	8	Application name (JES2 only)
SOCKET	Socket	8	Socket name (JES2 only)
STACK	Stack	8	Name of the TCP/IP stack
RESTART	Restart	8	Restart the device automatically (JES2 only)

Table 85. Columns on the NS Panel (continued)

Column name	Title (Displayed)	Width	Description
RTIME	Rest-Int	10	Restart interval (minutes) (JES2 only)
PTRACE	Tr	3	Tracing (JES2 only)
CTRACE	CTr	3	Common tracing
VTRACE	VTr	3	Verbose tracing
JTRACE	JTr	3	JES tracing
LOG	Log	3	Log activity (JES2 only)
ASID	ASID	5	ASID of the network server
SRVJOBNM	SrvJobNm	8	Job name of the network server address space
PASSWORD	Password	8	Password (SET or NOTSET) (JES2 only)
IPNAME	IPName	32	Local TCP/IP host name
PORT	Port	5	Local TCP/IP port number
PORTNAME	PortName	16	Local TCP/IP port name (JES2 only)
SECURE	Secure	6	Secure (TLS) socket
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	z/OS JES level
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)
NSECURE	NSecure	10	Netserv secure option (required, optional, use_socket)

Nodes panel (NODE)

The Nodes (NODE) panel allows you to display information about JES nodes.

Command keyword

Access the Nodes panel with the **NO** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 86 on page 102 allow you to customize the NODE display.

The parameter usage is as follows:

```
NODES (node-list)
NODE
NO
```

NO with no parameters displays all nodes.

Consider the following example:

- **NO 2-4 6** - Displays Nodes 2, 3, 4, and 6.

Table 86. NODE Parameters

Parameter	Description
node-list	*node-list* is JES2 only and is made up of 1 to 4 of the following: • node-number - A node number (1-32767). • node-number-range - A range of node numbers, specified by the first and last numbers in the range separated by a hyphen (e.g. 1-10).

NODE command action characters

The action characters for the NODE command are shown in Table 87.

Table 87. NODE Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only).
/	Show column values for row (ISPF only).
A	Release jobs destined for this directly-attached node (JES3).
D	Display information about a node in the log. You can add: • C - Display information about network connections for a node in the log (JES2 only). • L - Display lines defined to this node (JES3) or information about this node (JES2) in the log. • P - Display information about paths in the log (JES2 only).
EL	Reset lines to the node (JES3 only).
H	Hold jobs destined for this directly-attached node (JES3 only).
SN	Start node communication on a line.

Columns on the NODE panel

The columns on the NODE panel are shown in Table 88.

Table 88. Columns on the NO Panel

Column name	Title (Displayed)	Width	Description
NUMBER	NUMBER	5	Node number (JES2 only). For JES2, this is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.

Table 88. Columns on the NO Panel (continued)

Column name	Title (Displayed)	Width	Description
NODENAME	NodeName	8	Node name. For JES3, this is the fixed field, and is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	21	Node status, By default, this shows status for the first path. Increase the width (up to 43) to show the status for the second path.
AUTH	Authority	17	Authority of the node (JES2 only)
TRANS	Trans	6	What the local node transmits to the specified node (JES2 only)
RECV	Recv	6	What the local node receives from the specified node (JES2 only)
HOLD	Hold	4	Job hold indicator for the local node
PENCRYPT	PEn	3	Password encryption indicator (JES2 only)
ENDNODE	End	3	Eligibility for store-and-forward operations (JES2 only)
RESIST	Rest	4	Resistance rating of the connection (JES2 only)
SENTREST	SentRs	6	Whether the resistance from an adjacent node is used in calculating the resistance of an adjacent connection (JES2 only)
COMPACT	Cp	2	Compaction table number for outbound compaction when communicating with this node (JES2 only)
LINE	Line	4	Line dedicated to the NJE session for with this application (JES2 only)
LNAME	LineName	8	Line dedicated to NJE for this node (JES3 only)
LOGMODE	LogMode	8	Logon mode table entry for this application (JES2 only)
PATHMGR	PMg	3	Indicator of whether NCC records relevant to the path manager should be sent to this node (JES2 only)
PRIVATE	Prv	3	Private indicator for the connection between this node and an adjacent node (JES2 only)
SUBNET	Subnet	8	Name of the subnet that should include this node (JES2 only)
NTRACE	Tr	3	Trace option (JES2 only)
VERIFYP	VerifyP	8	Password received from the node
SENDP	SendP	8	Password sent to the node
LOGON	Logon	5	Number of the local logon DCT (1-999) which should be use when specifying connections to the application. The default value of 0 indicates that the logon DCT defined with the lowest number is to be. (JES2 only)
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	JES version and release
NETSRV	NetSrv	6	Network server number (JES2 only)
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)

Table 88. Columns on the NO Panel (continued)

Column name	Title (Displayed)	Width	Description
MAXRETR	MaxRetries	6	Number of retries to attempt before ending the BSC NJE line (JES3 only)
PATH	Path	8	Name of the adjacent node in the path (JES3 only)
PTYPE	PType	5	Protocol type (JES3 only)
BDTNAME	BDTName	8	Bulk Data Transfer (BDT) ID (JES3 only)
PARTNAM	PartName	8	Name of the spool partition to which JES3 writes spool data for all jobs from that node (JES3 Only)
MAXLINES	MaxLines	3	Maximum number of lines for the node. (JES3 Only)
DIRECT	Direct	6	Specifies whether the node can be directly attached only
SSIGNON	SSignon	7	Specifies whether secure signon protocol is to be used
JTNUM	JTNum	5	Number of job transmitters associated with the TCP/IP node (JES3 only)
JRNUM	JRNum	5	Number of job receivers associated with the TCP/IP node (JES3 only)
STNUM	STNum	5	Number of SYSOUT transmitters associated with the TCP/IP node (JES3 only)
SRNUM	SRNum	5	Number of SYSOUT receivers associated with the TCP/IP node (JES3 only)
SECURE	Secure	6	Use secure (TLS) socket (JES3 only)
PWCNTL	PwCntl	8	Password encryption control (JES3 only)
XNAMEREQ	XNameReq	8	Specifies whether inbound SYSOUT can be held for processing by an external writer if no external writer name was supplied (JES3 only)
CONNECT	Connect	7	Automatically connect (JES2) or reconnect (JES3)
CTIME	Conn-int	8	Connection interval (minutes)
BUFSIZE	BufSz	5	Buffer size (JES3 only)
STREAM	Strm	4	Number of concurrent streams (JES3 only)
PRTDEF	PrtDef	8	Print class default for networking output received at the home node (JES3 only)
PRTTSO	PrtTSO	8	TSO data set default class for networking output received at the home node (JES3 only)
PRTXWTR	PrtXwtr	8	External writer data set default class for networking output received at the home node (JES3 only)
PUNDEF	PunDef	8	Punch class default for networking output received at the home node (JES3 only)
NETPR	NetPr	5	Number of logical network printers on the home node (JES3 only)
NETPU	NetPu	5	Number of logical network punches on the home node (JES3 only)
CTCNODE	CTC	5	Channel to channel node (JES3 only)
VFYPATH	VfyPath	7	Verify path (JES2 only)

Output Queue panel (O)

The Output Queue panel allows you to display information about output for jobs, started tasks, and TSO users on any *nonheld* queue.

Command keyword

Access the Output Queue panel with the **O** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 89 allow you to customize the O display.

The parameter usage is as follows:

```
O(classes) (form-number)
```

O with no parameters displays information for all output data sets. The information displayed may be limited by your authorization and by settings for filters such as FILTER, PREFIX, and so on.

Consider the following examples:

- **OJAB** - Displays output in classes J, A, and B.
- **OBK STD** - Displays output in classes B and K, with a form number of STD.

Table 89. O Parameters

Parameter	Description
classes	*classes* displays information about job output in specific output classes. Enter up to 7 classes, without blanks, including: • @ - Output waiting to be transmitted to another node. If other classes are specified, the output must be in one of those classes (JES2 only).
form-number	*form-number* displays only data sets with this form number. The form number can be up to 8 characters long, including * (any string of characters) or % (any single character).

O command action characters

The action characters for the O command are shown in Table 90.

Table 90. O Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).

Table 90. O Command Action Characters (continued)

Action Character	Description
?	Display a list of the data sets for an output group.
A	Release held output data sets. If the job has been held, it must be released from the Status panel (JES2 only).
C	Purge a job's output (do not cancel the job) (JES2 only).
H	Hold output (JES2 only).
JS	Display the job steps. (Access the Job Step panel.)
L	List a job's output status in the log (JES2 only). You can add: • L - List output status in the log, long form (JES2 only).
P	Purge output data sets (JES2 only).
Q	Display output descriptors for all of the data sets for an output group.
S	Display the data sets for an output group. You can add: • B - Use ISPF Browse. • E - Use ISPF Edit. • J - Use ISPF Edit to edit the JCL. • n - Number of the data set where browsing starts.
X	Print output data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC).

Columns on the O panel

The columns on the O panel are shown in Table 91.

Table 91. Columns on the O Panel

Column name	Title (Displayed)	Width	Description	Delay
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
JNUM	JNum[1]	6	JES job number	
JOBID	JobID	8	JES job ID or work ID	
OWNERID	Owner	8	User ID of SYSIN/SYSOUT owner, or default values of ++++++++ or ????????, if user ID not defined to RACF	
DPRIO	Prty	4	JES output group priority	

Table 91. Columns on the O Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
OCLASS	C	1	JES output class	
FORMS	Forms	8	Output form number	
DESTN	Dest	18	JES print destination name	
RECCNT	Tot-Rec	9	Output total record count (lines). Blank for page-mode data.	
RECPRT	Prt-Rec	9	The number of lines printed. Blank for page-mode data. (JES2 only)	
PAGECNT	Tot-Page	9	Output page count. Blank if not for page-mode data.	
PAGEPRT	Prt-Page	9	Output pages printed. Blank if not for page-mode data. (JES2 only)	
DEVID	Device	18	Output device name (only if it is printing)	
STATUS	Status	11	JES job status	
SECLABEL	SecLabel	8	Security label of output group	
DSYSID	SysID	5	System on which the output is printing (only if it is printing) (JES2 only)	
DEST	Rmt	5	JES2 print routing. Remote number if routing is not local. (JES2 only)	
NODE	Node	5	JES2 print node (JES2 only)	
OGNAME	O-Grp-N	8	Output group name (JES2 only)	
OGID	OGID1	5	Output group ID 1 (JES2 only)	
OGID2	OGID2	5	Output group ID 2 (JES2 only)	
JPRIO	JP	2	JES job priority	
FCBID	FCB	4	Output FCB ID	
UCSID	UCS	4	Output UCS ID (print train required)	
WTRID	Wtr	8	Output external writer name	
FLASHID	Flash	5	Output flash ID	
BURST	Burst	5	3800 burst indicator	
PRMODE	PrMode	8	Printer process mode	
OUTDISP	ODisp	5	JES2 output disposition	
DSDATE	CrDate	10	Output creation date. Length can be changed to 19 to produce the date and time. (JES2 only)	
OHREASON	OHR	3	Output hold reason code	
OHRSNTXT	Output-Hold-Text	37	Output hold reason text	
OFFDEVS	Offs	4	List of offload devices for a job or output that has been offloaded (JES2 only)	
RETCODE	Max-RC	10	Return code information for the job	
JTYPE	Type	4	Type of address space	
ROOMN	RNum	8	JES2 job room number	X
PNAME	Programmer-Name	20	JES programmer name field	X
ACCTN	Acct	4 (JES2) 8 (JES3)	JES account number	X

Table 91. Columns on the O Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
NOTIFY	Notify	8	TSO user ID from NOTIFY parameter on job card	X
ISYSID	ISys	4 (JES2) 8 (JES3)	JES input system ID	X
TIMER	Rd-Time	8	Time that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
DATER	Rd-Date	8	Date that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
ESYSID	ESys	4 (JES2) 8 (JES3)	JES execution system ID	X
TIMEE	St-Time	8	Time that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
DATEE	St-Date	8	Date that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
TIMEN	End-Time	8	Time that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
DATEN	End-Date	8	Date that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
ICARDS	Cards	5	Number of cards read for job	X
JCLASS	JC	1 or 8	JES input job class. Default width expands to 8 if there are long class names in the MAS.	
MCLASS	MC	2	Message class of job	X
SUBGROUP	SubGroup	8	Submitter group	X
JOBACCT1	JobAcct1[1]	20	Job accounting field 1	X
JOBACCT2	JobAcct2[1]	20	Job accounting field 2	X
JOBACCT3	JobAcct3[1]	20	Job accounting field 3	X
JOBACCT4	JobAcct4[1]	20	Job accounting field 4	X
JOBACCT5	JobAcct5[1]	20	Job accounting field 5	X
JOBCORR	JobCorrelator	32	User portion of the job correlator (JES2 only)	
DATETIMER	Rd-DateTime	19	Date and time that the job was read in. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the Rd-Date and Rd-Time columns.	X
DATETIMEE	St-DateTime	19	Date and time that execution began. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the St-Date and St-Time columns.	X
DATETIMEN	End-DateTime	19	Date and time that execution ended. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the End-Date and End-Time columns.	X
BERTNUM	BERTNum	7	Number of BERTs used by this JOE (JES2 only)	

Notes on the table:

1. This column is not included in the default field list.

Page panel (PAG)

The Page data sets (PAG) panel allows you to display the page data sets. The panel shows the page data sets being used.

Command keyword

Access the Page panel with the **PAG** command from any SDSF panel.

PAG command action characters

The action characters for the PAG command are shown in Table 92.

Table 92. PAG Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display information. You can add: • C - Display common page data sets. • D - Display page deletes. • L - Display local page data sets. • P - Display PLPA page data sets. • S - Display storage class memory.

Columns on the PAG panel

The columns on the PAG panel are shown in Table 93.

Table 93. Columns on the PAG Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
TYPE	Type	6	Type of data set
SLOTS	Slots	8	Number of slots defined
USENUM	Used	8	Number of slots used
USEPCT	Use%	4	Percentage of total slots in use

Table 93. Columns on the PAG Panel (continued)

Column name	Title (Displayed)	Width	Description
VOLSER	VolSer	6	Volume serial
STATUS	Status	8	Data set status
VIO	VIO	3	VIO indicator. YES if data set eligible for VIO.
TOTERRS	IOError	7	Number of I/O errors
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Operating system level

PARMLIB panel (PARM)

The Parmlib (PARM) panel allows you to display the data sets in the parmlib. The panel shows the data sets in the parmlib concatenation.

Command keyword

Access the PARMLIB panel with the **PARM** command from any SDSF panel.

PARM command action characters

The action characters for the PARM command are shown in Table 94.

Table 94. PARM Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display information. You can add: • E - Display information, errors.
SB	Browse (ISPF only)
SE	Edit (ISPF only)

Columns on the PARM panel

The columns on the PARM panel are shown in Table 95.

Table 95. Columns on the PARM Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number

Table 95. Columns on the PARM Panel (continued)

Column name	Title (Displayed)	Width	Description
VOLSER	VolSer	6	Volume serial
BLKSIZE	BlkSize	7	Data set block size
EXTENT	Extent	6	Number of extents
SMS	SMS	3	SMS indicator. YES if the data set is SMS managed. Otherwise, NO.
LRECL	LRecL	5	Logical record length
DSORG	DSOrg	5	Data set organization
RECFM	RecFm	5	Record format
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last referenced date
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Operating system level

Printer panel (PR)

The Printer panel allows you to display information about JES printers and jobs being printed. For JES2, it shows local and remote printers. For JES3, it shows local printers.

Command keyword

Access the Printer panel with the **PR** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 96 on page 112 allow you to customize the PR display.

The parameter usage is as follows:

```
PR (printer-list)
```

PR with no parameters displays information about all printers.

Consider the following examples:

- **PR 1 2 RMT** - Displays information about local printers 1 and 2, and all remote printers for all remote locations.
- **PR R20-30** - Displays information about printers at remote locations 20 through 30.

Table 96. PR Parameters

Parameter	Description
printer-list	*printer-list* is up to four of the following, in any combination: • number - A local printer ID (1 to 32767). • number-range - A range of local printer IDs (1 to 32767). • Rnumber - R followed by a remote location (1 to 32767). • Rnumber-range - R followed by a range of remote locations (1 to 32767). • LCL - All local printers. • RMT - All remote printers.

PR command action characters

The action characters for the PR command are shown in Table 97.

Table 97. PR Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
B	Backspace a printer. Optional (JES2) or required (JES3) parameters: • number - Number of pages (JES2 only). • C - Most recent checkpoint. • Cnumber - Before the most recent checkpoint (pages for JES2, lines for JES3) • CnumberP - Pages before the most recent checkpoint (JES3 only). • D - Top of the current data set. • N - Last internally-noted checkpoint (JES3 only). • Nnumber - Lines before the last internally-noted checkpoint (JES3 only). • NnumberP - Pages before the last internally-noted checkpoint (JES3 only).
C	Purge output printing on a printer.
CG	Cancel only the output destined for this device for the current job (JES3 only).
CJ	Cancel all of the output of the appropriate type (PRT or PUN) for the current job. (JES3 only).

Table 97. PR Command Action Characters (continued)

Action Character	Description
CP	Stop printer activity and determine the page or record position of a data set being processed (JES3 only).
CT	Stop the printer automatically once the current activity is canceled (JES3 only).
D	Display information. You can add: • L - Display the long form of the information.
E	Restart a printer. You can use one or more of these parameters (JES3 only): • A - Automatic mode. Mutually exclusive with M. • D - Turn on diagnostic mode. Mutually exclusive with X. • H - Suspend activity on the current data set and place it in hold status. • J - Requeue all data sets for the current job. • L - Reload FCB and UCS/CHARS buffer. • M - Manual mode. Mutually exclusive with A. • R - Request that it perform a scheduling pass. • T - End it automatically once the current job is rescheduled. • X - Turn off diagnostic mode. Mutually exclusive with D.
F	Forward space a printer. Optional (JES2) or required (JES3) parameters: • number - Number of pages (JES2) or lines (JES3). • C - Most recent checkpoint. • Cnumber - From the most recent checkpoint (pages for JES2, lines for JES3) • CnumberP - Pages from the most recent checkpoint (JES3 only). • D - Top of the current data set (JES2 only). • N - Last internally-noted checkpoint (JES3 only). • Nnumber - Lines frm the last internally-noted checkpoint (JES3 only). • NnumberP - Pages from the last internally-noted checkpoint (JES3 only).
I	Interrupt a printer (JES2 only).
K	Force termination of the FSS.
L	Fail the device (JES3 only). You can add: • D - Fail the device with a dump (JES3 only).
N	Print another copy of the output (JES2 only).

Table 97. PR Command Action Characters (continued)

Action Character	Description
P	Stop a printer (JES2 only).
S	Start a printer. You can add (JES3 only): • A - Automatic mode. Mutually exclusive with M. • D - Turn on diagnostic mode. Mutually exclusive with X. • M - Manual mode. Mutually exclusive with A. • T - End it when this request completes. • X - Turn off diagnostic mode. Mutually exclusive with D.
V	Vary the printer online (JES3 only).
VF	Vary the printer offline (JES3 only).
X	Invoke a writer (JES3 only). You can add: • D - Turn on diagnostic mode. Mutually exclusive with X. • R - Suspend writer output until the device is available. • T - End it after the output is printed. • X - Turn off diagnostic mode. Mutually exclusive with D.
Z	Halt an active printer (JES2 only).

Columns on the PR panel

The columns on the PR panel are shown in Table 98.

Table 98. Columns on the PR Panel

Column name	Title (Displayed)	Width	Description	Delay
DEVNAME	PRINTER	10 [1]	Printer name. This is the fixed field. It is ignored in an FLD statement or ISFFLD macro.	
STATUS	Status	8	Printer status	
GROUP	Group	9	Device group (JES3 only)	
SFORMS	SForms	8	Printer selection form number	
SFORM2-8	SForm2-8	8	Printer selection form names (JES2 only)	
SCLASS	SClass	15	Printer output selection classes	
JNAME	JobName	8	Job name	X
JNUM	JNum[2]	6	JES job number	
JOBID	JobID	8	JES job ID or work ID	X
OWNERID	Owner	8	User ID of job owner, or default values of ++++++++ or ????????, if user ID not defined to RACF	
RECCNT	Rec-Cnt	7	Number of line-mode records	
RECPRT	Rec-Prt	7	Number of line-mode records printed	
PAGECNT	Page-Cnt	8	Number of output pages	

Table 98. Columns on the PR Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
PAGEPRT	Page-Prt	8	Number of output pages printed	
JPRIO	JP	2	JES job priority	
DPRIO	DP	3	Output data set priority	
OCLASS	C	1	JES output class	
SECLABEL	SecLabel	8	Security label of the output group	
FORMS	Forms	8	Output form number	
FCBID	FCB	4	Output FCB ID	
UCSID	UCS	4	Output UCS ID (print train required)	
WTRID	Writer	8	Output special writer ID or data set ID (JES2 only)	
FLASHID	Flash	5	Output flash ID	
DESTN	Dest	8	JES print destination name (JES2 only)	
BURST	Burst	5	3800 burst indicator	
SEP	Sep	3	Separator page between output groups (JES2 only)	
SEPDS	SepDS	5	Separator page between data sets	
PRMODE	PrMode	8	Printer process mode	
SFCBID	SFCB	5	Printer selection FCB ID	
SUCSID	SUCS	4	Printer selection UCS ID	
SWTRID	SWriter	8	Printer selection writer ID (JES2 only)	
SFLASHID	SFlh	5	3800 Printer selection flash ID	
PRTWS	Work-Selection	40	Printer work selection criteria	
SBURST	SBurst	6	3800 output selection burst mode	
SPRMODE1	SPrMode1	8	Output selection process mode 1	
SPRMODE2	SPrMode2	8	Output selection process mode 2	
SPRMODE3	SPrMode3	8	Output selection process mode 3	
SPRMODE4	SPrMode4	8	Output selection process mode 4	
SDESTN1	SDest1	8	Printer selection destination name 1 (JES2 only)	
SDESTN2	SDest2	8	Printer selection destination name 2 (JES2 only)	
SDESTN3	SDest3	8	Printer selection destination name 3 (JES2 only)	
SDESTN4	SDest4	8	Printer selection destination name 4 (JES2 only)	
SJOBNAME	SJobName	8	Printer selection job name (JES2 only)	
SOWNER	SOwner	8	Printer selection creator ID. Use with the CREATOR work selection criteria. (JES2 only)	
SRANGE	SRange	22	Printer selection job number range (JES2 only)	
SEPMK	M	3	3800 mark forms control	
NPRO	NPro	4	Nonprocess run-out time in seconds (FSS only). This column is not overtypeable when the printer is active.	

Table 98. Columns on the PR Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
MODE	Mode	4	Control mode of printer (FSS only)	
CKPTLINE	CkptLine	8	Number of lines per logical page (JES2 only)	
CKPTREC	CkptRec	7	Number of logical records per checkpoint (JES3 only)	
CKPTPAGE	CkptPage	8	Number of logical pages per checkpoint	
CKPTSEC	CkptSec	7	Default checkpoint interval (3800-FSS) in seconds	
CKPTMODE	CkptMode	8	Checkpoint mode indicator (take checkpoints based on pages or seconds)	
CPYMOD	CpyMod	7	Copy modification module ID for the 3800 printer	
UNIT	Unit	5	Printer unit name	
PSEL	PSel	4	Preselection option (JES2 only)	
OGNAME	O-Grp-N	8	Output group name for the active job on the printer (JES2 only)	
LINELIM	Line-Limit	21	Printer line limit, *m-n*. An * indicates maximum value. (JES2 only)	
PAGELIM	Page-Limit	21	Printer page limit, *m-n*. Not shown for remote printers. (JES2 only)	
DEVFCB	DFCB	5	Device default FCB name or RESET	
PSETUP	Seup	6	Printer setup mode	
COPYMARK	CopyMark	8	Copymark indicator. Shown only for non-impact or FSS controlled printers.	
PAUSE	Pau	3	Pause mode. Not shown for remote printers.	
PSPACE	K	1	Printer spacing. Not shown for remote printers. (JES2 only)	
PTRACE	Tr	3	Printer tracing	
SEPCHARS	SepChar	7	Separator character value. Not shown for remote printers. (JES2 only)	
UCSVERFY	UCSV	4	UCS verification option. Not shown for remote printers. (JES2 only)	
DEST	Rmt[2]	5	JES print routing (JES2 only)	
NODE	Node[2]	4	JES print node (JES2 only)	
FSSNAME	FSSName	8	FSS defined for the printer	
FSSPROC	FSSProc	8	Name of the proc used to start the FSS	
FSATRACE	FSATrace	8	Internal rolling trace for an FSS printer (JES2 only)	
SYSNAME	SysName	8	System name	
DSYSID	SysID	5	JES member name (JES2 only)	
JESNAME	JESN	4	JES subsystem name	
JESLEVEL	JESLevel	8	JES level	
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)	
JTYPE	Type	4	Type of address space	

Table 98. Columns on the PR Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
OGID1	OGID1	5	Output group ID1 for job on printer (JES2 only)	
OGID2	OGID2	5	Output group ID2 for job on printer (JES2 only)	
PTRANS	Trans	8	Data translation	
TRKCELL	TrkCell	7	De-spool the entire track cell (JES2 only)	
NEWPAGE	NewPage	7	Controls how a "skip to channel" is counted (JES2 only)	
HONORTRC	HonorTRC	8	Honor TRC (table reference character) keyword in JCL (JES2 only)	
SVOL	SVol1	6	Spool volumes for work selection (JES2 only)	
SVOL2	SVol2	6	Spool volume 2 for work selection (JES2 only)	
SVOL3	SVol3	6	Spool volume 3 for work selection (JES2 only)	
SVOL4	SVol4	6	Spool volume 4 for work selection (JES2 only)	
CHAR1	Char1	5	Character arrangement table 1	
CHAR2	Char2	5	Character arrangement table 2	
CHAR3	Char3	5	Character arrangement table 3	
CHAR4	Char4	5	Character arrangement table 4	
FSASYSNM	FSASysNm	8	MVS system where FSA is active	
DSPNAME	DSPName	7	Dynamic support program name (JES3 only)	
DEVTYPE	DevType	8	Device type name (JES3 only)	
SDEST1	SRout1[2]	6	Selection destination 1 (JES2 only)	
SDEST2	SRout2[2]	6	Selection destination 2 (JES2 only)	
SDEST3	SRout3[2]	6	Selection destination 3 (JES2 only)	
SDEST4	SRout14[2]	6	Selection destination 4 (JES2 only)	
SNODE1	SNode1[2]	6	Selection node (JES2 only)	
SNODE2	SNode2[2]	6	Selection node 2 (JES2 only)	
SNODE3	SNode3[2]	6	Selection node 3 (JES2 only)	
SNODE4	SNode4[2]	6	Selection node 4 (JES2 only)	
LINELIML	Line-Lim-Lo	12	Printer line limit, minimum	
LINELIMH	Line-Lim-Hi	12	Printer line limit, maximum	
PAGELIML	Page-Lim-Lo	12	Printer page limit, minimum	
PAGELIMH	Page-Lim-Hi	12	Printer page limit, maximum	
DGRPY	DGrpY	5	Device cannot process data sets that are destined for any local device (JES3 only)	
DYNAMIC	Dyn	3	Device can be started dynamically (JES3 only)	
OPACTLOG	OpLog	5	Operator command actions will be logged in the output of the modified device using message IAT7066 or IAT7067 (FSS devices, JES3 only)	
CGS	CGS	3	Character generation storage (JES3 only)	
BURSTPAGE	B	1	Burst (JES3 only)	

Table 98. Columns on the PR Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
PDEFAULT	PDefault	8	Defaults that should be applied, if not defined in the job's JCL (JES3 only)	
COPIES	Copies	6	Copy count (JES3 only)	
CLEAR	CB	2	Clear printer processing indicator (JES3 only)	
TRC	TRC	3	Table reference character (JES3 only)	
HFCB	HFCB	4	Use designated FCB until status is changed (JES3 only)	
HCHARS	HChars	6	Use designated CHARS until status is changed (JES3 only)	
HUCS	HUCS	4	Use designated UCS until status is changed (JES3 only)	
HCPYMOD	HCpyMod	7	Use designated Copy Mod until status is changed (JES3 only)	
HFLASH	HFlash	6	Use designated Flash until status is changed (JES3 only)	
HBURST	HBurst	6	Use designated Burst until status is changed (JES3 only)	
HFORMS	HForms	6	Use designated Forms until status is changed (JES3 only)	
ASIS	AsIs	4	Send print data as is (JES2 only)	
CCTL	CCtl	4	Data carriage control stream	
CMPCT	Cmpct	4	Compaction for SNA remote punches	
COMP	Comp	4	Compression	
COMPAC	Compact	8	Compaction table name for SNA remote punches	
FCBLOAD	FCBl	4	JES will load FCB	
LRECL	LRecL	5	Logical record length	
SUSPEND	Sus	3	Suspend/interrupt capability (JES2 only)	
SELECT	Select	8	Send output to device type and subaddress	

Notes on the table follow.

[1] The width of the PRINTER column is 7 if the shortened format of device names has been specified.

[2] This column is not included in the default field list.

Proclib panel (PROC)

The Proclib (PROC) panel allows you to display the JES2 procedure library concatenation for the local JES2 member.

Command keyword

Access the Proclib panel with the **PROC** command from any SDSF panel. (JES2 only)

PROC command action characters

The action characters for the PROC command are shown in Table 99.

Table 99. PROC Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display proclib. You can add: • D - Display proclib in debug mode.

Columns on the PROC panel

The columns on the PROC panel are shown in Table 100.

Table 100. Columns on the PROC Panel

Column name	Title (Displayed)	Width	Description
DDNAME	DDNAME	8	DDName of the data set. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number for data set in list
DSNAME	DSName	44	Data set name
VOLSER	VolSer	6	Volume serial
DEFVOL	DefVol	6	Defined volume serial
STATUS	Status	8	Data set status
TSO	TSO	3	Proclib used for TSO (YES or NO)
STC	STC	3	Proclib used for started tasks (YES or NO)
STATIC	Static	6	Static allocation (YES or NO)
BLKSIZE	BlkSize	7	Block size
EXTENT	Extent	6	Number of data set extents
SMS	SMS	3	SMS indicator (YES or NO). YES if SMS managed.
LRECL	LRecL	5	Logical record length for data set
DSORG	DSOrg	5	Data set organization
RECFM	RecFm	5	Record format
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last reference date
SEQMAX	SeqMax	6	Maximum sequence number for data set in list
USECOUNT	UseCount	8	Concatenation use count

Processes panel (PS)

The Processes (PS) panel allows you to display information about z/OS UNIX System Services processes.

Command keyword

Access the Process panel with the **PS** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 101 allow you to customize the PS display.

The parameter usage is as follows:

```
PS ALL|ACTIVE
```

PS with no parameters displays all z/OS UNIX System Services processes. This is the default.

Consider the following example:

- **PS** - Displays the Processes panel, showing all processes.

Table 101. PS Parameters

Parameter	Description
ALL	*ALL* displays all z/OS UNIX System Services processes. This is the default.
ACTIVE	*ACTIVE* displays only active processes.

PS command action characters

The action characters for the PS command are shown in Table 102.

Table 102. PS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row. (ISPF only)
C	Cancel the address space that owns the process.
D	Display information about processes.
K	Kill the process (SIGKILL).
T	Kill the process (SIGTERM).

Columns on the PS panel

The columns on the PS panel are shown in Table 103.

Table 103. Columns on the PS Panel

Column name	Title (Displayed)	Width	Description
JOBNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored on an FLD statement or ISFFLD macro.
JOBID	JobID	8	Job ID of the process
STATUS	Status	32	Status of the process
OWNERID	Owner	8	User ID of owner
STATE	State	5	State of the process or of most recently created thread (corresponds to d omvs display)
CPU	CPU-Time	8	Compute time in hundredths of seconds
PID	PID	10	Process ID
PPID	PPID	10	Parent process ID
ASID	ASID	5	Address space id
ASIDX	ASIDX	5	Address space id in hexadecimal
LATCHPID	LatchWaitPID	12	PID on which this process is waiting
COMMAND	Command	40	Command that created process
SERVER	ServerName	32	Server name
TYPE	Type	4	Server type (only when the process is a server)
ACTFILES	ActFiles	8	Number of active files (only when the process is a server)
MAXFILES	MaxFiles	8	Maximum number of files (only when the process is a server)
TIMEE	St-Time	8	Time process was started. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.
DATEE	St-Date	8	Date process was started. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.
SYSLEVEL	SysLevel	25	Level of the operating system
SYSNAME	SysName	8	System name where process is executing
SECLABEL	SecLabel	8	Security label of the process
DATETIMEE	St-DateTime	19	Date and time that execution began. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the St-Date and St-Time columns.

Punch panel (PUN)

The Punch panel allows you to display information about JES punches and jobs being punched.

Command keyword

Access the Punch panel with the **PUN** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 104 allow you to customize the PUN display.

The parameter usage is as follows:

```
PUN punch-list
```

PUN with no parameters displays information about all punches.

Consider the following examples:

- **PUN 1 2 RMT** - Displays information about local punches 1 and 2, and all remote punches for all remote locations.
- **PUN R20-30** - Displays information about punches at remote locations 20 through 30.

Table 104. PUN Parameters

Parameter	Description
punch-list	*punch-list* is up to four of the following, in any combination: • number - A local punch ID (1 to 32767). • number-range - A range of local punch IDs (1 to 32767). • Rnumber - R followed by a remote location (1 to 32767). • Rnumber-range - R followed by a range of remote locations (1 to 32767). • LCL - All local punches. • RMT - All remote punches. Parameters with "number" are valid for JES2 only.

PUN command action characters

The action characters for the PUN command are shown in Table 105.

Table 105. PUN Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row. (ISPF only)

Table 105. PUN Command Action Characters (continued)

Action Character	Description
B	Backspace. Optional (JES2) or required (JES3) parameters include: • number of pages (JES2 only). • C - Most recent checkpoint. • C,number - Before the most recent checkpoint. (pages for JES2; lines for JES3) • D - Top of the current data set. • N - Internal checkpoint (JES3 only). • Nnumber - Lines before the internal checkpoint (JES3 only). • NnumberP - Pages before the internal checkpoint (JES3 only).
C	Purge output being processed by a punch.
CG	Cancel only the output destined for this device for the current job (JES3 only).
CJ	Cancel all of the output for the current job (JES3 only).
CT	Stop the punch automatically once the current activity is canceled (JES3 only).
D	Display information. You can add: • L - Display information, long form.
E	Restart a punch. You can add one or more of these parameters (JES3 only): • A - Automatic mode. Not valid with M. • D - Turn on diagnostic mode. Not valid with X. • H - Hold the current data set. • J - Requeue all completed data sets for the current job. • M - Manual mode. Not valid with A. • R - Request that it perform a scheduling pass. • T - End it automatically once the current job is rescheduled. • X - Turn off diagnostic mode. Not valid with D.

Table 105. PUN Command Action Characters (continued)

Action Character	Description
F	Forward space. Optional (JES2) or required (JES3) parameters: • number - Number of pages (JES2 only). • C - Most recent checkpoint. • Cnumber - From the most recent checkpoint (pages for JES2, lines for JES3). Add P for pages for JES3. • N - last internally-noted checkpoint (JES3 only). • Nnumber - Lines from the internal checkpoint (JES3 only). • NnumberP - Pages from the internal checkpoint (JES3 only).
I	Interrupt the punch (JES2 only).
L	Fail the punch DSP (JES3 only). You can add: • D - Fail the punch DSP with a dump (JES3 only).
N	Punch another copy of the output (JES2 only).
P	Stop (JES2 only).
S	Start. You can add one or more of these parameters (JES3 only): • A - Automatic mode. Mutually exclusive with M. • D - Turn on diagnostic mode. Mutually exclusive with X. • M - Manual mode. Mutually exclusive with A. • T - End it when this request completes. • X - Turn off diagnostic mode. Mutually exclusive with D.
V	Vary online (JES3 only).
VF	Vary offline (JES3 only).
X	Invoke a punch writer (JES3 only). You can add one or more of these parameters: • D - Turn on diagnostic mode. Mutually exclusive with X. • R - Suspend writer output until the device is available. • T - End it after the output is printed. • X - Turn off diagnostic mode. Mutually exclusive with D.

Columns on the PUN panel

The columns on the PUN panel are shown in Table 106.

Table 106. Columns on the PUN Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	PUNCH	10	Device name. This is the fixed field. It is ignored on an FLD statement or ISFFLD macro.
STATUS	Status	8	Punch status
GROUP	Group	8	Device group name (JES3 only)
SFORMS	SForms	8	Selection form number
SFORM2	SForm2	8	Selection form number 2 (JES2 only)
SFORM3	SForm3	8	Selection form number 3 (JES2 only)
SFORM4	SForm4	8	Selection form number 4 (JES2 only)
SFORM5	SForm5	8	Selection form number 5 (JES2 only)
SFORM6	SForm6	8	Selection form number 6 (JES2 only)
SFORM7	SForm7	8	Selection form number 7 (JES2 only)
SFORM8	SForm8	8	Selection form number 8 (JES2 only)
JNAME	JobName	8	Active job name
JOBID	JobID	8	Active job ID
JTYPE	Type	5	Type of active address space
JNUM	JNum[1]	6	Active job number
OWNERID	Owner	8	User ID of owner
SCLASS	SClass	15	Output selection classes
RECCNT	Rec-Cnt	7	Number of line-mode records in the job
RECPRT	Rec-Prt	7	Number of line-mode records printed
PAGECNT	Page-Cnt	8	Output page count
PAGEPRT	Page-Prt	8	Output pages printed
SEP	Sep	3	Separator page between output groups (JES2 only)
SEPDS	SepDS	5	Separator page between data sets
CCTL	CCtl	4	Data carriage control stream
CMPCT	Cmpct	4	Compaction for SNA remote punches
COMP	Comp	4	Compression
COMPAC	Compact	8	Compaction table name for SNA remote punches
FLUSH	Fls	3	Blank card after each data set
SWTRID	SWriter	8	Punch selection writer ID (JES2 only)
PRTWS	Work-Selection	40	Punch work selection criteria
SPRMODE1	SPrMode1	8	Output selection process mode 1
SPRMODE2-4	SPrMode2-4	8	Output selection process modes 2-4
SDESTN1	SDest1	8	Punch selection destination name 1 (JES2 only)
SDESTN2-4	SDest2-4	8	Punch selection destination names 2-4 (JES2 only)
SJOBNAME	SJobName	8	Selection job name (JES2 only)
SOWNER	SOwner	8	Selection creator ID (JES2 only)

Table 106. Columns on the PUN Panel (continued)

Column name	Title (Displayed)	Width	Description
SVOL	SVol	6	Selection volume (JES2 only)
SELECT	Select	7	Send Output To (remote punches only)
CKPTLINE	CkptLine	8	Number of lines per logical page (JES2 only)
CKPTPAGE	CkptPage	8	Number of logical pages per checkpoint (JES2 only)
CKPTREC	CkptRec	3	Number of records per checkpoint (JES3 only)
UNIT	Unit	5	Punch unit name
LINELIM	Line-Limit	21	Punch line limit (JES2 only)
SRANGE	SRange	22	Selection job number range (JES2 only)
LRECL	LRecL	5	Logical record length of transmitted data (SNA only)
PSETUP	Setup	6	Setup option (JES2 only)
PAUSE	Pau	3	Pause mode
SUSPEND	Sus	3	Punch-interrupt feature option (BSC connection only, JES2 only)
PTRACE	Tr	3	Punch tracing
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	z/OS JES level
SECLABEL	Seclabel	8	Security label of the job on the device
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)
LINELIML	Line-Lim-LoMinimum Lines	11	Punch line limit, minimum
LINELIMH	Line-Lim-HiMaximum Lines	11	Punch line limit, maximum
SVOL2-4	Svol2-4	6	Selection volumes 2-4 (JES2 only)
OGNAME	O-Grp-N	8	Output group name (JES2 only)
OGID1	OGid1	5	Output group ID 1 (JES2 only)
OGID2	OGid2	5	Output group ID 2 (JES2 only)
FORMS	Forms	8	Output forms
PRMODE	Prmode	8	Output process mode
WTRID	Writer	8	Output writer name (JES2 only)
DESTN	Dest	8/18	Output destination (JES2 only)
DPRIO	DP	2	Output priority
JPRIO	JP	2	Job priority
OCLASS	C	1	Output class
DEVTYPE	DevType	8	Device type (JES3 only)
DSPNAME	DSPName	8	Dynamic support program name (JES3 only)
HFORMS	HForms	6	Use designated forms until status is changed (JES3 only)
COPIES	Copies	6	Copy count (JES3 only)
DYNAMIC	Dyn	3	Start device dynamically (JES3 only)

Table 106. Columns on the PUN Panel (continued)

Column name	Title (Displayed)	Width	Description
DGRPY	DGrpY	3	Device cannot process data sets that are destined for any local device (JES3 only)
BURSTPAGE	B	3	Punch burst page at end of job (JES3 only)

Notes on the table:

1. This column is not included in the default field list.

Reader panel (RDR)

The Reader panel allows you to display information about JES readers and jobs being processed by readers.

Command keyword

Access the Reader panel with the **RDR** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 107 allow you to customize the RDR display.

The parameter usage is as follows:

`RDR` *`(reader-list)`*

Consider the following example:

- **RDR 1 2 RMT** - Displays information about local readers 1 and 2, and all remote readers for all remote locations.
- **RDR R20-30** - Displays information about readers at remote locations 20 through 30.

Table 107. RDR Parameters

Parameter	Description
reader-list	*reader-list* is up to four of the following, in any combination: • number - A local reader ID (1 to 99). • number-range - A range of local reader IDs (1 to 99). • Rnumber - R followed by a remote location (1 to 32767). • Rnumber-range - R followed by a range of remote locations (1 to 32767). • LCL - All local readers. • RMT - All remote readers. Parameters with "number" are valid for JES2 only.

RDR command action characters

The action characters for the RDR command are shown in Table 108.

Table 108. RDR Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
C	Cancel. You can add one or more of these parameters (JES3 only): • H - Hold the control-card processor. • HN - Process jobs that are completely entered. • K - Leave hot readers allocated. • KN - Do not leave hot readers allocated. You cannot combine H and HN or K and KN.
D	Display the information. You can add: • L - Display the long form of information.
L	Fail the reader DSP (JES3 only). You can add: • D - Fail the reader DSP and take a dump (JES3 only).
P	Stop (JES2 only).
S	Start. You can add one or more of the following parameters (JES3 only): • H - Hold the control-card processor. • HN - Process jobs after the batch is created. • K - Keep active once end-of-file is reached. • KN - Purge when end-of-file is reached. You cannot combine H and HN or K and KN.
V	Vary online (JES3 only).
VF	Vary offline (JES3 only).

Table 108. RDR Command Action Characters (continued)

Action Character	Description
X	Invoke card reader support (JES3 only). You can add one or more of these parameters: • C - Enable card image support. • H - Place the control-card processor in hold. • HN - Allow jobs to be processed. • K - Remain active after end-of-file is reached. • KN - Purge after end-of-file is reached. You cannot combine H and HN or K and KN.
Z	Halt (JES2 only).

Columns on the RDR panel

The columns on the RDR panel are shown in Table 109.

Table 109. Columns on the RDR Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	READER	10	Device name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8	Reader status
GROUP	Group	8	Device group name (JES3 only)
JNAME	JobName	8	Job name
JOBID	JobID	8	Active job ID (JES2 only)
JTYPE	Type[1]	5	Type of active address space
JNUM	JNum[1]	6	Active job number (JES2 only)
OWNERID	Owner	8	User ID of owner
RECCNT	Rec-Cnt	10	Number of records in the job (JES2 only)
RECPRT	Rec-Proc	10	Number of records processed
RCLASS	C	1 or 8	Default execution class. Default width expands to 8 if there are long class names in the MAS.
RHOLD	Hold	4	Job held after JCL conversion (JES2 only)
RMCLASS	MC	2	Message class (JES2 only)
RPRTDST	PrtDest	18	Default destination for print output (JES2 only)
RPUNDST	PunDest	18	Default destination for punch output (JES2 only)
RSYSAFF	SAff	5	System affinity (JES2 only)
RAUTH	Authority	13	Authority of the reader (JES2 only)
PRIOINC	PI	2	Increment to selection priority (JES2 only)
PRIOLIM	PL	2	Maximum priority level that can be assigned to jobs. Any job's priority that exceeds this level is reduced to it. (JES2 only)
RUNIT	Unit	5	Reader unit name
XEQDEST	XeqDest	18	Default execution node (JES2 only)

Table 109. Columns on the RDR Panel (continued)

Column name	Title (Displayed)	Width	Description
RTRACE	Tr	3	Reader tracing (JES2 only)
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name (JES2 only)
JESNAME	JESN	4	JES subsystem name
JESLEVEL	JESLevel	8	z/OS JES level
SECLABEL	SecLabel	8	Security label of the job on the reader (JES2 only)
DEVSECLB	DSecLabel	9	Security label of the device (JES2 only)
DEVTYPE	DevType	8	Device type name (JES3 only)
DSPNAME	DSPName	8	Dynamic support program name (JES3 only)
ACCTREQ	AReq	3	Account number required on job card (JES3 only)
PNAMEREQ	PReq	3	Programmer name required on job card (JES3 only)
SWA	SWA	5	SWA ABOVE or BELOW (JES3 only)
BLP	BLP	3	Bypass label processing label setting is respected (JES3 only)
RPRIO	DP	2	Default job priority (JES3 only)
RMLEVEL	ML	2	Default job message level (JES3 only)
RALEVEL	AL	2	Default allocation message level (JES3 only)
RTIME	Time	10	Default time limit (JES3 only)
RREGION	Region	10	Default region size (JES3 only)

Notes on the table:

1. This column is not included in the default field list.

Resource panel (RES)

The Resource (RES) panel allows you to display WLM resources.

Command keyword

To display resources in the MAS or sysplex, access the panel with the **RES** command. To display resources for a scheduling environment, access the panel with the **R** action character from the SE panel.

Customize the display with parameters

The parameters shown in Table 110 on page 131 allow you to customize the RES display.

The parameter usage is as follows:

```
RES (MAS|ALL)
```

Consider the following example:

- **RES MAS** - Displays resources for all systems in the MAS.

Table 110. RES Parameters

Parameter	Description
MAS	Displays resources for all systems in the MAS. It is the default for JES2; under JES3, it is treated as ALL.
ALL	Displays resources for all systems in the sysplex. This the default for JES3.

RES command action characters

The action characters for the RES command are shown in Table 111.

Table 111. RES Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display resources in the Log. This issues the MVS D command.

Columns on the RES panel

The columns on the RES panel are shown in Table 112.

Table 112. Columns on the RES Panel

Column name	Title (Displayed)	Width	Description
RESOURCE	RESOURCE	16	Resource name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
REQSTATE	ReqState	8	Required state of the resource for the scheduling environment. Displayed only if the panel is accessed with the R action character.
SYS1 to SYS32	Resolved from the actual names of the systems	8	Status of the resource on the system.

Resource Monitor (RM) panel

The Resource Monitor (RM) panel allows you to display information about JES2 resources such as JOEs, JQEs and BERTs.

Command keyword

Access the Resource Monitor panel with the **RM** command from any SDSF panel (JES2 only).

Customize the display with parameters

The parameters shown in Table 113 allow you to customize the RES display.

The parameter usage is as follows:

```
RM (ALL|number-of-intervals)
```

RM with no parameters displays the current interval.

Consider the following example:

- **RM 3** - Displays the most recent 3 intervals.

Table 113. RM Parameters

Parameter	Description
ALL	Displays all intervals.
number-of-intervals	Specifies the number of intervals to be displayed, including the most recent. JES2 maintains up to 72 intervals.

RM command action characters

The action characters for the RM command are shown in Table 114.

Table 114. RM Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display information about the resource.

Columns on the RM panel

The columns on the RM panel are shown in Table 115.

Table 115. Columns on the RM Panel

Column name	Title (Displayed)	Width	Description	Delay
RESNAME	RESOURCE	8	JES2 resource name	
DSYSID	SysID	5	JES2 member name	
STATUS	Status	10	Resource status	X
LIMIT	Limit	6	Limit for the resource	X
USENUM	InUse	6	Number in use	X
USEPCT	InUse%	6	Percentage in use	X
WARNPCT	Warn%	5	Warning threshold (percentage)	X
INTAVG	IntAvg	6	Average amount in use for the interval	X

Table 115. Columns on the RM Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
INTHIGH	IntHigh	7	Highest amount in use for the interval	X
INTLOW	IntLow	6	Lowest amount in use for the interval	X
OVERWARN	OverWarn%	9	Amount in use above the warning threshold (percentage)	X
TIMEE	Time	8	Time that the interval began	X
DATEE	Date	8	Date that the interval began	X
SYSNAME	SysName	8	System name	
JESNAME	JESN	4	JES2 subsystem name	
JESLEVEL	JESLevel	8	z/OS JES2 level	
DESCRIPT	Description	20	Descriptive resource name	
STMT	Statement	16	Resource limit statement	
KEYWORD	Keyword	20	Resource limit keyword	

Search panel (SRCH)

The SRCH panel shows the results of a member search from a dataset list. The resulting table shows all data sets containing that member pattern.

Note: SRCH provides a different capability from the SEARCH command. SRCH implements a member search using a data set list, whereas SEARCH searches the SDSF help and tutorial.

Command keyword

Access the Search panel with the **SRCH** command from the APF, LNK, LPA, PARM, or PROC panels.

Customize the display with parameters

The parameters shown in Table 116 allow you to customize the SRCH display.

The parameter usage is as follows:

```
SRCH member-pattern
```

Consider the following example:

- **SRCH IEA*** - Displays the SRCH results for member pattern IEA*.

Table 116. SRCH Parameters

Parameter	Description
member-pattern	Searches for matching members in the dataset list. Can include * (any string of characters) or % (any single character).

SRCH command action characters

The action characters for the SRCH command are shown in Table 117.

Table 117. SRCH Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
SB	Browse (ISPF only).
SE	Edit (ISPF only).

Columns on the SRCH panel

The columns on the SRCH panel are shown in Table 118.

Table 118. Columns on the SRCH Panel

Column name	Title (Displayed)	Width	Description
DSNAME	DSNAME	13-44 (Varies based on longest name.)	Data set name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQ	Seq	3	Sequence number
VOLSER	VolSer	6	Volume serial
STATUS	Status	16	Data set or member status
DSORG	DSOrg	5	Data set organization
BLKSIZE	BlkSize	7	Data set block size
EXTENT	Extent	6	Number of extents
SMS	SMS	3	SMS indicator: YES if data set is SMS managed. Otherwise, NO.
LRECL	LRecL	5	Logical record length
RECFM	RecFm	5	Record format
CRDATE	CrDate	8	Data set creation date
REFDATE	RefDate	8	Data set last referenced date
SYSNAME	Sysname	8	System name

Scheduling Environment panel (SE)

The Scheduling Environment (SE) panel allows you to display the Scheduling Environments in the MAS or the sysplex.

Command keyword

Access the Scheduling Environment panel with the **SE** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 119 allow you to customize the SE display.

The parameter usage is as follows:

```
SE (MAS|ALL)
```

Consider the following example:

- **SE ALL** - Displays scheduling environments for all systems in the sysplex.

Table 119. SE Parameters

Parameter	Description
MAS	Displays scheduling environments for all systems in the MAS. It is the default for JES2; under JES3, it is treated as ALL.
ALL	Displays scheduling environments for all systems in the sysplex. This the default for JES3.

SE command action characters

The action characters for the SE command are shown in Table 120.

Table 120. SE Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display scheduling environments in the log. This issues the MVS D command.
R	Display resources for a scheduling environment.
ST	Display the ST panel for all jobs requiring the scheduling environment.

Columns on the SE panel

The columns on the SE panel are shown in Table 121.

Table 121. Columns on the SE Panel

Column Name	Title (Displayed)	Width	Description
SCHENV	SCHEDULING-ENV	16	Scheduling environment name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
DESCRIPT	Description	32	Description of scheduling environment
SYSTEMS	Systems	60	Systems with the scheduling environment available

SMS Storage Groups panel (SMSG)

The SMS Storage Groups (SMSG) panel allows you to display SMS storage groups in the system.

Command keyword

Access the SMSG panel with the **SMSG** command from any SDSF panel.

SMSG command action characters

The action characters for the SMSG command are shown in Table 122.

Table 122. SMSG Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display information.
DL	Display volumes in storage group.
L	List volumes in storage group. (Access SMSV panel.)
VD	Disable storage group from allocating or accessing new data sets.
VDN	Disable storage group from allocating new data sets.
VE	Enable a storage group.
VQ	Quiesce a storage group.
VQN	Quiesce a storage group for new data sets.
VS	Update space statistics for the storage group.

Columns on the SMSG panel

The columns on the SMSG panel are shown in Table 123.

Table 123. Columns on the SMSG Panel

Column name	Title (Displayed)	Width	Description
STORGRP	NAME	8	Storage group name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
TYPE	Type	16	Storage group type
STATUS	Status	16	SMS status
TOTAL	TotalMB	7	Total space in megabytes (MB)
USEDPCT	Used%	5	Space used percentage
FREE	FreeMB	6	Free space in megabytes (MB)
LFREE	LargestFreeMB	13	Largest free extent in megabytes (MB)
NUMVOL	Volume	6	Number of volumes in storage group
NUMONLINE	Online	6	Number of volumes online
NUMOFFLINE	Offline	7	Number of volumes offline
NUMENABLE	Enabled	7	Number of volumes enabled
NUMDISABLE	Disabled	8	Number of volumes disabled
NUMQUIESCE	Quiesced	8	Number of volumes quiesced
USERID	LastUser	8	Last user to modify storage group definition
CHGDATE	Change-Date-Time	19	Timestamp of last change to definition
DESC	Description	120	Description
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

SMS Volumes panel (SMSV)

The SMS Volumes (SMSV) panel allows you to display SMS volumes in the system.

Command keyword

Access the SMSV panel with the **SMSV** command from any SDSF panel.

Customize the display with parameters

The parameter shown in Table 124 on page 138 allows you to customize the SMSV display.

The parameter usage is as follows:

```
SMSV(storage-group)
```

SMSV with no parameters shows all volumes and storage groups.

Consider the following examples:

- **SMSV groupname** - Displays volumes in the storage group.
- **SMSV** - Displays all volumes and storage groups.

Table 124. SMSV Parameters

Parameter	Description
storage-group	Limits the panel to volumes in the storage group.

SMSG command action characters

The action characters for the SMSG command are shown in Table 125.

Table 125. SMSV Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
D	Display information.
DC	Display coupling facility cache structures for volume.
DS	Display storage group status.
DSL	Display volumes in storage group.
VD	Disable a volume from allocating or accessing data sets.
VDN	Disable a volume from allocating new data sets.
VE	Enable a volume.
VQ	Quiesce a volume.
VQN	Quiesce a volume for new data sets.
VS	Update space statistics for the volume.

Columns on the SMSV panel

The columns on the SMSV panel are shown in Table 126.

Table 126. Columns on the SMSV Panel

Column name	Title (Displayed)	Width	Description
VOLSER	VOLSER	6	Volume serial. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	16	Volume status
TOTAL	TotalMB	7	Total space in megabytes (MB)
USEDPCT	Used%	5	Space used percentage
FREE	FreeMB	6	Free space in megabytes (MB)
LFREE	LargestFreeMB	13	Largest free extent in megabytes (MB)
DEVSTAT	Device-Status	16	MVS status
UNIT	Unit	4	Unit address if known

Table 126. Columns on the SMSV Panel (continued)

Column name	Title (Displayed)	Width	Description
STORGRP	StorGrp	8	Storage group
USERID	LastUser	8	Last user to update storage group definition
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Spool Offload panel (SO)

The Spool Offload (SO) panel allows you to display information about JES2 spool offloaders and their associated transmitters and receivers.

Command keyword

Access the Spool Offload panel with the **SO** command from any SDSF panel (JES2 only).

Customize the display with parameters

The parameters shown in Table 127 allow you to customize the SO display.

The parameter usage is as follows:

```
SO (offload-list)
```

SO without any parameters displays information about all the spool offloaders, transmitters and receivers defined to your system.

Consider the following example:

- **SO SHORT** - Displays information about all JES2 spool offloaders, but no transmitters or receivers.

Table 127. SO Parameters

Parameter	Description
offload-list	*reader-list* is up to four of the following, in any combination: • number - A local reader ID (1 to 99). • number-range - A range of local reader IDs (1 to 99). • Rnumber - R followed by a remote location (1 to 32767). • Rnumber-range - R followed by a range of remote locations (1 to 32767). • LCL - All local readers. • RMT - All remote readers. Parameters with "number" are valid for JES2 only.
SHORT	Displays information about all JES2 spool offloaders, but no transmitters or receivers.

SO command action characters

The action characters for the SO command are shown in Table 128.

Table 128. SO Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
C	Cancel a transmitter or receiver.
D	Display an offloader, transmitter, or receiver in the log.
E	Restart a transmitter.
P	Drain an offloader, transmitter, or receiver.
S	Start a transmitter or receiver.
SR	Start an offloader to receive jobs and SYSOUT.
ST	Start an offloader to transmit jobs and SYSOUT.

Columns on the SO panel

The columns on the SO panel are shown in Table 129.

Table 129. Columns on the SO Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	DEVICE	8	Device name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	9	Device status
TYPE	Type	8	Device type
JNAME	Jobname	8	Active jobname
JOBID	JobID	8	Active JES2 job ID
JTYPE	no default	4	Type of active address space
JNUM	JNum[1]	6	Active JES2 job number
OWNERID	Owner	8	User ID of owner
LINELIM	Line-Limit	21	Selection line limit
PAGELIM	Page-Limit	21	Selection page limit
RECPRT	Proc-Lines	10	Number of lines processed for the job.
RECCNT	Tot-Lines	10	Number of lines in the job.
SCLASS	SClass	15	Selection classes. Multi-character classes and groups shows as periods (.).
SOWNER	SOwner	8	Selection owner

Table 129. Columns on the SO Panel (continued)

Column name	Title (Displayed)	Width	Description
SHOLD	SHold	5	Selection hold value
SJOBNAME	SJobName	8	Selection jobname
SRANGE	SRange	22	Selection job number range
SDESTN1	SDest1	18	Selection destination name
SSAFF	SSAff	5	Selection system affinity
SDISP	SDisp	6	Selection disposition
SVOL	SVol	6	Selection volume
SBURST	SBurst	6	Selection burst value
SFCBID	SFCB	4	Selection FCB
SFLASHID	SFlh	4	Selection flash
SFORMS	SForms	8	Selection forms name
SFORM2	SForm2	8	Selection forms name 2
SFORM3	SForm3	8	Selection forms name 3
SFORM4	SForm4	8	Selection forms name 4
SFORM5	SForm5	8	Selection forms name 5
SFORM6	SForm6	8	Selection forms name 6
SFORM7	SForm7	8	Selection forms name 7
SFORM8	SForm8	8	Selection forms name 8
SPRMODE1	SPrMode	8	Selection process mode
SODISP	SODsp	5	Selection output disposition
SODISP2	SODsp2	5	Selection output disposition 2
SODISP3	SODsp3	5	Selection output disposition 3
SODISP4	SODsp4	5	Selection output disposition 4
SWTRID	SWriter	8	Selection writer name
SUCSID	SUCS	4	Selection UCS
PRTWS	Work-Selection	40	Work selection criteria
NOTIFY	Notify	6	Notification option
ODSNAME	DSName	44	Data set name
SSRVCLS	SSrvClass	9	Selection service class value for the job receiver or job transmitter
SSCHENV	SScheduling-Env	16	Selection scheduling environment value for the job receiver or job transmitter
MBURST	MBurst	6	Modification of the burst value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MDEST	MDest	18	Modification of the destination value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MFCB	MFCB	4	Modification of the FCB value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.

Table 129. Columns on the SO Panel (continued)

Column name	Title (Displayed)	Width	Description
MFLASH	MFlh	4	Modification of the flash value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MFORMS	MForms	8	Modification of the forms value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MHOLD	MHold	5	Modification of the hold value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MSCLASS	MClass	8	Modification of the class value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MODISP	MODsp	5	Modification of the output disposition value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MPRMODE	MPrMode	8	Modification of the process mode value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MSAFF	MSAff	5	Modification of the system affinity value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MUCS	MUCS	4	Modification of the universal character set (UCS) name value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
MWRITER	MWriter	8	Modification of the writer name value, for post-execution jobs and output data sets that are selected for reloading, assigned during the reload process.
LABEL	Label	5	Label
PROTECT	Prot	4	Protect option
RETENT	RtPd	4	Retention
ARCHIVE	Archive	7	Archive option
VALIDAT	Validate	8	Validation option
UNIT	Unit	14	Unit
VOLS	Vols	4	Volume count (1-255) to be used for the offload data set
SYSNAME	SysName	8	System name
DSYSID	SysID	5	JES2 member name
JESNAME	JESN	4	JES2 subsystem name
JESLEVEL	JESLevel	8	JES2 level
DEVSECLB	DSecLabel	9	Security label of the device
CRTIME	CRTime	7	Indicates whether to restore or reset the original creation time of the output.
LINELIML	Line-Lim-Lo	11	Line limit, minimum

Table 129. Columns on the SO Panel (continued)

Column name	Title (Displayed)	Width	Description
LINELIMH	Line-Lim-Hi	11	Line limit, maximum
PAGELIML	Page-Lim-Lo	11	Page limit, minimum
PAGELIMH	Page-Lim-Hi	11	Page limit, maximum
SCLASS1-8	SClass1-8	8	Selection classes 1-8, including multi-character classes and groups (job transmitters and receivers)

Notes on the table:

1. JNUM is not included in the default field list.

Spool Volumes panel (SP)

The Spool Volumes (SP) panel allows you to display information about JES spool volumes.

Command keyword

Access the Spool Volumes panel with the **SP** command from any SDSF panel.

SP command action characters

The action characters for the SP command are shown in Table 130.

Table 130. SP Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
A	Release the spool data set and all jobs that have data on spool for scheduling (JES3 only).
D	Display the status of a spool volume.
DL	Display the long form of status. For JES3, valid only for partitions.
H	Hold the spool data set and further scheduling for jobs with data on the data set (JES3 only). You can add: • C - Hold the spool data set and cancel all jobs using it (JES3 only). • P - Hold the spool data set and hold further scheduling of jobs with data on it. Cancel jobs active on the main and using the data set.
J	Display all jobs using the spool volume.

Table 130. SP Command Action Characters (continued)

Action Character	Description
P	Drain a spool volume. You can add: • C - Drain a spool volume and cancel all jobs that have used it (JES2 only).
S	Start a spool volume, adding or reactivating it to the spool configuration (JES2 only).
U	Resume allocating space on the spool data set (JES3 only).
Z	Halt a spool volume, deallocating it after active work completes its current phase of processing (JES2 only).

Columns on the SO panel

The columns on the SO panel are shown in Table 131.

Table 131. Columns on the SP Panel

Column name	Title (Displayed)	Width	Description
DEVNAME	NAME	6 (JES2) 8 (JES3)	Spool volume name (JES2) or DDNAME (JES3). This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
STATUS	Status	8 (JES2) 12 (JES3)	Spool status (active, starting, halting, draining, inactive) or partition status
TGPCT	TGPct	5	Spool utilization
TGNUM	TGNum	5	Total track groups
TGUSE	TGUse	5	Track groups in use
COMMAND	Command	8	Command being processed (start, format, drain, halt) (JES2 only)
SPSYSAF	SAff	5	System affinity (JES2 only)
EXTENT	Ext	3	Extent number, in hexadecimal
CYLLO	LoCyl	8	Low cylinder
TRKLO	LoTrk	16	Absolute low track number, in hexadecimal
HEADLO	LoHead	8	Low head
CYLHI	HiCyl	8	High cylinder
TRKHI	HiTrk	16	Absolute high track number, in hexadecimal
HEADHI	HiHead	8	High head
TCYL	TrkPerCyl	9	Tracks per cylinder
TREC	RecPerTrk	9	Records per track
TGTRK	TrkPerTG	8	Tracks per track group
TYPE	Type	9	Spool type (PARTITION or EXTENT)
PARTNAME	PartName	8	Partition name (JES3 only)
OVFNAME	OverFNam	8	Overflow partition name (JES3 only)
OVALLOW	OverAllow	9	Indicates if overflow from this partition to another partition is allowed (JES3 only)

Table 131. Columns on the SP Panel (continued)

Column name	Title (Displayed)	Width	Description
OVOCCUR	OverOccur	9	Indicates if overflow from this partition to another partition occurred (JES3 only)
OVINTO	OverInto	3	Indicates if overflow into this partition from another partition is allowed (JES3 only)
PTRACKS	PTracks	8	Total tracks in the partition
PTRACKU	PTrackU	8	Tracks in use in the partition
DTRACKS	DTracks	8	Total tracks in the data set
DTRACKU	DTrackU	8	Tracks in use in the data set
DEFAULT	Default	7	Default partition indicator (JES3 only)
STUNTED	Stunted	7	Extent is stunted (JES2 only)
STT	STT	3	Single track table indicator (JES3 only)
MARGPCT	MargPct	7	Marginal SLIM threshold percentage – shown only on the row for the partition (JES3 only)
MARGEXC	MargExc	7	Marginal threshold exceeded (JES3 only)
MINPCT	MinPct	6	Minimal SLIM threshold percentage (JES3 only)
MINEXC	MinExc	3	Marginal threshold exceeded (JES3 only)
DATASET	DataSetName	44	Data set name
VOLSER	VolSer	6	Actual volume serial upon which this spool extent resides (JES2 only)
SELECT	Sel	3	Indicates if work is selectable on this volume (JES2 only)
RESERVED	Res	3	Indicates whether this volume is reserved (active but not allocatable) (JES2 only)
LGFREE	LgFree	6	Largest number of contiguous free tracks (JES2 only)
HIGHTRK	HiUsed	6	Highest used track on the volume (JES2 only)
COMPPCT	Comp%	5	Percentage complete of the current action against the volume (JES2 only)
PHASE	Phase	12	Migration phase (JES2 only)
MIGSYS	MigSys	6	JES2 member performing the spool migration (JES2 only)
TARGET	Target	8	Volume name in JES2 where this extent is migrating to or has migrated to (JES2 only)
MIGVOL	MigVol	6	
MIGDSN	MigDSName	44	Data set name to which this extent is migrating (JES2 only)

Status panel (ST)

The Status panel allows you to display information about jobs, started tasks, and TSO users on the JES queues.

Command keyword

Access the Status panel with the **ST** command from any SDSF panel.

Customize the display with parameters

The parameters shown in Table 132 allow you to customize the ST display.

The parameter usage is as follows:

```
ST(classes) (string)
```

ST with no parameters displays all jobs. The information displayed may be limited by your authorization and by settings for SDSF filters such as FILTER and PREFIX.

Consider the following examples:

- **STabc** - Displays all jobs in classes A, B, and C.
- **ST jb*** - Displays all jobs whose names begin with jb.

Table 132. ST Parameters

Parameter	Description
classes	Limits the job classes. For JES2, type up to 6 one-character classes. For jobs in execution, use A-Z or 0-9. For JES3, type one class, up to 6 characters. For more complex filters, use the FILTER command. You can use the following special characters: • * - Converter queue. • # - Started tasks in execution. • + - Output queue. • ? - Purge queue. • = - Spin queue. • @ - Jobs waiting to be transmitted to another queue. • $ - TSO users in execution. • ! - Hard-copy queue. • - - Input queue. •) - Receiver queue. • / - Setup queue.
string	A character string that limits the panel to jobs whose names match the character string. The string can be up to 8 characters, including: • * - To represent any character or string of characters. • % - To represent any single character.

ST command action characters

The action characters for the ST command are shown in Table 133.

Table 133. ST Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.

Table 133. ST Command Action Characters (continued)

Action Character	Description
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
?	Display a list of the data sets for a job. (Access the Job Data Set panel.)
A	Release a held job.
C	Cancel a job. For JES3, also process output data sets. You can add: • A - Job that is defined to Automatic Restart Manager (ARM). • D - And take a dump. • DA - Job that is defined to ARM, and take a dump. • DP - And take a dump but do not purge the job's output (JES3 only). • P - And print data sets ready for printing (JES3 only).
D	Display job information in the log. You can add: • E - Line, page, record, and card counts (JES3 only). • L - Long form (JES2 only). • M - Mains on which the job is eligible to run (JES3 only). • MA - MDS allocate queue information (JES3 only). • ME - MDS error queue information (JES3 only). • MR - MDS restart queue information (JES3 only). • MSS - MDS system select queue information (JES3 only). • MSV - MDS system verify queue information (JES3 only). • MU - MDS unavailable volumes information (JES3 only). • P - Dependencies. • SD - DDNAMEs of all spool data sets that contain data (JES3 only). • SH - DDNAMEs of data sets in spool hold status that contain data (JES3 only). • SP - Spool partition name (JES3 only). • X - Extended (JES3 only).

Table 133. ST Command Action Characters (continued)

Action Character	Description
E	Process a job again. You can add (JES2 only): • C - Cancel and hold the job prior to execution. • S - After the current step completes. • SH - After the current step completes, restart and hold .
H	Hold a job.
I	Display job delay information.
J	Start a job immediately.
JD	Display the job's use of devices. (Access the Job Device panel.)
JM	Display the job's use of memory. (Access the Job Memory panel.)
JP	Display the job's dependencies. (Access the Job Dependency panel.)
L	List output status of a job in the log. For JES3, this is job output in the writer queue. You can add: • B - SNA/NJE output (JES3 only). • H - Output on the hold queue (JES3 only). • L - Long form (JES2 only). • T - TCP/IP job output (JES3 only).
O	Release held output for printing (JES2 only).
P	Cancel a job and purge its output.
PO	Purge output (JES2 only).
PP	Cancel a protected job and purge its output (JES2 only).
Q	Display output descriptors for all of the data sets for an output group.
S	Browse the data sets for a job. You can add: • B - Use ISPF Browse. • E - Use ISPF Edit. • J - Use ISPF Edit to edit the JCL.
W	Cause job and message logs to spin.
X	Print output data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC).

Columns on the ST panel

The columns on the ST panel are shown in Table 134.

Table 134. Columns on the ST Panel

Column name	Title (Displayed)	Width	Description	Delay
JNAME	JOBNAME	8	Job name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
JTYPE	Type	4	Type of address space	
JNUM	JNum[1]	6	JES job number	
JOBID	JobID	8	JES job ID	
OWNERID	Owner	8	User ID of job owner, or default values of ++++++++ or ????????, if user ID not defined to RACF	
JPRIO	Prty	4	JES job queue priority	
QUEUE	Queue	10	JES queue name for job	
JCLASS	C	8	JES input class	
POS	Pos	5	Position in JES queue	
SYSAFF	SAff	5 (JES2) 8 (JES3)	JES execution system affinity (if any)	
ACTSYS	ASys	4 (JES2) 8 (JES3)	JES active system ID (if job active)	
STATUS	Status	17	Status of job	
PRTDEST	PrtDest	18	JES print destination name	
SECLABEL	SecLabel	8	Security label of job	
TGNUM	TGNum	5	Track groups used by a job	
TGPCT	TGPct	6	Percentage of total track group usage	
ORIGNODE	OrigNode	8	Origin node name	
EXECNODE	ExecNode	8	Execution node name	
DEVID	Device	18	JES device name	
RETCODE	Max-RC	10	Return code information for the job	
SRVCLS	SrvClass	8	Service class	
WLMPOS	WPos	5	Position on the WLM queue	
SCHENV	Scheduling-Env	16	Scheduling environment for the job	
DELAY	Dly	3	Indicator that job processing is delayed	
SSMODE	Mode	4	Subsystem managing the job (JES or WLM)	
ROOMN	RNum	8	JES job room number	X
PNAME	Programmer-Name	20	JES programmer name	X
ACCTN	Acct	4 (JES2) 8 (JES3)	JES account number	X
NOTIFY	Notify	8	TSO user ID from NOTIFY parameter on job card	X
ISYSID	ISys	4 (JES2) 8 (JES3)	JES input system ID	X

Table 134. Columns on the ST Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
TIMER	Rd-Time	8	Time that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
DATER	Rd-Date	8	Date that the job was read in. In the SDSF task of z/OSMF, this is replaced by the Rd-DateTime column.	X
ESYSID	ESys	4 (JES2) 8 (JES3)	JES execution system ID	X
TIMEE	St-Time	8	Time that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
DATEE	St-Date	8	Date that execution began. In the SDSF task of z/OSMF, this is replaced by the St-DateTime column.	X
TIMEN	End-Time	8	Time that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
DATEN	End-Date	8	Date that execution ended. In the SDSF task of z/OSMF, this is replaced by the End-DateTime column.	X
ICARDS	Cards	5	Number of cards read for job	X
MCLASS	MC	2	MSGCLASS of job	X
TSREC	Tot-Lines	10	Total number of spool records for job	X
OFFDEVS	Offs	4	List of offload devices for a job or output that has been offloaded (JES2 only)	
SPIN	Spin	4	Indicator of whether the job is eligible to be spun	
SUBGROUP	SubGroup	8	Submitter group	X
PHASENAME	PhaseName	20	Name of the phase the job is in	
PHASE	Phase	8	Number of the phase the job is in	
JOBACCT1	JobAcct1[1]	20	Job accounting field 1	X
JOBACCT2	JobAcct2[1]	20	Job accounting field 2	X
JOBACCT3	JobAcct3[1]	20	Job accounting field 3	X
JOBACCT4	JobAcct4[1]	20	Job accounting field 4	X
JOBACCT5	JobAcct5[1]	20	Job accounting field 5	X
SUBUSER	SubUser	8	Submitting user ID	X
DELAYRSN	DelayRsn	32	Reason for the job delay (JES2 only). The width can be expanded to 127.	
JOBCORR	JobCorrelator	32	User portion of the job correlator (JES2 only)	
ASID	ASID	5	ASID of the active job	
ASIDX	ASIDX	5	ASID of the active job, in hexadecimal	
SYSNAME	SysName	8	MVS system name where the job is executing	
DATETIMER	Rd-DateTime	19	Date and time that the job was read in. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the Rd-Date and Rd-Time columns.	X

Table 134. Columns on the ST Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
DATETIMEE	St-DateTime	19	Date and time that execution began. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the St-Date and St-Time columns.	X
DATETIMEN	End-DateTime	19	Date and time that execution ended. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the End-Date and End-Time columns.	X
JOBGROUP	JobGroup	8	Name of the job group associated with job (JES2 only)	
JOBGRPID	JobGrpId	8	JES2 job group job ID (JES2 only)	
JOBSET	JobSet	8	Job set within the job group to which this job belongs (JES2 only)	
JGSTATUS	JGStatus	8	Status of the job within the dependency network (JES2 only)	
FLUSHACT	FlushAct	8	Flush action indicator (JES2 only)	
HOLDUNTIL	HoldUntil	19	HOLDUNTIL date and time (JES2 only)	
STARTBY	StartBy	19	STARTBY date and time (JES2 only)	
WITH	With	19	Name of the job or started task that the job must run with (on the same system) (JES2 only)	
EMAIL	Email	48	Email address (JES2 only)	X
BEFOREJOB	BeforeJob	9	Name of job that must run before this one (JES2 only)	
BEFOREJID	BeforeJID	4	JobID of job that must run before this one (JES2 only)	
AFTERJOB	AfterJob	8	Name of job that must run after this one (JES2 only)	
AFTERJID	AfterJID	8	JobID of job that must run after this one (JES2 only)	
SCHDELAY	SchDelay	8	Job delayed due to schedule hold or after (JES2 only)	
BERTNUM	BERTNum	7	Number of BERTs used by this job (JES2 only)	
JOENUM	JOENum	6	Number of JOEs used by this job (JES2 only)	
JOEBERTNUM	JOEBERTs	7	Number of BERTs used for this job's JOEs (JES2 only)	
DUBIOUS	Dubious	7	NJE job flagged as dubious (yes or no)	
NETONHOLD	OrigNHold	9	Original number of job completions before this job can be released (JES2 only)	
NETCNHOLD	CurrNHold	9	Current number of job completions before this job can be released (JES2 only)	
NETNORM	Normal	6	Action to be taken when any predecessor job completes normally (D, F, or R) (JES2 only)	
NETABNORM	Abnormal	6	Action to be taken when any predecessor job completes abnormally (D, F, or R) (JES2 only)	
NETNRCMP	NrCmp	5	Network job normal completion (HOLD, NOHO, or FLSH) (JES2 only)	

Table 134. Columns on the ST Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
NETABCMP	AbCmp	5	Network job abnormal completion (NOKP or KEEP) (JES2 only)	
NETOPHOLD	OpHold	6	Operator hold (YES or NO) (JES2 only)	

Notes on the table:

1. This column is not included in the default field list.

Subsystem panel (SSI)

The Subsystem (SSI) panel allows you to display the subsystems defined to the system. Both dynamic and non-dynamic subsystems are shown.

Command keyword

Access the SSI panel with the **SSI** command from any SDSF panel.

SSI command action characters

The action characters for the SSI command are shown in Table 135.

Table 135. SSI Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).
A	Activate subsystem.
D	Display information.
DA	Display information about all subsystems.
DO	Display operator information.
H	Deactivate subsystem.
PF	Delete subsystem (force).

Columns on the SSI panel

The columns on the SSI panel are shown in Table 136.

Table 136. Columns on the SSI Panel

Column name	Title (Displayed)	Width	Description
NAME	NAME	4	Subsystem name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
NAMEX	NameX	8	Subsystem name in hexadecimal
TYPE	Type	8	Subsystem type (JES2 or JES3)

Table 136. Columns on the SSI Panel (continued)

Column name	Title (Displayed)	Width	Description
STATUS	Status	8	Subsystem status (active or inactive)
PRIMARY	Primary	7	Primary subsystem (yes or no)
DYNAMIC	Dynamic	7	Dynamic subsystem (yes or no)
SETSSI	SetSSI	6	Subsystem responds to SETSSI (yes or no)
EVENTRTN	EventRtn	8	Event routine indicator (yes or no)
SSCT	SSCT	8	Address of subsystem control table (SSCT)
SSCTSUSE	SSCTSUSE	8	Contents of SSCTSUSE field
SSCTSUS2	SSCTSUS2	8	Contents of SSCTSUS2 field
SSVT	SSVT	8	Address of subsystem vector table (SSVT)
FC04	FC04	4	Function code 04 active (yes or no)
FC08	FC08	4	Function code 08 active (yes or no)
FC09	FC09	4	Function code 09 active (yes or no)
FC10	FC10	4	Function code 10 active (yes or no)
FC14	FC14	4	Function code 14 active (yes or no)
FC50	FC50	4	Function code 50 active (yes or no)
FC54	FC54	4	Function code 54 active (yes or no)
FC58	FC58	8	Function code 58 active (yes or no)
FC78	FC78	8	Function code 78 active (yes or no)
SEQ	Seq	3	Sequence number
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of the operating system

System Symbols panel (SYM)

The System Symbols panel (SYM) allows you to display the system dynamic and static symbols.

System symbols are elements that allow systems to share parmlib definitions while retaining unique values in those definitions. System symbols act like variables in a program; they can take on different values, based on the input to the program.

By default, the SYM panel is sorted by the system and symbol names. You can change the sort order with the SORT command.

The value of a static symbol is typically assigned through parmlib. In contrast, the value of a dynamic symbol is assigned by the system at the time the symbol is evaluated. For example, time and date symbols evaluate to the current time and date. The SYM panel shows the values of dynamic symbols at the time the panel is generated as an example of the value format. Jobs that reference a dynamic symbol may contain a different value when the symbol is evaluated.

Command keyword

Access the SYM panel with the **SYM** command from any SDSF panel.

SYM command action characters

The action characters for the SYM command are shown in Table 137

Note: Action characters on the SYM panel generate commands to display the symbols in the syslog. Because dynamic symbols are not supported by operator commands, issuing an action against a dynamic symbol results in the message NOT VALID FOR TYPE.

.

Table 137. SYM command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D	Display symbol.
DL	Display all symbols.

Columns on the SYM panel

The columns on the DA panel are shown in Table 138.

Table 138. Columns on the System Symbols

Column name	Title (Displayed)	Width	Description
SYMBOL	SYMBOL	16	Symbol name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
VALUE	Value	44	Symbol value. For dynamic symbols, it is the current value.
TYPE	Type	8	Symbol type (static or dynamic)
SYSLEVEL	SysLevel	25	Operating system level
SYSNAME	SysName	8	System name

System panel (SYS)

The System Panel (SYS) allows you to display information about systems in the sysplex such as CPU busy, storage utilization, and IPL information.

Command keyword

Access the System panel with the **SYS** command from any SDSF panel.

SYS command action characters

The action characters for the SYS command are shown in Table 139.

Table 139. SYS Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
D	Display IPL information.
DAA	Display all address spaces.
DAL	Display address space list.
DALO	Display allocation options.
DC	Display consoles.
DCEE	Display language environment options.
DD	Display dump information.
DEM	Display EMCS consoles.
DG	Display GRS information.
DI	Display IOS information.
DIQP	Display IQP options.
DLL	Display LLA information.
DLO	Display system logger information.
DLR	Display LOGREC information.
DM	Display configuration.
DMP	Display MPF.
DO	Display OMVS options.
DP	Display product registration.
DPCD	Display PCIE device information.
DPCI	Display PCIE options.
DSF	Display SMF status.
DSL	Display SLIP information.
DSM	Display SMS information.
DSY	Display system symbols.
DT	Display time.
DTO	Display TSO options.
DTR	Display trace.
DTS	Display TSO address spaces.
DW	Display WLM information.
DX	Display XCF sysplex information.

Columns on the SYS panel

The columns on the SYS panel are shown in Table 140.

Table 140. Columns on the SYS Panel

Column name	Title (Displayed)	Width	Description
SYSNAME	SYSNAME	8	System name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SYSLEVEL	SysLevel	3	Operating system level
CPUPR	CPU%	4	CPU percent busy for the system
SIO	SIO	8	Start I/O rate EXCPs per second
AUXPCT	Aux%	4	Auxiliary storage percentage used
CSAPCT	CSA%	4	Common storage area percentage used
SQAPCT	SQA%	4	System queue area percentage used
ECSAPCT	ECSA%	5	Extended common area percentage used
ESQAPCT		5	Extended system queue area percentage used
UIC	UIC	5	High unreferenced interval count
SPOOLPCT	Spool%	6	Spool utilization for primary JES
CADSPCT	CADS%	5	Common Access Dataspace percentage used of maximum defined
PAGERATE	PageRate	8	Paging rate
REAL	Real	8	Number of real storage frames online
REALAFC	RealAFC	8	Real storage available frame count
REALAFCB	RealAFCB	8	Real storage available frame count below 16MB line
FIXPCT	Fix%	4	Percentage of real storage frames that are fixed
FIXBPCT	FixB%	5	Percentage of real storage frames that are fixed below the 16MB line
MAXASID	MaxASID	7	Maximum number of address spaces
FREEASID	FreeASID	8	Number of free address spaces
BADASID	BadASID	7	Number of non-reusable address spaces
STCNUM	STC	6	Number of active started tasks
TSUNUM	TSU	6	Number of active TSO users
JOBNUM	Job	6	Number of active batch jobs
WTORNUM	WTOR	4	Number of outstanding WTORs
SYSPLEX	Sysplex	8	Sysplex name
LPAR	LPAR	8	LPAR name
VMUSER	VMUser	8	VM user ID
JESNAME	JES	4	Job entry subsystem name
JESNODE	JESNode	8	JES node name
SMF	SMF	4	SMF system ID
IPLVOL	IPLVol	6	IPL volume serial
IPLUNIT	IPLUnit	7	IPL unit address
IPLDATE	IPLDate	19	IPL date
IPLTYPE	IPLType	7	IPL type

Table 140. Columns on the SYS Panel (continued)

Column name	Title (Displayed)	Width	Description
IPLDAYS	IPLDays	7	Number of days since last IPL
LOADPARM	LoadParm	8	Load parameter
CVTVERID	CVTVERID	16	CVT version ID associated with system
LOADDSN	LoadDSName	44	LOAD*xx* data set name
LOADUNIT	LoadUnit	8	LOAD*xx* unit address
IEASYS	IEASYS	16	IEASYS*xx* parameters for the system
IEASYM	IEASYM	16	IEASYMxx parameters for the system
GRS	GRS	4	GRS mode
HWNAME	HWName	8	Hardware name
CPC	CPC	30	Central Processor Complex node descriptor
MSU	MSU	8	MSU rating for processor
SYSMSU	SysMSU	8	MSU rating for image
AVGMSU	AvgMSU	8	Four hour rolling MSU for system
CPUNUM	#CPU	4	Number of online CPUs
ZAAPNUM	#ZAAP	5	Number of online zAAP processors
ZIIPNUM	#ZIIP	5	Number of online zIIP processors
OSCONFIG	OSConfig	8	Operating system configuration
EDT	EDT	3	Eligible device table ID
NUCLST	NUCLST	6	NUCLST*xx* member
IEANUC	IEANUC	6	IEANUC*xx* member
IODFDSN	IODFDSName	44	IODF data set name
IODFDATE	IODFDate	19	Date and time IODF last changed
CATDSN		44	Master catalog data set name
CATVOL	CatVol	6	Master catalog volume serial
MLA	MLA	3	Multi-level alias setting for system
CATTYPE	CatType	7	Master catalog type
NETID	NetID	8	VTAM network ID
SSCP	SSCP	17	VTAM SSCP name
STATDATE	StatDate	19	Date and time statistics collected
IPLCUNIT	IPLCurr	7	IPL unit address (current)
IODFUNIT	IODFUnit	8	IODF unit address (original)
IODFCUNIT	IODFCurr	8	IODF unit address (current)

System Requests panel (SR)

The System Requests (SR) panel allows you to display information about reply and action messages.

Command keyword

Access the System Request panel with the **SR** command from any SDSF panel.

If AMRF is not active, the panel shows only reply messages. This is controlled by the AMRF parameter in PARMLIB member CONSOLxx.

Customize the display with parameters

The parameters shown in Table 141 allow you to customize the SR display.

The parameter usage is as follows:

```
SR (parameters)
```

SR with no parameters displays all reply and action messages. This is the default.

Consider the following example:

- **SR M** - Displays only messages with a tape or DASD pool routing code.

Table 141. SR Parameters

Parameter	Description
ALL	Displays all reply and action messages. This is the default.
ACTIONS | *A*	Displays action messages.
CEM	Displays critical eventual action messages.
EM	Displays eventual action messages.
IM	Displays immediate action messages.
MOUNTS | *M*	Displays DASD and tape mount messages. SDSF considers a message to be a mount if it has tape or DASD pool routing codes.
REPLIES | *R* | *RM*	Displays reply messages.

SR command action characters

The action characters for the SR command are shown in Table 142.

Table 142. SR Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
AI	Ignore auto reply for the message.
C	Remove an action message.
D	Display a message in the logs or ULOG.
R(command)	Reply to the message. R by itself displays a pop-up on which you can complete the command.

Columns on the SR panel

The columns on the SR panel are shown in Table 143.

Table 143. Columns on the SR Panel

Column name	Title (Displayed)	Width	Description
REPLYID	REPLYID	7	Reply ID. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SYSNAME	SysName	8	Originating system name
JNAME	JobName	8	Name of the issuing job
MSGTEXT	Message-Text	127	Message text
JOBID	JobID	8	ID of the issuing job
DATEE	Date	8	Date the message was issued
TIMEE	Time	8	Time the message was issued
CONSOLE	Console	8	Target console
ROUTECD	RouteCd	7	First 28 routing codes
DESC	Desc	4	Descriptor codes
MSGTYPE	Type	6	Message type
QUEUE	Queue	5	Queue the message is on
AUTOREPLY	AutoReply	9	Automatic reply indicator
AUTODELAY	AutoRDelay	10	Message delay time until the automatic reply is done, in seconds
AUTOTIME	AutoReplyTime	19	Date and time when auto reply will be done
AUTOTEXT	AutoReplyText	16	Automatic reply text

Virtual Storage Map panel (VMAP)

The Virtual Storage Map (VMAP) panel allows you to display the virtual storage map for the system. The map shows the starting and ending virtual addresses for each type of storage area in the system.

Command keyword

Access the VMAP panel with the **VMAP** command from any SDSF panel.

VMAP command action characters

The action characters for the VMAP command are shown in Table 144.

Table 144. VMAP Command Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
/	Show column values for row (ISPF only).

Columns on the VMAP panel

The columns on the VMAP panel are shown in Table 145.

Table 145. Columns on the VMAP Panel

Column name	Title (Displayed)	Width	Description
NAME	NAME	16	Storage area name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
START	Start-Address	17	Starting address of area
END	End-Address	17	Ending address of area
SIZE	Size	6	Size of area (bytes)
ALLOC	Alloc	5	Size of allocated area (bytes)
ALLOCPCT	Alloc%	6	Percentage of area that is allocated
ALLOCHWM	HWM	6	Allocated storage high water mark
ALLOCWHMPCT	HWM%	4	High water mark percentage
SEQ	Seq	3	Sequence number of area
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Chapter 3. SDSF panels available only from other panels

The panels in this section do not appear on the SDSF main panel and are available only by using action characters from other panels.

Health Check History panel (CKH)

The Health Check History (CKH) panel shows information about instances of a check selected from the CK panel. The CKH panel allows you to display all of the instances of a check that were recorded in the logstream during the life of the IBM Health Checker for z/OS address space.

Checks recorded in the logstream before the IBM Health Checker for z/OS address space was last restarted are not included on the CKH panel.

Action character keyword

Access the CKH panel with the **L** action character from the CK panel.

CKH action characters

The action characters for CKH are shown in Table 146.

Table 146. CKH Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
S	Browse (access SDSF's Output Dataset Panel.)
SB	Browse using ISPF Browse.
SE	Browse using ISPF Edit.
X	Print the check output. You can add: • C - Close the print file after printing (XC) • D - Display the Open Print Data Set panel (XD or XDC) • F - Display the Open Print File panel (XF or XFC) • S - Display the Open Print panel (XS or XSC)

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Columns on the CKH panel

The columns on the CKH panel are shown in Table 147.

Table 147. Columns on the CKH Panel

Column name	Title (Displayed)	Width	Description
COUNT	Count	17	Count of this instance of the check
OWNER	CheckOwner	16	Check owner
STATUS	Status	18	Check status
RESULT	Result	6	Result code from the check
DIAG1	Diag1	8	Diagnostic data from check, word 1
DIAG2	Diag2	8	Diagnostic data from check, word 2
DATEE	Start-Date-Time	19	Date and time the check started (YYYY.DDD HH:MM:SS)
DATEN	End-Date-Time	19	Date and time the check ended (YYYY.DDD HH:MM:SS)
SYSPLEX	Sysplex	8	Sysplex name for the sysplex on which the check ran
SYSNAME	SysName	8	System name for the system on which the check ran
NAME	Name	32	Check name

Job Data Set panel (JDS)

The Job Data Set (JDS) panel allows you to list and display information about the SYSOUT data sets for a job, started task, or TSO user.

Action character keyword

Access the JDS panel with the ? action character from the DA, I, ST, H and O panels.

When the JDS panel is accessed from the DA, I, or ST panel, the values for all the columns are obtained from the spool data set. When the JDS panel is accessed from the H or O panel, the values for some columns are obtained from in-storage control blocks.

JDS action characters

The action characters for JDS are shown in Table 148.

Table 148. JDS Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec (ISPF only).
/	Show column values for row (ISPF only).
C	Purge an output data set.

Table 148. JDS Action Characters (continued)

Action Character	Description
H	Hold an output data set.
O	Release an output data set.
P	Purge an output data set.
Q	Display output descriptors for the data set.
S	Display line-mode data set or data sets. You can add: • B - Use ISPF Browse. • E - Use ISPF Edit. • J - Use ISPF Edit to edit the JCL.
V	View a job's page-mode data sets using GDDM.
W	Spin the data set (JES2 only). You must have accessed JDS from DA, I or ST. The job must be active and the data set must be open and spinable (see the W column).
X	Print output data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC).

Columns on the JDS panel

The columns on the JDS panel are shown in Table 149.

Table 149. Columns on the JDS Panel

Column name	Title (Displayed)	Width	Description	Delay
DDNAME	DDNAME	8	DD name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	
STEPN	StepName	8	Job step name	
PROCS	ProcStep	8	Procedure step name	
DSID	DSID	4	Data set ID number	
OWNERID	Owner	8	User ID of SYSIN/SYSOUT owner, or default values of ++++++++ or ????????, if user ID not defined to RACF 1.9 and later	
OCLASS	C	1	JES output class	
DESTN	Dest	18	JES print destination name	
RECCNT	Rec-Cnt	7	Data set record count	
PAGECNT	Page-Cnt	8	Data set page count. Blanks if not page-mode data.	
BYTECNT	Byte-Cnt	8	Data set byte count	
COPYCNT	CC	2	Data set copy count	

Table 149. Columns on the JDS Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
DEST	Rmt	5	JES2 print routing. Remote number if routing is not local (JES2 only).	
NODE	Node	5	JES2 print node (JES2 only)	
OGNAME	O-Grp-N	8	Output group name (JES2 only)	
SECLABEL	SecLabel	8	Security label of data sets	
PRMODE	PrMode	8	Data set process mode	
BURST	Burst	5	Data set burst indicator	
DSDATE	CrDate-CrTime	19	Data set creation date and time, or, if ***** N/A *****, the creation date and time were not available.	
FORMS	Forms	8	Output form number	
FCBID	FCB	4	Output FCB ID	
UCSID	UCS	4	Output UCS ID	
WTRID	Wtr	8	Output special writer ID or data set ID	
FLASHID	Flash	5	Output flash ID	
FLASHC	FlashC	6	Flash count	
SEGID	SegID	5	Data set segment number	
DSNAME	DSName	44	Output data set name	
CHARS	Chars	20	Character arrangement table names	
CPYMOD	CpyMod	6 (JES2) 8 (JES3)	Copy modification module name	
CPYMODFT	CpyModFT	8	Copy modification table reference character (JES2 only)	
PAGEDEF	PageDef	7	Library member used by PSF to specify print characteristics such as page width	X
FORMDEF	FormDef	7	Library member used by PSF to specify print characteristics such as overlays	X
ODTITLE	Title	20	Report title to be printed on separator pages . This column can be expanded to 60.	X
ODNAME	Name	20	Name to be printed on separator pages . This column can be expanded to 60.	X
ODBLDG	Building	10	Building identification to be printed on separator pages . This column can be expanded to 60.	X
ODDEPT	Department	10	Department identification to be printed on separator pages . This column can be expanded to 60.	X
ODROOM	Room	10	Room identification to be printed on separator pages. This column can be expanded to 60.	X
ODADDR	Address-Line1	20	Address to be printed on separator pages . This column can be expanded to 60	X
ODADDR2	Address-Line2	20	Output address line 2. This column can be expanded to 60.	X
ODADDR3	Address-Line3	20	Output address line 3. This column can be expanded to 60.	X

Table 149. Columns on the JDS Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
ODADDR4	Address-Line4	20	Output address line 4. This column can be expanded to 60.	X
OUTBIN	OutBn	5	Output bin	X
COMSETUP	ComSetup	8	Setup options for microfiche printers	X
FORMLEN	FormLen	10	Form length	X
COLORMAP	ColorMap	8	AFP resource for the data set containing color translation information	X
INTRAY	ITy	3	Paper source	X
OVERLAYB	OverlayB	8	Overlay for the back of each sheet	X
OVERLAYF	OverlayF	8	Overlay for the front of each sheet	X
OFFSETXB	OffsetXB	13	Offset in the x direction from the page origin for the back of each page	X
OFFSETXF	OffsetXF	13	Offset in the x direction from the page origin for the front of each page	X
OFFSETYB	OffsetYB	13	Offset in the y direction from the page origin for the back of each page	X
OFFSETYF	OffsetYF	13	Offset in the y direction from the page origin for the front of each page	X
PORTNO	Port	5	Number of the TCP/IP port where the FSS connects to the printer	X
ODNOTIFY	Notify	17	Print complete notification message	X
ODUSRLIB	UserLib	44	Libraries containing Advanced Function Printing (AFP) resources to be used by Print Services (PSF) when processing SYSOUT data sets.	X
USERDATA	UserData1	60	User data. Access values 2-16 by typing + alone in the column.	X
AFPPARMS	AFPParms	54	Names a data set that contains the parameters to be used by the AFPPrint Distributor	X
QUEUE	Queue	5	Names the JES3 queue the data set is on (TCP, BDT, HOLD, WTR) (JES3 only)	
SPIN	Spin	4	Indicates whether this is a spin data set	
SELECT	Sel	3	Indicates whether the data set is selectable	
TP	TP	3	Indicates whether SYSOUT was created by a transaction program.	
TPJNAME	TPJName	8	Job name of the transaction program that created the data set	
TPJOBID	TPJobID	8	Job ID of the transaction program that created the data set	
TPACCT	TPAcct	8	Account number of the transaction program	
TPTIMER	TRd-Time	8	Start time for entry of the transaction program. In the SDSF task of z/OSMF, this is replaced by the TRd-DateTime column.	
TPDATER	TRd-Date	8	Start date for entry of the transaction program. In the SDSF task of z/OSMF, this is replaced by the TRd-DateTime column.	

Table 149. Columns on the JDS Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
TPTIMEE	TSt-Time	8	Start time for execution of the transaction program. In the SDSF task of z/OSMF, this is replaced by the TSt-DateTime column.	
TPDATEE	TSt-Date	8	Start date for execution of the transaction program. In the SDSF task of z/OSMF, this is replaced by the TSt-DateTime column.	
RECFM	RecFm	5	Record format	
SPINNABLE	W	3	Indicates if the data set is open and spinnable (JES2 only)	
OCOPYCNT	OCopyCnt	8	Copy count specified with COPYCNT. Used by InfoPrint printers.	X
LRECL	LRecL	5	Logical record length	
TPDATETIMER	TRd-DateTime	19	Start date and time for entry of the transaction program. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the TRd-Date and TRd-Time columns.	
TPDATETIMEE	TSt-DateTime	19	Start date and time for execution of the transaction program. This column is displayed only with the SDSF task of z/OSMF. It combines the information in the TSt-Date and TSt-Time columns.	
STEPNUM	StepNum	5	Step number	
OUTDISP	ODisp	5	JES output disposition (JES3 only)	
COPYGRP	CopyGroups	32	Number of copies of each page to be printed	

Job Delay panel (JY)

The Job Delay panel allows you to view reasons why a job might be delayed. SDSF gathers information from WLM and from RMF, if it is available.

Action character keyword

Access the JY panel with the **JY** action character from the DA panel.

JY action characters

The action characters for JY are shown in Table 150.

Table 150. JY Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)

Table 150. JY Action Characters (continued)

Action Character	Description
/	Show column values for row (ISPF only).

Columns on the JY panel

The columns on the JY panel are shown in Table 151.

Table 151. Columns on the JY Panel

Column name	Title (Displayed)	Width	Description
DESC	TYPE	32	Delay description. It is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SOURCE	Src	3	Source of this sample information (WLM or RMF)
SAMP	Samples	7	Number of samples in the interval that correspond to this delay
PERCENT	Percent	7	Percent of samples in the interval that correspond to this delay
INTERVAL	Interval	8	Sampling interval for WLM delays (milliseconds)
MINTIME	MinTime	8	Length of RMF sampling interval in seconds
FIRSTSMP	First-Sample	19	Time stamp of the first sample in the interval
LASTSAMP	Last-Sample	19	Time stamp of the last sample in the interval

Job Dependency panel (JP)

The Job Dependency panel allows you to view:

- For a selected job group, all of the dependencies within the group.
- For a selected job:
  - Jobs on which it is dependent.
  - Jobs that have dependencies on it.

The panel shows the conditions for each dependency.

Action character keyword

Access JP panel with the **JP** action character from the JG panel (job groups), and the I and ST panels (jobs).

JP action characters

The action characters for JP are shown in Table 152.

Table 152. JP Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20.. (Use RESET to reset.)

Table 152. JP Action Characters (continued)

Action Character	Description
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).

Columns on the JP panel

The columns on the JP panel are shown in Table 153.

Table 153. Columns on the Job Dependency Panel

Column name	Title (Displayed)	Width	Description
JOBNAME	JOBNAME	8	Job name. It is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
JOBID	JobID	8	Job ID
DEPEND	Dependency	10	Type of dependency the job has with the job or jobset
DJOBNAME	DJobName	8	Name of the job on which this job is dependent
DJOBID	DJobID	8	ID of the job on which this job is dependent
TIME	Time	19	Date and time associated with a HOLDUNTIL or STARTBY dependency
WHEN	When	64	Condition tested for the dependency
ACTION	Action	7	Action taken when the condition is met
OTHERWISE	Otherwise	9	Action taken when the condition is not met
STATUS	Status	8	Status of the dependency

Job Device panel (JD)

The Job Device panel allows you to display information about devices that a job is using: DD allocations, coupling facility (CF) connections, and TCP/IP connections.

Action character keyword

Access the Job Device panel with the **JD** action character on the AS, DA, I, INIT, NS and ST panels.

JD action characters

The action characters for JD are shown in Table 154.

Table 154. JD Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
D*option*	Display information in the log. For CF type, you can add: • C - Display coupling facility. • P - Display XCF policy. • S - Display CF structure. For IP type, you can add: • A - Display all connection information. • AL - Display all connection information, long form. • B - Display byte count information. • BL - Display byte count information, long form. • N - Display connection. • NL - Display connection, long form. • R - Display routing information. • RD - Display routing information, detailed. • DRL - Display routing information, long form. • RDL - Display routing information, detailed, long form.

Columns on the JD panel

The columns on the JD panel are shown in Table 155.

Table 155. Columns on the JD Panel

Column name	Title (Displayed)	Width	Description
NAME	NAME	16	DDNAME, CF connection name, or TCP/IP server name. It is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SEQUENCE	Seq	3	DD allocation sequence (DDs only)
TYPE	Type	4	Type of row item (DD, IP or CF)
STATUS	Status	8	Current status
DSNAME	DataSetName	54	Data set name (or path name) (DDs only)

Table 155. Columns on the JD Panel (continued)

Column name	Title (Displayed)	Width	Description
STRNAME	StrName	8	CF structure name (CFs only)
VOLSER	VolSer	6	Volume serial or CF name (CFs and DDs only)
UNIT	Unit	4	Unit address. Only the first one is displayed. For subsystem data sets, displays the subsystem name. 'DMY', 'HFS' or 'SMS' may be displayed for applicable data sets as well.
UNITCT	UnitCt	6	Unit count
IPADDR	IPAddr	24	IP address. IP address and Port are the local address for connections with a status of 'Listen' and the remote address for other status values. (TCP/IP connections only)
PORT	Port	5	Port. IP address and Port are the local address for connections with a status of 'Listen' and the remote address for other status values. (TCP/IP connections only)
RECFM	RecFM	5	Record format
LRECL	LRecL	5	Logical record length
BLKSIZE	BlkSize	5	Block size
INBUFSZ	InBufSz	5	Receive buffer size (TCP/IP connections only)
OUTBUFSZ	OutBufSz	8	Send buffer size (TCP/IP connections only)
DISP1	Disp1	5	Disposition status (OLD, NEW, SHR, MOD) (DDs only)
DISP2	Disp2	5	Normal termination disposition (KEEP, DELETE, PASS, CATLG, UNCATLG) (DDs only)
DISP3	Disp3	5	Abnormal termination disposition (KEEP, DELETE, PASS, CATLG, UNCATLG) (DDs only)
EXCPCT	EXCP-Cnt	5	Number of requests (e.g. EXCPs or bytes, for TCP/IP connections) (DDs only and TCP/IP connections only)
BYTESIN	BytesIn	8	Number of bytes received on connection (TCP/IP connections only)
BYTESOUT	BytesOut	8	Number of bytes sent on connection (TCP/IP connections only)
OPEN	Open	5	Open count (DDs only)
POLICY	Policy	8	CF policy name (CFs only)
STIME	Start-Time	19	Connection start time (TCP/IP connections only)
LASTIME	Last-Time	19	Connection last activity time (TCP/IP connections only)
RESID	ResourceId	19	Resource ID (TCP/IP connections only)
STACK	Stack	8	Stack name (TCP/IP connections only)
APPL	Appl	8	TELNET target application name (TCP/IP connections only)
LUNAME	LUName	8	TELNET client LU name (TCP/IP connections only)
CLIENT	Client	8	TELNET client user ID (TCP/IP connections only)
APPLDATA	ApplData	40	Application data associated with the request (TCP/IP connections only)

Table 155. Columns on the JD Panel (continued)

Column name	Title (Displayed)	Width	Description
DSORG	DSOrg	5	Data set organization (requires SDSFAUX)
SMS	SMS	3	SMS indicator: YES if data set is SMS managed (requires SDSFAUX)
CONNECT	ConnectTime	11	Device connect time in milliseconds (requires SDSFAUX)
AVGCONN	AvgConnTime	11	Average device connect time in milliseconds (requires SDSFAUX)
CONDISP	ConDisp	6	Connection disposition (keep or delete)
CONSTATE	ConState	18	Connection state (active, failed-persistent, disconnecting, failing)

Job Memory panel (JM)

The JM panel allows you to view the system memory being used by a job.

Action character keyword

Access the JM panel with the **JM** action character on the AS, DA, I, INIT, NS and ST panels.

JM action characters

The action characters for JM are shown in Table 156.

Table 156. JM Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+	Expand the NP column. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).

Columns on the JM panel

The columns on the JM panel are shown in Table 157.

Table 157. Columns on the JM Panel

Column name	Title (Displayed)	Width	Description
TYPE	TYPE	8	Type of storage (for example, Private or LSQA). This is a fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
SUBPOOL	SP	3	Subpool number
KEY	Key	3	Storage key

Table 157. Columns on the JM Panel (continued)

Column name	Title (Displayed)	Width	Description
FIXED	Fix	4	The default page-fix status of the subpool (YES, NO, or DREF)
FPROT	FP	4	The default fetch-protect status of the subpool (YES or NO)
TOTAL	Total	8	Total amount of allocated storage with the specified characteristics (Type/SP/Key)
TOTAL24	Total-24	8	Total 24-bit storage
TOTAL31	Total-31	8	Total 31-bit storage
TOTAL64	Total-64	8	Total 64-bit storage
COUNT	Count	8	Total number of allocated storage segments with the specified characteristics
LARGEST	LargestA	8	Size of the largest segment of allocated storage with the specified storage characteristics
LARGESTF	LargestF	8	Size of the largest segment of free storage with the specified storage characteristics
FRAG	Frag	8	Total number of allocated and free storage segments

Job Module panel (JC)

The Job Module panel allows you to list the loaded modules for an address space.

Command keyword

You access the Job Module panel using the JC action character from the DA or AS panel.

JC action characters

The action characters for JC are shown in Table 158.

Table 158. JC Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)

Columns on the JC panel

The columns on the JC panel are shown in Table 159.

Table 159. Columns on the JC Panel

Column name	Title (Displayed)	Width	Description
MODULE	MODULE	8	Module name. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.
MAJOR	Major	8	Major name if module is an alias
MODEPA	EPA	8	Module entry point address
MODLEN	ModLen	8	Module length (if known)
SUBPOOL	SP	3	Storage subpool for module
TCB	TCB	8	TCB address of the module
PROGRAM	Program	8	TCB program associated with the module
JPAQ	JPAQ	4	Indicates whether module is in the job pack area
LPDE	LPDE	4	Indicates whether module is in the link pack directory entry
USECOUNT	Use	3	Current use count for module
SYSUSE	SysUse	6	System use count for module
CDE	CDE	8	CDE address for module
AUTHCOD	AC	2	Authorization code for module
AMODE	AM	2	Addressing mode (AMODE)
RMODE	RM	2	Residency mode (RMODE)
APF	APF	3	APF indicator (yes or no)
RENT	Rent	4	Reenterable indicator (yes or no)
REUS	Reus	4	Reusable indicator (yes or no)
CDATTR	Attr	4	CDAttr byte in hexadecimal
CDATTR2	Attr2	5	CDAttr2 byte in hexadecimal
CDATTRB	AttrB	5	CDAttrB byte in hexadecimal
JNAME	JobName	8	Job name
ASID	ASID	5	Address space identifier
ASIDX	ASIDX	5	Address space identifier in hexadecimal
SYSNAME	SysName	8	System name
SYSLEVEL	SysLevel	25	Level of operating system

Job Step panel (JS)

The Job Step panel allows you to view information about the job steps for a job.

Action character keyword

Access the Job Step panel with the **JS** action character on the DA, H, I, O and ST panels.

JS action characters

The action characters for JS are shown in Table 160.

Table 160. JS Action Characters

Action Character	Description
//	Block repeat; type // on the first row and another // on the last row to be processed.
=	Repeat previous action character or overtype.
+(n)	Expand the NP column; n is 4-20. (Use RESET to reset.)
%(exec)	Run a REXX exec. (ISPF only)
/	Show column values for row (ISPF only).
S	Browse data sets associated with the step.
SB	Browse using ISPF Browse.
SE	Browse using ISPF Edit.
SJ	Edit JCL for the entire job.
Sn	Start browsing with data set number n.
X	Print data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC).

Columns on the JS panel

The columns on the JS panel are shown in Table 161.

Table 161. Columns on the JS Panel

Column name	Title (Displayed)	Width	Description
STEPNAME	STEPNAME	8	Step name (fixed field)
PROCS	ProcStep	8	Procedure step name
PGMNAME	Pgm-Name	8	Program name
RETCODE	Step-CC	10	Step completion code
STEPNUM	StepNum	5	Step number
ABENDRSN	AbendRsn	8	Abend reason
ELAPSED	Elapsed	11	Elapsed time for the step
CPUTIME	CPU-Time	11	Total CPU time used by this step
SRBTIME	SRB-Time	11	Total SRB time used by this step
EXCP	EXCP-Cnt	10	Total EXCP count
CONN	Conn	11	Total device connect time
SERV	Serv	10	Total service units
WORKLOAD	Workload	8	Workload name

Table 161. Columns on the JS Panel (continued)

Column name	Title (Displayed)	Width	Description
PAGE	Page	10	Number of pages paged in/out from auxiliary storage
SWAP	Swap	10	Pages swapped in from auxiliary storage to central
VIO	VIO	10	Number of VIO page-ins and page-outs for this step
SWAPS	Swaps	10	Number of address space swap sequences
REGION	Region	8	REGION for this step
REGIONU	Rgn-Used	8	Amount of private storage used (high-water mark)
MEMLIMIT	MemLimit	8	MEMLIMIT for this step
MEMLIMU	MLim-Used	9	Amount of 64-bit private storage used (high-water mark)
SYSNAME	SysName	8	The system name of the system on which the step ran
BEGINTME	Step-Begin	22	Step Begin Time
ENDTIME	Step-End	22	Step End time
ZIIPTIME	zIIP-Time	9	Total time spent on zIIP
ZIIPCPTM	zICP-Time	9	Eligible zIIP time spent on CP
ZIIPNTIM	zIIP-NTime	10	Normalized zIIP time
HICPUPCT	HiCPU%	6	Largest percentage of CPU time used by any task in this address space, rounded to the nearest integer, as reported by interval records associated with this step
HICPUPGM	HiCPUPgm	8	Program name associated with the HiCPU% value

Output Data Set panel

The Output Data Set panel allows you to browse data, such as a job's output data sets. It displays output formatted for a line-mode printer.

Action character keyword

Access the Output Data Set panel with the **S** action character from the DA, I, O, H, ST, JG, and JS panels.

When used to browse a job's output data set, the panel also displays the JES2 job log, JCL for the job, and any job-related messages.

To view output formatted for a page printer, use the V action character. To invoke ISPF Browse or Edit, use the SB and SE action characters.

To display just the JCL for the job, use the SJ action character. You can change and resubmit the JCL from the display; changes you make to the data are not saved. The job must have executed on your node or not yet executed. Jobs that have been off-loaded and re-loaded after execution are treated as jobs that are executed on another node. SJ is valid for jobs only.

Output Descriptors panel (OD)

The Output Descriptors Panel allows you to display JES output descriptors.

Action character keyword

Access the Output Descriptors panel with the **Q** action character from the DA, H, I, JDS, O, and ST panels.

In a JES2 environment, columns can be overtyped only if you accessed the OD panel from the O or H panel, or from a JDS panel that was accessed from the O or H panel. When you overtype a column on the OD panel, the change applies to all data sets for that group. In a JES3 environment, columns can be overtyped only if you accessed the OD panel from the DA, I or ST panels, and the data set must be closed.

Q action characters

The action characters for Q are shown in Table 162.

Table 162. Q Action Characters

Action Character	Description
E	Erase an output descriptor. The E action is always valid under JES3, and under JES2 when the Output Descriptors panel was accessed from the : • Output Queue panel. • Held Output Queue panel. • Job Data Set panel if it was accessed from the Output Queue panel or the Held Output Queue panel.
S	Display line-mode data sets. (Access the Output Data Set panel.) You can add: • B - Use ISPF Browse. • E - Use ISPF Edit.
V	View page-mode data sets using GDDM.
X	Print output data sets. You can add: • C - Close the print file after printing (XC). • D - Display the Open Print Data Set panel (XD or XDC). • F - Display the Open Print File panel (XF or XFC). • S - Display the Open Print panel (XS or XSC).
?	Display a list of data sets. (Access the Job Data Set panel.)

Columns on the OD panel

The columns on the OD panel are shown in Table 163.

Table 163. Columns on the OD Panel

Column name	Title (Displayed)	Width	Description	Delay
DDNAME	DDNAME	8	DDname of the data set. This is the fixed field. It is ignored if coded on an FLD statement or ISFFLD macro.	X

Table 163. Columns on the OD Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
PAGEDEF	PageDef	6	Library member used by PSF to specify print characteristics such as page width	X
FORMDEF	FormDef	6	Library member used by PSF to specify print characteristics such as overlays	X
ODTITLE	Title	60	Report title to be printed on new separator pages	X
ODNAME	Name	60	Name to be printed on separator pages	X
ODBLDG	Building	60	Building location to be printed on separator pages	X
ODDEPT	Department	60	Department to be printed on separator pages	X
ODROOM	Room	60	Room to be printed on separator pages	X
ODADDR	Address	60	Address to be printed on separator pages. There can be 1 to 4 lines, each with a maximum length of 60.	X
OUTBIN	OutBin	5	Output bin	X
COMSETUP	ComSetup	8	Setup options for microfiche printers	X
FORMLEN	FormLen	10	Form length	X
COLORMAP	ColorMap	8	AFP resource for the data set containing color translation information	X
INTRAY	InTray	3	Paper source	X
OVERLAYB	OverlayB	8	Overlay for the back of each sheet	X
OVERLAYF	OverlayF	8	Overlay for the front of each sheet	X
OFFSETXB	OffsetXB	13	Offset in the x direction from the page origin for the back of each page	X
OFFSETXF	OffsetXF	13	Offset in the x direction from the page origin for the front of each page	X
OFFSETYB	OffsetYB	13	Offset in the y direction from the page origin for the back of each page	X
OFFSETYF	OffsetYF	13	Offset in the y direction from the page origin for the front of each page	X
PORTNO	PortNo	6	Number of the TCP/IP port where the FSS connects to the printer	X
ODNOTIFY	Notify	17	Print complete notification message. There can be 1 to 4 user IDs, each with a maximum length of 17.	X
ODUSRLIB	UserLib	44	Libraries containing Advanced Function Printing (AFP) resources to be used by Print Services (PSF) when processing SYSOUT data sets. There can be 1 to 8 library names, each with a maximum length of 44.	X
RETAINS	RetainS	8	Retain time for successful transmissions	X
RETAINF	RetainF	8	Retain time for unsuccesful attempts	X
RETRYL	RetryL	3	Maximum number of retries	X
RETRYT	RetryT	8	Time between retries	X

Table 163. Columns on the OD Panel (continued)

Column name	Title (Displayed)	Width	Description	Delay
PRINTO	PrtOptns	16	Entry in the PrintWay™ options data set	X
PRINTQ	PrtQueue	60	Print queue name. There can be 2 lines for this column, each with a maximum length of 60 characters.	X
IPDEST	IP Destination	60	IP address or TCP/IP name. There can be 2 lines for this column, each with a maximum length of 60 characters.	X
USERDATA	UserData	60	User data. There can be 16 lines, each with a maximum length of 60.	X
AFPPARMS	AFPParms	54	Names a data set that contains the parameters to be used by the AFPPrint Distributor	X
OCOPYCNT	OCopyCnt	10	Copy count specified with COPYCNT. Used by InfoPrint printers.	X

Chapter 4. Using SDSF in batch

Using batch processing, you can issue often-repeated SDSF commands by creating a list of the commands as control statements. In the list, you specify the SDSF panel you wish to use and the operation you wish to perform on it.

The recommended approach is to invoke SDSF using the REXX programming language, which provides more power and flexibility. See Chapter 5, "Using SDSF with the REXX programming language," on page 187.

Invoking SDSF in batch

Invoke SDSF on an EXEC statement with one of two program names:

- SDSF, which supports commands and action characters.
- ISFAFD, which supports commands, action characters, and overtyping of fields on tabular and other panels, such as the print panels.

Follow the EXEC statement with an ISFIN DD for batch input, and an ISFOUT DD for the batch output.

For example, a batch job to invoke program name ISFAFD might use these statements:

```
//       EXEC PGM=ISFAFD
//ISFOUT DD SYSOUT=*
//ISFIN  DD *
```

The DCB attributes for ISFIN are RECFM=FB, LRECL=80, and the BLKSIZE is any multiple of 80. The DCB attribute for ISFOUT is RECFM=FBA. The LRECL is the screen width + 1 , and the BLKSIZE is any multiple of the LRECL.

To change screen width and depth of the batch output, use `PARM='++xxxx,yyyy'`, following the program name, where *xxxx* is the depth of the screen (number of lines) and *yyyy* is the width (number of characters). For example, to set the depth to 32 and the width to 1000, use:

```
//       EXEC PGM=SDSF,PARM='++32,1000'
//ISFOUT DD SYSOUT=*
//ISFIN  DD *
```

If you do not use the `PARM` statement, the width defaults to 132 and the depth to 60. The maximum for width and depth is 9999.

You can change the name of the SDSF server when invoking SDSF in batch. In the following example, the server name is SDSFT.

```
// EXEC PGM=SDSF,PARM='SERVER(SDSFT)'
```

If you add the server name when invoking SDSF in batch, you cannot combine it with changes to the dimensions of the screen.

A return code of 0016 when SDSF is invoked in batch indicates that the user could not be placed in any of the groups defined with ISFPARMS. See for a description of ISFPARMS.

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Specifying that SDSF should process JES2

When you invoke SDSF with either program name SDSF or ISFAFD, SDSF determines whether to process JES2 or JES3. You can request that SDSF not do that determination and process JES2. For this purpose, use the alternate program name SDSF2 or ISFAFD2.

Using program name SDSF

SDSF panels and commands

To access a panel and display its contents, use the panel command and `++ALL`. For example, to select the H panel and display its contents, use:

```
H
++ALL
```

When `++ALL` is specified, anything else on the card is ignored.

To move around on the panel, you can use scroll commands (`RIGHT, LEFT, UP, DOWN, TOP, BOTTOM`).

Use any SDSF command as you would enter it on the command line, following the syntax described in the online help. The maximum length of a command is 42 characters: only the first 42 characters of each record in ISFIN will be processed. Note that you cannot use commands that require ISPF, such as commands that display pop-ups.

Action characters

To use an action character, code ++*action-character* in your batch job.

To prevent a confirmation pop-up from being displayed for destructive action characters, use the SET CONFIRM OFF command.

You must do a successful FIND prior to issuing an action character. This protects you from issuing an action character against the wrong row.

To allow for an unsuccessful FIND, you should follow each action character with a `RESET` command, which clears pending action characters. For example, to find job `jobxyz` on the O panel, browse it with the S action character and issue a RESET in case the job is not found, you would use:

```
O
FIND 'jobxyz'
++S
RESET
```

Using program name ISFAFD

When you invoke SDSF with program name ISFAFD, it works the same as when you invoke it with program name SDSF, with these differences:

- Action characters do not require a successful FIND
- Overtypes and PF keys are supported
- The contents of a panel are not updated until you explicitly refresh the panel. You do this with the `AFD REFRESH` command.

- Attribute bytes (used to define characteristics of fields such as color and conditioning for input) are present on the SDSF panels. These attribute bytes are translated out when you invoke SDSF with program name SDSF.

Commands

With program name ISFAFD, you can use the SDSF commands as you would with program name SDSF. You can also use the AFD command, which is described on page "AFD command."

AFD command

Use the AFD command when running SDSF in batch mode with program name ISFAFD.

The syntax of the command is shown below.

```
►►──AFD──LOCATE──┬─BLK──block-id──┬──────────────────────────────────────►◄
                 └─TOD──time-of-day─┘

►►──AFD──LOCATE──┬─BLK──block-id──┬──────────────────────────────────────►◄
                 └─TOD──time-of-day─┘

►►──AFD──LOGSTAMP──┬─ON──┬──────────────────────────────────────────────►◄
                   └─OFF─┘

►►──AFD──QUERY DS──────────────────────────────────────────────────────►◄

►►──AFD──QUERY CODEPAGE────────────────────────────────────────────────►◄

►►──AFD──QUERY COLUMNS─────────────────────────────────────────────────►◄

►►──AFD──REFRESH───────────────────────────────────────────────────────►◄

►►──AFD──WTOR──┬─ON──┬──────────────────────────────────────────────►◄
               └─OFF─┘

►►──AFD──NP──┬─LONG──┬──────────────────────────────────────────────►◄
             └─SHORT─┘

►►──AFD──.END──┬──────────┬──────────────────────────────────────────►◄
               └─DELETE───┘
```

LOGSTAMP

controls the addition of a log stamp prefix for each record in the OPERLOG or SYSLOG when printing the log with SDSF's PRINT function. The logstamp is added only when printing to a ddname (for example, PRINT FILE). LOGSTAMP ON causes the log stamp prefix to be added; LOGSTAMP OFF causes the log stamp prefix to not be added. The log stamp of the OPERLOG is a 32-byte prefix. The log stamp varies with the type of log being processed, that is, OPERLOG or SYSLOG.

The log stamp is described in Table 164.

Table 164. Contents of the Log Stamp

Word	SYSLOG	OPERLOG
1-2	STCKE for record	Local TOD value returned by IXGBRWSE
3-4	Job key and data set key	Block ID returned by IXGBRWSE
5	Relative record number within data set	Relative record number within block
6	1. Byte 1: level 2. Bytes 2–4: reserved	1. Byte 1: level 2. Bytes 2–4: reserved
7	Reserved	1. Byte 1: Control 2. Byte 2: Color 3. Byte 3: Highlight 4. Byte 4: Intensity
8	Reserved	Reserved

LOCATE BLK *block-id*
scrolls the OPERLOG to the first record in the log block identified by *block-id*. *block-id* is 16 hexadecimal digits.

LOCATE TOD *time-of-day*
scrolls the OPERLOG to the first record for the time of day identified by *time-of-day*. *time-of-day* is 16 hexadecimal digits.

QUERY DS
displays information about the current data set or log on the message line. The information includes record count, record length, and carriage control. For SYSLOG and OPERLOG, the information also includes the length of the logstamp. (The record count is not displayed for the SYSLOG or OPERLOG panel. In cases where the record length is not available to SDSF, SDSF uses the maximum record length for the job plus 1, or if that is unknown, the screen width plus 1.) This command is valid only on browse panels.

QUERY CODEPAGE
displays the code page that is in use on the message line. If the installation has defined its own code page in ISFPARMS, rather than naming one in the ISFTR macro or TRTAB statement, the code page value is displayed as `N/A`.

QUERY COLUMNS
displays information about the columns on the current tabular panel, using the message lines. The format is as follows:

- Overtypeable columns: '`title`'=(O,`length`)
- Overtypeable columns with related columns: '`title`'=(O,`length`, `number-of-values`)
- Non-overtypeable columns: '`title`'=(N)

REFRESH
requests that SDSF refresh the current display.

WTOR
controls the display of WTORs at the bottom of the Log panel. WTOR ON turns on the display of WTORs on the Log panel. SDSF shows those WTORs defined for the user by the ACTION command or the ACTION parameter of ISFPARMS. WTOR OFF turns off the display of WTORs on the Log panel.

NP controls the width of the NP column.

NP LONG sets the NP column on all tabular panels to the extended width, which is 10 characters on the PR display and the PUN display, and 5 characters on all other displays.

NP SHORT sets the NP column to the standard width.

.END
assigns a label, .END, to the current top line of the SYSLOG or OPERLOG. `.END` overrides the ending line value when printing the SYSLOG or OPERLOG with the PRINT command.

Use the DELETE keyword to delete a previously assigned label.

Note: You can also temporarily extend the NP column on a single tabular panel by typing a + in the NP column. Then, to reset the NP column, use the RESET command.

Examples:

- `AFD WTOR OFF`

  This command turns off the display of WTORs at the bottom of the Log panel.
- `AFD QUERY DS`

  Entered when the current panel is the SYSLOG, this command displays information about the SYSLOG on the message line, for example:

  ```
  AFD QUERY DS LRECL=130,LSLEN=32,CCTL=NONE
  ```
- `AFD LOCATE BLK 1A45B3218C32D862`

  This command scrolls the OPERLOG panel to the first record for the log block with an ID of X'1A45B3218C32D862'.
- `AFD NP LONG`

  This command sets the width of the NP column on all SDSF tabular displays to the extended width.
- `AFD QUERY CODEPAGE`

  This command displays the code page in use on the message line, for example:

  ```
  AFD QUERY CODEPAGE=CP00037
  ```
- `AFD .END`

  This command assigns the label .END to the current top line of the SYSLOG or OPERLOG. To use this label with PRINT, you could then:

  1. Scroll the log so that the current top line is the line with which you want to begin printing.
  2. Issue `PRINT * 99999999`

  SDSF would then print from the current top line to the line that was previously marked with .END.

PF keys

With program name ISFAFD, you can use selected PF keys by coding `++AFD PF`*xx*, where *xx* is the 2-digit PF key number. For example, to perform a repeat-find, you would code:

```
++AFD PF05
```

The PF keys you can use are:

PF03 End the current panel

PF05 Repeat the previous FIND

Action characters

The syntax for action characters is the same as for program name SDSF: see "Action characters" on page 180. However, because a successful FIND is not required, the action character will always be issued against the top row on the panel. To avoid issuing action characters against the wrong row, you might want to first set filters to be sure that only the appropriate row or rows is displayed.

The block action character (//) is not valid with program name ISFAFD.

Overtypeable fields

You can overtype columns on tabular panels and on other SDSF panels, such as panels for printing.

Overtyping columns on tabular panels

You can overtype columns on any tabular panel except OD. The syntax for overtyping columns on tabular panels is the column title followed by = and the new value, all within <>. Enclose the column title and value in single quotation marks.

For example, on the O display, to change the forms for job JFROSTA to STD, change the destination to KGNVMC.JFROST, and refresh the screen, you would use:

```
O
FIND 'JFROSTA'
++<'FORM'='STD'><'DEST'='KGNVMC.JFROST'>
AFD REFRESH
```

You can abbreviate column titles to the shortest title that is unique for the display. If you want the overtypes to be continued on the next card, use a trailing comma.

Where it is valid when using SDSF interactively, you can combine an action character and overtypes; the action character must precede the overtypes. For example, on the H display, to release job SMOSES with the O action character, change the class to A, and refresh the screen, you would use:

```
H
FIND 'SMOSES'
++O<'C'='A'>AFD REFRESH
```

Although you cannot overtype output descriptors on the OD panel, you can overtype most of them on the JDS panel. The JDS panel supports only the first value for output descriptors with multiple values (such as ADDRESS and NOTIFY). To modify the other values for these fields, overtype the first value with a +, then specify the values on the Overtype Extension pop-up. To erase an output descriptor on the JDS panel, type a comma (,) in the field.

Overtyping fields on other panels

You can overtype fields on any other panels that do not require ISPF, such as the print panels, the system command extension pop-up, and the Overtype Extension pop-up.

The syntax for providing values on other types of SDSF panels is similar to the syntax for overtyping fields on tabular panels, except that no column name is used, only =*value*, within <>. The values are positional; in other words, the first value supplied goes into the first field on the panel, the second value supplied

goes into the second field on the panel, and so on. On panels with a command line (for example, the print panels), the command line is not counted as an input field.

Use `++AFD END` or `++AFD PF03` to end processing of the panel.

For example, on the Open Print panel, to specify H as the class and 3 as the number of copies (the first and second fields) you would use:

```
PRINT S
++<='H'><='3'>
++AFD PF03
```

To skip a field on the panel, specify < > with no enclosed text. For example, on the Open Print panel, to specify H as the class and STD as the forms (the first and third fields), you would use:

```
PRINT S
++<='H'>< ><='STD'>
++AFD PF03
```

To blank a field, specify <=' '> (a blank enclosed in single quotation marks).

When entering a data set name on the Open Print Data Set panel, enclose it in three sets of single quotes to indicate that it is a fully qualified name. Enclose the data set name in one set of single quotes if you want the TSO prefix to be added.

Notes on using program name ISFAFD

- You can use a trailing comma as a continuation character, so that you can continue overtypes across several cards. The continuation character is required when overtypes that must be processed together (for example, values on a print panel) are specified on multiple cards. To enter a data set name, member name, and disposition on the Open Print Data Set panel, you could use:

  ```
  PRINT D
  ++<='droyek.sdsfdata.december'>,
  <='report'>,
  <='old'>
  ++AFD PF03
  ```

- You can include blank lines, or comments, enclosed in `/* */` on separate lines; they will be ignored when the input is processed.
- To avoid an error message (`AFD CURSOR`*row,column*) set SET CURSOR to OFF, so that the cursor always returns to the command line.

Security and SDSF in batch

To protect use of SDSF in batch you control which group of users a user is assigned to. You do this either through SAF or ISFPARMS. SAF is recommended because it is dynamic and because it allows you to assign users to the same group regardless of the environment from which they invoke SDSF (interactive, batch, REXX or Java™).

Using SAF

To use SAF for determining group membership, you assign a name to the group. SDSF then checks the SAF resource GROUP.*group-name.server-name*. This is explained in detail in *z/OS SDSF Operation and Customization* .

Using ISFPARMS

You can use parameters in the ISFGRP macro or GROUP statement to determine group membership. These allow you to control membership based on user ID, logon procedure, terminal name, or TSO authority.

When an SDSF batch session is started, it establishes the following values for these criteria:

User ID
: Set to the user ID from the ACEE (accessor environment element), provided it contains a valid user ID **OR** Set to the job name minus the last character.

Logon proc name
: Set to `BATCH` for program name SDSF, and `AFD` for program name ISFAFD.

Terminal name
: Set to `BATCH` for program name SDSF, and the LU name for program name ISFAFD.

TSOAUTH for ISFGRP
: Set to JCL authority.

So, for example, to restrict a group from running SDSF in batch, you could code an XLPROC keyword on ISFGRP to exclude the logon procedure name `BATCH`. Similarly, you could code an ILPROC keyword to assign batch jobs to a specific ISFGRP.

Figure 2 contains sample ISFPARMS statements to assign SDSF batch jobs to the group ISFBATCH.

```
          ISFPMAC
ISFSPROG  ISFGRP TSOAUTH=(JCL,OPER,ACCT),...
ISFOPER   ISFGRP TSOAUTH=(JCL,OPER),...
ISFUSER   ISFGRP TSOAUTH=(JCL),...,XLPROC=BATCH
ISFBATCH  ISFGRP TSOAUTH=(JCL),...,ILPROC=BATCH
BATCH     ISFNTBL BATCH,1
```

Figure 2. Sample ISFPARMS to Restrict Batch

Chapter 5. Using SDSF with the REXX programming language

Programming Interface Information

This topic describes how to access SDSF data and function with the REXX programming language, and how to protect the use of SDSF through REXX.

Using SDSF with REXX provides a simpler and more powerful alternative to using SDSF in batch, which is described in Chapter 4, "Using SDSF in batch," on page 179.

Table 165 outlines how to access SDSF function with REXX.

Table 165. Using SDSF with REXX

To:	Use:	For more information:
Add and delete the SDSF host command environment	ISFCALLS()	"Adding the SDSF host command environment with ISFCALLS" on page 193
Issue SDSF commands to access tabular panels and other information	ISFEXEC	"Issuing commands with ISFEXEC" on page 194
Issue action characters and overtype columns	ISFACT	"Issuing action characters and modifying columns with ISFACT" on page 203
Browse output	ISFBROWSE or ISFACT and special variables	"Browsing output" on page 210
Print output	ISFACT and special variables	"Printing output" on page 215
Browse the SYSLOG and OPERLOG	ISFLOG	"Browsing the system log with ISFLOG" on page 219
Issue system commands	ISFSLASH	"Issuing system commands with ISFSLASH" on page 224
Issue SDSF commands for filtering and options, and check messages	Special REXX variables	"Using special variables to invoke SDSF function" on page 227
Drop specified special variables	ISFRESET()	"Dropping special variables with ISFRESET" on page 230
Query the environment	ISFQUERY()	"Invoking a REXX exec with an action character" on page 231
Invoke an exec with an action character	% action character	"Invoking a REXX exec with an action character" on page 231
Generate a REXX exec for the current panel	RGEN command	"Generating an exec using RGEN" on page 189

For examples of REXX execs, refer to "Examples of REXX execs" on page 250.

You must be authorized to use SDSF with REXX and you must be authorized to the SDSF functions that you invoke from REXX. In some cases, invoking an SDSF function from REXX when you are not authorized to the function will cause the exec to fail and the invocation of SDSF to end.

System programmers should be sure to define ISFPARMS group membership so that SDSF users have the proper authorization when invoking SDSF with REXX. For more information, see "Security and REXX" on page 275

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Other sources of information

In addition to this information, you may want to refer to these other sources for information about using REXX with SDSF:

- REXXHELP. Type this command (or REXXH for short) on any command line when using SDSF under ISPF. In addition to examples and usage information, the online help for REXX also includes links to descriptions of commands, action characters and overtypable columns and column values, which is not included in this information.

  To search SDSF's help, including the help for REXX, use the SEARCH command. You can type SEARCH followed by up to four words on the SDSF command line when using SDSF under ISPF.

  If you are not already familiar with SDSF, you should begin with the SDSF help. To display a brief, interactive tutorial, use the TUTOR command.
- ISPF models that you can download from the Internet. In addition to the same examples as are included in this information, the models help with the syntax of REXX commands such as ISFEXEC and ISFACT. See the SDSF page at http://www.ibm.com/systems/z/os/zos/features/sdsf/.
- Implementing REXX Support in SDSF, SG24-7419-00. This Redbook includes more complete and sophisticated examples than those in this information. The following is a brief table of contents:
  - Chapter 1. Issuing a system command
  - Chapter 2. Copying SYSOUT to a PDS
  - Chapter 3. Bulk job update processor
  - Chapter 4. SDSF support for the COBOL language
  - Chapter 5. Searching for a message in SYSLOG
  - Chapter 6. Viewing SYSLOG
  - Chapter 7. Reviewing execution of a job
  - Chapter 8. Remote control from other systems
  - Chapter 9. JOB schedule and control
  - Chapter 10. SDSF data in graphics
  - Chapter 11. Extended uses
  - Appendix A. REXX variables for SDSF host commands
  - Appendix B. Additional material

Programming practices

Be aware that many of the things you work with in a REXX exec, such as the list of columns on an SDSF panel, the contents of the title line of a panel, and the contents of responses to SDSF commands such as WHO, may change over time. You should design your REXX execs to minimize the impact of those changes. For example, rather than making assumptions about the contents of a panel, you can query special REXX variables that SDSF provides.

Following these guidelines for variable names will reduce the potential for conflicts between REXX variables you create and special and column variables used by SDSF:

- Do not use variable names that begin with ISF or SDSF. SDSF reserves those prefixes for the names of special REXX variables.

- Use the PREFIX option of the ISFEXEC and ISFACT commands to force unique variable names. See the description of options in "Issuing panel commands with ISFEXEC" on page 195 for more information.
- Isolate SDSF environment calls to a REXX procedure to limit the scope of the variable names.
- When referencing a panel command that contains embedded blanks or special characters (such as on ISFEXEC and ISFACT), enclose the command in single quotes. When referencing the PARM panel on ISFACT, enclose the panel name in single quotes so that it is not interpreted as the PARM keyword of ISFACT.

Remember that SDSF may add special variables and columns with a new release or service, so that even if you do not currently have a conflict with variable names, one could occur in the future. To reduce your risk, always specify the columns to be returned using the ISFCOLS special variable.

Generating an exec using RGEN

Before you begin

You must be using SDSF under ISPF.

About this task

You can use the RGEN command to generate a REXX exec that reflects the current context. RGEN from any panel generates an exec that can navigate to the current panel. The exec includes the statements you need to add the SDSF host command environment and to access the current panel, as well as special variables for things like filtering. The exec may also include suggested logic for additional function. The generated exec is displayed using ISPF Edit.

Procedure

You might use RGEN as follows:

1. Display the tabular panel (DA, ST, PR, JDS and so on) or log panel (SYSLOG, OPERLOG, ULOG) that you want to work with.
2. Issue the RGEN command from the command line. SDSF generates the appropriate exec and displays it using ISPF Edit. Consider the following example from the ST panel. The display includes special temporary lines that are visible in ISPF Edit but are not actually included in the exec. To remove those lines, use the RESET command.

```
SDSF EDIT    RGEN TS5536.RS86.SPFTEMP1.CNTL                Columns 00001 00072
****** **************************** Top of Data ******************************
000001 /* REXX */
000002 Arg debug
000003
==MSG>    Important: Copy this generated exec from temporary dataset
==MSG>      TS5536.RS86.SPFTEMP1.CNTL
==MSG>    and edit that copy to prevent your changes from being lost.
==MSG>
000004 /*********************************************************************
000005 *
000006 *  SDSF RGEN Generated EXEC
000007 *
000008 *  This exec was generated by the SDSF RGEN command on
000009 *  Thursday 2017/05/04 at 12:06:25.52.
000010 *
000011 *  5650-ZOS
000012 *  SDSF level = z/OS 02.03.00 (HQX77B0)
000013 *
======    Use this exec as a starting point for writing your own execs.
======
======    The RGEN command generates an exec that accesses the current
======    panel and shows how to use special variables.
```

```
======
======    For more information and examples, use the SDSF REXXHELP
======    command.  To search SDSF's help, use SEARCH search-string.
======
000014 *  Operation =
000015 *
000016 *    - Access primary panel ST
000017 *
000018 *********************************************************************/
000019
=NOTE= Tip: All SDSF/REXX execs must include the following statement:
000020 rc=isfcalls('ON')
000021
000022 trace o
000023
=NOTE= Tip: The verbose option provides additional diagnostics
=NOTE=      when invoking SDSF services.
000024 if debug<>"" then   /* If debug mode */
000025   verbose="VERBOSE"  /* .. use SDSF verbose mode */
000026 else
000027   verbose=""
000028
```

```
000029 /*----------------------------------------------*/
000030 /* Configure environment with special variables */
000031 /*----------------------------------------------*/
=NOTE= Tip: You must be authorized to the corresponding command
=NOTE=      to set the variable.
=NOTE=
=NOTE= Tip: Not all variables may be needed in your exec.
=NOTE=
000032 isfprefix=''    /* Corresponds to PREFIX command */
000033 isfowner='*'      /* Corresponds to OWNER command */
000034 isfsysname=''   /* Corresponds to SYSNAME command */
000035
000036 isfdest=' ' || ,    /* Dest name 1 */
000037         ' ' || ,    /* Dest name 2 */
000038         ' ' || ,    /* Dest name 3 */
000039         ' '         /* Dest name 4 */
000040
000041
000042 /* Access the ST panel */
000043 Address SDSF "ISFEXEC 'ST' (" verbose ")"
000044 lrc=rc
000045
```

```
=NOTE= Tip: Always check the return code after each request.
 000046 call msgrtn  "ISFEXEC 'ST'"   /* List messages */
 000047 if lrc<>0 then   /* If command failed */
 000048   do
 000049     Say "** ISFEXEC failed with rc="lrc"."
 000050     exit 20
 000051   end
 000052
 =NOTE= Tip: The special variable sdsfocols is a word delimited
 =NOTE=      list of column names returned on the request.
 000053 call colsrtn isfrows "." sdsfocols  /* List all rows and columns */
 000054
 000055
 =NOTE= Tip: All SDSF/REXX execs must finish with the following statement:
 000056 rc=isfcalls('OFF')
 000057
 000058 Exit 0
 000059
 000060
 000061 /*********************************************************************
 000062 *
 000063 * NAME =
```

```
000064 *   msgrtn
000065 *
000066 * FUNCTION =
000067 *   List all messages in the isfmsg and isfmsg2. variables
000068 *
000069 * INPUT =
000070 *   req - Request being processed
000071 *
000072 * EXPOSED VARIABLES =
000073 *   isfmsg   - Short message
000074 *   isfmsg2. - Numbered messages
000075 *
000076 * OUTPUT =
000077 *   Messages written to terminal
000078 *
000079 *********************************************************************/
000080 msgrtn: Procedure expose isfmsg isfmsg2.
000081 Arg req
000082
000083 /*---------------------------*/
000084 /* Process numbered messages */
000085 /*---------------------------*/
```

```
 =NOTE=
 =NOTE= Tip: The isfmsg2. stem contains numbered messages
 =NOTE=      associated with the request and isfmsg2.0 contains
 =NOTE=      a count of the number of variables that follow.
 000087 do ix=1 to isfmsg2.0
 000088   Say isfmsg2.ix
 000089 end
 000090
 000091 if isfmsg<>"" then    /* If short message present */
 000092   do
 000093     Say "** Short message associated with the request is:" isfmsg
 000094   end
 000095
 000096 return
 000097
 000098
 000099 /*********************************************************************
 000100 *
 000101 * NAME =
 000102 *   colsrtn
 000103 *
```

```
000104 * FUNCTION =
 000105 *   List all rows and their column values
 000106 *
 000107 * INPUT =
 000108 *   numrows - number of rows to process
 000109 *   pfx     - column variable prefix or "." if none
 000110 *   ocols   - word delimited column names to process
 000111 *
 000112 * EXPOSED VARIABLES =
 000113 *   None
 000114 *
 000115 * OUTPUT =
 000116 *   Responses written to terminal
 000117 *
 000118 ********************************************************************/
 000119 colsrtn:
 000120 Arg numrows pfx ocols
 000121 Say "Number of rows to process: " numrows
 000122
 000123 do rowix=1 to numrows  /* Loop for all rows */
 000124   Say "Now processing row" rowix "..."
 000125
```

```
000126   do colix=1 to words(ocols)  /* Loop for all columns */
 000127
 000128     if pfx="." then   /* If no prefix */
 000129       pfx=""
 000130
 000131     varname=pfx||word(ocols,colix)||'.'||rowix
 000132
 000133     Say "  Column" varname '=' value(varname)
 000134   end     /* For all columns */
 000135 end   /* For all rows */
 000136
 000137 return
 ****** *************************** Bottom of Data ***************************
```

3. Copy the exec to a data set using the CREATE command. Copying the exec before you begin making any updates ensures that none of your changes are lost.
4. Modify the exec to suit your needs.

Exec basics

Procedure

In a very simple REXX exec, you might do the following:

1. Add the SDSF host command environment.

   ```
   rc=isfcalls('ON')
   ```

2. Access a panel with "ISFEXEC *panel-command*". This creates stem variables for each row and column on that panel. To access the Status panel, you could use:

   ```
   Address SDSF "ISFEXEC ST"
   ```

3. Find the job you want to work with by examining the JNAME stem variables created for the JOBNAME column. (You refer to columns not by their titles, but by the same names that you would use in defining a field list in ISFPARMS. See *z/OS SDSF Operation and Customization* .)

   ```
   do ix=1 to JNAME.0    /* Loop for all rows returned */
     if pos("RJONES",JNAME.ix) = 1 then
   ```

4. Take an action or modify a value for the job with "ISFACT *operands*". *operands* is made up of:
   - The panel command that you used previously with ISFEXEC

- A TOKEN.*number* variable that was created by the ISFEXEC command and identifies the row that represents the job
- Parameters that define the action or modification. In this example, you supply the P action character in the NP column to cancel the job.

```
Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP P)"
```

5. Delete the host command environment (after closing the do loop).

```
end
rc=isfcalls('OFF')
```

What to do next

Of course, in an actual exec, you would have more complex logic and error checking. This would require the use of special REXX variables to do things like examine messages issued, filter rows on the panel, and define the columns to include. For more examples, see "Examples of REXX execs" on page 250.

Adding the SDSF host command environment with ISFCALLS

Using SDSF with REXX requires that you add a host command environment prior to any other SDSF host environment commands. The host command environment is what allows you to use `Address SDSF` on the ISFEXEC and ISFACT commands. You add the host command environment with the ISFCALLS() function.

You should delete the host command environment, again using ISFCALLS, prior to the termination of the exec.

The syntax of the ISFCALLS() function is:

```
►►─rc──=──ISFCALLS──(──┬─'ON'──┬──┬──────────────────────┬──)──────────────────────►◄
                       └─'OFF'─┘  └─,'SSTYPE=JES2'─┘
```

ON adds the SDSF host command environment

OFF
deletes the SDSF host command environment

SSTYPE=JES2
requests that SDSF process JES2 rather than determining whether to process JES2 or JES3.

Result codes

The ISFCALLS() function sets the following result codes:

00 Function completed successfully

01 Host command environment query failed, environment not added

02 Host command environment add failed

03 Host command environment delete failed

04 Options syntax error, or options not defined

Issuing commands with ISFEXEC

You issue commands with the ISFEXEC host command as follows:

```
►►──Address SDSF──"──ISFEXEC──sdsf-command──┬──────────────────┬──"──────────────►◄
                                            └──(──options──)───┘
```

sdsf-command
is a supported SDSF command, including any parameters. If the command contains special characters or blanks, enclose it in single quotation marks. The supported commands are:

- The commands that access SDSF tabular panels (for example, DA and ST). For more information, see "Issuing panel commands with ISFEXEC" on page 195.
- The WHO and QUERY commands. For more information, see "Issuing WHO and QUERY commands with ISFEXEC" on page 202.
- The slash (/) command, which allows you to enter system commands. Although this is supported, the recommended method for issuing system commands is with ISFSLASH. For more information, see "Issuing system commands with ISFSLASH" on page 224 or "Issuing system commands with ISFEXEC" on page 203.

Commands entered with the ISFEXEC command generally have a maximum length, including any parameters, of 42 characters (the same as the command input area when using SDSF interactively). Slash (/) commands entered with the ISFEXEC command can have operands up to 126 characters long.

Note that for function associated with other SDSF commands, such as filtering and setting options, you use special variables rather than ISFEXEC. See "Using special variables to invoke SDSF function" on page 227.

For a complete list of the SDSF commands, see "SDSF commands reference" on page 233. For the syntax of the commands, see the online help.

options
is an optional list of options for the command. The closing parenthesis is optional. The options that you use depend on the type of the command you issue, and are explained in the topics that follow. The following option is of general use as you develop a REXX exec:

VERBOSE
adds diagnostic messages to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.

Examples of using ISFEXEC

The following examples illustrate how to issue a command with ISFEXEC. For more complete examples, see "Examples of REXX execs" on page 250.

1. Issue the DA command and create variables for the DA panel, both the primary and alternate field lists, except delayed-access columns.
   - `Address SDSF "ISFEXEC DA"`

     This creates variables for each column.
   - `Address SDSF "ISFEXEC DA (COMPACT)"`

     This creates the SDSFROW stem variable for the data.
2. Issue the CK command with the ALL parameter and create variables for the CK panel.

```
Address SDSF "ISFEXEC CK ALL"
```

3. Issue the ST command and create variables for the alternate field list.

   ```
   Address SDSF "ISFEXEC ST (ALTERNATE)"
   ```

   Note: Delayed-access columns are not included. These require the DELAYED option.

4. Issue the ST command and create variables for the alternate field list, including delayed-access columns.

   ```
   Address SDSF "ISFEXEC ST (ALTERNATE DELAYED)"
   ```

5. Issue the O command, with filters for class A and forms 1234.

   ```
   Address SDSF "ISFEXEC OA 1234"
   ```

6. Issue the WHO command.

   ```
   Address SDSF "ISFEXEC WHO"
   ```

Return codes for ISFEXEC

After the ISFEXEC host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred in parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFEXEC command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See “Messages” for more information.

Messages

Messages issued in response to a command or special variable are available in these special variables:

ISFMSG
contains the SDSF short message

ISFMSG2
is a stem variable that contains SDSF numbered messages. ISFMSG2.0 contains the number of stem variables that follow.

Issuing panel commands with ISFEXEC

You can issue the commands that access SDSF tabular panels with ISFEXEC. Tabular panels display data in rows and columns.

For information on non-tabular panels, see:

- “Browsing the system log with ISFLOG” on page 219
- The discussion of the ISFULOG special variable in “Issuing system commands with ISFSLASH” on page 224.

Controlling the columns included on panels

By default, tabular panels accessed with REXX include the columns in both the primary and alternate field lists defined in ISFPARMS, except any "delayed-access" columns. You can control the columns that are included on SDSF panels as described in Table 166. Limiting the columns that are included limits the columns for which SDSF creates REXX variables. Limiting the columns to just those that are required can make the exec process more quickly.

Table 166. Controlling the Columns on SDSF Panels

To Specify:	Use:	Default:	For More Information:
Primary, alternate or merged field list	Options on ISFEXEC	Merged	"Options for panel commands"
Delayed-access columns	Option on ISFEXEC	Not included	"Options for panel commands"
List of columns by column name	ISFCOLS variable		"Special variables for panels and panel commands" on page 200

Options for panel commands

You can use the following options with panel commands on ISFEXEC. Combine the options if necessary. For example, you could specify both ALTERNATE and DELAYED to include delayed-access columns that are in the alternate field list. Note that by default, the primary and alternate field lists are both included. That is, if you specify both PRIMARY and ALTERNATE, or neither PRIMARY nor ALTERNATE, the primary and alternate field lists are merged.

ALTERNATE
requests the alternate field list. For a discussion of primary and alternate field lists, see *z/OS SDSF Operation and Customization* .

COMPACT
specifies that column data for each row be returned in the SDSFROW stem variable, rather than in a separate stem variable for each column. This can dramatically reduce the number of variables, and therefore the amount of storage, required to satisfy a request for a panel. For more information, refer to "Panel data returned" on page 197.

DELAYED
specifies that delayed-access columns be included. Delayed-access columns require I/O to retrieve the data. If you do not include this option, delayed-access columns are omitted. Omitting delayed-access columns may improve performance. For information on which columns are delayed-access, see

- *z/OS SDSF Operation and Customization*
- The COLSHELP command in SDSF

NOMODIFY
specifies that row tokens for use in modifying rows should not be returned. Use this to improve performance if you will not be modifying any values.

PRIMARY
requests the primary field list.

If you specify both PRIMARY and ALTERNATE, or neither PRIMARY nor ALTERNATE, the primary and alternate field lists are merged. For a discussion of primary and alternate field lists, see *z/OS SDSF Operation and Customization* .

PREFIX *value*
specifies a prefix, *value*, to be added to the beginning of:

- Column name variables

- Token variables
- Variables with names that begin with SDSF, such as SDSFROW.

The prefix is not added to the beginning of other special variable names.

Use PREFIX when you want to ensure that variable names do not conflict, for example, when accessing a secondary panel with an action character from another panel. The default is no prefix. The prefix can be up to 24 characters long, and should not begin with ISF.

VERBOSE
adds diagnostic messages to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.

Panel data returned

SDSF panel data is the same in the REXX environment as in the interactive environment, with a few exceptions. For details, refer to "Data formats - differences between REXX and interactive SDSF" on page 199.

The panel data is returned as follows:

- The contents of the title line are returned in the ISFTLINE special variable. The title line includes the name of the panel and, in some cases, additional information. For a description of the contents of the title line for an SDSF panel, see the help for fields for the panel.
- Column names and column titles are returned in the related special variables ISFCOLS and ISFTITLES. Refer to "Special variables for panels and panel commands" on page 200 for more information.
- Column data is returned:
  - In stem variables for each column. This is the default.
  - In the SDSFROW stem variable, if you specified the COMPACT option.

Column data: stem variables for each column

By default, column data is returned in stem variables in this format: *column-name.row-number*, where:

column-name
is the name of the column. The first column returned is always the fixed field. The column name is different than the column title that is displayed when using SDSF interactively. It is the same name that is used in the FLD statements in ISFPARMS. For more information:

- Refer to *z/OS SDSF Operation and Customization* for a list of column names and titles
- When running SDSF under ISPF, issue the COLSHELP command. COLSHELP provides column names, titles, descriptions and information about values.
- SDSF online help, for column titles, plus information about values for overtypeable and other columns.

If you specify a prefix with the PREFIX option, the column-name variable begins with the prefix. For an example, see "List job data sets" on page 254.

row-number
is the row number.

The value for stem variable number 0 is a count of the number of variables returned. This count is the same for all columns. It is also in special variable ISFROWS.

For overtypeable columns with related values, a sub-stem is added to the row number to indicate the number of the related value, as follows:

column-name.row-number.value-number

So, for example, the SFORMS column in the PR panel has values SFORMS.1.0 (which contains a count of the values) and SFORMS.1.1 through SFORMS.1.8. The value in SFORMS.1.2 is displayed in column SFORM2.

The following example shows data returned in the stem variables for each column.

```
JNAME.0=45
JOBID.0=45
OWNERID.0=45
     .
     .
remaining 0 variables
     .
     .
JNAME.1=BURDINE3
JOBID.1=JOB04922
OWNERID.1=BURDINE
     .
     .
remaining variables
     .
     .
```

This example shows data for a column with related values, the SFORMS column on the Printer panel.

```
  SFORMS.1=STD
  SFORMS.1.1=STD (This the same value as is in SFORMS.1)
  SFORMS.1.2=NAR
  SFORMS.1.3=REC
  .
  .
```

Column data: SDSFROW stem variable

If you specify the COMPACT option, SDSF returns the panel data in the SDSFROW stem variable, rather than in stem variables for each column.

Use the SDSFROW stem variable with these special variables:

ISFCOLS
: Lists the columns that were processed, in this format: *column-name column-name*...

SDSFCOLSTART
: Lists the starting position of each of the columns returned in ISFCOLS, in this format: *column-start column-start*...

SDSFCOLLEN
: Lists the length of each of the columns returned in ISFCOLS, in this format: *column-length column-length*...

SDSFCOLCOUNT
: Is the number of values associated with the column

For example, the first word in the ISFCOLS variable contains the name of the first column. The first word in the SDSFCOLSTART variable contains the start of that column data in the SDSFROW variable, and the first word in the SDSFCOLLEN variable contains the length of that column data in the SDSFROW variable.

The following example shows the data returned in the SDSFROW stem variable:

```
sdsfrow.0=45
sdsfrow.1=BURDINE3  JOB04922 BURDINE          15 EXECUTION
SY1

   SY1                                     LOCAL
 1        0.03 LOCAL    LOCAL
                 0                  NO  JES  NO   EXECUTING
 14 JOB

                     39 0027       SY1
     .
     .
remaining variables
     .
```

The following example shows the data returned in the ISFCOLS, SDSFCOLSTART and SDSFCOLSTART variables:

```
isfcols=JNAME JOBID OWNERID JPRIO QUEUE JCLASS POS SYSAFF ACTSYS STATUS PRTDEST
 SECLABEL TGNUM TGPCT ORIGNODE EXECNODE DEVID OFFDEVS RETCODE SRVCLS WLMPOS SCH
ENV DELAY SSMODE SPIN PHASENAME PHASE JTYPE DELAYRSN JOBCORR ASID ASIDX SYSNAME
sdsfcolstart=1 10 19 28 39 50 59 70 231 240 271 290 299 310 322 331 340 359 375
 386 395 406 423 427 432 437 458 469 474 603 636 647 658
sdsfcollen=8 8 8 10 10 8 10 5 8 30 18 8 10 11 8 8 18 15 10 8 10 16 3 4 4 20 10
4 128 32 10 10 8
sdsfcolcount=1 1 1 1 1 1 1 32 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

The special variables that begin with SDSF, such as SDSFROW, SDSFCOLSTART and SDSFCOLSTART, are all affected by the PREFIX option.

For an example of using these special variables, refer to “Access an SDSF panel” on page 251.

Identifying each row

Tokens to identify each row are returned in the TOKEN stem variable. For example, variable TOKEN.2 contains a string that identifies row two on the panel being processed.

If you specify a prefix with the PREFIX option, the name of the stem variable containing tokens begins with the prefix. For example, if the prefix is JDS_, the name of the stem variable is JDS_TOKEN.

Use the token as input to the ISFACT command when taking an action or modifying a value for that row. See “Issuing action characters and modifying columns with ISFACT” on page 203 for more information.

Data formats - differences between REXX and interactive SDSF: SDSF panel data is the same in the REXX environment as in the interactive environment, with a few exceptions.

- Numbers:
  - Do not include commas.

- Are never scaled, as they are not restricted by column widths. They never include scaling characters such as T or M. However, some values are formatted with units. For example, values in the MemLimit column on the DA panel are formatted with MB, PB and so on.
- Are formatted as three asterisks in cases of invalid or overflow data that would be displayed as all asterisks when SDSF is used interactively.

• Dates and times:
  - If formatted by SDSF, are in *yyyy.ddd* format (dates) and either *hh*:*mm*:*ss* or *hh*:*mm*:*ss*.*th* format (times). To convert them to a different format, you can use the REXX date() function.
  - Are formatted as N/A in cases of invalid dates that would be displayed as N/A embedded in asterisks when SDSF is used interactively.

Special variables for panels and panel commands

There are a number of special variables that are useful when working with panels and panel commands. Where the variable corresponds to an SDSF command that you would use when using SDSF interactively, the parameters for the variable are the same as for the command, with the exception that the ? parameter is not supported in REXX. Substitute the variable for the command, for example:

Command: PREFIX NEIL*
Variable: isfprefix="neil*"

For more information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240. For the syntax of SDSF commands, see the online help.

For panels that you access with an action character from another panel (referred to as secondary panels), you use different special variables than the ones described in this topic. Refer to "Special variables for secondary panels" on page 208.

For some variables with names that begin with ISF, there are corresponding variables with names that begin with SDSF. These perform the same function, but are affected by the PREFIX option, so that their names include the prefix that you specify. In addition, if one or more secondary panels exists, these variables apply to the last secondary panel, rather than the panel that was accessed with a command. In the list that follows, these variable names are shown after the names that begin with ISF.

Use these special variables when working with panels and panel commands:

ISFACTIONS
specifies whether the action characters for the current panel should be returned in the ISFRESP stem variable. The values in the ISFRESP variable are in this format: ACTION=*action*, where *action* is the action character or the action character and a description, depending on the option specified on ISFACTIONS. See the SET ACTION command in the online help for the valid options. See "List action characters" on page 268 for an example.

ISFAPPC
specifies whether transaction data should be included on the panel. See the APPC command in the online help. (JES2 only)

ISFCOLS / SDSFICOLS (input) and SDSFOCOLS (output)
Input: Specifies the set of columns for which SDSF should create variables, in this format:

'*column-name column-name*...'

The column names are different than the column titles that are displayed when using SDSF interactively. They are the names used in the FLD statements in ISFPARMS. For a list of column names, see *z/OS SDSF Operation and Customization*, or, when running SDSF under ISPF, issue the COLSHELP command.

Each column name you specify must exist in the current field list. Any name specified in the ISFCOLS variable that is not in the current field list will be ignored. The order of the columns is not significant. See "Controlling the columns included on panels" on page 196 for more information.

The fixed field (the first column on each SDSF panel when using SDSF interactively) is optional, since it will always be included regardless of the setting of ISFCOLS.

If the ISFCOLS variable is not defined, SDSF creates variables for each column in the field list that is not delayed-access, including the fixed field.

Output: Lists the columns that were processed, in this format:

column-name column-name...

The names are separated by a blank. The fixed field is always listed first.

When working with a secondary panel (a panel accessed with an action character) use the ISFCOLS2 variable. See "Special variables for secondary panels" on page 208 for more information.

ISFCOLUMNGROUPS / SDSFCOLUMNGROUPS
contains a list of column grouping information for the columns listed in the ISFCOLS variable. The group values are a way of categorizing SDSF columns. The values are: NONE, ACCT (accounting), ACTIVITY, ADVANCED, GENERAL, INPUT, JES2, JES3, OUTPUT (printer), OUTPUN (punch), PERF (performance), PRINTING, RUNTIME, SECURITY, SCHED (scheduling), SELECT, STATUS and STATWLM (workload management status).

ISFDCOLS / SDSFDCOLS
contains a list of the delayed-access columns that were returned and for which SDSF should create variables, in this format:

column-name column-name...

When working with a secondary panel (a panel accessed with an action character) use the ISFDCOLS2 variable. See "Special variables for secondary panels" on page 208 for more information.

Unlike ISFCOLS, ISFDCOLS is an output-only variable.

ISFDISPLAY
contains the filtering and sorting criteria, for example,

```
PREFIX=* DEST=(ALL)  OWNER=*  SYSNAME=SYS1
```

See the SET DISPLAY command in the online help.

ISFDISPLAYMODE
sets the format of the ISFDISPLAY special variable. See the SET DISPLAY command in the online help. The OFF parameter is not valid in REXX.

ISFRCOLS / SDSFRCOLS
contains the list of columns that have related values. For information on modifying related values, see "Modifying related fields" on page 205.

ISFROWS
contains the number of rows created for a tabular panel. (This is also found in the zero stem of the column variables, for example, JNAME.0.)

ISFSORT / SDSFSORT
specifies the sort criteria (up to 10 columns, with ascending or descending order). Use column names rather than column titles. Assigning the value to null (`isfsort=""`) sorts the panel using the fixed field (the first column). See the SORT command in the online help for the syntax.

ISFTIMEOUT
specifies the response timeout value for sysplex requests. See the SET TIMEOUT command in the online help.

ISFTITLES / SDSFTITLES
contains the column titles for the columns on the panel. The titles are listed in the same order as the column names in the ISFCOLS variable. The titles are enclosed in single quotation marks and separated by blanks.

When working with a secondary panel, accessed with an action character, use the ISFTITLES2 variable. See "Special variables for secondary panels" on page 208 for more information.

ISFTLINE
contains the title line from the tabular panel being processed.

ISFUCOLS / SDSFUCOLS
contains the list of modifiable columns for the panel. All modifiable columns are included, regardless of whether the user is authorized to modify them.

When working with a secondary panel, accessed with an action character, use the ISFUCOLS2 variable. See "Special variables for secondary panels" on page 208 for more information.

ROWACTIVE
is a stem variable that indicates whether the object (for example, the job or the printer) is active. The value is either Y (active) or N (inactive). ROWACTIVE.0 contains a count of the number of stem variables that follow.

SDSFROW
contains the panel data, when you specified the COMPACT option. For details, refer to "Panel data returned" on page 197.

SDSFCOLSTART
contains the start of the column, for use with SDSFROW. For details, refer to "Panel data returned" on page 197.

SDSFCOLLEN
contains the length of the data for the column, for use with SDSFROW. For details, refer to "Panel data returned" on page 197.

SDSFCOLCOUNT
contains the number of values associated with the column

Issuing WHO and QUERY commands with ISFEXEC

You can issue the WHO and QUERY commands with ISFEXEC:

- WHO provides information about the user and the environment
- QUERY lists SDSF data such as the commands for which you are authorized.

Responses are returned in the ISFRESP stem variable. For the WHO command, the responses are in *keyword=value* format, for example, USERID=RJONES. For more information on using special REXX variables, see "Using special variables to invoke SDSF function" on page 227.

For a description of the WHO and QUERY commands, see the online help.

For an example, see "Issue the WHO command" on page 272.

Issuing system commands with ISFEXEC

Although using ISFSLASH is the recommended method, you can use ISFEXEC to issue slash (/) commands.

To preserve lowercase and special characters in the command text, enclose it in single quotation marks, being sure that the quotation marks are passed to SDSF and not removed by REXX, for example:

```
Address SDSF "ISFEXEC '/f test,''abc'''"
```

The W and I prefix parameters of the slash (/) command are not supported. Use the WAIT and INTERNAL options instead. See "Options for slash (/) commands" on page 225 for more information.

For a description of special variables to use with slash (/) commands, see "Special variables for slash (/) commands" on page 225.

For information on using ISFSLASH, see "Issuing system commands with ISFSLASH" on page 224.

Issuing action characters and modifying columns with ISFACT

You invoke SDSF action characters and modify column values using the ISFACT host environment command, as follows:

```
►►──Address SDSF──"──ISFACT──command──┤ Token ├──PARM──(──parms──)──┬──────────────────────┬──"──────────────►◄
                                                                   └─ (──options──)───────┘
```

Token:

```
├──TOKEN──(──┬──(stem-name)──┬──)──────────────────────────────────────────────────────────────────────┤
             └──token-list───┘
```

command
: is the command for the panel. It must be the same SDSF command, including any parameters, that was previously entered with the ISFEXEC command. When referencing the PARM panel, enclose PARM in single quotes to avoid ambiguity with the PARM option.

stem-name
: is the name of a stem variable that identifies the rows to be acted upon. The stem variable contains one or more row tokens previously set by ISFEXEC or ISFACT in the returned TOKEN. stem variable and must correspond to the panel accessed with *command*. The tokens must not be folded to upper case or enclosed in single quotation marks. For more information on tokens, see "Using tokens" on page 205. The variable *stem-name* should:

- End with a period, to allow the commands to be put into compound variables
- Not begin with the characters ISF
- Be no longer than 128 characters

The 0 variable in the stem must contain a count of the number of variables in the stem.

token-list
is one or more tokens that identifies the row to be acted upon, in the format *'token1'*, *'token2'*, ...,*'tokenN'*. Each token was previously set by ISFEXEC or ISFACT in the returned TOKEN. stem variable and must correspond to the panel accessed with *command*. Enclose the token in single quotation marks that are not removed by REXX.

For more information, see "Using tokens" on page 205.

parms
is the list of parameters that specifies the action characters and modifications, in the form:

column1 value1 column2 value2 ... columnN valueN

where

column1, column2, columnN
are either:

- NP, when issuing an action character
- column names, when modifying values. The column names are different than the titles that are displayed when using SDSF interactively. They are the same names that you use on FLD statements in ISFPARMS. For a list of column names, see *z/OS SDSF Operation and Customization*, or, when running SDSF under ISPF, issue the COLSHELP command.

  The column must be in the current field list for the panel; use column-related options on the ISFACT command, such as ALTERNATE, if necessary. For more information, see "Controlling the columns included on panels" on page 196.

  If you name a column multiple times, SDSF processes only the last one.

value1, value2, valueN
are either:

- an action character, when the column is NP. The SDSF action characters are described in the online help. Most of the action characters are supported with REXX. Table 171 on page 238 shows the exceptions. The action characters for browsing and printing output have special restrictions and requirements. See "Browsing output" on page 210 and "Printing output" on page 215.
- a value, when modifying a value in a column other than NP. If the value contains special characters, you must enclose it in quotation marks. Lowercase characters are folded to upper case, even if they are enclosed in quotation marks.

  The fields that can be modified, or overtyped, are described in the help for each panel.

  For information on modifying sets of related fields, see "Modifying related fields" on page 205.

The resulting command cannot exceed the maximum allowed by z/OS.

options
is an optional list of options. See "Options for action characters and overtypeable fields" on page 206 for more information.

Modifying related fields

When working with sets of related fields, such as the four selection destinations on the Printer panel, add a plus (+) before the column name to indicate that the value is in addition to any other values for the same column. Use this syntax for each value. When using SDSF interactively, you work with related fields through the overtype extension pop-up, which you access by typing the + character in the overtypeable column.

For example, `PARM(SDESTN1 D1 +SDESTN1 D2 +SDESTN1 D3)` indicates that the SDESTN1 column is to be modified with the values D1,D2,D3.

SDSF accepts a + sign for the first column in the set of columns, for example, `PARM(+SDESTN1 D1 +SDESTN1 D2)`. This is equivalent to `PARM(SDESTN1 D1 +SDESTN1 D2)`. However, subsequently specifying the first column in the set without a + sign resets the values. For example, `PARM(SDESTN1 D1 +SDESTN1 D2 SDESTN1 D11)` would result in the column being modified with the single value D11. This is because SDSF processes the last occurrence of the column name. Since the last occurrence does not have the + sign, it is interpreted as a complete replacement.

If the same column is specified more than once, the last occurrence is used for the action except when the + sign is used with the column name.

Special variables ISFRCOLS and ISFRCOL2 contain lists of columns with related fields for the current panel and a secondary panel, respectively.

Using tokens

A token consists of a variable-length string that may contain special characters. You must not modify it.

A token cannot be shared by different users. The user who references a token with a host command must be the same user who created it.

When a token references a secondary panel (such as JDS), all subsequent tokens must also refer to the secondary panel using the same row from the primary panel.

Tokens represent jobs at the time that they are generated and are intended to be used soon after they are generated, rather than saved for later use. If the row to be acted upon no longer exists when the host command is issued, SDSF considers the row token invalid. You should not change the associated panel, for example, by changing filtering.

The format of tokens may change incompatibly with service or new releases of SDSF.

Examples of using ISFACT

The following examples illustrate how to issue an action character and modify a column, after having first issued the appropriate panel command with ISFEXEC. For more complete examples, see "Examples of REXX execs" on page 250.

1. Issue the P action character for row 4 on the H panel.

```
Address SDSF "ISFACT H TOKEN('"TOKEN.4"') PARM(NP P)"
```

2. Issue the P action character for rows 1 and 2 on the H panel.

   ```
   Address SDSF "ISFACT ST TOKEN('"TOKEN.1"','"TOKEN.2"') PARM(NP P)"
   ```

3. Issue the P action character for the row the number of which is represented by variable *ix* on the H panel.

   ```
   Address SDSF "ISFACT H TOKEN('"TOKEN.ix"') PARM(NP P)"
   ```

4. Modify the priority of multiple jobs.

   ```
   Address SDSF "ISFACT ST TOKEN((TOKEN.)) PARM(JPRIO 10)"
   ```

   For this type of usage, you would use command parameters or special variables to limit the panel to just those jobs you want to modify. For a complete example, see "Modify a value for a set of jobs" on page 256.

5. Issue the P action character for rows that are identified by tokens in the stem variable JSTEM.

   ```
   Address SDSF "ISFACT ST TOKEN((JSTEM.)) PARM(NP P)"
   ```

   For this type of usage, you would use logic to set the values in the stem variable JSTEM. to the tokens, in stem variable TOKEN., for those jobs you want to modify. For a complete example, see "Modify a value for a set of jobs" on page 256.

6. For row 2 on the O panel, modify the class to A and the forms to 1234.

   ```
   Address SDSF "ISFACT O TOKEN('"TOKEN.2"') PARM(OCLASS A FORMS 1234)"
   ```

7. Allocate all data sets in the job represented by row 5 on the ST panel.

   ```
   Address SDSF "ISFACT ST TOKEN('"TOKEN.5"') PARM(NP SA)"
   ```

Return codes for ISFACT

After the ISFACT host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred in parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFACT command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See "Messages" on page 195 for more information.

Options for action characters and overtypeable fields

You can use the following options with ISFACT. Options related to field lists and columns apply to panels that you access with action characters, such as JDS.

ALTERNATE
requests the alternate field list. For a discussion of primary and alternate field lists, see *z/OS SDSF Operation and Customization* .

ALTERNATE2
requests the alternate field list for the secondary panel

COMPACT
specifies that column data for each row be returned in the SDSFROW stem variable, rather than in a separate stem variable for each column. For more information, refer to "Panel data returned" on page 197.

Note that when working with a panel that you accessed with an action character, you use special variables ISFCOLS2 and ISFTITLES2 rather than ISFCOLS and ISFTITLES. For more information, refer to "Special variables for secondary panels" on page 208.

DELAYED
specifies that delayed-access columns be included. Delayed-access columns require I/O to retrieve the data. If you do not include this option, delayed-access columns are omitted. Omitting delayed-access columns may improve performance. For information on which columns are delayed-access, see

- *z/OS SDSF Operation and Customization*
- The COLSHELP command in SDSF

DELAYED2
specifies that delayed-access columns be included on the secondary panel

NOMODIFY2
specifies that row tokens for use in modifying rows should not be returned on the secondary panel. Use this to improve performance if you will not be modifying any values.

PRIMARY
requests the primary field list.

If you specify both PRIMARY and ALTERNATE, or neither PRIMARY nor ALTERNATE, the primary and alternate field lists are merged. For a discussion of primary and alternate field lists, see *z/OS SDSF Operation and Customization* .

PRIMARY2
requests the primary field list for a secondary panel.

If you specify both PRIMARY2 and ALTERNATE2, or neither PRIMARY2 nor ALTERNATE2, the primary and alternate field lists are merged, and all the column variables for the panel are available.

PREFIX *value*
specifies a prefix, *value*, to be added to the beginning of:

- Column name variables
- Token variables
- Variables with names that begin with SDSF, such as SDSFROW.

The prefix is not added to the beginning of other special variable names.

Use PREFIX when you want to ensure that variable names do not conflict, for example, when accessing a secondary panel with an action character from another panel. The default is no prefix. The prefix can be up to 24 characters long, and should not begin with ISF.

VERBOSE
adds diagnostic messages to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.

WAIT
specifies that SDSF should wait the full delay interval before retrieving

responses to a comand. This option is strongly recommended to ensure the responses are accessible in the ISFULOG special variable. The delay interval is specified with the ISFDELAY variable.

Special variables for secondary panels

Secondary panels are accessed with action characters from other panels. For example, when you use the ? action character from the Status panel to access the Job Data Set (JDS) panel, JDS is a secondary panel. For secondary panels, ISFACT returns column and row data in the same way that ISFEXEC does. See "Panel data returned" on page 197 for more information.

Many of the special variables for panels that you access with commands have corresponding special variables for secondary panels. The names of the special variables for secondary panels end with a 2. For example, ISFCOLS applies to primary panels, and ISFCOLS2 applies to secondary panels. In addition, there is another set of variables with names beginning with SDSF that perform the same function, but are affected by the PREFIX option, so that their names include the prefix that you specify. When there is a secondary panel or a sequence of secondary panels (for example, JDS accessed from JS accessed from ST) the SDSFxxxx and ISFxxxx2 variables apply to the last panel (JDS, in the example).

In the following list of special variables, the variable name that begin with ISF is followed by the name that begins with SDSF, when one exists.

ISFACTIONS
specifies whether the action characters for the current panel should be returned in the ISFRESP stem variable. The values in the ISFRESP variable are in this format: ACTION=*action*, where *action* is the action character or the action character and a description, depending on the option specified on ISFACTIONS. See the SET ACTION command for the valid options. See "List action characters" on page 268 for an example.

ISFAPPC
specifies whether transaction data should be included on the panel. See the APPC command.

ISFCOLS2 / SDSFICOLS (input) and SDSFOCOLS (output)
Input: Specifies the set of columns on the secondary panel for which SDSF should create variables, in this format:

'*column-name column-name...*'

The column names are different than the column titles that are displayed when using SDSF interactively. They are the names used in the FLD statements in ISFPARMS. For a list of column names, see *z/OS SDSF Operation and Customization*, or, when running SDSF under ISPF, issue the COLSHELP command.

Each column name you specify must exist in the current field list. Any name specified in the ISFCOLS2 variable that is not in the current field list will be ignored.

The fixed field (the first column on each SDSF panel when using SDSF interactively) is optional, since it will always be included regardless of the setting of ISFCOLS2.

If the ISFCOLS2 variable is not defined, SDSF creates variables for each column on the secondary panel that is in the field list and is not delayed-access, including the fixed field.

Output: Lists the columns on the secondary panel that were processed, in this format:

column-name column-name...

The names are separated by a blank. The fixed field is always listed first.

Note: the column names do not include the prefix.

ISFDCOLS2 / SDSFDCOLS
contains the list of delayed-access columns for the secondary panel, in this format:

column-name column-name...

ISFDISPLAY
contains the filtering and sorting criteria, for example,

```
PREFIX=* DEST=(ALL) OWNER=*         SYSNAME=SYS1
```

See the SET DISPLAY command.

ISFDISPLAYMODE
sets the format of the ISFDISPLAY special variable. See the SET DISPLAY command in the online help. The OFF parameter is not valid in REXX.

ISFFILTER2 / SDSFFILTER
specifies filter criteria to be applied to the returned variables. Use column names rather than column titles. See the FILTER command in the online help.

ISFRCOLS2 / SDSFRCOLS
contains the list of related fields (such as Address-Line1 through 4) for the secondary panel, in this format:

column-name column-name...

ISFROWS2
contains the number of rows created for the secondary panel. (This is also found in the column variables, for example, DDNAME.0.)

ISFSORT2 / SDSFSORT
specifies the sort criteria (up to 10 columns, with ascending or descending order). Use column names rather than column titles. Assigning the value to null sorts the panel using the fixed field (the first column). See the SORT command for other syntax.

ISFTIMEOUT
specifies the response timeout value for sysplex requests. See the SET TIMEOUT command. (JES2 only)

ISFTITLES2 / SDSFTITLES
contains the column titles for the secondary panel. The titles are listed in the same order as the column names in the ISFCOLS2 variable. Each title is enclosed in single quotation marks and separated by a blank.

ISFTLINE
contains the title line from the tabular panel being processed

ISFUCOLS2 / SDSFUCOLS
contains the list of modifiable columns for the secondary panel. All modifiable columns are included, regardless of whether the user is authorized to modify them.

ISFULOG
is a stem variable that contains the command echo and responses for system

commands generated by action characters, including SAF authorization messages (if supported by the external security manager). Use the WAIT option on the ISFACT command to ensure that the command responses are available in the ISFULOG stem variable.

For more information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240.

Browsing output

To browse the output of jobs and checks, you use a combination of host commands, action characters and special REXX variables. For details, refer to the appropriate topic:

- "Browsing output with ISFBROWSE." You can use this approach to browse the output of jobs and checks. The output data is returned in the ISFLINE stem variable.
- "Browsing jobs with an external utility" on page 213. You can use this approach to browse job output. You allocate the output data sets with special REXX-only action characters, then browse the data sets using EXECIO or a similar utility.
- "Browsing checks with the S action character" on page 214. You can use this approach to browse the output of checks. The output data is returned in the ISFLINE stem variable.

Browsing output with ISFBROWSE

You can browse the output of jobs and checks using the ISFBROWSE host command, as follows:

```
►►──Address SDSF──"──ISFBROWSE──sdsf-command─TOKEN──(──token──)──┬──────────────────────┬──"──────────────►◄
                                                                 └─ (──options──)──┘
```

sdsf-command
: is the command for the panel. It must be the same SDSF command, including any parameters, that was previously entered with the ISFEXEC command.

token
: is a token that identifies the row to be acted upon. The token was previously set by ISFEXEC or ISFACT and must correspond to the panel accessed with *sdsf-command*. Enclose the token in single quotation marks that are not removed by REXX.

  For more information, see "Using tokens" on page 205.

options
: is an optional list of options. The closing parenthesis is optional.

  JCL
  : Browse just the JCL (jobs only)

  NOCLOSE
  : Leave the data set open for subsequent requests, to avoid the overhead of closing, unallocating, re-allocating, and re-opening the data set. To undo the allocations, use ISFBROWSE without NOCLOSE and set special variable ISFSTARTLINETOKEN.

VERBOSE
Add diagnostic messages to stem variable isfmsg2. The messages describe each variable created by SDSF. This can be useful for troubleshooting as you develop REXX execs.

Examples of using ISFBROWSE

The following examples show ISFBROWSE commands you would use after having first issued the appropriate panel command with ISFEXEC. For more complete examples, see "Examples of REXX execs" on page 250.

1. Browse the output for a check on the CK panel. The number of the row is represented by ix.

   ```
   Address SDSF "ISFBROWSE CK TOKEN('"TOKEN.ix"')"
   ```

2. Browse just the JCL for a job on the ST panel. The number of the row is represented by x.

   ```
   Address SDSF "ISFBROWSE ST TOKEN('"TOKEN.x"') (JCL)"
   ```

3. Browse the output for a job on the DA panel. Leave the data sets open for subsequent browse requests. The number of the row is represented by ix.

   ```
   Address SDSF "ISFBROWSE DA TOKEN('"TOKEN.ix"') (NOCLOSE)"
   ```

Special variables for use with the ISFBROWSE command

There are a number of special variables that you can use with the ISFBROWSE command. For information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240.

Several of the special variables provide function that corresponds to scrolling through the data, including repositioning to the next or previous data set. For example, you might specify a number of lines that you want to retrieve with each browse request, using ISFLINELIM, then use logic and other special variables to advance through the data, as shown below:

```
isflinelim = 500
   do until isfnextlinetoken=''
      Address SDSF "ISFBROWSE ST "TOKEN('"token.x"')"
      /****************************/
      /* Loop through the lines   */
      /****************************/
      do ix=1 to isfline.0
        say isfline.ix
      end
   isfstartlinetoken = isfnextlinetoken
end
```

Use these special variables with the ISFBROWSE command:

ISFDUPDS
controls whether duplicate SYSOUT data sets are included. Values are ON and OFF.

ISFFIRSTLINEDSID
is the data set identifier of the data set associated with the first line that was returned.

ISFFIRSTLINERECNO
is the record number within the data set of the first line that was returned.

ISFFIRSTLINETOKEN
is a token corresponding to the first line of the data that was returned.

ISFINPUT
controls whether SYSIN data sets are included. Values are ON and OFF.

ISFLASTLINEDSID
is the data set identifier of the data set associated with the last line that was returned.

ISFLASTLINERECNO
is the record number within the data set of the last line that was returned.

ISFNEXTLINETOKEN
is a token corresponding to the next unread line of the data that was returned. It is null when an end-of-file condition is encountered.

ISFLINE
contains the data that is returned. It is a stem variable. ISFLINE.0 contains the number of variables.

ISFLINELIM
limits the number of ISFLINE stem variables that may be created. The valid values are 0-99999999. A value of zero indicates no limit.

ISFSTARTLINETOKEN
specifies the starting line for the data to be returned. Assign a value by setting the variable to either the ISFFIRSTLINETOKEN or ISFNEXTLINETOKEN special variable.

Use these special variables with the ISFBROWSE command for find and scroll functions:

ISFFIND
contains a string to be found, up to 255 characters. The find operation is not sensitive to case. Use this with a value of FINDNEXT or FINDPREV in the ISFSCROLLTYPE special variable.

ISFFINDENDCOL
specifies the column by which the string specified with the ISFFIND special variable must end. It must be less than ISFFINDSTARTCOL.

ISFFINDLIM
specifies the maximum number of lines to search for the string specified with the ISFFIND special variable. Valid values are 1000 through 9999999.

ISFFINDSTARTCOL
specifies the column in which the string specified with the ISFFIND special variable must start.

ISFSCROLL
is used to reposition the first line of data that is returned.

- For repositioning a number of lines, specify an integer to be used as an offset from the value in the ISFSTARTLINETOKEN special variable. Then, specify a value of UP or DOWN for the ISFSCROLLTYPE special variable. If ISFSTARTLINETOKEN is not specified, the offset is applied to the top of the data set.
- For repositioning to another data set, specify a number to be used as the number of data sets and specify a value of NEXT or PREV for the ISFSCROLLTYPE special variable. The data returned begins with the first line of the data set. ISFSCROLL defaults to 1 and can be omitted when you specify ISFSCROLLTYPE with NEXT or PREV.

ISFSCROLLTYPE
is used to reposition the first line of data that is returned. Specify one of these values:

UP or DOWN
is used with the value in the ISFSCROLL special variable to reposition a number of lines. DOWN is the default.

NEXT or PREV
is used with the value in the ISFSCROLL special variable to reposition a number of data sets.

TOP specifies that the first record returned is the first record of the data. This is the default.

BOT requests the bottom, or most recent, data. The last line returned is the last line of data. The first line returned is a function of the value of the ISFLINELIM special variable. For example, if you use BOT with a value of 100 for ISFLINELIM, the last 100 lines of data are returned.

FINDNEXT
is used with the value in the ISFFIND special variable to reposition to the next line that contains that string. If the ISFSTARTLINETOKEN special variable is not specified, the search begins with the top line.

FINDPREV
is used with the value in the ISFFIND special variable to reposition to the previous line that contains that string. If the ISFSTARTLINETOKEN special variable is not specified, the search begins with the top line, wraps to the bottom and then searches from there.

Return codes for ISFBROWSE

After the ISFBROWSE host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred in parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFBROWSE command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See “Messages” on page 195 for more information.

Browsing jobs with an external utility

To browse job output from the DA, H, I, JDS, O and ST panels using EXECIO or similar utility, you first allocate the output data sets with special REXX-only action characters. The action characters are:

SA Allocate all data sets associated with the item. On the DA, I or ST panels, this will be all data sets in the job. On the O and H panels, it will be all data sets in the output group. On the JDS panel, it will be a single data set.

SJA
Allocate the JCL data set

The following special variables describe the results of the allocation that you use with EXECIO or a similar utility:

ISFDDNAME
is a stem variable that contains the system-generated DDNAME returned by allocation that is referenced on EXECIO or other utility. It is not the application specified DDNAME that is contained in the DDNAME.x stem variable returned by ISFACT. ISFDDNAME.0 contains a count of the number of variables that follow.

ISFDSNAME
is a stem variable that contains the application-specified data set name that has been allocated by SDSF. The variables have a one-to-one correspondence with the variables in ISFDDNAME. Thus, the REXX caller can associate the data set being processed with the system generated DDNAME that has been allocated. ISFDSNAME.0 contains a count of the number of variables that follow.

ISFLRECL
is a stem variable that contains the logical record length for the allocated data set and corresponds to the DDNAME listed in ISFDDNAME. ISFLRECL.0 contains a count of the number of variables that follow.

ISFRECFM
is a stem variable that contains the record format for the allocated data set and corresponds to the DDNAME listed in ISFDDNAME. ISFRECFM.0 contains a count of the number of variables that follow.

You can also use these special variables:

ISFDUPDS
controls whether duplicate SYSOUT data sets are included.

ISFINPUT
controls whether SYSIN data sets are included.

Usage notes

- SDSF allocates SYSOUT data sets using the FREE=CLOSE attribute. This causes the system to free the allocation when the data set is closed by the application. If an application causes a data set to be allocated but does not open it, it should free the allocation explicitly. Failure to free the data sets may result in the allocation limit being reached and further allocations being rejected.
- The REXX caller should also ensure that the DYNAMNBR JCL keyword is set to a high enough limit to accommodate all of the expected allocations done by the exec.
- You can use the FINIS option of EXECIO to close the data set when EXECIO completes.

Browsing checks with the S action character

To browse check output from the CK or CKH panel, you can use the S action character on the ISFACT command, along with the following special variable:

ISFLINE
is a stem variable that contains lines of data in response to a browse request. ISFLINE.0 contains the number of stem variables that follow.

Examples of browsing output

See “Browse job output with EXECIO” on page 257 and “Browse check output from the CK panel” on page 264.

Printing output

To print the output of jobs and checks through REXX, you use a combination of the X action character, with ISFACT, and special REXX variables. The PRINT command is not supported in the REXX environment.

The forms of the X action character are:

X and XC
Print all data sets using default settings; XC closes the print file after printing.

XS and XSC
Print all data sets to SYSOUT using attributes specified in special variables; XSC closes the print file after printing.

The special variables define the attributes of the SYSOUT print file. They correspond to the fields on the Open Print pop-up. The special variables are:

Table 167. Special REXX Variables for Printing to SYSOUT

Variable	Purpose
ISFPRTCCASA	How SDSF handles carriage control for printing: **ON** Always insert ASA carriage control characters **OFF** Handle carriage control based on the record format of the data set bring printed: • If the record format includes A, then the print function uses ASA (ANSI) carriage control. • If the record format includes M, then the print function uses machine carriage control. • Otherwise, SDSF removes carriage control characters if they are present in the source.
ISFPRTCLASS	SYSOUT class
ISFPRTCOPIES	Copies class
ISFPRTDEST	Destination
ISFPRTFCB	FCB
ISFPRTFORMDEF	FORMDEF
ISFPRTFORMS	Forms
ISFPRTLRECL	Logical record length
ISFPRTOUTDESNAME	Output descriptor name to be used when creating the file
ISFPRTPAGEDEF	PAGEDEF
ISFPRTPRTMODE	Process mode
ISFPRTRECFM	Record format
ISFPRTSOURCEATTS	Whether to use attributes of the source for printing
ISFPRTUCS	UCS

Table 167. Special REXX Variables for Printing to SYSOUT (continued)

Variable	Purpose
ISFPRTWRITER	Writer name

XD and XDC

Print all data sets to a data set using attributes specified in special variables; XDC closes the print file after printing.

The special variables name attributes of the data set. They correspond to the fields on the Open Print Data Set pop-up.

Table 168. Special REXX Variables for Printing to a Data Set

Variable	Purpose	Default
ISFPRTCCASA	How SDSF handles carriage control for printing. For details, refer to the description of ISFPRTCCASA in Table 167 on page 215.	
ISFPRTBLKSIZE	Block size for new data sets	003120
ISFPRTDATACLAS	Data class for new data sets	
ISFPRTDIRBLKS	Number of directory blocks for new data sets	
ISFPRTDISP	Allocation disposition for data sets	
ISFPRTDSNAME	Data set name. If the name is not enclosed in quotation mark, the name begins with the current user ID.	
ISFPRTDSNTYPE	Data set name type: **LIBRARY or LIB** allocates a partitioned data set extended (PDSE) **PDS** allocates a partitioned data set **LARGE** allocates a large format data set **EXTREQ** indicates that an extended sequential data set is required **EXTPREF** indicates that an extended sequential data set is preferred **BASIC** indicates that neither an extended nor a large format data set is to be allocated.	A partitioned or sequential data set is allocated based on the data set characteristics that are provided.
ISFPRTEXTATTR	Extended attributes option: **NO** The data set cannot have extended attributes and reside in EAS **OPT** The data set can have extended attributes and reside in EAS.	Based on the data type
ISFPRTLRECL	LRECL for new data sets	0000240
ISFPRTMEMBER	Member name	
ISFPRTMGMTCLAS	Management class for new data sets	
ISFPRTPRIMARY	Primary space allocation for new data sets	00000500
ISFPRTRECFM	Record format	VBA

Table 168. Special REXX Variables for Printing to a Data Set (continued)

Variable	Purpose	Default
ISFPRTSECONDARY	Secondary space allocation for new data sets	00000500
ISFPRTSPACETYPE	Space units for allocating for new data sets	BLKS
ISFPRTSTORCLAS	Storage class for new data sets	
ISFPRTUNIT	Unit for new data sets	
ISFPRTVOLSER	Volume serial for new data sets	

XF and XFC
Print all data sets to a file (DDNAME) using attributes specified in special variables; XFC closes the print file after printing. The special variables name attributes of the file.

Table 169. Special Variables for Printing to a File

Variable	Purpose
ISFPRTDDNAME	DDNAME

In the event of an error, such as the data being invalid or missing, SDSF issues a message that is available in the ISFMSG2 stem variable. In addition, the ISFMSG variable may contain a short error message.

Note that the print data set is always closed after the request regardless of whether the X action character includes the C option. This is because all SDSF requests are independent; the print data set is closed when SDSF terminates.

Examples of printing

See "Print to SYSOUT" on page 267.

Getting all of the values for a single row

You can request all of the column values for a specific row using the ISFGET host environment command, as follows:

```
►►──Address SDSF──"──ISFGET──command──┤ Token ├──┬──────────────────┬──"──────────────────────────────►◄
                                                 └──(──options──)──┘
```

Token:

```
├──TOKEN──('"──token──"')──────────────────────────────────────────────────────────────────────────────┤
```

command
is the command for the panel. It must be the same SDSF command, including any parameters, that was previously entered with the ISFEXEC command.

token
identifies the row to be acted upon. The token was previously set by ISFEXEC or ISFACT for the panel accessed with *command*. Enclose the token in single quotation marks. For more information on tokens, see "Using tokens" on page 205.

option
is an optional list of options for the command. The closing parenthesis is optional. The options that you use depend on the type of the command you issue, and are explained in the topics that follow.

Return codes for ISFGET

After the ISFGET host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFGET command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See "Messages" on page 195 for more information.

Data returned for ISFGET

When you use an action character to access a secondary panel, such as JDS, ISFGET returns column and row data in the same way that ISFEXEC does. See "Panel data returned" on page 197 for more information.

Options for getting all of the values for a row

You can use the following options with ISFGET:

ALTERNATE
requests the alternate field list for the panel

ALTERNATE2
requests the alternate field list for the secondary panel

COMPACT
specifies that column data for each row be returned in the SDSFROW stem variable, rather than in a separate stem variable for each column. This can dramatically reduce the number of variables, and therefore the amount of storage, required to satisfy a request for a panel. For more information, refer to "Panel data returned" on page 197.

DELAYED
specifies that delayed-access columns be included on the panel

DELAYED2
specifies that delayed-access columns be included on the secondary panel

NOMODIFY2
specifies that row tokens for use in modifying rows should not be returned on the secondary panel. Use this to improve performance if you will not be modifying any values.

PRIMARY
requests the primary field list.

If you specify both PRIMARY and ALTERNATE, or neither PRIMARY nor ALTERNATE, the primary and alternate field lists are merged, and all the column variables for the panel are available.

PRIMARY2
requests the primary field list for a secondary panel.

If you specify both PRIMARY2 and ALTERNATE2, or neither PRIMARY2 nor ALTERNATE2, the primary and alternate field lists are merged, and all the column variables for the panel are available.

PREFIX *value*
specifies a prefix for column name and TOKEN variables that are created; use this to ensure that variable names do not conflict. The prefix can be up to 24 characters long, and should not begin with ISF.

VERBOSE
adds diagnostic messages to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.

Special variables with ISFGET

For information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240.

Browsing the system log with ISFLOG

You browse both the single-system SYSLOG and the sysplex-wide OPERLOG using the ISFLOG host environment command.

When used with the SYSLOG, the ISFLOG command processes the JES logical log.

The syntax of the ISFLOG command is as follows:

SYSLOG

```
►►──Address SDSF──"──ISFLOG──┬─ALLOC─┬──┬──────────────────────────┬──┬──────────────────┬──"──────────►◄
                             └─READ──┘  └─TYPE──(──┬─SYSLOG──┬──)─┘  └─(──option──)─┘
                                                   └─OPERLOG─┘
```

OPERLOG

```
►►──Address SDSF──"──ISFLOG──READ──┬──────────────────────────┬──┬──────────────────┬──"──────────►◄
                                   └─TYPE──(──OPERLOG──)─┘  └─(──option──)─┘
```

ALLOC
indicates that the logical SYSLOG is to be allocated for use with a utility such as EXECIO. The allocation is done with the FREE=CLOSE option so that the file is automatically de-allocated when closed.

Use ALLOC with these special stem variables:

- ISFDDNAME contains the ddname that is returned
- ISFDSNAME contains the data set name that is returned

READ
indicates that the system log is to be read. The records are returned in the ISFLINE stem variable. ISFLINE.0 contains the number of variables.

By default, SDSF retrieves the records for the current day. You can customize the results with these special variables:

- ISFLINELIM sets a limit on the number of variables created.
- ISFLOGSTARTTIME, ISFLOGSTARTDATE, ISFLOGSTOPTIME and ISFLOGSTOPDATE define the date and time range for the records. Use them to ensure that your date and time range is reasonable, so that an excessive number of variables is not created.

  When these special variables are used, SDSF positions the SYSLOG as near as possible to the requested record. However, due to the precision used for time stamps and the time the record is actually written to SYSLOG, it is possible that this may be several lines away from the desired record.
- Variables that allow you to simulate scrolling through the data. These include ISFSCROLL, ISFSCROLLYPE, ISFNEXTLINETOKEN and ISFSTARTLINETOKEN.

For details on the special variables, refer to "Special variables for use with the ISFLOG command" on page 221.

TYPE(SYSLOG | OPERLOG)
is optional and names the type of system log to be used:

SYSLOG
specifies the single-system SYSLOG. Use the special variable ISFSYSID to indicate the member to be processed.

OPERLOG
specifies the sysplex-wide OPERLOG.

option
is optional. See "Options for the ISFLOG command" on page 221.

Use the special variable ISFSYSID to indicate the member to be processed.

Examples of using ISFLOG

The following examples illustrate how to use the ISFLOG command.

1. Allocate the logical SYSLOG for use with EXECIO.
   ```
   Address SDSF "ISFLOG ALLOC TYPE(SYSLOG)"
   ```
2. Read the logical SYSLOG into the ISFLINE special variable.
   ```
   Address SDSF "ISFLOG READ TYPE(SYSLOG)"
   ```
3. Read the OPERLOG into the ISFLINE special variable.
   ```
   Address SDSF "ISFLOG READ TYPE(OPERLOG)"
   ```
4. Read the logical SYSLOG into the ISFLINE special variable and the WTORS into the ISFWTOR special variable.
   ```
   Address SDSF "ISFLOG READ TYPE(SYSLOG) (WTOR)"
   ```

See also "Work with the last 24 hours of SYSLOG" on page 269 and "Work with the current day of the system log" on page 269.

Options for the ISFLOG command

VERBOSE
adds diagnostic messages to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.

WTOR
causes any WTORs to be returned in the ISFWTOR. stem variable.

Special variables for use with the ISFLOG command

There are a number of special variables that you can use with the ISFLOG command. For information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240.

Several of the special variables provide function that corresponds to scrolling through the data. For example, you might specify a number of lines that you want to retrieve with each browse request, using ISFLINELIM, then use logic and other special variables to advance through the data, as shown below:

```
isflinelim = 500
   do until isfnextlinetoken=''
      Address SDSF "ISFLOG READ TYPE(SYSLOG)"
      /****************************/
      /* Loop through the lines    /
      /****************************/
      do ix=1 to isfline.0
        say isfline.ix
      end
   isfstartlinetoken = isfnextlinetoken
end
```

Use these special variables with the ISFLOG command:

ISFCOLOR
is a stem variable containing a single-character abbreviation for the color for each line. The possible values come from first letter of these colors: Red, Green, Blue, White, Yellow, Turquoise, Pink. OPERLOG only.

ISFDATE
specifies the date format, including the separator character, for special variables that take a date as input. It accepts any format valid with the SET DATE command. See the SET DATE command in the online help for the valid formats.

ISFDESCODE
is a stem variable containing the descriptor codes for each line. When there are multiple descriptor codes, they are turned in a list, separated by blanks. OPERLOG only.

ISFFIRSTLINEDATE
is the date associated with the first line that was returned.

ISFFIRSTLINEDSID
is the data set identifier of the data set associated with the first line that was returned. SYSLOG only.

ISFFIRSTLINEJOBID
is the job ID associated with the first line that was returned. SYSLOG only.

ISFFIRSTLINERECNO
is the record number within the data set of the first line that was returned. SYSLOG only.

ISFFIRSTLINETIME
is the time associated with the first line that was returned.

ISFFIRSTLINETOKEN
is a token corresponding to the first line of the data that was returned.

ISFHIGHLIGHT
is a stem variable containing a single-character abbreviation for the highlighting for each line. The possible values come from the first letter of these highlight values: Blink, Reverse, Underline and None. OPERLOG only.

ISFINTENSITY
is a stem variable containing a single-character abbreviation for the intensity for each line. The possible values come from the first letter of these intensities: High and Low. OPERLOG only.

ISFLASTLINEDATE
is the date associated with the last line that was returned.

ISFLASTLINEDSID
is the data set identifier of the data set associated with the last line that was returned. SYSLOG only.

ISFLASTLINEJOBID
is the job ID associated with the last line that was returned. SYSLOG only.

ISFLASTLINERECNO
is the record number within the data set of the last line that was returned. SYSLOG only.

ISFLASTLINETIME
is the time associated with the last line that was returned.

ISFLINE
contains the data that is returned. It is a stem variable. ISFLINE.0 contains the number of variables.

ISFLINELIM
limits the number of ISFLINE stem variables that may be created. The valid values are 0-99999999. A value of zero indicates no limit.

ISFLOGSTARTDATE
specifies the starting date for records returned by the ISFLOG command, in the current date format (see the ISFDATE special variable) or *yyyy.ddd*. Leading zeros are not required. It must be less than the ending date. The default is the current day.

ISFLOGSTARTTIME
specifies the starting time for records returned by the ISFLOG command, in *hh*:*mm*:*ss*.*th* format. Only *hh*:*mm* is required. Leading zeros are not required. This is the local time corresponding to the first record to be returned. It must be less than the ending time. The default is 00:00:00.00.

ISFLOGSTOPDATE
specifies the ending date for records returned by the ISFLOG command, in the current date format (see the ISFDATE special variable) or *yyyy.ddd*. Leading zeros are not required. The default is the current day.

ISFLOGSTOPTIME
specifies the ending time for records returned by the ISFLOG command, in *hh*:*mm*:*ss*.*th* format. Only *hh*:*mm* is required. Leading zeros are not required. This is the local time corresponding to the last record to be returned. The default is 23:59:59.99.

ISFNEXTLINETOKEN
is a token corresponding to the next unread line of the data that was returned. It is null when an end-of-file condition is encountered.

ISFSTARTLINETOKEN
specifies the starting line for the data to be returned. Assign a value by setting the variable to either the ISFFIRSTLINETOKEN or ISFNEXTLINETOKEN special variable.

ISFSYSID
with the SYSLOG, names the member to be processed by the ISFLOG command. See the SYSID command in the online help.

ISFWTOR
is a stem variable that contains the WTORs, if requested with the WTOR option. ISFWTOR.0 contains the number of variables.

Use these special variables with the ISFLOG command for find and scroll functions:

ISFFIND
contains a string to be found, up to 255 characters. The find operation is not sensitive to case. Use this with a value of FINDNEXT or FINDPREV in the ISFSCROLLTYPE special variable.

ISFFINDENDCOL
specifies the column by which the string specified with the ISFFIND special variable must end. It must be less than ISFFINDSTARTCOL.

ISFFINDLIM
specifies the maximum number of lines to search for the string specified with the ISFFIND special variable. Valid values are 1000 through 9999999.

ISFFINDSTARTCOL
specifies the column in which the string specified with the ISFFIND special variable must start.

ISFSCROLL
is used to reposition the first line of data that is returned. Specify an integer to be used as an offset from the value in the ISFSTARTLINETOKEN special variable. Then, specify a value of UP or DOWN for the ISFSCROLLTYPE special variable. If ISFSTARTLINETOKEN is not specified, the offset is applied to the top of the data set.

ISFSCROLLTYPE
is used to reposition the first line of data that is returned. Specify one of these values:

UP or DOWN
is used with the value in the ISFSCROLL special variable. DOWN is the default.

TOP specifies that the first record returned is the first record of the data. This is the default.

BOT requests the bottom, or most recent, data. The last line returned is the

last line of data. The first line returned is a function of the value of the ISFLINELIM special variable. For example, if you use BOT with a value of 100 for ISFLINELIM, the last 100 lines of data are returned.

FINDNEXT
is used with the value in the ISFFIND special variable to reposition to the next line that contains that string. If the ISFSTARTLINETOKEN special variable is not specified, the search begins with the top line.

FINDPREV
is used with the value in the ISFFIND special variable to reposition to the previous line that contains that string. If the ISFSTARTLINETOKEN special variable is not specified, the search begins with the top line, wraps to the bottom and then searches from there.

Return codes for ISFLOG

After the ISFLOG host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFLOG command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See “Messages” on page 195 for more information.

Issuing system commands with ISFSLASH

You issue system commands using the ISFSLASH host environment command as follows:

```
►►──Address SDSF──"──ISFSLASH──┬─(──stem──)─┬──┬──────────────────┬──"──────────────────────────────►◄
                               └─(──list──)─┘  └─(──options──)─┘
```

stem
is the name of a stem variable containing the list of system commands to be issued. The 0 variable of the stem must contain a count of the variables in the stem. The variable *stem* should:

- End in a period, to allow the commands to be put into compound variables
- Be enclosed in parentheses, to indicate that it is a stem variable
- Be 1 to 128 characters long
- Not start with the characters ISF

list
is a list of one or more system commands to be issued, separated by a blank or a comma.

Enclose a command in single quotation marks, whether you are issuing it directly through ISFSLASH or using a stem variable, if the command:

- Contains special characters or embedded blanks
- Requires mixed case. Although SDSF preserves the case of the command text, Consoles folds the text to uppercase in issuing the command, unless it is enclosed in single quotation marks.

The W and I prefix parameters of the slash (/) command are not supported. Use the WAIT and INTERNAL options instead. See "Options for slash (/) commands" for more information.

The system commands can be up to 126 characters in length (the maximum length allowed by Consoles).

Examples of using ISFSLASH

The following examples illustrate how to issue a command with ISFSLASH.

1. Issue a single command. Wait the full delay interval (specified with variable ISFDELAY) for responses, rather than returning when the first response is received.

   ```
   Address SDSF ISFSLASH "$da (WAIT)"
   ```

2. Issue a single command using a stem variable.

   ```
   cmd.0=1
   cmd.1='d r,l'
   Address SDSF ISFSLASH "(cmd.)"
   ```

3. Issue multiple commands. Because the commands contain blanks, enclose them in single quotation marks.

   ```
   Address SDSF ISFSLASH "$da , 'd a,l' 'd t'"
   ```

4. Issue multiple commands using a stem variable. SDSF will wait the full delay interval for the response.

   ```
   mycmd.0=2
   mycmd.1='$DA'
   mycmd.2='d t'
   Address SDSF ISFSLASH "("mycmd.") (WAIT)"
   ```

See also "Issue system commands using ISFSLASH" on page 268.

Options for slash (/) commands

INTERNAL
specifies that console ID 0 (INTERNAL) should be used to issue the command

WAIT
specifies that SDSF should wait the full delay interval before retrieving responses. This option is strongly recommended to ensure the responses are accessible in the ISFULOG special variable. The delay interval is specified with the ISFDELAY variable.

Special variables for slash (/) commands

Use special variables to set options such as the delay limit and the console name. Where the variable is associated with an SDSF command, the parameters for the variable are the same as for the command, with the exception that the ? parameter is not supported in REXX. Substitute the variable for the command, for example:

Command: SET DELAY 5
Variable: isfdelay="5"

For the syntax of commands, see the online help. For information on special REXX variables, see "Using special variables to invoke SDSF function" on page 227 and "Special variables reference" on page 240.

ISFCMDLIM
limits the number of commands that may be issued through ISFSLASH. The limit is a value from 0-99999999 where 0 means no limit. The default is 0. If the number of stem variables exceeds the limit, all commands up to and including the limit are issued.

ISFCONMOD
controls console name modification. By default it is on, which means that, when SDSF needs to activate an extended console and the default console name is already in use, SDSF attempts to activate a new console with a modified name. For more information, refer to the SET CONMOD command in the online help and *z/OS SDSF Operation and Customization* .

If you run a REXX exec while using SDSF interactively, you should not disable console modification, to avoid an activation failure caused by the required console already being in use.

ISFCONS
specifies a name for the extended console for the user session log (ISFULOG stem variable). Refer to the SET CONSOLE command in the online help for more information.

If you run a REXX exec while using SDSF interactively and you have disabled console modification, you should specify a unique console name with ISFCONS, to avoid an activation failure caused by the required console already being in use.

ISFDELAY
specifies the response delay limit for system commands. Refer to the SET DELAY command in the online help for more information.

ISFULOG
is a stem variable that contains the MVS system command echo and any responses generated during the session, including SAF authorization messages (if supported by the external security manager). ISFULOG.0 contains a count of the number of stem variables that follow.

For more information, see "Issuing commands with ISFEXEC" on page 194.

Return codes for ISFSLASH

After the ISFSLASH host environment command completes, a return code is set in the REXX variable RC. The values are:

00 The request completed successfully.

04 The request completed successfully but not all functions were performed.

08 An incorrect or invalid parameter was specified for an option or command.

12 A syntax error occurred in parsing a host environment command.

16 The user is not authorized to invoke SDSF.

20 A request failed due to an environmental error.

24 Insufficient storage was available to complete a request.

Note that a return code of 0 indicates that SDSF successfully processed the ISFEXEC command. It does not indicate that specific functions were authorized or that commands were executed. Check the ISFMSG and ISFMSG2 variables to determine if a request completed. See “Messages” on page 195 for more information.

Using special variables to invoke SDSF function

Much of the function that SDSF commands provide when you use SDSF interactively is supported in the REXX environment by special REXX variables.

The special variables use the following format:

```
►►──variable-name──='──parameters──'──────────────────────────────────────►◄
```

The parameters for the variable are the same as for the associated command, with the exception that the ? parameter is not supported in REXX. The values of special variables are not saved across sessions (or invocations) in the REXX environment. The special variable names that begin with SDSF are affected by the PREFIX option of ISFEXEC or ISFACT, but no others are affected.

Special variable names are not case-sensitive.

Values specified with special variables do not have the 42–character (or, in the case of slash commands, 126–character) limit that commands entered with ISFEXEC have.

Where the variable is associated with an SDSF command, the parameters for the variable are the same as for the command, with the exception that the ? parameter is not supported in REXX. Substitute the variable for the command, for example:

Command: PREFIX RJONES*
Variable: isfprefix="RJONES*"

For the syntax of commands, see the online help. For a complete list of special REXX variables, see “Special variables reference” on page 240.

To drop SDSF special variables (that is, unassign the variables and restore them to their original undefined state) use the ISFRESET() function. The option to use with ISFRESET corresponds to the variable type (Input, InOut or Output), indicated in the table. The variables for printing are all type Input. For more information, see “Dropping special variables with ISFRESET” on page 230.

The variables are grouped here by command type:

- “SDSF command”
- “Filter commands” on page 228
- “Options commands” on page 229
- “Trace commands” on page 230

SDSF command

Use the following special variables for function that is equivalent to the parameters on the SDSF command.

ISFSERVER
Obsolete as of z/OS V2R3. Only a single SDSF address space can be active at a time.

ISFJESNAME
names the JES2 subsystem to process. See the JESNAME parameter in *z/OS SDSF Operation and Customization* .

ISFJES3NAME
names the JES3 subsystem to process. See the JES3NAME parameter in *z/OS SDSF Operation and Customization* .

Filter commands

Use the following special variables for function that is equivalent to the filter commands.

For some variables with names that begin with ISF, there are corresponding variables with names that begin with SDSF. These perform the same function, but are affected by the PREFIX option, so that their names include the prefix that you specify. In addition, if one or more secondary panels exists, these variables apply to the last secondary panel, rather than the panel that was accessed with a command. In the list that follows, these variable names are shown after the names that begin with ISF.

ISFDEST
specifies up to four destinations to be used for filtering. Each destination can be up to the maximum acceptable length for a destination. See the DEST command in the online help for syntax, but note these differences:

- The length of the value specified with ISFDEST can exceed the 42-character limit of the DEST command
- When specifying multiple destinations with ISFDEST, separate the destinations with a blank. Do not use the + operand used with the command.

ISFFILTER / SDSFFILTER
specifies filter criteria to be applied to the returned variables. Use the column names rather than the column titles. See the FILTER command in the online help. Use ISFFILTERMODE to specify the AND or OR relationship between filters.

ISFFILTERMODE / SDSFFILTERMODE
specifies a relationship between filters, both within a column and between columns. The relationship can be either AND or OR.

ISFINPUT
controls whether SYSIN data sets are returned. See the INPUT command in the online help.

ISFOWNER
specifies the owner to be used to limit the returned variables. See the OWNER command in the online help.

ISFPREFIX
specifies the job name to be used to limit the returned variables. See the PREFIX command in the online help.

ISFSYSNAME
specifies the system to be used to limit sysplex requests. See the SYSNAME command in the online help.

Options commands

Use the following special variables for function that is equivalent to the options commands, such as the SET commands.

ISFACTIONS
specifies whether the action characters for the current panel should be returned in the ISFRESP stem variable. The values in the ISFRESP variable are in this format: ACTION=*action*, where *action* is the action character or the action character and a description, depending on the option specified on ISFACTIONS. See the SET ACTION command in the online help for the valid options. See "List action characters" on page 268 for an example.

ISFCKLIM
specifies the limit for the number of instances of a check to be shown on the CKH panel.

ISFCONMOD
controls console name modification. By default it is on, which means that, when SDSF needs to activate an extended console and the default console name is already in use, SDSF attempts to activate a new console with a modified name. For more information, refer to the SET CONMOD command in the online help and *z/OS SDSF Operation and Customization* .

If you run a REXX exec while using SDSF interactively, you should not disable console modification, to avoid an activation failure caused by the required console already being in use.

ISFCONS
specifies a name for the extended console for the user session log (ISFULOG stem variable). Refer to the SET CONSOLE command in the online help for more information.

If you run a REXX exec while using SDSF interactively and you have disabled console modification, you should specify a unique console name with ISFCONS, to avoid an activation failure caused by the required console already being in use.

ISFDATE
specifies the date format, including the separator character, for special variables used with the ISFLOG command that take a date as input. See the SET DATE command in the online help for the valid formats.

ISFDELAY
specifies the timeout for command responses. See the SET DELAY command in the online help.

ISFDISPLAY
contains the filtering and sorting criteria, for example,

```
PREFIX=* DEST=(ALL)  OWNER=*  SYSNAME=
```

See the SET DISPLAY command in the online help.

ISFDISPLAYMODE
sets the format of the ISFDISPLAY special variable. See the SET DISPLAY command in the online help. The OFF parameter is not valid in REXX.

ISFDUPDS
controls whether duplicate SYSOUT data sets are included.

ISFINPUT
controls whether SYSIN data sets are returned. See the INPUT command in the online help.

ISFSCHARS
specifies generic and placeholder characters used for pattern matching. See the SET SCHARS command in the online help.

ISFTIMEOUT
specifies the timeout interval for sysplex data. See the SET TIMEOUT command in the online help.

Trace commands

Use the following special variables for function that is equivalent to the SET SECTRACE command.

ISFSECTRACE
specifies an option to be used when enabling SDSF security trace

ISFMSG2
contains security trace messages, if you specified ISFSECTRACE ON

ISFULOG
contains security trace messages, if you specified ISFSECTRACE WTP

For more information, refer to *z/OS SDSF Operation and Customization* .

Use the following special variables for function that is equivalent to the TRACE command.

ISFTRACE
specifies a trace option to be used when enabling SDSF trace

ISFTRMASK
specifies a trace mask to be used when enabling SDSF trace

Dropping special variables with ISFRESET

You drop special variables using the ISFRESET() function. This unassigns the variables and restores them to their original undefined state. The syntax of ISFRESET is as follows:

```
                    ┌─"ALL"──────────┐
►►─rc=isfreset─(────┼─"INPUT"─┬──────┼─)──┬──────────────────────────────►◄
                    │  └─"I"───┘      │    └─(─"prefix"─)─┘
                    ├─"OUTPUT"─┬──────┤
                    │  └─"O"───┘      │
                    └─"INOUT"──┬──────┘
                       └─"IO"──┘
```

ALL
all special variables. ALL is the default.

INPUT or I
all input special variables.

OUTPUT or O
all output special variables.

INOUT or IO
all input/output special variables.

prefix
is the prefix for the special variables that are to be dropped. Only special variables with that prefix for the specified type are dropped.

ISFRESET does not require access to SDSF and so no authorization is required to use it. ISFRESET is not dependent on ISFCALLS and can be issued at any point in the exec. However, it is most useful when issued prior to an Address SDSF command.

For a complete list of special variables, refer to "Special variables reference" on page 240.

Result codes for ISFRESET

After the ISFRESET completes, a result code is set in the REXX variable RC. The values are:

0 The request completed successfully.

1 Environment error (for example, REXX is not running).

2 Syntax error occurred, for example, invalid parameter.

Invoking a REXX exec with an action character

Use the % action character to invoke a REXX exec from a tabular panel. The syntax is:

```
%(exec-name user-arguments)
```

Under ISPF, % by itself, or with a trailing +, displays a pop-up on which you can type the exec name and arguments. The pop-up preserves the case of the arguments. You can expand the NP column with +*n*, where *n* is 4-20.

% is not valid on the OD panel or from the command line.

The exec must be in a data set that is allocated to DDNAME SYSEXEC or SYSPROC.

When creating an exec to be run with the % action character, you use the same statements and special variables as you do for an exec that runs outside of SDSF. However, there are some key differences. For example, an exec to used with the % action character doesn't need an ISFEXEC statement to access the current panel, and it obtains the row token as an argument, rather than in the TOKEN. stem variable.

Execs generated by the RGEN command are intended to be run outside of SDSF, and not with the % action character.

Arguments

All execs invoked with the % action character are passed fixed arguments:

1. Current panel name (such as ST or DA)
2. Primary panel name (needed if the current panel is a secondary panel, accessed with an action character)
3. Token of the row for which you issued the % action character

4. Command that accessed the primary panel, including parameters as character hex because the argument may contain embedded blanks. Use the REXX built-in function x2c to restore to the original value.
5. Open left parenthesis

The panel names for primary panels are the command names (for example ST or DA). For panels that can accessed only with action characters, the names are the same as those used with COLSHELP:

CDE Job Module

CKH Check History

JD Job Device

JDP Job Dependency

JDS Job Data Set

JM Job Memory

JS Job Step

JY Job Delay

TCB Job Tasks

You pass additional arguments to the exec by typing them following the exec name, for example:

```
NP          JOBNAME JobID
%myexec x y SRB21FLI JOB17391
```

This invokes exec myexec against the row, with user arguments x and y, passed as a string. The exec must parse the string to obtain x and y.

Querying the environment

You can use isfquery to query the environment and return the associated REXX special variables. The syntax is `isfquery("option")`, where *option* is:

none Test if the environment allows special variables to be provided. Code this is `rc=isfquery()`, with no value in the parentheses. rc=0 indicates the environment allows special variables to be provided.

ALL All special variables

INIT Special variables for SDSF settings, such as filters: ISFDEST, ISFJESNAME, ISFOWNER, ISFPREFIX, ISFSERVER

variable,variable,...
List of special variables. Enclose each in quotation marks, for example, `"ISFPREFIX","ISFOWNER"`

WHO Special variables corresponding to the WHO command:

ISFGLOBAL
JES3 global

ISFGLOBALREL
Global level

ISFGRPINDEX
Group index

ISFGRPNAME
Group name

ISFISPFREL
ISPF level

ISFJESNAME
JES name

ISFJESREL
JES level

ISFJESTYPE
JES type

ISFJES3NAME
JES3 name

ISFMEMBER
JES member

ISFMVSREL
MVS level

ISFPROCNAME
Logon procedure

ISFREL
SDSF level

ISFRMFREL
RMF/DA

ISFSECLABEL
Security label

ISFSERVER
Obsolete as of z/OS V2R3. Only a single SDSF address space can be active at a time.

ISFSYSPLEX
Sysplex name

ISFSYSTEM
System name

ISFTERMINAL
Terminal ID

ISFUSERID
User ID

For a complete example, refer to "Invoking an exec with the % action character" on page 273.

SDSF with REXX reference

This topic describes the REXX support for SDSF function.

SDSF commands reference

The SDSF commands and their use in REXX are described in Table 170 on page 234. For the syntax of the commands, see the online help. For quick access to command syntax, use this SEARCH command from the SDSF command line:

```
SEARCH 'FORMAT: command-name'
```

where *command-name* is the command name, for example, DA or PREFIX.

Table 170. SDSF Commands and REXX

Command	Purpose	Use on ISFEXEC	Use on ISFACT	REXX Variable	Notes
/	Issue MVS command	Yes	No		The preferred method is to use ISFSLASH.
?	Switch between primary and alternate field lists	No	No		Not supported in REXX. See the PRIMARY, ALTERNATE and DELAYED options of the ISFEXEC command and the PRIMARY2, ALTERNATE2 and DELAYED2 options of the ISFACT command.
?	Display output data set information from browse	No	No		Not supported in REXX
ABEND	Force SDSF abend	No	No		Not supported in REXX
ACTION	Control WTORs displayed on the SYSLOG	No	No		
AFD	Invoke SDSF with program ISFAFD	No	No		Not supported in REXX
APF	Display the APF panel	Yes	Yes		
APPC	Control the display of transaction data	No	No	ISFAPPC	
ARRANGE	Control the order of panel columns	No	No		Not supported in REXX
AS	Display the AS panel	Yes	Yes		
BOOK	Invoke BookManager®	No	No		Not supported in REXX
BOTTOM	Scroll to the bottom	No	No	ISFSCROLL, ISFSCROLLTYPE	Supported for browse only
CFC	Display the CFC panel	Yes	Yes		
CFS	Display the CFS panel	Yes	Yes		
CK	Display the CK panel	Yes	Yes		
COLS	Display the scale line	No	No		Not supported in REXX
CSR	Display the CSR panel	Yes	Yes		
DA	Display the DA panel	Yes	Yes		
DEST	Specify destinations for filtering	No	No	ISFDEST	The length of the value can exceed the 42-character limit of the DEST command. When specifying multiple destinations (up to 4), separate them with a blank. Do not use the + operand.
DEV	Display the DEV panel	Yes	Yes		

Table 170. SDSF Commands and REXX (continued)

Command	Purpose	Use on ISFEXEC	Use on ISFACT	REXX Variable	Notes
DOWN	Scroll down	No	No	ISFSCROLL, ISFSCROLLTYPE	Supported only for browsing with ISFBROWSE and ISFLOG.
DYNX	Display the DYNX panel	Yes	Yes		
ENC	Display the ENC panel	Yes	Yes		
ENQ	Display the ENQ panel	Yes	Yes		
END	Return to the previous panel	No	No		Not supported in REXX
FILTER	Filter data	No	No	ISFFILTER, ISFFILTER2, ISFFILTERMODE, SDSFFILTER, SDSFFILTERMODE	There is no limit to the number of filters you can set with ISFFILTER or ISFFILTER2. Supported for tabular panels.
FIND	Find a string	No	No	ISFFIND	Supported only for browsing with ISFBROWSE and ISFLOG
FINDLIM	Set the number of lines to search	No	No	ISFFINDLIM	Supported only for browsing with ISFBROWSE and ISFLOG
FS	Display the FS panel	Yes	Yes		
GT	Display the GT panel	Yes	Yes		
H	Display the H panel	Yes	Yes		
I	Display the I panel	Yes	Yes		
INIT	Display the INIT panel	Yes	Yes		
INPUT	Control inclusion of input data sets in browse	No	No	ISFINPUT	
JC	Display the JC panel	Yes	Yes		
JG	Display the JG panel	Yes	Yes		
JP	Display the JP panel	Yes	Yes		
J0	Display the J0 panel	Yes	Yes		
LEFT	Scroll left	No	No		Not supported in REXX
LI	Display the LINES panel	Yes	Yes		
LNK	Display the LNK panel	Yes	Yes		
LPA	Display the LPA panel	Yes	Yes		
LOCATE	Locate a line or column	No	No		Not supported in REXX
LOG	Display the SYSLOG and Operlog	No	No		Use the ISFLOG command
LOGLIM	Limit the Operlog	No	No		
MAS	Display the MAS panel	Yes	Yes		
NA	Display the NA panel	Yes	Yes		
NC	Display the NC panel	Yes	Yes		
NEXT	Skip to the next data set	No	No	ISFSCROLL, ISFSCROLLTYPE	Use with ISFBROWSE

Table 170. SDSF Commands and REXX (continued)

Command	Purpose	Use on ISFEXEC	Use on ISFACT	REXX Variable	Notes
NO	Display the NODES panel	Yes	Yes		
NS	Display the NS panel	Yes	Yes		
O	Display the O panel	Yes	Yes		
OWNER	Limit the jobs by owner	No	No	ISFOWNER	
PAG	Display the PAG panel	Yes	Yes		
PARM	Display the PARM panel. Enclose PARM in single quotes when using ISFACT.	Yes	Yes		
PANELID	Display panel ID	No	No		Not supported in REXX
PR	Display the PR panel	Yes	Yes		
PREFIX	Filter jobs by name	No	No	ISFPREFIX	
PREV	Skip to the previous data set	No	No	ISFSCROLL, ISFSCROLLTYPE	Use with ISFBROWSE
PRINT	Print data or the screen	No	No		Not supported in REXX
PROC	Display the PROC panel	Yes	Yes		
PS	Display the PS panel	Yes	Yes		
PUN	Display the PUN panel	Yes	Yes		
QUERY	List SDSF data	Yes	No		Responses returned in ISFRESP stem
RDR	Display the RDR panel	Yes	Yes		
RES	Display the RES panel	Yes	Yes		
RESET	Clear pending actions	No	No		Not supported in REXX
RIGHT	Scroll right	No	No		Not supported in REXX
RM	Display the RM panel	Yes	Yes		
RSYS	Limit WTORs on SYSLOG by system	No	No		
SE	Display the SE panel	Yes	Yes		
SELECT	Display selected rows	No	No		Not supported in REXX
SET ACTION	Display action characters	No	No	ISFACTIONS	
SET BROWSE	Set default browse action character	No	No		Not supported in REXX
SET CKLIM	Set limit for instances on the CKH panel	No	No	ISFCKLIM	
SET CMODE	Set mode for sysplex communications	No	No	ISFCMODE	
SET CONFIRM	Set confirmation of destructive actions	No	No		Not supported in REXX
SET CONMOD	Set the modification of the extended console name	No	No	ISFCONMOD	

Table 170. SDSF Commands and REXX (continued)

Command	Purpose	Use on ISFEXEC	Use on ISFACT	REXX Variable	Notes
SET CONSOLE	Specify extended console	No	No	ISFCONS	
SET CSORT	Control cursor-sensitive sort	No	No		Not supported in REXX
SET CURSOR	Set cursor placement	No	No		Not supported in REXX
SET DATE	Set date format	No	No	ISFDATE	
SET DELAY	Set timeout value	No	No	ISFDELAY	
SET DISPLAY	Set display of values	No	No	ISFDISPLAY	
SET DUPDS	Set display of duplicate SYSOUT data sets when browsing or printing job data sets	No	No	ISFDUPDS	Duplicate SYSOUT data sets are displayed by default
SET LANGUAGE	Set language for help	No	No		Not supported in REXX
SET LOG	Set default Log panel	No	No		Not supported in REXX
SET PRTCCASA	Set how SDSF handles carriage control for printing	No	No	ISFPRTCCASA	
SET SCHARS	Set wildcard characters	No	No	ISFSCHARS	
SET SCREEN	Set colors	No	No		Not supported in REXX
SET SHELF	Set default bookshelf	No	No		Not supported in REXX
SET TIMEOUT	Set timeout for SYSPLEX function	No	No	ISFTIMEOUT	
SMSG	Display the SMSG panel	Yes	Yes		
SMSV	Display the SMSV panel	Yes	Yes		
SNAPSHOT	Saves table data	No	No		Not supported in REXX
SO	Display the SO panel	Yes	Yes		
SORT	Sort a tabular panel	No	No	ISFSORT, ISFSORT2, SDSFSORT	
SP	Display the SP panel	Yes	Yes		
SR	Display the SR panel	Yes	Yes		
SSI	Display the SSI panel	Yes	Yes		
ST	Display the ST panel	Yes	Yes		
SYM	Display the SYM panel	Yes	Yes		
SYS	Display the SYS panel	Yes	Yes		
SYSID	Assign a SYSID for SYSLOG	No	No	ISFSYSID	
SYSNAME	Limit data by system	No	No	ISFSYSNAME	
TOP	Scroll to the top	No	No	ISFSCROLL, ISFSCROLLTYPE	Supported for browse only
TRACE	Enable SDSF tracing	No	No	ISFTRACE ISFTRMASK	
TUTOR	Invoke the SDSF tutorial	No	No		Not supported in REXX

Table 170. SDSF Commands and REXX (continued)

Command	Purpose	Use on ISFEXEC	Use on ISFACT	REXX Variable	Notes
ULOG	Display the ULOG panel	No	No	ISFULOG stem variable	Use the WAIT option on the ISFACT command to ensure that the command responses are available in the ISFULOG stem variable.
UP	Scroll up	No	No	ISFSCROLL, ISFSCROLLTYPE	Supported only for browsing with ISFBROWSE and ISFLOG
VMAP	Display the VMAP panel	Yes	Yes		
WHO	List environmental data	Yes	No		Responses returned in ISFRESP stem variables

Action character reference

The action characters that are available when you use SDSF interactively are available when you use SDSF with REXX. The exceptions are described in Table 171. For information about the available action characters, see the online help.

Table 171. Action Characters Not Supported with REXX

Panel	Not supported	Comments
APF	/, //, =, +	
AS	/, //, =, +	
CFC	/, //, =, +	
CFS	/, //, =, +	
CK (checks for IBM Health Checker for z/OS)	/, //, =, +, SB, SBI, SBO, SE, SEI, SEI	Results for S (browse) are returned in the ISFLINE stem variable. For more information, see “Browsing checks with the S action character” on page 214.
CKH (history of a check)	/, //, =, +	Results for S (browse) are returned in the ISFLINE stem variable. For more information, see “Browsing checks with the S action character” on page 214.
CSR	/, //, =, +	
DA (active jobs)	/, //, =, +, N, Q, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see “Browsing output” on page 210.
DEV	/, //, =, +	
DYNX	/, //, =, +	
ENC (WLM enclaves)	/, //, =, +, I	
ENQ	/, //, =, +	
FS	/, //, =, +	
GT	/, //, =, +	

Table 171. Action Characters Not Supported with REXX (continued)

Panel	Not supported	Comments
H (held output queue)	/, //, =, +, Q, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
I (input queue)	/, //, =, +, I, Q, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
INIT (initiators)	/, //, =, +	
JC (job classes)	/, //, =, +	
JD (job devices)	/, //, =, +	
JDS (job data sets)	/, //, =, +, Q, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
JG (job group)	/, //, =, +, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
JC	/, //, =, +	
JT	/, //, =, +	
LNK	/, //, =, +	
LPA	/, //, =, +	
JM (job memory)	/, //, =, +	
JP (members in the JESPLEX)	/, //, =, +	
JS (job steps)	/, //, =, +, S, SB, SE, SJ	
JY (job delays)	/, //, =, +	
J0 (JES3 job 0)	/, //, =, +, S, SB, SE	Use the ISFBROWSE command.
LI (lines)	/, //, =, +	
MAS (members in the MAS)	/, //, =, +	
NA	/, //, =, +	
NC (network connections)	/, //, =, +	
NO (nodes)	/, //, =, +	
NS (network servers)	/, //, =, +	
O (output Queue)	/, //, =, +, Q, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
PAG	/, //, =, +	
PARM	/, //, =, +	
PR (printers)	/, //, =, +	

Table 171. Action Characters Not Supported with REXX (continued)

Panel	Not supported	Comments
PROC	/, //, =, +	
PS (z/OS Unix processes)	/, //, =, +	
PUN (punches)	/, //, =, +	
RDR (readers)	/, //, =, +	
RES (WLM Resources)	/, //, =, +	
RM (JES2 resources)	/, //, =, +	
SE (WLM scheduling environments)	/, //, =, +	
SMSG	/, //, =, +	
SMSV	/, //, =, +	
SO (spool offloaders)	/, //, =, +	
SP (spool volumes)	/, //, =, +	
SR (system requests)	/, //, =, +, R with no command	
SSI	/, //, =, +	
ST (status of all jobs)	/, //, =, +, Q, I, S, SB, SE, SJ	For browse, use SA (browse allocate) and SJA (browse allocate JCL) or the ISFBROWSE command. For more information, see "Browsing output" on page 210.
SYM	/, //, =, +	
SYS	/, //, =, +	
VMAP	/, //, =, +	

Special variables reference

Table 172 shows the special REXX variables, with the exception of the variables for printing, which are shown in "Printing output" on page 215.

Table 172. Special REXX Variables

Variable	Type	Associated Command	Description	Comments
ISFACTIONS	Input	SET ACTION	Controls the display of action characters for current panel	Action characters and optional descriptions are returned in the ISFRESP stem variables.
ISFAPPC	Input	APPC	Controls the display of APPC transactions	
ISFCMDLIM	Input	Slash (/)	Limits the number of commands that may be issued through ISFSLASH	
ISFCKLIM	Input	SET CKLIM	Sets the maximum number of instances of a check to display on the CKH panel	
ISFCMODE	Input	SET CMODE	Sets the mode for sysplex communication	

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFCOLOR	Output		Stem variable containing the color of each line. The possible values are the first letters of the colors Red, Green, Blue, White, Yellow, Turquoise, Pink.	OPERLOG only
ISFCOLS	InOut		Input: sets the list of columns to be returned Output: contains list of columns that are returned	Limits the columns (and so the variables) that are created
ISFCOLS2	InOut		Input: sets the list of columns to be returned for a secondary panel Output: contains the list of columns that are returned for a secondary panel	Limits the columns (and so the variables) that are created
ISFCOLUMNGROUPS	Output		Lists column grouping information for the columns listed in the ISFCOLS variable.	
ISFCONMOD	Input	SET CONMOD	Controls the automatic modification of the extended console name when SDSF needs to activate a console (for issuing system commands and for the ULOG) and the default console name is in use	
ISFCONS	Input	SET CONSOLE	Sets the console name	If you have disabled console modification, you should change the console name when running a REXX exec while running SDSF interactively, to avoid an activation failure because the console is already in use.
ISFDATE	Input	SET DATE	Sets the date format for input on special variables	Does not affect the date format for returned stem variables
ISFDCOLS	Output		Contains the list of delayed access columns for the panel	
ISFDCOLS2	Output		Contains the list of delayed access columns for the secondary panel	
ISFDDNAME	Output, Stem		Stem variable that contains the system-generated DDNAME of an allocated SYSOUT data set. ISFDDNAME.0 contains a count of the number of variables that follow.	Set in response to a browse allocation action character, such as SA and SJA

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFDELAY	Input	SET DELAY	Sets the response delay limit for system commands	
ISFDESCODE			Stem variable containing the descriptor codes for each line. When there are multiple descriptor codes, they are returned in a list, separated by blanks.	OPERLOG only
ISFDEST	Input	DEST	Sets the destinations to be used for filtering	Allows up to four destinations, with each being up to the maximum acceptable length for a destination
ISFDIAG	Output		Intended for use by IBM service personnel	See "Diagnosing errors in a REXX exec" on page 276.
ISFDISPLAY	Output		Contains the SET DISPLAY response for tabular panels	
ISFDISPLAYMODE	Input	SET DISPLAY	Sets the format of the ISFDISPLAY special variable	The value OFF is not valid with REXX.
ISFDSNAME	Output, Stem		Stem variable that contains the application-specified data set name (that is, the data set name as shown on the Job Data Set panel). Corresponds to the DDNAME listed in ISFDDNAME. The variables have a one-to-one correspondence with the ISFDDNAME stem variables. ISFDSNAME.0 contains a count of the number of variables that follow.	Set in response to a browse allocation action character, such as SA and SJA
ISFDUPDS	Input	SET DUPDS	Controls whether duplicate SYSOUT data sets are included when browsing or printing	
ISFFILTER	Input	FILTER	Sets filter criteria	Use column names rather than column titles. Supported with tabular panels.
ISFFILTER2	Input	FILTER	Sets filter criteria for a secondary panel	Use column names rather than column titles.
ISFFILTERMODE	Input	FILTER	Sets the relationship between filters	
ISFFILTERMODE2	Input	FILTER	Sets the relationship between filters for a secondary panel	
ISFFIND	Input	FIND	String to be found (up to 255 characters).	Use when browsing with ISFBROWSE or ISFLOG.
ISFFINDENDCOL	Input	FIND	Column in which the string specified with ISFFIND must end.	Use when browsing with ISFBROWSE or ISFLOG.

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFFINDLIM	Input	FINDLIM	Maximum number of lines to search for the string specified with ISFFIND. 1000 to 9999999.	Use when browsing with ISFBROWSE or ISFLOG.
ISFFINDSTARTCOL	Input	FIND	Column in which the string specified with ISFFIND must start.	Use when browsing with ISFBROWSE or ISFLOG.
ISFFIRSTLINEDATE	Output		Date associated with the first line that was returned.	Use when browsing the log.
ISFFIRSTLINEDSID	Output		Data set identifier of the data set associated with the first line that was returned.	Use when browsing. Not valid with OPERLOG.
ISFFIRSTLINEJOBID	Output		Job ID associated with the first line that was returned.	Use when browsing the SYSLOG.
ISFFIRSTLINERECNO	Output		Record number within the data set of the first line that was returned.	Use when browsing. Not valid with OPERLOG.
ISFFIRSTLINETIME	Output		Time associated with the first line that was returned.	Use when browsing the log.
ISFFIRSTLINETOKEN	Output		Token corresponding to the first line of the data that was returned.	Use when browsing with ISFBROWSE or ISFLOG.
ISFHIGHLIGHT	Output		Stem variable containing the highlighting of each line. The possible values are the first letters of Blink, Reverse, Underline and None.	OPERLOG only
ISFINPUT	Input	INPUT	Controls which data sets will be returned	
ISFINTENSITY	Output		Stem variable containing the intensity of each line. The possible values are the first letters of High and Low.	OPERLOG only
ISFJESNAME	Input		Sets the JES subsystem to be processed	Equivalent to the value specified on the JESNAME option of the SDSF command (JES2 only).
ISFJES3NAME	Input		Sets the JES subsystem to be processed	Equivalent to the value specified on the JES3NAME option of the SDSF command (JES3 only).
ISFLASTLINEDATE	Output		Date associated with the last line that was returned.	Use when browsing the log.
ISFLASTLINEDSID	Output		Data set identifier of the data set associated with the last line that was returned.	Use when browsing. Not valid with OPERLOG.
ISFLASTLINEJOBID	Output		Job ID associated with the last line that was returned.	Use when browsing the SYSLOG.

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFLASTLINERECNO	Output		Record number within the data set of the last line that was returned.	Use when browsing. Not valid with OPERLOG.
ISFLASTLINETIME	Output		Time associated with the last line that was returned.	Use when browsing the log.
ISFLINE	Output, Stem		Stem variable that contains the result of a browse request. ISFLINE.0 contains a count of the number of variables that follow.	Use when browsing the log or a check.
ISFLINELIM	Input		Limits the number of ISFLINE stem variables that may be created. The valid range is 0-99999999. A value of zero indicates no limit.	If the variable is not defined or null, there is no limit.
ISFLOGSTARTTIME	Input		Specifies the starting time for records returned by the ISFLOG command, in *hh*:*mm*:*ss*.*th* format. Only *hh*:*mm* is required. This is the local time corresponding to the first record to be returned.	If the variable is not defined or the value is null, the starting time is 00:00:00.00.
ISFLOGSTARTDATE	Input		Specifies the starting date for records returned by the ISFLOG command, in the current date format or either of these formats: *yyyy*.*ddd* or *yy*.*ddd*.	The default is the current day.
ISFLOGSTOPTIME	Input		Specifies the ending time for records returned by the ISFLOG command, in *hh*:*mm*:*ss*.*th* format. Only *hh*:*mm* is required. This is the local time corresponding to the last record to be returned.	If the variable is not defined or the value is null, the ending time is 23:59:59.99.
ISFLOGSTOPDATE	Input		Specifies the ending date for records returned by the ISFLOG command, in the current date format or either of these formats: *yyyy*.*ddd* or *yy*.*ddd*.	The default is the current day.
ISFLRECL	Output, Stem		Stem variable that contains the logical record length for the allocated data set and corresponds to the DDNAME listed in ISFDNAME. ISFLRECL.0 contains a count of the number of variables that follow.	

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFMSG	Output		Contains the SDSF short message, if any, set on the completion of each request	Check at the completion of each request.
ISFMSG2	Output, Stem		Stem variable that is set to any numbered messages that may have been issued in response to the request. ISFMSG2.0 contains the count of message variables that follow. The message variables contain the oldest message first.	Check at the completion of each request.
ISFNEXTLINETOKEN	Output		Token corresponding to the next unread line of the data. It is null when an end-of-file condition is encountered.	Use when browsing with ISFBROWSE or ISFLOG.
ISFOWNER	Input	OWNER	Sets the owner to be used for filtering	Use the default SDSF generic characters unless you change them with the ISFSCHARS variable.
ISFPREFIX	Input	PREFIX	Sets the job name prefix to be used for filtering	Uses the default SDSF generic characters unless you change them with the ISFSCHARS variable.
ISFPRTBLKSIZE	Input		Block size for new data sets	Use with XD and XDC action characters.
ISFPRTCCASA	Input	SET PRTCCASA	Sets how SDSF handles carriage control for printing	Use with ISFPRTRECFM.
ISFPRTCLASS	Input		SYSOUT class	Use with X, XC, XS and XSC action characters.
ISFPRTCOPIES	Input		Copies class	Use with X, XC, XS and XSC action characters.
ISFPRTDATACLAS	Input		Data class for new data sets	Use with XD and XDC action characters.
ISFPRTDDNAME	Input		DDNAME	Use with XF and XFC action characters.
ISFPRTDEST	Input		Destination	Use with X, XC, XS and XSC action characters.
ISFPRTDIRBLKS	Input		Number of directory blocks for new data sets	Use with XD and XDC action characters.
ISFPRTDISP	Input		Allocation disposition for data sets	Use with XD and XDC action characters.
ISFPRTDSNAME	Input		Data set name. If the name is not enclosed in quotation mark, the name begins with the current user ID.	Use with XD and XDC action characters.
ISFPRTFCB	Input		FCB	Use with X, XC, XS and XSC action characters.

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFPRTFORMDEF	Input		FORMDEF	Use with X, XC, XS and XSC action characters.
ISFPRTFORMS	Input		Forms	Use with X, XC, XS and XSC action characters.
ISFPRTLRECL	Input		Logical record length	Use with XD, XDC, XS and XSC action characters.
ISFPRTMEMBER	Input		Member name	Use with XD and XDC action characters.
ISFPRTMGMTCLAS	Input		Management class for new data sets	Use with XD and XDC action characters.
ISFPRTOUTDESNAME	Input		Output descriptor name to be used when creating the file	Use with X, XC, XS and XSC action characters.
ISFPRTPAGEDEF	Input		PAGEDEF	Use with X, XC, XS and XSC action characters.
ISFPRTPRIMARY	Input		Primary space allocation for new data sets	Use with XD and XDC action characters.
ISFPRTPRTMODE	Input		Process mode	Use with X, XC, XS and XSC action characters.
ISFPRTRECFM	Input		Record format	Use with XD, XDC, XS and XSC action characters.
ISFPRTSECONDARY	Input		Secondary space allocation for new data sets	Use with XD and XDC action characters.
ISFPRTSOURCEATTS	Input		Whether to use attributes of the source for printing	Use with the XS and XSC action characters.
ISFPRTSPACETYPE	Input		Space units for allocating for new data sets	Use with XD and XDC action characters.
ISFPRTSTORCLAS	Input		Storage class for new data sets	Use with XD and XDC action characters.
ISFPRTUCS	Input		UCS	Use with X, XC, XS and XSC action characters.
ISFPRTUNIT	Input		Unit for new data sets	Use with XD and XDC action characters.
ISFPRTVOLSER	Input		Volume serial for new data sets	Use with XD and XDC action characters.
ISFPRTWRITER	Input		Writer name	Use with the XS and XSC action characters.
ISFRCOLS	Output		Contains a list of columns with related fields	Related fields are sets of related columns, such as SFORMS and SFORM2-8 on the Printer panel.
ISFRCOLS2	Output		Contains a list of columns with related fields for a secondary panel	

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFRECFM	Output, Stem		Stem variable that contains the record format for the allocated data set and corresponds to the DDNAME listed in ISFDDNAME. ISFRECFM.0 contains a count of the number of variables that follow.	
ISFRESP	Output, Stem		Stem variable that contains responses from commands. ISFRESP.0 contains the count of the response variables that follow.	Commands such as WHO use the ISFRESP stem variables to provide the command response.
ISFROWS	Output		Contains the number of rows created by a request for a tabular panel	Equivalent to the zero stem for each of the column variables
ISFROWS2	Output		Contains the number of rows created by a request for a secondary panel	Equivalent to the zero stem for each of the column variables
ISFSCHARS	Input	SET SCHARS	Sets the generic and placeholder characters to be used in pattern matching	
ISFSCROLL	Input	Scrolling commands	Repositions the first line of data that is returned	Use when browsing with ISFBROWSE or ISFLOG.
ISFSCROLLTYPE	Input	Scrolling commands	Repositions the first line of data that is returned	Use with ISFSCROLL.
ISFSECTRACE	Input	SET SECTRACE	Controls tracing of SDSF security	Use with ISFMSG2 or ISFULOG.
ISFSERVER	Input		Obsolete as of z/OS V2R3. Only a single SDSF address space can be active at a time.	Corresponds to the SERVER option on the SDSF command
ISFSORT	Input	SORT	Sets the sort criteria	Use the column names instead of the column titles. To sort using the fixed field, assign the value to null.
ISFSORT2	Input	SORT	Sets the sort criteria for a secondary panel	Use the column names instead of the column titles. To sort using the fixed field, assign the value to null.
ISFSTARTLINETOKEN	Input		Starting line for the data to be returned.	Specify this value by setting the variable to either ISFFIRSTLINETOKEN or ISFNEXTLINETOKEN.
ISFSYSID	Input	SYSID	Specifies the member to be processed by the ISFLOG command	
ISFSYSNAME	Input	SYSNAME	Sets the system name to be used for filtering sysplex requests	Use the default SDSF generic characters unless you have changed them with the ISFSCHARS variable.

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFTIMEOUT	Input	SET TIMEOUT	Sets the response timeout value for sysplex requests	JES2 only
ISFTITLES	Output		Contains the column titles associated with the variables that are returned	The titles are listed in the same order as the column names in the ISFCOLS variable. Titles are enclosed by single quotation marks and separated by blanks.
ISFTITLES2	Output		Contains the column titles associated with the variables that are returned for the secondary panel	The titles are listed in the same order as the column names in the ISFCOLS2 variable. Titles are enclosed by single quotation marks and separated by blanks.
ISFTLINE	Output		Contains the title line from the tabular panel	The title line frequently contains dynamic data related to the panel being accessed. The format of the data may vary and is subject to change at any time.
ISFTRACE	Input	TRACE	Sets the trace option to be used when enabling SDSF trace	This variable is intended to be used for the trace option since two trace commands are necessary to enable tracing. However, any operand acceptable to the trace command will be accepted for this variable.
ISFTRMASK	Input	TRACE	Sets the trace mask to be used when enabling SDSF trace	This variable is intended to be used for a trace mask since two trace commands are necessary to enable tracing: one to enable trace and the other for the mask. However, any non-blank operand acceptable to the trace command will be accepted for this variable. This variable is ignored if the value is null.
ISFUCOLS	Output		Contains the list of modifiable columns for the panel	Contains the columns defined as modifiable, but you may not necessarily be authorized to modify them. Authorization is not determined until you attempt to modify a column.

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
ISFUCOLS2	Output		Contains the list of modifiable columns for the secondary panel	Contains the columns defined as modifiable, but you may not necessarily be authorized to modify them. Authorization is not determined until you attempt to modify a column.
ISFULOG	Output, Stem		Stem variable that contains the MVS system command echo and any responses generated during the session, including SAF authorization messages. The ISFULOG.0 stem variable contains a count of the variables that follow.	The ISFULOG stem variables are formatted in the same manner as the ULOG panel. Use the WAIT option on the ISFACT command to ensure that the command responses are available in the ISFULOG stem variable.
ROWACTIVE	Output, Stem		Stem variable that indicates whether the object (for example, the job or the printer) is active. The value is either Y (active) or N (inactive). ROWACTIVE.0 contains a count of the number of stem variables that follow.	
SDSFCOLLEN	Output		Contains the lengths of column data in SDSFROW	
SDSFCOLCOUNT	Output		Contains the number of values associated with the column	
SDSFCOLSTART	Output		Contains the starting positions of column data in SDSFROW	
SDSFCOLUMNGROUPS	Output		Lists column grouping information for the columns	Like ISFCOLUMNGROUPS, but affected by the PREFIX option and applies to the last secondary panel, if any
SDSFDCOLS	Output		Contains the list of delayed columns for the panel	Like ISFDCOLS, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFFILTER	Input		Sets filter criteria	Like ISFFILTER, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFFILTERMODE	Input		Sets the relationship between filters	Like ISFFILTERMODE, but affected by the PREFIX option, and applies to the last secondary panel, if any

Table 172. Special REXX Variables (continued)

Variable	Type	Associated Command	Description	Comments
SDSFICOLS	Input		Sets the list of columns to be returned	Like ISFCOLS, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFOCOLS	Output		Contains list of columns that are returned	Like ISFCOLS, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFRCOLS	Output		Contains the list of columns witih related fields for the panel	Like ISFRCOLS, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFROW	Output, Stem		Stem variable that contains the data when you use the COMPACT option when accessing a panel	
SDSFSORT	Input		Sets the sort criteria	Like ISFSORT, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFTITLES	Output		Contains the column titles associated with the variables that are returned	Like ISFTITLES, but affected by the PREFIX option, and applies to the last secondary panel, if any
SDSFUCOLS	Output		Contains the list of modifiable columns for the panel	Like ISFUCOLS, but affected by the PREFIX option, and applies to the last secondary panel, if any

Examples of REXX execs

Note: Use the RGEN X command to display a list of examples that you can select and open in ISPF Edit.

The examples in this topic contain just the SDSF-specific portions of the execs.

For information about other examples, see "Other sources of information" on page 188.

Access an SDSF panel

1. Access the ST panel, creating variables for each column, then list the column variables.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the ST panel */
Address SDSF "ISFEXEC ST"
if rc<>0 then
  Exit rc
     /* Get fixed field name from first word */
     /* of isfcols special variable          */
fixedField = word(isfcols,1)
Say "Number of rows returned:" isfrows
       /* Process all rows */
do ix=1 to isfrows
  Say "Now processing job:" value(fixedField"."ix)
         /* List all columns for row */
  do jx=1 to words(isfcols)
    col = word(isfcols,jx)
    Say "  Column" col"."ix "has the value:" value(col"."ix)
  end
end
rc=isfcalls('OFF')
```

2. Use the ISFCOLS special variable to limit the columns to Job Name and Owner, then access the ST panel. Add the following statement to the exec in example 1, prior to the ISFEXEC command.

```
ISFCOLS = 'JNAME OWNERID'
```

3. Access the ST panel using the COMPACT option, creating the SDSFROW stem variable for panel data, then list the column data.

```
/* REXX */
rc = isfcalls("ON")
Address SDSF 'ISFEXEC ST ( COMPACT PREFIX ST_'
Do ix=1 to st_sdsfrow.0
  Say '***** ROW' ix '*******'
  Do jx=1 to words(st_sdsfocols)   /* For each column */
     w1 = word(st_sdsfocols,jx)    /* Get the column name */
     w2 = word(st_sdsfcolstart,jx) /* Get the corresponding data start index */
     w3 = word(st_sdsfcollen,jx)   /* Get the corresponding data length */
     w4 = word(st_sdsfcolcount,jx) /* Get the number of related fields */
     /* Use substr function to parse the value from sdsfrow variable for row */
     Do kx=1 to w4
       Say w1 '=' substr(st_sdsfrow.ix,w2,w3)
       w2=w2+w3     /* Add the column length to get the next related value */
     End
  End
End
rc = isfcalls("OFF")
```

Cancel a job

Cancel all jobs with a certain job name using the P action character. First, access the ST panel to create the row variables for each job and the associated tokens. Loop through the rows, checking the job name for each in the JNAME variables. When the desired job name is found, use the ISFACT command to issue the P action character.

```
/* REXX */
 rc=isfcalls('ON')
       /* Set the jobname prefix and owner */
 isfprefix="**"
 isfowner="*"
     /* Access the ST panel.  A TOKEN variable is  */
     /* created for each row which is subsequently */
     /* needed to perform actions                  */
 Address SDSF "ISFEXEC ST"
 lrc=rc
 call msgrtn  /* List any error messages */
 if lrc<>0 then
   exit 20
     /* Find all jobs starting with RJONES and cancel them */
 numrows=isfrows
 do ix=1 to numrows    /* Loop for all rows returned */
  if pos("RJONES",JNAME.ix) = 1 then  /* If this is desired row */
   do
     /* Issue the P action character for the job    */
     /* identified by the token variable.  Note     */
     /* the token must be enclosed in single quotes */
     Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP P)"
     lrc=rc
     call msgrtn
     if lrc<>0 then
       exit 20
   end
end
rc=isfcalls('OFF')
Exit
     /* Subroutine to list error messages */
 msgrtn: procedure expose isfmsg isfmsg2.
      /* The isfmsg variable contains a short message */
   if isfmsg<>"" then
   Say "isfmsg is:" isfmsg
      /* The isfmsg2 stem contains additional descriptive */
      /* error messages                                   */
   do ix=1 to isfmsg2.0
   Say "isfmsg2."ix "is:" isfmsg2.ix
 end
 return
```

Cancel a set of jobs

After setting the special variables isfprefix and isfowner to limit the jobs returned, use ISFEXEC to access the ST panel. Then use ISFACT to issue the P action character for all of the jobs returned.

```
/* REXX */
rc=isfcalls('ON')
     /* Set the jobname prefix and owner */
isfprefix="ctest*"
isfowner="weber"
    /* Access the ST panel.  A TOKEN variable is  */
    /* created for each row which is subsequently */
    /* needed to perform actions                  */
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn  /* List any error messages */
if lrc<>0 then
  exit 20
/* The tokens have already been assigned to the TOKEN stem  */
/* by ISFEXEC.  TOKEN.0 has the count of tokens.  All rows  */
/* returned by ISFEXEC will be canceled with the single     */
/* invocation of ISFACT.                                    */
Address SDSF "ISFACT ST TOKEN((TOKEN.)) PARM(NP P)"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
rc=isfcalls('OFF')
Exit
       /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
       /* The isfmsg variable contains a short message */
   if isfmsg<>"" then
      Say "isfmsg is:" isfmsg
       /* The isfmsg2 stem contains additional descriptive */
       /* error messages                                   */
  do ix=1 to isfmsg2.0
    Say "isfmsg2."ix "is:" isfmsg2.ix
  end
  return
```

List job data sets

Access the O panel to create the row variables and the associated tokens. Loop through the rows, checking the job name (JNAME) variables. When the desired job name is found, use the ISFACT command to issue the ? action character. Then, loop through the rows to list the data sets.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the ST panel.  A TOKEN variable is  */
     /* created for each row which is subsequently */
     /* needed to perform actions                  */
 Address SDSF "ISFEXEC ST"
 lrc=rc
 call msgrtn  /* List any error messages */
 if lrc<>0 then
   exit 20
     /* Find a job starting with RJONES and list data sets */
 numrows=isfrows
 do ix=1 to numrows    /* Loop for all rows returned */
  if pos("RJONES",JNAME.ix) = 1 then  /* If this is desired row */
    do
      /* Issue the ? action character for the job    */
      /* identified by the token variable.  Note     */
      /* the token must be enclosed in single quotes */
      /* Use the prefix option to ensure unique      */
      /* variables are created, beginning with JDS_  */
      Address  SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP ?)",
"("prefix JDS_
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
      do jx=1 to JDS_DDNAME.0   /* loop for all rows returned */
        say "DDNAME is " JDS_DDNAME.jx
      end
      lrc=rc
      call msgrtn
       if lrc<>0 then
         exit 20
    end
 end
  rc=isfcalls('OFF')
  Exit
      /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
      /* The isfmsg variable contains a short message */
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Modify values in columns

Modify a value

Using ISFEXEC, access the O panel. Then, for jobs with a particular owner (RJONES), use ISFACT to change the class to A and forms to 1234.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the O display */
Address SDSF "ISFEXEC O"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /* Find all jobs owned by RJONES */
 do ix=1 to OWNERID.0
  if OWNERID.ix = "RJONES" then    /* If this is desired row */
    do
      /* Issue the action against the row identified by */
      /* the token.  The PARM contains the column name  */
      /* to be modified and the data to use.            */
      Address SDSF "ISFACT O TOKEN('"TOKEN.ix"')",
         "PARM(OCLASS A FORMS 1234)"
       lrc=rc
       call msgrtn
       if lrc<>0 then
        exit 20
    end
end
rc=isfcalls('OFF')
exit
     /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
     /* The isfmsg variable contains a short message */
     /*************************************************/
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Modify a set of values

When a column has a set of related values, you use a +column syntax on the ISFACT statement to show that you are supplying multiple values. This example shows the ISFACT statement to supply multiple values for SDESTN1 on the PR column. You could use it with an exec like the one in the first example. Note that if you queried the contents of the columns, SDESTN1 would contain only the first value. The second value would be in SDESTN2.

```
Address "SDSF ISFACT PR TOKEN('"TOKEN.ix"')",
  "PARM(SDESTN1 D1 +SDESTN1 D2)"
```

Modify a value for a set of jobs

After setting the special variables isfprefix and isfowner to limit the jobs returned, use ISFEXEC to access the ST panel. Then use ISFACT to change the priority of those jobs to 10.

```
/* REXX */
rc=isfcalls("on")
isfprefix="**"
isfowner="ken"
Address SDSF "ISFEXEC ST"
if rc=0 then
  do
    /* The tokens have already been assigned to the TOKEN stem  */
    /* by ISFEXEC.  TOKEN.0 has the count of tokens.  All rows  */
    /* returned by ISFEXEC will be changed with the single      */
    /* invocation of ISFACT.                                    */
    Address SDSF "ISFACT ST TOKEN((token.)) PARM(JPRIO 10)"
    /* List messages returned by ISFACT */
    do ix=1 to isfmsg2.0
      Say isfmsg2.ix
    end
    /* List returned command responses */
    do ix=1 to isfulog.0
      Say isfulog.ix
    end
  end
 rc=isfcalls("off")
```

Browse job output with EXECIO

Using ISFEXEC, access the ST panel to create the row variables for jobs. Then, for each job with a name that matches a desired string (RJONES1), use ISFACT to issue the SA action character. SA allocates the job data sets and sets the ISFDDNAME special variable to the DDNAME for each data set that has been allocated. Use the ISFDDNAME variable as input on the EXECIO command and list the contents of the data sets.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the ST display */
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /* Loop for all RJONES jobs */
do ix=1 to JNAME.0
  if JNAME.ix = "RJONES" then
    do
      /* Issue the SA action against the row to */
      /* allocate all data sets in the job.     */
      Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP SA)"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
      /* The data set name for each allocated data    */
      /* set is contained in the isfdsname stem.  The */
      /* ddname returned by allocation is contained   */
      /* in the isfddname stem.                       */
      Say "Number of data sets allocated:" value(isfdsname".0")
      /* Read the records from each data set and list them */
      do jx=1 to isfddname.0
        Say "Now reading" isfdsname.jx
        "EXECIO * DISKR" isfddname.jx "(STEM line. FINIS"
        Say "  Lines read:" line.0
        do kx = 1 to line.0
          Say "  line."kx "is:" line.kx
        end
      end
    end
 end
 rc=isfcalls('OFF')
 exit
     /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
     /* The isfmsg variable contains a short message */
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Browse job output with ISFBROWSE (basic)

Using ISFEXEC, access the ST panel to create the row variables for jobs. Then, for each job with a name that matches a desired string (RJONES), use the ISFBROWSE command to display the output for that job.

```
/* REXX */

rc=isfcalls("on")

     /*************************/
     /* Access the ST display */
     /*************************/
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /****************************/
     /* Loop for all RJONES jobs */
     /****************************/
do ix=1 to JNAME.0
  if JNAME.ix = "RJONES" then
    do
        Address SDSF "ISFBROWSE ST TOKEN('"token.ix"')"
        call msgrtn
        if rc>4 then
            exit 20
            /****************************/
            /* Loop through the lines   */
            /****************************/
        do jx=1 to isfline.0
         say isfline.jx
        end
    end
end

rc=isfcalls("off")

exit

     /*************************************/
     /* Subroutine to list error messages */
     /*************************************/
msgrtn: procedure expose isfmsg isfmsg2.
     /************************************************/
     /* The isfmsg variable contains a short message */
     /************************************************/
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /*****************************************************/
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                    */
     /*****************************************************/
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end

return
```

Browse job output with ISFBROWSE

From the ST panel, for each job with the name RJONES, use the ISFBROWSE command to display the output. Use the isflinelim variable to limit the number of REXX variables returned by SDSF. Set the isfstartlinetoken variable to the returned value isfnextlinetoken, to allow the browse to continue with the next line in the display.

```
/* REXX */
rc=isfcalls("on")
     /*************************/
     /* Access the ST display */
     /*************************/
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /****************************/
     /* Loop for all RJONES jobs */
     /****************************/
do ix=1 to JNAME.0
  if JNAME.ix = "RJONES" then
    do
      isflinelim = 500
      do until isfnextlinetoken=''
        Address SDSF "ISFBROWSE ST TOKEN('"token.ix"')"
        if rc>4 then
          do
            call msgrtn
            exit 20
          end
            /****************************/
            /* Loop through the lines   */
            /****************************/
        do jx=1 to isfline.0
         say isfline.jx
        end
            /*****************************/
            /* Set start for next browse */
            /*****************************/
        isfstartlinetoken = isfnextlinetoken
      end
    end
end
rc=isfcalls("off")
exit
     /*************************************/
     /* Subroutine to list error messages */
     /*************************************/
msgrtn: procedure expose isfmsg isfmsg2.
     /*************************************************/
     /* The isfmsg variable contains a short message */
     /*************************************************/
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /*****************************************************/
     /* The isfmsg2 stem contains additional messages    */
     /*****************************************************/
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Browse a single data set with EXECIO

Using ISFEXEC, access the ST panel to create the row variables for jobs. Then, find an active job named RJONES. Use ISFACT to issue the ? action character and list the job's data sets, adding the prefix option to ensure that you create unique variables. Find the message log data set, allocate it, and read it using EXECIO.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the ST display */
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /* Loop for all running RJONES jobs */
do ix=1 to JNAME.0
  if JNAME.ix = "RJONES" & ,
     QUEUE.ix = "EXECUTION" & ,
     ACTSYS.ix <> "" then
    do
      /* Issue the ? (JDS) action against the  */
      /* row to list the data sets in the job. */
      Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP ?)" ,
         "( prefix jds_"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
      /* Find the JESMSGLG data set and allocate it */
      /* using the SA action character              */
      do jx=1 to jds_DDNAME.0
        if jds_DDNAME.jx = "JESMSGLG" then
          do
            Address SDSF "ISFACT ST TOKEN('"jds_TOKEN.jx"')" ,
              "PARM(NP SA)"
            lrc=rc
            call msgrtn
            if lrc<>0 then
              exit 20
            /* Read the records from the data set and list them. */
            /* The ddname for each allocated data set will be in */
            /* the isfddname stem.  Since the SA action was done */
            /* from JDS, only one data set will be allocated.    */
            do kx=1 to isfddname.0
              Say "Now reading" isfdsname.kx
              "EXECIO * DISKR" isfddname.kx "(STEM line. FINIS"
              Say "  Lines read:" line.0
              do lx = 1 to line.0
                Say "  line."lx "is:" line.lx
              end
            end
          end
      end
    end
 end
 rc=isfcalls('OFF')
 exit
     /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
     /* The isfmsg variable contains a short message */
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
 do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Browse a single data set with ISFBROWSE

Using ISFEXEC, access the ST panel to create the row variables for jobs. Then, find an active job named RJONES. Use ISFACT to issue the ? action character and list the job's data sets, adding the prefix option to ensure that you create unique variables. Find the message log data set, and read it using ISFBROWSE.

```
/* REXX */

rc=isfcalls('ON')

     /*************************/
     /* Access the ST display */
     /*************************/
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20

    /************************************/
    /* Loop for all running RJONES jobs */
    /************************************/
do ix=1 to JNAME.0

  if JNAME.ix = "RJONES" & ,
     QUEUE.ix = "EXECUTION" & ,
     ACTSYS.ix <> "" then
    do
      /*****************************************/
      /* Issue the ? (JDS) action against the  */
      /* row to list the data sets in the job. */
      /*****************************************/
      Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP ?)" ,
         "( prefix jds_"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20

      /***********************************************/
      /* Find the JESMSGLG data set and read it     */
      /* using ISFBROWSE.  Use isflinelim to limit  */
      /* the number of REXX variables returned.     */
      /***********************************************/
      isflinelim=500
      do jx=1 to jds_DDNAME.0

        if jds_DDNAME.jx = "JESMSGLG" then
          do
           /*******************************************************/
           /* Read the records from the data set.                 */
           /*******************************************************/
             total_lines = 0
             do until isfnextlinetoken=''

               Address SDSF "ISFBROWSE ST TOKEN('"jds_TOKEN.jx"')"

               do kx=1 to isfline.0
                  Say "Line" total_lines+kx "is:" isfline.kx
               end

               total_lines = total_lines + isfline.0
                  /****************************/
                  /* Set start for next browse */
                  /****************************/
               isfstartlinetoken = isfnextlinetoken
```

```
            end

            Say "  Lines read:" total_lines
         end
      end
    end
end

rc=isfcalls('OFF')

exit

     /*************************************/
     /* Subroutine to list error messages */
     /*************************************/
msgrtn: procedure expose isfmsg isfmsg2.

     /************************************************/
     /* The isfmsg variable contains a short message */
     /************************************************/
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg

     /*****************************************************/
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                    */
     /*****************************************************/
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end

return
```

Browse check output from the CK panel

Using ISFEXEC, access the CK panel with the E parameter, which requests only exception checks. For the RACF_GRS_RNL check on SY1, which found an exception, use ISFACT to issue the S action to browse the check. Browsing a check causes the ISFLINE special variable stem variables to be created. List the contents of ISFLINE.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the CK panel and filter by exceptions */
Address SDSF "ISFEXEC CK E"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
found=0
     /* Find the RACF_GRS_RNL check that is running on SY1 */
do ix=1 to NAME.0 while found=0
  if NAME.ix = "RACF_GRS_RNL" & SYSNAME.ix = "SY1" then
    do
      found=1
      /* Issue the S action against the check.  This will */
      /* return the check output in the isfline stem.     */
      Address SDSF "ISFACT CK TOKEN('"TOKEN.ix"') PARM(NP S)"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
      /* List each line of check output */
      do jx=1 to isfline.0
        Say "Check line" jx":" isfline.jx
      end
    end
end
 if found=0 then
  say "Check not found"
 rc=isfcalls('OFF')
exit
     /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
     /* The isfmsg variable contains a short message */
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Browse check output from the CK panel using ISFBROWSE

Using ISFEXEC, access the CK panel with E parameter, which requests only exception checks. For the RACF_GRS_RNL check on SY1, use ISFBROWSE to browse the check. Browsing a check causes the ISFLINE special variable stem variables to be created. List the contents of ISFLINE.

```
/* REXX */
rc=isfcalls('ON')
     /*************************************************/
     /* Access the CK panel and filter by exceptions */
     /*************************************************/
Address SDSF "ISFEXEC CK E"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
found=0
     /*******************************************************/
     /* Find the RACF_GRS_RNL check that is running on SY1 */
     /*******************************************************/
do ix=1 to NAME.0 while found=0
  if NAME.ix = "RACF_GRS_RNL" & SYSNAME.ix = "SY1" then
    do
      found=1
      /*****************************************************/
      /* Issue ISFBROWSE against the check.  This will    */
      /* return the check output in the isfline stem.     */
      /*****************************************************/
      Address SDSF "ISFBROWSE CK TOKEN('"TOKEN.ix"')"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
      /***********************************/
      /* List each line of check output */
      /***********************************/
      do jx=1 to isfline.0
        Say "Check line" jx":" isfline.jx
      end
    end
 end
if found=0 then
  say "Check not found"
rc=isfcalls('OFF')
exit
     /**************************************/
     /* Subroutine to list error messages */
     /**************************************/
msgrtn: procedure expose isfmsg isfmsg2.
     /*************************************************/
     /* The isfmsg variable contains a short message */
     /*************************************************/
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /*******************************************************/
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
     /*******************************************************/
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

Browse check output from the CKH panel

Use ISFEXEC to access the CK panel, then, for a check with owner IBMSDSF, use ISFACT to display the history. From the history, for any instance with a non-zero result (an exception), use ISFACT to browse the check output.

```
/* REXX */
isfcklim = 999   /* set the limit of checks returned to 999 */
rc=isfcalls("on")
Address SDSF "ISFEXEC CK"
 do ix=1 to name.0   /* Loop for all checks */
  if pos("IBMSDSF",owner.ix) > 0 then  /* If desired  check */
    do
      Address SDSF "ISFACT CK PARM(NP L) TOKEN('"token.ix"') (PREFIX",
       " CK_)"
      do jx=1 to ck_name.0
        if ck_result.jx <> 0 then
          do
            Address SDSF "ISFACT CK PARM(NP S) TOKEN('"ck_token.jx"')",
            "(PREFIX CKH_)"
            say "Now processing check" ck_name.jx " Run " ck_count.jx
            do mx = 1 to isfline.0
              say isfline.mx
            end  /* done with history text */
          end
      end
    end
end
rc=isfcalls("off")
```

Print to SYSOUT

Using ISFEXEC, access the ST panel. Then, prior to printing, set SYSOUT-related special variables to control the attributes of the output SYSOUT file (class, copies, dest, and forms). Using ISFACT, issue the XSC action character against the desired row (row 1) to print all data sets represented by that row. XSC prints to SYSOUT and closes the print file after printing.

```
/* REXX */
rc=isfcalls('ON')
     /* Access the ST panel */
Address SDSF "ISFEXEC ST"
lrc=rc
call msgrtn
if lrc<>0 then
  exit 20
     /* Assign the special variables that correspond to */
     /* the attributes of the print file.  Unassigned   */
     /* variables will use defaults.                    */
isfprtclass="U"
isfprtcopies="2"
isfprtdest="ken"
isfprtformdef="ffff"
isfprtforms="8888"
isfprtpagedef="pppp"
isfprtprmode="pmode"
     /* Issue an XSC action against the row to be printed */
do ix=1 to JNAME.0
  if JNAME.ix = "RJONES" then
    do
      Address SDSF "ISFACT ST TOKEN('"TOKEN.ix"') PARM(NP XSC)"
      lrc=rc
      call msgrtn
      if lrc<>0 then
        exit 20
    end
end
exit
     /* Subroutine to list error messages */
msgrtn: procedure expose isfmsg isfmsg2.
     /* The isfmsg variable contains a short message */
if isfmsg<>"" then
  Say "isfmsg is:" isfmsg
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end
return
```

List action characters

Set the ISFACTIONS special variable to ON, which causes the action characters to be returned in the ISFRESP variables. Then access the ST panel, and list the valid action characters for that panel.

```
/* REXX */
rc=isfcalls('ON')
    /* Set isfactions special variable to */
    /* the equivalent of SET ACTION ON    */
isfactions="ON"
    /* Invoke the ST panel */
Address SDSF "ISFEXEC ST"
if rc<>0 then
  Exit rc
    /* List each of the valid action characters */
    /* for the panel.                           */
Say "Actions valid on the panel are:"
do ix=1 to isfresp.0
  Say " " isfresp.ix
end
rc=isfcalls('OFF')
```

Issue system commands using ISFSLASH

```
/* REXX */
rc=isfcalls('ON')
mycmd.0=3
mycmd.1="$DSPL"
mycmd.2="$D JOBQ,JM=S*"
mycmd.3="$D I"
Address SDSF ISFSLASH "("mycmd.") (WAIT)"
/* List any error messages */
  Say "isfmsg is:" isfmsg
   Say "isfmsg2.0 is:" isfmsg2.0
   if datatype(isfmsg2.0) = "NUM" then
     do ix=1 to isfmsg2.0
       Say "isfmsg2."ix "is:" isfmsg2.ix
     end
  rc=isfcalls('OFF')
```

Work with the last 24 hours of SYSLOG

Use special variables and the REXX DATE and TIME functions to specify the member to process, the date format, date range, and the limit for the number of records in the stem variable ISFLINE. Then use the ISFLOG command to read the SYSLOG to ISFLINE.

```
/* REXX */
rc=isfcalls('ON')
isfsysid="sy2"              /* Member to process */
isfdate="mmddyyyy /"        /* Date format for special variables */
currday=date("C")
currday=currday-1           /* yesterday */
isflogstartdate=date("U",currday,"C")   /* yesterday in mm/dd/yy */
isflogstarttime=time("N")   /* current time */
isflogstopdate=date("U")    /* current date in mm/dd/yy */
isflogstoptime=time("N")    /* current time */
isflinelim=10000
Address SDSF "ISFLOG READ TYPE(SYSLOG)"
do ix=1 to isfmsg2.0
  say isfmsg2.ix
end
do ix=1 to isfline.0        /* Process the returned variables */
  say isfline.ix
end
rc=isfcalls('OFF')
```

Work with the current day of the system log

Use the ISFLOG command to read the system log for the current day to the ISFLINE stem variable. This example is for the SYSLOG. To work with the OPERLOG, you would specify TYPE(OPERLOG) with the ISFLOG command.

```
/* REXX */
rc=isfcalls('ON')
isflinelim=100000
Address SDSF "ISFLOG READ TYPE(SYSLOG)"
do ix=1 to isfmsg2.0
  say isfmsg2.ix
end
do ix=1 to isfline.0    /* Process the returned variables */
  say isfline.ix
end
rc=isfcalls('OFF')
```

Find a message in the system log

Use the ISFLOG command to read the system log. Use the ISFFIND and ISFSCROLLTYPE special variables to find message $HASP100.

```
/* REXX */

rc=isfcalls('ON')
isfsysid="sy1"              /* Member to process */
isfdate="mmddyyyy /"        /* Date format for special variables */
currday=date("C")
currday=currday-2           /* yesterday */
isflogstartdate=date("U",currday,"C")   /* yesterday in mm/dd/yy */
isflogstarttime=time("N")   /* current time */
isflogstopdate=date("U")    /* current date in mm/dd/yy */
isflogstoptime=time("N")    /* current time */

isffind = '$HASP100'
isffindlim = 9999999
isfscrolltype = 'FINDNEXT'
isflinelim = 1

do until isfnextlinetoken=''
   Address SDSF "ISFLOG READ TYPE(SYSLOG)"

   lrc=rc
   if lrc>4 then
     do
       call msgrtn
       exit 20
     end
   do ix=1 to isfline.0        /* Process the returned variables */
     say isfline.ix
   end

   /*********************************************/
   /* Continue reading SYSLOG where we left off */
   /*********************************************/
   isfstartlinetoken = isfnextlinetoken
end
rc=isfcalls("off")

exit

     /*************************************/
     /* Subroutine to list error messages */
     /*************************************/
msgrtn: procedure expose isfmsg isfmsg2.

     /*************************************************/
     /* The isfmsg variable contains a short message */
     /*************************************************/
if isfmsg <> "" then
  Say "isfmsg is:" isfmsg

     /*****************************************************/
     /* The isfmsg2 stem contains additional descriptive */
     /* error messages                                   */
     /*****************************************************/
do ix=1 to isfmsg2.0
  Say "isfmsg2."ix "is:" isfmsg2.ix
end

return
```

Work with the last 24 hours of OPERLOG

This example shows reading the last 24 hours of OPERLOG. Use special variables and the REXX DATE and TIME functions to specify the member to process, the date format, date range, and the limit for the number of records in the stem variable ISFLINE. Then use the ISFLOG command to read the SYSLOG to ISFLINE. Print a subset of messages which were either highlighted, have descriptor code 12, or colored in red when they were issued.

```
/* REXX */

rc=isfcalls('ON')

isfsysid="sy2"              /* Member to process */
isfdate="mmddyyyy /"        /* Date format for special variables */
currday=date("C")
currday=currday-1           /* yesterday */
isflogstartdate=date("U",currday,"C")   /* yesterday in mm/dd/yy */
isflogstarttime=time("N")   /* current time */
isflogstopdate=date("U")    /* current date in mm/dd/yy */
isflogstoptime=time("N")    /* current time */
isflinelim=1000

do until isfnextlinetoken=''
   Address SDSF "ISFLOG READ TYPE(OPERLOG)"
   do ix=1 to isfmsg2.0
     say isfmsg2.ix
   end
   do ix=1 to isfline.0        /* Process the returned variables */
     desccodematch = 0
     do jx=1 to words(isfdesccode.ix)
        if word(isfdesccode.ix,jx)='12' then desccodematch=1
     end

     if isfhighlight.ix = 'h' |,   /* if hilighted */
        isfcolor.ix = 'r'     |,   /* if red       */
        desccodematch = 1    then
          say isfline.ix

   end
   /**********************************************/
   /* Continue reading OPERLOG where we left off */
   /**********************************************/
   isfstartlinetoken = isfnextlinetoken
end
rc=isfcalls("off")
```

Issue the WHO command

Issue the WHO command and echo back the response.

```
/* REXX */
rc=isfcalls('ON')
     /* Issue the WHO command */
Address SDSF "ISFEXEC WHO"
     /* The responses are returned in the isfresp stem */
do ix=1 to isfresp.0
  Say "isfresp."ix "is:" isfresp.ix
end
rc=isfcalls('OFF')
exit
```

Invoking an exec with the % action character

This example shows an exec that can be invoked with the % action character.

```
/* REXX */
Parse Arg pSDSFParms "(" pUserParms
Parse var pSDSFParms pCurrentPanel pPrimaryPanel pRowToken pPrimaryCmd .
Say "Current panel is:" pCurrentPanel
Say "Primary panel is:" pPrimaryPanel
primaryCmd=x2c(pPrimaryCmd) /* Restore original command and parms */
Say "Primary command is:" primaryCmd
Say "User arguments are:" pUserParms

trace o

/*-----------------------*/
/* Check for debug mode */
/*-----------------------*/
verbose=""
do ix=1 to words(pUserParms)
  if translate(word(pUserParms,ix))="DEBUG" then
    verbose="verbose"
end

/*--------------------------------------*/
/* Determine if exec invoked under SDSF */
/*--------------------------------------*/
rc=isfquery()
if rc&ltsym;&gtsym;0 then
  do
    Say "** SDSF environment does not exist, exec ending."
    Exit 20
  end

rc=isfcalls('ON')

/*-----------------------------------*/
/* Initialize SDSF special variables */
/*-----------------------------------*/
rc=isfquery("INIT")
Say "isfprefix was set to:" isfprefix
Say "isfowner  was set to:" isfowner
Say "isfdest   was set to:" isfdest

/*---------------------------------------------------------*/
/* Retrieve the column values for the row being processed */
/*---------------------------------------------------------*/
Address SDSF "ISFGET" pPrimaryPanel "TOKEN('"pRowToken"')" ,
                        " (" verbose ")"
lrc=rc

call msgrtn "ISFGET"
if lrc&ltsym;&gtsym;0 then
  Exit 20

/*-----------------------------------*/
/* List all column values for the row */
/*-----------------------------------*/
if pCurrentPanel&ltsym;&gtsym;pPrimaryPanel then  /* If on secondary */
  numrows=isfrows2
else
  numrows=isfrows

call colsrtn numrows . sdsfocols


rc=isfcalls('OFF')
```

```
Exit 0


/*******************************************************************
*
* NAME =
*   msgrtn
*
* FUNCTION =
*   List all messages in the isfmsg and isfmsg2. variables
*
* INPUT =
*   req - Request being processed
*
* EXPOSED VARIABLES =
*   isfmsg   - Short message
*   isfmsg2. - Numbered messages
*
* OUTPUT =
*   Messages written to terminal
*
*******************************************************************/
msgrtn: Procedure expose isfmsg isfmsg2.
Arg req

/*---------------------------*/
/* Process numbered messages */
/*---------------------------*/
Say "** Numbered messages associated with" req "follow ..."
do ix=1 to isfmsg2.0
  Say isfmsg2.ix
end

if isfmsg&ltsym;&gtsym;"" then    /* If short message present */
  do
    Say "** Short message associated with the request is:" isfmsg
  end

return

/*******************************************************************
*
* NAME =
*   colsrtn
*
* FUNCTION =
*   List all rows and their column values
*
* INPUT =
*   numrows - number of rows to process
*   pfx     - column variable prefix or "." if none
*   ocols   - word delimited column names to process
*
* EXPOSED VARIABLES =
*   None
*
* OUTPUT =
*   Responses written to terminal
*
*******************************************************************/
colsrtn:
Arg numrows pfx ocols
Say "Number of rows to process: " numrows

do rowix=1 to numrows  /* Loop for all rows */
  Say "Now processing row" rowix "..."
```

```
  do colix=1 to words(ocols)  /* Loop for all columns */

    if pfx="." then   /* If no prefix */
      pfx=""

    varname=pfx||word(ocols,colix)||'.'||rowix

    Say "  Column" varname '=' value(varname)
  end     /* For all columns */
end   /* For all rows */
return
```

System REXX and SDSF

If you invoke SDSF's REXX using System REXX, you need to be aware of the following:

- You must set up the ISFJESNAME variable to identify the JES2 subsystem, or the ISFJES3NAME variable to identify the JES3 subsystem.
- You must be authorized to invoke SDSF functions from REXX, as described in "Security and REXX."

For more information on System REXX (SYSREXX), see *z/OS MVS System Commands*.

Security and REXX

Using SDSF function from a REXX exec is protected just as using SDSF interactively is protected, with the same SAF resources and ISFPARMS parameters. Where special REXX variables correspond to SDSF commands, the authorization for those special variables is the same as for the associated command. In some cases, using a special variable when you are not authorized to the associated command will cause the exec to fail and the invocation of SDSF to end.

Determining which group in ISFPARMS a user is assigned to

To control which group in ISFPARMS a user is assigned to, you can use either SAF or ISFPARMS. Using SAF is the recommended approach, as it is more dynamic and allows you to assign users to the same group regardless of the environment from which they invoke SDSF (interactive, batch, REXX or Java).

The WHO command displays the group to which you are assigned.

Using SAF

To determine group membership, SDSF checks the SAF resource GROUP.*group-name.server-name* in the SDSF class. This is explained in detail in *z/OS SDSF Operation and Customization* .

Using ISFPARMS

You can use parameters in the GROUP statement or ISFGRP macro to determine group membership. These allow you to control membership based on user ID, logon procedure, terminal name, or TSO authority. See *z/OS SDSF Operation and Customization* for more information.

When you use SDSF's REXX support, special values are assigned as follows:

Logon proc name
: Set to `REXX`.

TSO authority
Set to JCL authority.

Terminal name
Derived from SAF or TSO based on the current environment.

Diagnosing errors in a REXX exec

To diagnose errors in a REXX exec:

- Examine the contents of the special variables that contain the SDSF messages, ISFMSG and ISFMSG2. ISFMSG2 is a stem variable.
- If the SDSF messages do not provide enough information to resolve the errors, try adding the VERBOSE option to the ISFEXEC and ISFACT host commands, then examining the contents of the ISFMSG2 stem variable. VERBOSE causes diagnostic messages to be added to the ISFMSG2 stem variable. The messages describe each row variable created by SDSF.
- For problems related to security, use the ISFSECTRACE special variable along with the contents of the ISFMSG2 or ISFULOG variables. For more information, refer to *z/OS SDSF Operation and Customization* .
- For problems associated with authorization to system commands, see the contents of the ISFULOG special variable, which includes SAF authorization messages. Note that SAF authorization messages will not be preceded by the system command. That is because SDSF checks the SAF resource for the command in advance and does not issue the command if the user is not authorized to it.
- If you need to call IBM for service, prepare documentation by printing the contents of these special variables:
  - ISFMSG and ISFMSG2
  - ISFDIAG. This variable is intended for use by IBM service personnel. It contains internal reason codes associated with a request.

  If IBM requests that you run a trace, include the following special variables in your exec prior to the ISFEXEC or ISFACT commands:

  ```
  isftrace="ON"
  isftrmask="ALL"
  ```

  You must be authorized to the TRACE command to use these variables.

If jobs that you expect to see are missing from a panel, or you are not authorized to function that you expect to be authorized to, the problem may be with the group in ISFPARMS that you are being assigned to. To see if you are being assigned to a different group when you use SDSF REXX than when you use SDSF interactively, issue the WHO command from a REXX exec and from the command line, and compare the values for group index. If you believe you are being assigned to the wrong group, contact your security administrator. Security and SDSF REXX is described in"Security and REXX" on page 275.

End Programming Interface Information

Chapter 6. Using SDSF with the Java programming language

Programming Interface Information

This topic provides an overview of accessing SDSF function with the Java programming language, and describes how to protect the use of SDSF through Java.

Using SDSF with Java allows you to create Java applications that exploit SDSF function. It provides a more powerful alternative to using SDSF in batch, which is described in Chapter 4, "Using SDSF in batch," on page 179, and complements SDSF's support for REXX, which is described in Chapter 5, "Using SDSF with the REXX programming language," on page 187.

You must be authorized to use SDSF from Java and you must be authorized to the SDSF functions that you invoke from Java.

System programmers should define ISFPARMS group membership to ensure that SDSF users have the proper authorization when invoking SDSF with Java. For more information, see "Security and Java" on page 287.

Where to look for information

The principal source of information for using Java with SDSF is the Javadoc supplied with SDSF. To use the Javadoc:

1. Download the isfjcallDoc.jar file, in binary, to an empty directory on your workstation. By default, this file is installed into /usr/include/java_classes/isfjcallDoc.jar.
2. If you have the Java SDK installed, use this command:

   ```
   jar -xf isfjcallDoc.jar
   ```

   Otherwise, use another utility to unzip the file.
3. Navigate to the index.html file and open it with a Web browser. Once the index.html file is displayed, links allow you to navigate to specific classes or topics, such as:

   Overview
   Display an overview to using SDSF with Java

   Package
   Display a list of classes

   Tree Display a hierarchical view of classes

   Index Display an index to the Javadoc

See the following for further information.

- Using SDSF, including descriptions of panels, action characters, overtypeable columns and commands: refer to SDSF's online help. For a brief introduction, see *z/OS SDSF Operation and Customization* .
- Columns on SDSF panels: to display a list of columns and other column attributes, use the COLSHELP command. The columns are also described in *z/OS SDSF Operation and Customization* .

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Simplifying systems management with SDSF Java

With the SDSF Java API, you can access SDSF panel data and function through a Java program.

Accessing panels and panel data: Each of the panels that you work with when using SDSF interactively (DA, O, PR and so on) has an associated Java interface that describes the returned data and the available methods. Panel data is represented by lists, with each element in a list corresponding to a row on the panel. You access column data within a list element by referencing column values by column name.

Processing system log and issuing commands: You can retrieve records from the system log (SYSLOG) and the sysplex-wide log (OPERLOG), and search for specific messages or events. You can also issue free-form system commands and receive their responses in a manner similar to using the SDSF slash (/) command.

Retrieving job output: You can retrieve records from the output data sets for a job and search for specific messages or return codes.

Taking action: You use methods to perform functions similar to action characters and overtypeable fields, for example, to cancel a job or change the print destination for job output.

Filtering data: For best performance, you should limit the data that a request returns to the minimum that is required. You do this with request settings, which allow you to specify things like:

- Filters of various kinds. The same filters that are available when you use SDSF interactively are available with request settings. They include filters by job name, owner and destination, like the PREFIX, OWNER and DEST commands, or any column, like the FILTER command.
- The list of columns to process. Specify columns by column name.
- Whether to include columns with delayed access. Because gathering the data for these columns can take a significant amount of time, they are not included unless you request them explicitly.

Viewing results: You can access messages and return codes that describe the completion of a request through a results object. SDSF messages and system messages, if any, issued in response to commands are contained in lists, with each element corresponding to a message. Return codes from SDSF functions are available both in the results object and as return codes on most methods.

Controlling access: Standard SDSF authorization checking occurs for all requests and for attempts to modify the row represented by a returned object.

Enabling your application to use SDSF Java

Your application must make the SDSF Java classes and libraries accessible to it. To do this, add the SDSF JAR file to the CLASSPATH and modify your application LIBPATH. The syntax for doing this varies based on how your application is invoked.

CLASSPATH: The SDSF JAR file (**isfjcall.jar**) must be included on the CLASSPATH. The CLASSPATH can be included on the Java command (using the -cp keyword) that invokes your application, or through the CLASSPATH

environment variable. For example, to invoke an application from the z/OS Unix System Services (z/OS Unix) shell, you might have the following statement:

```
export CLASSPATH=/usr/include/java_classes/isfjcall.jar:$CLASSPATH
```

LIBPATH: The LIBPATH references a path containing the SDSF native library. There is one library for 31-bit Java and one for 64-bit Java. You must point to the appropriate library based on the version of Java you are running.

This example assumes SDSF has been installed in the default directories and 31-bit Java is being used:

```
export LIBPATH=/usr/lib/java_runtime:$LIBPATH
```

If you are using 64-bit Java, the LIBPATH would be similar to the following:

```
export LIBPATH=/usr/lib/java_runtime64:$LIBPATH
```

Note that the LIBPATH references a path and not a specific file, whereas the CLASSPATH references a specific JAR file.

JAVA LEVEL: SDSF requires any of the following Java levels or higher:

- IBM 31-bit SDK for z/OS, Java Technology Edition, V7
- IBM 64-bit SDK for z/OS, Java Technology Edition, V7

To access Java, update your PATH environment variable to point to the level of Java you need (either 31-bit or 64-bit). Assuming Java has been installed in the default path, you would use a command similar to the following for 31-bit Java:

```
export PATH=/usr/lpp/java/J7.0/bin:$PATH
```

If you are using 64-bit Java, the PATH would be similar to the following:

```
export PATH=/usr/lpp/java/J7.0_64/bin:$PATH
```

Installation verification

You can use the ISFAbout class to verify that SDSF Java has been configured correctly. It produces a report that includes the service levels of the SDSF Java classes and other information about the runtime environment. A successful run of ISFAbout shows that your classpath and libpath are acceptable to SDSF and that SDSF can be used to retrieve data.

To run ISFAbout, use a command similar to the following:

```
java -cp classpath -jar /usr/include/java_classes/isfjcall.jar
```

Alternatively, you can invoke ISFAbout with this command:

```
java -cp classpath com.ibm.zos.sdsf.core.ISFAbout
```

ISFAbout is controlled through arguments. By default, a report is written to stdout. You can use arguments to write the report to a file. The arguments are as follows:

-f:filename
: Names a path to which the report will be written. If this is not specified, the report is written to stdout.

-append
: Indicates that the report will be appended to the file. If this is not specified, the file is replaced.

-m:modnames
Names a list of SDSF module names, separated by commas, for which module level information is desired. These names will be provided by IBM service personnel when diagnosing problems.

-help or -?
Requests the usage text to be displayed.

For example, to write a report describing the SDSF Java environment to a file called /tmp/about.txt (replacing it), you could use a command similar to the following:

```
java -cp classpath -jar /usr/include/java_classes/isfjcall.jar -f:/tmp/about.txt
```

Writing a Java application

A basic SDSF Java application might do the following:

1. Create a runner that corresponds to the panel you want to work with. A runner is a Java class that provides access to SDSF and contains a results object describing completion of the request. Runners are described in "Using runners and request settings" on page 282.
2. Create request settings and associate it with the runner to limit the results that are returned. (This is optional but recommended.) Request settings are described in "Using runners and request settings" on page 282.
3. Invoke SDSF to create a list of objects and check the results object for SDSF completion messages.
4. Process the returned object list and obtain column values for each row.
5. Invoke methods on a row object to retrieve additional information or modify the object.

You should always test the return codes from SDSF functions. These are available in the results object and as return codes on most methods. SDSF and system messages describing the completion of a request are also contained in the results object.

Example

The code snippet below requests job-related data from the Status (ST) panel. The settings object is used to restrict the returned data to a subset of jobs with the indicated job name prefix (in this case, all job names) and owner (IBMUSER).

```
// Create optional settings object
ISFRequestSettings settings = new ISFRequestSettings();
settings.addISFPrefix("**");  // Set job name prefix
settings.addISFOwner("ibmuser");  // Set job owner

// Get a runner used to access SDSF ST panel
ISFStatusRunner runner = new ISFStatusRunner(settings);

List<ISFStatus> statObjList = null;

try {
  statObjList = runner.exec();
} catch (ISFException e) {
  // Process exception here
} finally {
  // Print SDSF messages related to request
  results.printMessageList(System.err);

}// List job properties
```

```
if (statObjList != null) {
   for (ISFStatus statObj : statObjList) {
     System.out.println(statObjList.toVerboseString());
   }
}
```

Working with objects

SDSF creates objects which represent rows on the panel being requested. The column values for the row are contained in the object. To limit the size of the object, it is good practice to use the addISFCols setting to request only the columns that are needed.

SDSF action characters are implemented through methods driven on the object. Overtyping columns is implemented through the requestPropertyChange method which allows one or more column values to be changed at the same time.

Obtaining column values

Request column values by column name using the getValue method. The value can be returned as a formatted string or as a byte array for processing by the application.

Column names are different than the column titles that are displayed when you use SDSF interactively. Use the SDSF COLSHELP command to list the column names recognized by the getValue method. Column names are not case sensitive.

Some classes include convenience methods for obtaining common values such as job name. The fixed field (the first column on a panel when you use SDSF interactively) can also be obtained using the getFixedField method.

The following code snippet shows how to obtain column values using a previously created ISFStatus statObj object.

```
// Get job name and owner
String jobname = statObj.getValue("jname");
String owner = statObj.getValue("ownerid");

// Get fixed field (jobname)
String fixedField = statObj.getFixedField();
```

Actions and overtypes

The available methods for an object are defined by the interface for the object. The method names are similar to the descriptions for action characters that you can display with the SET ACTION LONG command when using SDSF interactively.

The following snippet shows how to cancel a job and list the command responses on the console.

```
// Cancel job without a dump
statObj.cancel();

// List the command responses
results.printResponseList(System.out);
```

You can change column values, in a manner similar to overtyping a column, with the requestPropertyChange method. This method takes an array of column names to change and a corresponding array of values with the new value for each column. The following code snippet shows how to change the class of a job to class A.

```
// Build column name array
String propName = { "jclass" };

// Build column value array
String propValue = { "a" };

// Change the job class
statObj.requestPropertyChange(propName, propValue);

// Print response list
results.printResponseList(System.out);
```

See “Samples” on page 284 for more examples of working with objects.

Browsing data

To browse job output from the job-related panels (DA, H and so on) you can:

- Use an external utility. With this approach, you first allocate the output data sets with the browseAllocate method.
- Use SDSF's browse. With this approach, you use the browse or browseJCL methods.

You can also browse the output of a check on the CK panel, or the system log on the SYSLOG or OPERLOG panels.

SDSF provides a variety of samples for browsing and searching data. Refer to “Samples” on page 284.

Using runners and request settings

A runner is a Java class that provides access to SDSF in a means similar to using SDSF commands to access panels. To access SDSF, you create an instance of a runner for the desired panel and then use methods in the runner class to obtain the requested data. For functions that are not panel-related, such as issuing system commands, you use a special runner.

You can optionally provide request settings that are associated with the runner. You create an instance of the ISFRequestRunner class and add the desired settings to it. The settings correspond to SDSF settings such as job name prefix, job owner, and destination name filters. In addition, you can provide sort criteria for the returned data, as well as more complex filtering using all the capabilities of the SDSF FILTER command.

The request settings object contains all possible SDSF settings, although not all of them apply to the request being processed. SDSF ignores settings that are not appropriate for the function being performed, so you do not need to remove them.

The runner provides a constructor that is used to associate the request settings with the runner. However, you can always associate a settings object after the runner is created. Note that the settings take effect the next time SDSF is invoked. You can also remove settings after the runner is created, in which case SDSF uses the default settings when processing the request.

You can use the same runner for the duration of your application and modify the request settings between each request. Note that when invoking methods on previously obtained objects (for example, invoking the cancel method on a job) SDSF uses the request settings to verify that the object still exists. As a result, use

caution when changing the request settings after a row object has been obtained since the new settings may prevent SDSF from re-deriving the object.

After a request has been processed, the runner contains a reference to the ISFRequestResults object that describes the completion of the request. This object contains SDSF messages, system responses or return codes that were generated by SDSF. You should check the return codes to ensure your request has been processed successfully.

Determining which runner to use

You select the runner based on what rows, columns or other SDSF capabilities your application needs. For example, if you need information about active jobs, you would use the ISFActiveRunner because it provides access to the SDSF DA panel.

Similarly, if you need to enter MVS system commands, you would use the ISFRunner class because it enables use of the SDSF slash command.

The relationship between the SDSF panel commands and the runners is shown in the table belowTable 173. Use this chart to determine the runner to create based on the data that is required.

Table 173. SDSF Commands and Runners

Panel or Command	Runner	Description
APF	ISFApfRunner	APF data sets
AS	ISFAsmRunner	Address space memory
CK	ISFHealthCheckRunner	Checks for IBM Health Checker for z/OS
CSR	ISFCommonStorageRemainingRunner	Common storage remaining
DA	ISFActiveRunner	Active jobs
DEV	ISFDeviceRunner	Device activity
DYNX	ISFDynxRunner	Dynamic exits
ENC	ISFEnclaveRunner	WLM enclaves
ENQ	ISFEnqueueRunner	Enqueues
FS	ISFFileSystemRunner	File systems
GT	ISFGenericTrackerRunner	Generic tracking events
H	ISFHeldOutputRunner	Output groups for jobs on held queues
I	ISFInputRunner	Jobs on the input queue or executing
INIT	ISFInitiatorRunner	JES and WLM initiators
JC	ISFJobClassRunner	JES job classes
JG	ISFJobGroupRunner	JES job groups
J0	ISFJob0Runner	JES3 Job 0
LI	ISFLineRunner	JES lines
LNK	ISFLnkLstRunner	Link list data sets
LPA	ISFLpaRunner	Link pack area data sets
MAS / JP	ISFJESPlexRunner	Members of a JES2 MAS or JES3 JESPLEX
NA	ISFNetworkActivityRunner	Network activity
NC	ISFNetworkConnectionRunner	JES network connections

Table 173. SDSF Commands and Runners (continued)

Panel or Command	Runner	Description
NO	ISFNodeRunner	JES nodes
NS	ISFNetworkServerRunner	JES network servers
O	ISFOutputRunner	Output groups for jobs on nonheld queues
PAG	ISFPageRunner	Page data sets
PARM	ISFParmlibRunner	PARMLIB data sets
PR	ISFPrinterRunner	JES printers
PROC	ISFProclibRunner	Proclib data sets
PS	ISFProcessRunner	z/OS Unix processes
PUN	ISFPunchRunner	JES punches
QUERY	ISFRunner	QUERY command
RDR	ISFReaderRunner	JES readers
RES	ISFWLMResourceRunner	WLM resources
RM	ISFResourceMonitorRunner	JES resources
SE	ISFSchedulingEnvironmentRunner	WLM scheduling environments
SSI	ISFSubSystemRunner	Subsystems
SMSG	ISFSMSGroupRunner	SMS groups
SMSV	ISFSMSVolumeRunner	SMS volumes
SO	ISFSpoolOffloadRuner	JES spool offloaders
SP	ISFSpoolRunner	JES spool volumes
SR	ISFSystemRequestRunner	z/OS system requests
ST	ISFStatusRunner	Jobs on any queue
SYS	ISFSystemRunner	System information
SYM	ISFSystemSymbolRunner	System symbols
VMAP	ISFVMapRunner	Virtual storage map
WHO	ISFRunner	WHO command (user and environment)
CFC	ISFCFConnectionRunner	CF connections
CFS	ISFCFStructureRunner	CF structures
/	ISFRunner	Slash command (system commands)

Samples

SDSF provides several sample classes to show how to use SDSF Java. The samples are installed by default under the /usr/lpp/sdsf/java/samples path. The available samples are:

Sample	Class Name	Description
Get list of jobs	ISFGetJobsSample	Access the ST panel and display the properties of selected jobs
Get job step information	ISFGetJobStepsSample	Get job step information for selected jobs
Change job priority	ISFChangeJobPrioritySample	Change the priority of jobs

Sample	Class Name	Description
Browse a check	ISFBrowseHealthCheckSample	Browse a check for IBM Health Checker for z/OS
Browse a job data set	ISFBrowseJobDataSetSample	Browse a selected job data set
Browse job output	ISFBrowseStatusJobSample	Browse a job's output
	ISFBrowseSample	Allocate the spool data sets for a job and browse them
Browse and search the system log	ISFSearchSyslogSample	Read the last day of SYSLOG and search for one or more strings
	ISFSearchSyslogSample2	Browse and search the SYSLOG, specifying the lines
	ISFSearchOperlogSample	Browse the OPERLOG
Browse	ISFLineResultsSample	Browse, use methods in ISFLineResults
Issue MVS commands	ISFSlashCommandSample	Issue one or more system commands
Issue WHO command	ISFWhoCommandSample	Issue the SDSF WHO command to obtain user attributes
List exception health checks and their output	ISFHealthCheckSample	Find all exception health checks and list the check output

Running the samples

Invoke samples using the main method. See the class descriptions in the Javadoc for any arguments that are needed. Compiled versions of the classes are available in the SDSF JAR file (**isfjcall.jar**) so you invoke the samples by adding the JAR file to your classpath.

Troubleshooting

Check the list below for help if you encounter a problem using the SDSF Java API.

Problem	Solution
Not all columns returned for an object	Some columns are classified as "delayed" access, which means the data can be expensive to gather. These columns are not returned unless the **delayed** option is added to the request settings. Use the SDSF COLSHELP command to determine which columns are delayed.
Objects not returned	Be sure the request settings reflect the correct prefix and owner for a job. SDSF uses these settings when determining which objects to return.
Object not found or row token invalid	When you invoke a method on an object, such as cancel, the object must be valid. A job may be invalid, for example, if it has been purged and thus cannot be found. Examine the SDSF messages to determine why the request failed.

Problem	Solution
Too many objects returned	It is possible to generate requests that return an excessive number of objects. This may result in failures related to insufficient storage, or performance problems. Be sure to refine the request settings to return the fewest number of objects needed to satisfy a request. You should also limit the number of column values returned for each object.
Object no longer valid	A returned object contains a row token that SDSF uses to find the object on subsequent requests. The format of the token may vary across SDSF releases or maintenance levels. Therefore, it is expected that the object will be used on the same level of SDSF that gathered it.
Request failed with a non-zero return code	Be sure to examine the SDSF messages that describe any errors found by SDSF. To do this, use the getRunner().getRequestResults().getMessageList() method.
SDSF Java classes not found	The SDSF Java classes are packaged in a JAR file that by default is installed in /usr/include/java_classes/isfjcall.jar. Be sure this JAR file is in your application CLASSPATH.
Unsatisfied link error	The SDSF Java classes require that the SDSF DLL is included in your application LIBPATH. There are two versions of the DLL, based on whether your are running the 31-bit or 64-bit version of Java. By default, the DLLs are installed in /usr/lib/java_runtime (for 31-bit Java), and /usr/lib/java_runtime64 (for 64-bit Java).
Unable to modify an object property	You may not be authorized to modify the property. Even though you may be able to overtype the column interactively, the modify fails using SDSF Java. Verify that you are in the expected SDSF group. Use the who method of ISFRunner. Note that unless you are using SAF for security, your authority level may be different when using SDSF Java than when running interactively.
Method return code 16 (not authorized to SDSF)	Verify your authorization to use SDSF. Message ISF024I may have been issued to the system console.

Tracing

If you need to report a problem to IBM, the SDSF Java classes can produce trace records using the facilities of the java.util.logging package. To enable tracing you must modify your logging.properties file or point to your own copy of the file when invoking your SDSF Java application.

If you are using file-based logging, you can add the following statement to your logging.properties file to enable SDSF Java tracing:

```
com.ibm.zos.sdsf.level = ALL
```

You can reference your modified logging.properties file using the following system property when invoking your application:

```
-Djava.util.logging.config.file=logging.properties
```

In addition, IBM service personnel may request that an SDSF trace be obtained. This causes the SDSF host code to create trace records that can be used to diagnose problems. You can enable trace by using the addISFTrace method in the ISFRequestSettings class or by using the following system property when invoking your application:

```
-Dcom.ibm.zos.sdsf.core.ISFRequestSettings.sdsfTrace=true
```

SDSF trace records are recorded to a SYSOUT file associated with the process that is running your application. The ddname for the sysout file is named ISFTRACE.

Security and Java

Using SDSF function from a Java program is protected just as using SDSF interactively, or from a REXX exec, is protected, with the same SAF resources and ISFPARMS parameters. For example, when a Java method corresponds to an SDSF action character, the authorization for that method is the same as for the action character. See "Protecting runners" and "Protecting methods" for more information.

Determining which group in ISFPARMS a user is assigned to

To control which group in ISFPARMS a user is assigned to, you can use either SAF or ISFPARMS. Using SAF is the recommended approach, as it is more dynamic and allows you to assign users to the same group regardless of the environment from which they invoke SDSF (interactive, batch, REXX or Java).

The WHO command displays the group to which you are assigned.

Using SAF

To determine group membership, SDSF checks the SAF resource GROUP.*group-name.server-name* in the SDSF class. This is explained in detail in *z/OS SDSF Operation and Customization* .

Using ISFPARMS

You can use parameters in the GROUP statement or ISFGRP macro to determine group membership. These allow you to control membership based on user ID, logon procedure, terminal name, or TSO authority. See *z/OS SDSF Operation and Customization* for more information.

When you use SDSF's Java support, this special value is assigned:

Logon proc name
: Set to `EXTERNAL`.

Protecting runners

You protect the runners in the same way that you protect the associated SDSF commands. For a discussion of how the runners relate to SDSF commands, see Table 173 on page 283. For information on protecting the runners if you are using SAF for security and using ISFPARMS for security, see *z/OS SDSF Operation and Customization* .

Protecting methods

You protect the Java methods in the same way that you protect the corresponding action characters and overtypeable fields. The relationship of methods in each class to action characters is described in the topics that follow. For information about the SAF resources that you use to protect action characters, the SAF resources that you

use to protect overtyping fields with the requestPropertyChange method, and using ISFPARMS for security, see *z/OS SDSF Operation and Customization* .

ISFApf (APF panel)

Table 174. ISFApf Methods for Action Characters

Method	Action Character	Description
display	D	Display the data sets in the APF list
displayAll	DA	Display all data sets in the APF list

ISFActive (DA panel)

Table 175. ISFActive Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C, CA, CD, CDA	Cancel a job without a dump
cancelPrint	CP, CDP	Cancel a job and delete all held data sets (JES3 only)
display	D, DL	Display job information in the log
displayDDNames	DSD	Display job information in the log with DD names of all spool data sets that contain data (JES3 only)
displayEstimates	DE	Display job information in the log with line, page, record, and card counts (JES3 only)
displayExtended	DX	Display job information in the log with extended information (JES3 only)
displaySpoolHold	DSH	Display job information in the log with DD names of spool data sets in spool hold status that contain data (JES3 only)
displaySpoolPartition	DSP	Display job information in the log with the spool partition name (JES3 only)
getJobDataSets	?	Obtain job data set information for the job
getJobDelay	JY	Obtain delay information for the job
getJobDevice	JD	Obtain device information for the job
getJobMemory	JM	Obtain memory information for the job
getJobSteps	JS	Obtain step information for the job
hold	H	Hold a job
list	L, LL	List the output status of the job in the log
listBDT	LB	List q=bdt output status of the job in the log (JES3 only)
listHold	LH	List q=hold output status of the job in the log (JES3 only)
listTCP	LT	List q=tcp output status of the job in the log (JES3 only)
print	XS, XSC	Print a job to SYSOUT
printDataset	XD, XDC	Print a job to a data set
printFile	XF, XFC	Print a job to a file

Table 175. ISFActive Methods for Action Characters (continued)

Method	Action Character	Description
purge	P, PP	Purge a job
quiesce	RQ	Quiesce a job
release	A	Release a job
restart	E, EC	Restart a job
restartStep	ES	Restart a job after the current step completes (JES2 only)
restartStepHold	ESH	Restart and hold the job the current step completes (JES2 only)
resume	R	Resume a job
spin	W	Spin a job
sysCancel	K, KD	Cancel a job using the system CANCEL command
sysForce	Z	Cancel a job using the system FORCE command
sysStop	Y	Stop a job using the system STOP command (RMF environment only)

ISFCFConnection (CFC panel)

Table 176. ISFCFConnection Methods for Action Characters

Method	Action Character	Description
display	D	Display connection information
displayAll	DA	Display information about all structures
displayStructure	DS	Display structure information

ISFCFStructure (CFS panel)

Table 177. ISFCFStructure Methods for Action Characters

Method	Action Character	Description
display	D	Display connection information
displayAll	DA	Display information about all structures

ISFDevice (DEV panel)

Table 178. ISFDevice Methods for Action Characters

Method	Action Character	Description
display	D	Display unit information
displayAlloc	DA	Display allocations for the unit
displayIPL	DI	Display IPL volume
devservPath	DSP	DevServ path
devservQDasd	DSQD	DevServ QDASD
devservQPath	DSQP	DevServ QPATH
devservSMS	DSS	DevServ SMS
varyOnline	V	Vary device online
varyOffline	VF	Vary device offline

ISFDynx (DYNX panel)

Table 179. ISFDynx Methods for Action Characters

Method	Action Character	Description
display	D	Display a dynamic exit
displayAll	DA	Display all dynamic exits
displayAllImp	DAI	Display all implicitly defined exits
displayDiag	DD	Display dynamic exit with diagnostic information
displayInstallation	DI	Display exits defined with type installation
displayNotProgram	DNP	Display exits not defined with type program
displayProgram	DP	Display exits defined with type program

ISFEnclave (ENC panel)

Table 180. ISFEnclave Methods for Action Characters

Method	Action Character	Description
quiesce	RQ	Quiesce an enclave
resume	R	Resume an enclave

ISFENQ (ENQ panel)

Table 181. ISFENQ Methods for Action Characters

Method	Action Character	Description
display	D	Display enqueue information

ISFFileSystem (FS panel)

Table 182. ISFFileSystem Methods for Action Characters

Method	Action Character	Description
display	D	Display file system
displayAll	DA	Display all file systems
displayExceptions	DE	Display file system exceptions

ISFGenericTracker (GT panel)

Table 183. ISFGenericTracker Methods for Action Characters

Method	Action Character	Description
display	D	Display tracking events by owner
displayAll	DA	Display all tracking events
displayDebug	DD	Display active debug statements
displayExclude	DE	Display exclude statements
displayHomeJob	DH	Display tracking events by home job
displayStatus	DS	Display generic tracker status

ISFHealthCheck (CK panel)

Table 184. ISFHealthCheck Methods for Action Characters

Method	Action Character	Description
activate	A	Activate a check
browse	S	Browse the check message buffer
deactivate	H	Deactivate a check
delete	P, PF	Delete a check
display	D, DL	Display a check
displayDiag	DD	Display a check with diagnostics
displayPolicies	DP, DPO	Display check policies
displayStatus	DS	Display check status
list	L	List history
print	XS, XSC	Print a check to SYSOUT
printDataset	XD, XDC	Print a check to a data set
printFile	XF, XFC	Print a check to a file
refresh	E	Refresh a check
removeCategories	U	Remove all categories for a check
run	R	Run a check

ISFHealthCheckArchive (CKH panel)

Table 185. ISFHealthCheckArchive Methods for Action Characters

Method	Action Character	Description
browse	S	Browse a check message buffer
print	XS, XSC	Print a check to SYSOUT
printDataset	XD, XDC	Print a check to a data set
printFile	XF, XFC	Print a check to a file

ISFHeldOutput (H panel)

Table 186. ISFHeldOutput Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C	Cancel an output group
getJobDataSets	?	Obtain job data set information for the job
getJobSteps	JS	Obtain step information for the job
hold	H	Hold an output group
list	L, LL	List an output group to the log
outputRelease	O, OK	Output release an output group

Table 186. ISFHeldOutput Methods for Action Characters (continued)

Method	Action Character	Description
print	XS, XSC	Print to SYSOUT
printDataset	XD, XDC	Print to a data set
printFile	XF, XFC	Print to a file
purge	P	Purge output
release	A	Release an output group

ISFInitiator (INIT panel)

Table 187. ISFInitiator Methods for Action Characters

Method	Action Character	Description
display	D, DL	Display initiator information in the log
getJobDevice	JD	Obtain device information for the job
getJobMemory	JM	Obtain memory information for the job
halt	Z	Halt an initiator
start	S	Start an initiator
stop	P	Stop an initiator

ISFInput (I panel)

Table 188. ISFInput Methods for Action Characters

Method	Action Characters	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C, CA, CD, CDA	Cancel a job
cancelPrint	CP, CDP	Cancel a job with print (JES3 only)
display	D, DL	Display job properties in the log
displayDDNames	DSD	Display DD names of spool data sets (JES3 only)
displayEstimates	DE	Display estimated lines, pages and records for a job (JES3 only)
displayExtended	DX	Display extended information for a job, such as scheduling environment and service class
displayMains	DM	Display a list of mains on which the job is eligible to run
displayMDSAlloc	DMA	Display the MDS allocation queue (JES3 only)
displayMDSError	DME	Display the MDS error queue (JES3 only)
displayMDSRestart	DMR	Display the MDS restart queue (JES3 only)
displayMDSSysSel	DMSS	Display the MDS system select queue (JES3 only)
displayMDSSysVer	DMSV	Display the MDS system verify queue (JES3 only)
displaySpoolHold	DSH	Display DD names of spool data sets in spool hold status (JES3 only)

Table 188. ISFInput Methods for Action Characters (continued)

Method	Action Characters	Description
displaySpoolPartition	DSP	Display the spool partition assigned for a job (JES3 only)
displayUnavailVol	DMU	Display unavailable volumes (JES3 only)
getJobDataSets	?	Obtain job data set information for the job
getJobDevice	JD	Obtain device information for the job
getJobMemory	JM	Obtain memory information for the job
getJobSteps	JS	Obtain step information for the job
hold	H	Hold a job
list	L, LL	List a job
listBDT	LB	List output on the BDT queue (JES3 only)
listHold	LH	List output on the hold queue (JES3 only)
listTCP	LT	List output on the TCP queue (JES3 only)
print	XS, XSC	Print a job to SYSOUT
printDataset	XD, XDC	Print a job to a data set
printFile	XF, XFC	Print a job to a file
purge	P, PP	Purge a job
release	A	Release a job
restart	E, EC	Restart a job
restartStep	ES	Restart a job after current step completes (JES2 only)
restartStepHold	ESH	Restart and hold the job after the current step completes (JES2 only)
spin	W	Spin job and message logs
start	J	Start a job

ISFJESplex (MAS and JP panels)

Table 189. ISFJESplex Methods for Action Characters

Method	Action Character	Description
display	D, DL	Display a member in the log
flush	F	Flush jobs currently running on the main (JES3 only)
monitor	J	Displays the current status of JES2 monitor subtasks
monitorDetails	JD	Display JES monitor details in the log (JES2 only)
monitorHistory	JH	Display JES2 resource history in the log
monitorStart	SM	Start the JES monitor (JES3 only)
monitorState	JJ	Display the JES2 state in the log
monitorStatus	JS	Display the current JES status in the log
monitorStop	ZM	Stop the JES monitor
reset	ER	Reset a member (JES2 only)

Table 189. ISFJESplex Methods for Action Characters (continued)

Method	Action Character	Description
restart	E	Restart a member (JES2 only)
start	S	Start a member
startScheduling	SX	Start scheduling jobs for the member
stop	P	Stop a member
stopAbend	PA	Stop a member by abending it (JES2 only)
stopQuick	PQ	Stop a member, ignoring cross system activity (JES2 only)
stopScheduling	PX	Stop scheduling jobs for the member (JES2 only)
stopTerminate	PT	Stop the member, ignoring active programs (JES2 only)
varyOffline	VF	Vary a member offline and stop scheduling jobs (JES3 only)
varyOnline	V	Vary a member online and start scheduling jobs (JES3 only)

ISFJobClass (JC panel)

Table 190. ISFJobClass Methods for Action Characters

Method	Action Character	Description
display	D	Display a job class in the log
displayClass	DC	Display the status of a job class in the log (JES3 only)
displayGroup	DG	Display the status of a group in the log (JES3 only)

ISFJobDataSet (JDS panel)

Table 191. ISFJobDataSet Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C	Cancel a data set
hold	H	Hold a data set
print	XS, XSC	Print a data set to SYSOUT
printDataset	XD, XDC	Print a data set to a data set
printFile	XF, XFC	Print a data set to a file
purge	P	Purge a data set
release	O	Release a data set
spin	W	Spin a data set

ISFJobDevice (JD panel)

Table 192. ISFJobDevice Methods for Action Characters

Method	Action Character	Description
displayAll	DA	Display all connection information in the log

Table 192. ISFJobDevice Methods for Action Characters (continued)

Method	Action Character	Description
displayAll	DAL	Display all connection information in the log, long form
displayByteInfo	DB	Display byte count information in the log
displayByteInfo	DBL	Display byte count information in the log, long form
displayCouplingFacility	DC	Display coupling facility information in the log
displayConnection	DN	Display connection in the log
displayConnection	DNL	Display connection, long form in the log
displayPolicy	DP	Display XCF policy in the log
displayRoute	DR	Display routing information in the log
displayRoute	DRD	Display routing information, detailed in the log
displayRoute	DRL	Display routing information in the log, long form
displayRoute	DRDL	Display routing information in the log, detailed, long form
displayCFStructure	DS	Display CF structure information in the log

ISFJobGroup (JG panel)

Table 193. ISFJobGroup Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browses JCL for a job
cancel	C	Cancel a job group
cancel(purgeOptions)	CP	Cancel and purge a job group
display	D	Display information in the log
displayInError	DE	Display jobs that encountered an error in the log
displayJobGroupDependencies	DP	Display job group dependencies in the log
displayJobGroupNetwork	DN	Display the job group network in the log
displayJobs	DJ	Display jobs in a group in the log
getJobDataSets	?	Obtain job data set information for the job
hold	H	Hold a job group
print	XS, XSC	Print to SYSOUT
printDataset	XD, XDC	Print to a data set
printFile	XF, XFC	Print to a file
purge	P	Purge a job group
release	O	Release a job group

ISFJobStep (JS panel)

Table 194. ISFJobStep Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets

Table 194. ISFJobStep Methods for Action Characters (continued)

Method	Action Character	Description
browseJCL	SJ	Browse JCL
print	XS, XSC	Print a data set to SYSOUT
printDataset	XD, XDC	Print a data set to a data set
printFile	XF, XFC	Print a data set to a file

ISFJob0 (J0 panel)

Table 195. ISFJob0 Methods for Action Characters

Method	Action Character	Description
browseAllocate	SA	Allocate spool data sets
cancel	C	Cancel a data set
display	D	Display a data set
getJobDataSets	?	Obtain job data set information for the job
hold	H	Hold a data set
print	XS, XSC	Print a data set to SYSOUT
printDataset	XD, XDC	Print a data set to a data set
printFile	XF, XFC	Print a data set to a file
purge	P	Purge a data set
release	O	Release a data set

ISFLine (LI panel)

Table 196. ISFLine Methods for Action Characters

Method	Action Character	Description
cancel	C	Cancel a transmitter or receiver
display	D (all forms)	Display a line, transmitter or receiver in the log
fail	L (all forms)	Fail a line (JES3 only)
interrupt	I	Interrupt a line
quiesce	Q	Quiesce a line
restart	E	Restart a line, transmitter or receiver
start	S (all forms except SN)	Start a line, transmitter or receiver
startNetworking	SN	Start communication on a line (JES2 only)
stop	P	Stop a line, transmitter or receiver
vary	V (all forms)	Vary a line online or offline (JES3 only)

ISFLnkLst (LNK panel)

Table 197. ISFLnkLst Methods for Action Characters

Method	Action Character	Description
display	D	Display the data sets in the LnkLst
displayNames	DN	Display the data set names in the LnkLst

ISFNetworkActivity (NA panel)

Table 198. ISFNetworkActivity Methods for Action Characters

Method	Action Character	Description
displayAll	DA, DAL	Display all connection information
displayByteInfo	DB, DBL	Display byte count information
displayConnection	DN, DNL	Display connection
displayRoute	DR, DRD, RDL, DRDL	Display routine information

ISFNetworkConnection (NC panel)

Table 199. ISFNetworkConnection Methods for Action Characters

Method	Action Character	Description
display	D (all forms)	Display a network connection in the log
restart	E	Restart a device (JES2 only)
start	S	Start a transmitter or receiver (JES2 only)
startNetworking	SN	Start network communication
stop	P	Stop a transmitter or receiver (JES2 only)

ISFNetworkServer (NS panel)

Table 200. ISFNetworkServer Methods for Action Characters

Method	Action Character	Description
callTCP	X	Call the network server DSP (JES3 only)
cancel	C	Cancel a network server (JES3 only)
display	D and DL	Display a network server in the log
displayAppl	DA	Display a application (JES2 only)
displaySocket	DS	Display a socket (JES2 only)
fail	L and LD	Fail a device (JES3 only)
getJobDevice	JD	Obtain device information for the job
getJobMemory	JM	Obtain memory information for the job
restart	E	Restart a device
start	S	Start a device (JES2 only)
stop	P	Stop a device (JES2 only)
sysCancel	K and KD	Cancel a network server address space
sysForce	Z	Force a network server address space
sysStop	Y	Stop the network server address space

ISFNode (NO panel)

Table 201. ISFNode Methods for Action Characters

Method	Action Character	Description
display	D	Display information about a node in the log

Table 201. ISFNode Methods for Action Characters (continued)

Method	Action Character	Description
displayConnections	DC	Display information about node connections in the log (JES2 only)
displayPaths	DP	Display information about paths in the log (JES2 only)
startNetworking	SN	Start node communication on a line (JES2 only)

ISFOutput (O panel)

Table 202. ISFOutput Methods for Action Characters

Method	Action Character	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C	Cancel an output group
getJobDataSets	?	Obtain job data set information for the job
getJobSteps	JS	Obtain step information for the job
hold	H	Hold an output group
list	L, LL	List an output group to the log
print	XS, XSC	Print an output group to SYSOUT
printDataset	XD, XDC	Print an output group to a data set
printFile	XF, XFC	Print an output group to a file
purge	P	Purge output
release	A	Release an output group

ISFPage (PAG panel)

Table 203. ISFPage Methods for Action Characters

Method	Action Character	Description
display	D	Display the page data sets
displayCommon	DC	Display common page data sets
displayPageDel	DD	Display page deletes
displayLocal	DL	Display local page data sets
displayPLPA	DP	Display PLPA page data sets
displaySCM	DS	Display storage class memory

ISFParmlib (PARM panel)

Table 204. ISFParmlib Methods for Action Characters

Method	Action Character	Description
display	D	Display the parmlib data sets
displayErrors	DE	Display errors

ISFPrinter (PR panel)

Table 205. ISFPrinter Methods for Action Characters

Method	Action Character	Description
backSpace	B (all forms)	Backspace a printer
call	X	Call a writer (JES3 only)
cancel	C (all forms)	Cancel a job on the printer or writer
display	D, DL	Display information about the printer in the log
fail	L, LD	Fail a writer (JES3 only)
forceFSS	K	Force termination of the FSS
forwardSpace	F (all forms)	Forward space a printer
halt	Z	Halt a printer
interrupt	I	Interrupt a printer
repeat	N	Repeat a printer
restart	E	Restart a printer or writer
start	S	Start a printer or writer
stop	P	Stop a printer
vary	V, VF	Vary a writer (JES3 only)

ISFProcess (PS panel)

Table 206. ISFProcess Methods for Action Characters

Method	Action Character	Description
cancel	C	Cancel a process
(display) ()	D	Display a process in the log
kill	K	Kill a process
terminate	T	Terminate a process

ISFProclib (PROC panel)

Table 207. ISFProclib Methods for Action Characters

Method	Action Character	Description
display	D	Display proclib
displayDebug	DD	Display proclib in debug mode

ISFPunch (PUN panel)

Table 208. ISFPunch Methods for Action Characters

Method	Action Character	Description
backSpace	B (all forms)	Backspace a punch
call	X (all forms)	Call a punch (JES3 only)
cancel	C (all forms)	Cancel a job on the punch
display	D, DL	Display information about the punch in the log
fail	L (all forms)	Fail the punch (JES3 only)

Table 208. ISFPunch Methods for Action Characters (continued)

Method	Action Character	Description
forwardSpace	F (all forms)	Forward space a punch
halt	Z	Halt a punch (JES2 only)
interrupt	I	Interrupt a punch (JES2 only)
repeat	N	Repeat a punch (JES2 only)
restart	E (all forms)	Restart a punch
start	S (all forms)	Start a punch
stop	P	Stop a punch (JES2 only)
vary	V (all forms)	Vary a punch online or offline (JES3 only)

ISFReader (RDR panel)

Table 209. ISFReader Methods for Action Characters

Method	Action Character	Description
call	X (all forms)	Invoke a reader (JES3 only)
cancel	C (all forms?)	Cancel a job on the reader
display	D, DL	Display information about the reader in the log
fail	L (all forms)	Fail a reader (JES3 only)
halt	Z	Halt a reader (JES2 only)
start	S (all forms)	Start a reader
stop	P	Stop a reader (JES2 only)
vary	V (all forms)	Vary a reader online or offline (JES3 only)

ISFRequestSettings

Some methods in the ISFRequestSettings class correspond to SDSF commands that require authorization. For more information, see *z/OS SDSF Operation and Customization* .

Table 210. ISFRequestSettings Methods for Commands that Require Authorization

Method	Command	Description
addISFDest	DEST	Filter by destination
addISFJESName	JESNAME parameter on SDSF command	Set the JES2 subsystem name to be processed
addISFJES3Name	JES3NAME parameter on SDSF command	Set the JES3 subsystem name to be processed
addISFOwner	OWNER	Filter by job owner
addISFPrefix	PREFIX	Filter by job name
addISFServer	SERVER parameter on SDSF command	Obsolete as of z/OS V2R3. A single SDSF address space can be active at a time.
addISFSysId	SYSID	Set the system ID used to select the system log
addISFSysName	SYSNAME	Set the system name pattern to process
addISFTrace	TRACE	Set the SDSF trace mask option

ISFResourceMonitor (RM panel)

Table 211. ISFResourceMonitor Methods for Action Characters

Method	Action Character	Description
display	D	Display information about the resource in the log

ISFSchedulingEnvironment (SE panel)

Table 212. ISFSchedulingEnvironment Methods for Action Characters

Method	Action Character	Description
display	D	Display information about the scheduling environment in the log

ISFSMSGroup (SMSG panel)

Table 213. ISFSMSGroup Methods for Action Characters

Method	Action Character	Description
display	D, DL	Display information
varyDisable	VD, VDN	Disable storage group from allocating or accessing new data sets
varyEnable	VE	Enable a storage group
varyQuiesce	VQ, VQN	Quiesce a storage group
varySpace	VS	Update space statistics for the storage group

ISFSMSVolume (SMSV panel)

Table 214. ISFSMSVolume Methods for Action Characters

Method	Action Character	Description
display	D	Display information
displayCE	DC	Display coupling facility cache structures for volume
displaySG	DS, DSL	Display volumes in storage group
varyDisable	VD, VDN	Disable storage group from allocating or accessing new data sets
varyEnable	VE	Enable a storage group
varyQuiesce	VQ, VQN	Quiesce a storage group
varySpace	VS	Update space statistics for the storage group

ISFSpool (SP panel)

Table 215. ISFSpool Methods for Action Characters

Method	Action Character	Description
display	D, DL	Display a spool volume or partition
halt	Z	Halt a spool volume, deallocating it after active work completes its current phase of processing
hold	H	Hold a spool data set and hold further scheduling for jobs with data on the data set (JES3 only)
holdCancel	HC	Hold a spool data set and cancel all jobs using the data set (JES3 only)

Table 215. ISFSpool Methods for Action Characters (continued)

Method	Action Character	Description
holdStop	HP	Hold a spool data set and hold further scheduling for jobs with data on theh data set
jobqueue	J	Display information about all jobs using the spool volume in the log
purge	P, PC	Drain a spool volume
release	A	Release a spool data set and all jobs that have data on spool for scheduling (JES3 only)
start	S	Start a spool volume, adding or reactivating it to the spool configuration
use	U	Resume allocating space on the spool data set (JES3 only)

ISFSpoolOffload (SO panel)

Table 216. ISFSpoolOffload Methods for Action Characters

Method	Action Character	Description
cancel	C	Cancel a transmitter or receiver
display	D	Display an offloader, transmitter or receiver in the log
restart	E	Restart a transmitter
start	S	Start a transmitter or receiver
startReceive	SR	Start an offloader to receive jobs or SYSOUT
startTransmit	ST	Start an offloader to transmit jobs or SYSOUT
stop	P	Drain an offloader, transmitter or receiver in the log

ISFStatus (ST panel)

Table 217. ISFStatus Methods for Action Characters

Method	Action Characters	Description
browse	S	Browse
browseAllocate	SA	Allocate spool data sets
browseJCL	SJ	Browse JCL
cancel	C, CA, CD, CDA	Cancel a job
cancelPrint	CP, CDP	Cancel a job with print (JES3 only)
display	D, DL	Display job properties in the log
displayDDNames	DSD	Display DD names of spool data sets (JES3 only)
displayEstimates	DE	Display estimated lines, pages and records for a job (JES3 only)
displayExtended	DX	Display extended information for a job, such as scheduling environment and service class
displayMains	DM	Display a list of mains on which the job is eligible to run
displayMDSAlloc	DMA	Display the MDS allocation queue (JES3 only)
displayMDSError	DME	Display the MDS error queue (JES3 only)
displayMDSRestart	DMR	Display the MDS restart queue (JES3 only)
displayMDSSysSel	DMSS	Display the MDS system select queue (JES3 only)

Table 217. ISFStatus Methods for Action Characters (continued)

Method	Action Characters	Description
displayMDSSysVer	DMSV	Display the MDS system verify queue (JES3 only)
displaySpoolHold	DSH	Display DD names of spool data sets in spool hold status (JES3 only)
displaySpoolPartition	DSP	Display spool partition assigned for the job (JES3 only)
displayUnavailVol	DMU	Display unavailable volumes (JES3 only)
getJobDataSets	?	Obtain job data set information for the job
getJobDevice	JD	Obtain device information for the job
getJobMemory	JM	Obtain memory information for the job
getJobSteps	JS	Obtain step information for the job
hold	H	Hold a job
list	L, LL	List a job
listBDT	LB	List output on the BDT queue (JES3 only)
listHold	LH	List output on the hold queue (JES3 only)
listTCP	LT	List output on the TCP queue (JES3 only)
outputRelease	O	Release held output for printing
print	XS, XSC	Print a job to SYSOUT
printDataset	XD, XDC	Print a job to a data set
printFile	XF, XFC	Print a job to a file
purge	P, PP	Purge a job
purgeOutput	PO	Purge output for a job (JES2 only)
release	A	Release a job
restart	E, EC	Restart a job
restartStep	ES	Restart a job after current step completes (JES2 only)
restartStepHold	ESH	Restart and hold the job the current step completes (JES2 only)
spin	W	Spin job and message logs
start	J	Start a job

ISFSubSystem (SSI panel)

Table 218. ISFSubSystem Methods for Action Characters

Method	Action Character	Description
activate	A	Activate subsystem
deactivate	H	Deactivate subsystem
delete	PF	Delete subsystem
display	D	Display information
displayAll	DA	Display all subsystems
displayOpdata	DO	Display operator information

ISFSystem (SYS panel)

Table 219. ISFSystem Methods for Action Characters

Method	Action Character	Description
display	D	Display IPL information
displayAll	DAA	Display all address spaces
displayAlloc	DALO	Display allocation options
displayConsoles	DC	Display consoles
displayList	DAL	Display address space list
displayLE	DCEE	Display language environment options
displayDumps	DD	Display dump information
displayEMCS	DEM	Display EMCS consoles
displayGRS	DG	Display GRS information
displayIOS	DI	Display IOS information
displayIQP	DIQP	Display IQP options
displayLLA	DLL	Display LLA information
displayLogger	DLO	Display system logger information
displayConfig	DM	Display configuration information
displayLogrec	DLR	Display LOGREC information
displayMPF	DMP	Display MPF information
displayOMVS	DO	Display OMVS options
displayPCIEDev	DPCD	Display PCIE device information
displayPCIE	DPCI	Display PCIE options
displayProd	DP	Display product registration
displaySMF	DSF	Display SMF information
displaySlip	DSL	Display Slip information
displaySMS	DSM	Display SMS information
displaySymbols	DSY	Display symbol information
displayTime	DT	Display time information
displayTrace	DTR	Display trace information
displayTSOptions	DTO	Display TSO options
displayTSUsers	DTS	Display TSO address spaces
displayWLM	DW	Display WLM information
displaySysplex	DX	Display sysplex information

ISFSystemSymbol (SYM panel)

Table 220. ISFSystemSymbol Methods for Action Characters

Method	Action Character	Description
display	D	Display symbol information

ISFSystemRequest (SR panel)

Table 221. ISFSystemRequest Methods for Action Characters

Method	Action Character	Description
autoReplyIgnore	AI	Ignore auto reply text
display	D	Display a message in the log
remove	C	Remove an action message
reply	R	Reply to a message

ISFWLMResource (RES panel)

Table 222. ISFWLMResource Methods for Action Characters

Method	Action Character	Description
display	D	Display information about the resource in the log

End Programming Interface Information

Appendix. Accessibility

Accessible publications for this product are offered through IBM Knowledge Center (www.ibm.com/support/knowledgecenter/SSLTBW/welcome).

If you experience difficulty with the accessibility of any z/OS information, send a detailed email message to mhvrcfs@us.ibm.com.

Accessibility features

Accessibility features help users who have physical disabilities such as restricted mobility or limited vision use software products successfully. The accessibility features in z/OS can help users do the following tasks:

- Run assistive technology such as screen readers and screen magnifier software.
- Operate specific or equivalent features by using the keyboard.
- Customize display attributes such as color, contrast, and font size.

Consult assistive technologies

Assistive technology products such as screen readers function with the user interfaces found in z/OS. Consult the product information for the specific assistive technology product that is used to access z/OS interfaces.

Keyboard navigation of the user interface

You can access z/OS user interfaces with TSO/E or ISPF. The following information describes how to use TSO/E and ISPF, including the use of keyboard shortcuts and function keys (PF keys). Each guide includes the default settings for the PF keys.

- *z/OS TSO/E Primer*
- *z/OS TSO/E User's Guide*
- *z/OS ISPF User's Guide Vol I*

Dotted decimal syntax diagrams

Syntax diagrams are provided in dotted decimal format for users who access IBM Knowledge Center with a screen reader. In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), they can appear on the same line because they are considered a single compound syntax element.

Each line starts with a dotted decimal number; for example, `3` or `3.1` or `3.1.1`. To hear these numbers correctly, make sure that the screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number `3.1`) are mutually exclusive alternatives. If you hear the lines `3.1 USERID` and `3.1 SYSTEMID`, your syntax can include either `USERID` or `SYSTEMID`, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax

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elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the backslash (\) character. The * symbol is placed next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element `*FILE` with dotted decimal number 3 is given the format `3 \* FILE`. Format `3* FILE` indicates that syntax element `FILE` repeats. Format `3* \* FILE` indicates that syntax element `* FILE` repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol to provide information about the syntax elements. For example, the lines `5.1*, 5.1 LASTRUN, and 5.1 DELETE` mean that if you use more than one of the `LASTRUN` and `DELETE` syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, it indicates a reference that is defined elsewhere. The string that follows the % symbol is the name of a syntax fragment rather than a literal. For example, the line `2.1 %OP1` means that you must refer to separate syntax fragment OP1.

The following symbols are used next to the dotted decimal numbers.

? indicates an optional syntax element
The question mark (?) symbol indicates an optional syntax element. A dotted decimal number followed by the question mark symbol (?) indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element, (for example `5? NOTIFY`). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines `5 ?, 5 NOTIFY`, and `5 UPDATE`, you know that the syntax elements `NOTIFY` and `UPDATE` are optional. That is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.

! indicates a default syntax element
The exclamation mark (!) symbol indicates a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicate that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the dotted decimal number can specify the ! symbol. For example, if you hear the lines `2? FILE, 2.1! (KEEP), and 2.1 (DELETE)`, you know that `(KEEP)` is the default option for the `FILE` keyword. In the example, if you include the `FILE` keyword, but do not specify an option, the default option `KEEP` is applied. A default option also applies to the next higher dotted decimal number. In this example, if the `FILE` keyword is omitted, the default `FILE(KEEP)` is used. However, if you hear the lines `2? FILE, 2.1, 2.1.1! (KEEP), and 2.1.1 (DELETE)`, the default option `KEEP` applies only to the next higher dotted

decimal number, `2.1` (which does not have an associated keyword), and does not apply to `2? FILE`. Nothing is used if the keyword `FILE` is omitted.

`* indicates an optional syntax element that is repeatable`

The asterisk or glyph (*) symbol indicates a syntax element that can be repeated zero or more times. A dotted decimal number followed by the * symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be repeated. For example, if you hear the line `5.1* data area`, you know that you can include one data area, more than one data area, or no data area. If you hear the lines `3* , 3 HOST, 3 STATE`, you know that you can include `HOST, STATE`, both together, or nothing.

Notes:

1. If a dotted decimal number has an asterisk (*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you can write `HOST STATE`, but you cannot write `HOST HOST`.
3. The `*` symbol is equivalent to a loopback line in a railroad syntax diagram.

`+ indicates a syntax element that must be included`

The plus (+) symbol indicates a syntax element that must be included at least once. A dotted decimal number followed by the + symbol indicates that the syntax element must be included one or more times. That is, it must be included at least once and can be repeated. For example, if you hear the line `6.1+ data area`, you must include at least one data area. If you hear the lines `2+, 2 HOST, and 2 STATE`, you know that you must include `HOST, STATE,` or both. Similar to the `*` symbol, the + symbol can repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the `*` symbol, is equivalent to a loopback line in a railroad syntax diagram.

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The minimum supported hardware for z/OS releases identified in z/OS announcements can subsequently change when service for particular servers or devices is withdrawn. Likewise, the levels of other software products supported on a particular release of z/OS are subject to the service support lifecycle of those products. Therefore, z/OS and its product publications (for example, panels, samples, messages, and product documentation) can include references to hardware and software that is no longer supported.

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