

TURNING ON THE POWER OF DATA MANAGEMENT WINDOWS

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Abstract

The data management option, selected from the "Globals" pull down menu, offers SAS® users the ability to manage their data from within the SAS System. SAS objects and other non SAS files can be accessed, changed and managed. The novice user has the ability, through an easy to use set of windows, to perform data management functions. The SAS power user, such as a programmer or data manager, has a set of tools for increased productivity. Additional options are available in the ACCESS window and in SAS/ASSIST.® This tutorial will explore the many options of these powerful windows.

Introduction

When using any of the data management facilities within the SAS system it is assumed that the user is knowledgeable about the file structure of the operating system in which he/she is working. The data management facilities that are discussed in this tutorial start with an action bar selection in any of the display manager windows. Pulling down the Globals will uncover the global selections that are available throughout the SAS window environment. The availability of Globals in so many of the windows add to the flexibility and power of the SAS system. Three of the selections that have extensive data management capabilities are Data management, ACCESS, and SAS/ASSIST. This tutorial will instruct on many of the functions available to manage SAS and non-SAS data.

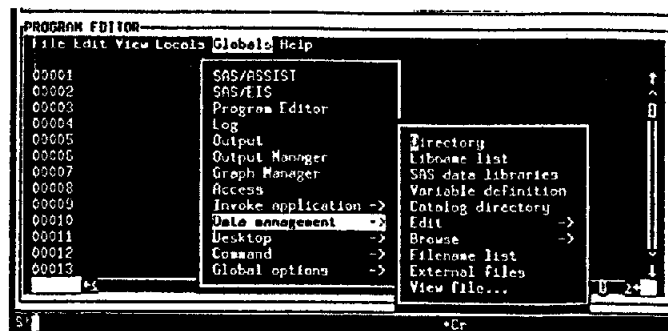
The Data management selection offers the following selections in a pull down menu as pictured in Figure 1. An attempt will be made to take the confusion out of the many selections available.

The use of the ACCESS window puts many of the data management capabilities of SAS libraries in one place. This window also has the option to interface with databases, a feature that is not the focus of this paper. Within the ACCESS window many utilities can be performed easily on SAS libraries. The management tasks performed depends on the member type. Basic functions are rename, delete, list and copy.

The SAS/ASSIST product has an easy to use and understand interface for all the previously mentioned windows and some additional features. For the ASSIST user, a description of the menu choices to do all the above tasks will be given.

Globals → Data management

Figure 1



Methods

Directory (DIR.)

This window display is initialized to display all "WORK" SAS Library entries and "ALL" library types. When management of "WORK" entry is needed, the use of the DIR window is a fast way to do the task. If other libraries are going to be managed, the name of the SAS libref that has been allocated to the SAS session is entered in the libref entry field. To limit the number of entries viewed in the window enter the type of library entry in the type field. In addition to ALL, valid types are DATA, CATALOG, ACCESS and VIEW.

A selection field is available in front of each of the library entries. The management functions that can be done here are delete(D) and rename(R). The delete is a two step delete with a verify(V) required on the delete or a cancel(C). The select(S) will open the VAR window when a type DATA is selected and a CATALOG window when a type CATALOG is selected. For type DATA, there are two other selections available. Edit and Browse in table or observation mode use SAS/FSP® for display. A pull down menu is activated using a (?) in the selection field. The Edit and Browse selections have an additional pull down menu for table or observation mode. The commands can be entered directly using "E" (edit) or "B" (browse) in the selection field for observation mode and "T" (edit) or "L" (list) for table mode.

Libname list (LIB, LIBNAME)

This window will list all libraries allocated to the current SAS system. Other important information displayed is the engine and the host path name. There is a selection field in front of each of the libraries. A question mark (?) in the selection field issues a pull down for select(S). When the select is issued the DIR window is displayed pre-filled with the selected library and type of member set to ALL. This is a faster selection path to the DIR window for libraries other than work.

SAS Data libraries

A secondary menu offers the ability to assign, list and clear a SAS library for the current SAS session.

SAS data libraries → Assign a libref

This set of easy to use windows make a simple job of allocating a SAS library. The libref name is the shorthand name used in association with the SAS library. If the libref name has already been used a warning message is given to indicate the libref name has been re-assigned. The name must follow standard SAS naming conventions. The SAS library must be allocated to the SAS session to use it and it is removed when the SAS session is closed or a clear is issued. The SAS library name must also be entered and it is the name known by the operating system. In some systems if it does not exist it will be allocated. If the push button HOST OPTIONS is on this window you can specify the SAS/SHARE® server and other options specific to the operating system. ENGINE is the other push button on this window. SAS usually selects the appropriate engine but for special needs the option is available. Some examples of frequently used selections are: XPORT, V5, and REMOTE (SAS Share).

SAS data libraries → List current libref

This window lists SAS libraries allocated to the current session. Libref name, host path name and engine are the information displayed in this window. The window has no other functions available.

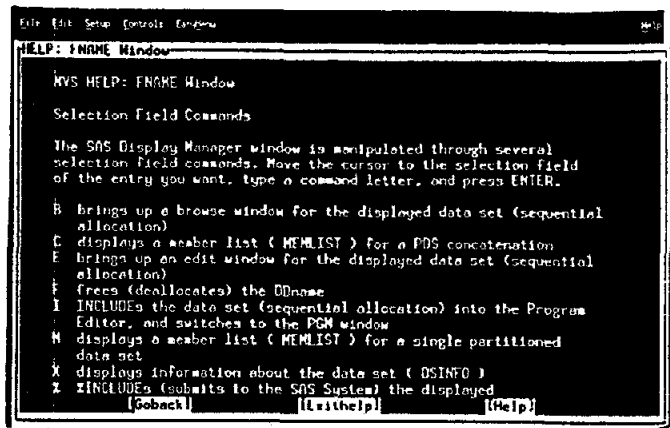
SAS data libraries → Clear a libref

A list of the SAS libraries in a selection list allows for a library to be cleared or removed from the session.

SAS data libraries → Data set information (MVS operating system)

Two options are available that permit a look at the attributes of a data set in the system catalog and open a FNAME window. The FNAME window permits many selections to be made as shown on Figure 2.

Figure 2



Variable definition (VAR)

This window is initialized to the last data set used in the SAS session or the data set selected from the DIR window. If no data set is initialized, the window will be empty. The libref and data set name when entered will produce a list of the data set's variables. Additionally the variable type, length, format, informat, key and label are displayed. A prompt (?) will reveal the menu selections of rename and cancel. The rename will allow changes to variable name, informat, format and label.

Edit

The selection of edit allows for editing a SAS data set in table or observation mode. A customized screen or formula can be filled in a text entry field available for this purpose. For the table edit selection, member or record level editing may be set. SAS/FSP is the product accessed by this selection.

Browse

The option to browse a data set functions the same as edit, except no editing is permitted.

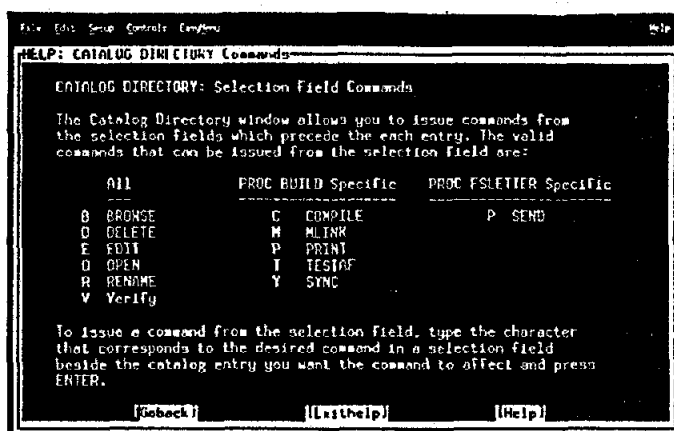
Catalog directory (CAT CATALOG)

Catalogs can be managed within the window. The libref name and catalog name must be entered or initialized from a previous window. A display of the members in the catalog can then be viewed along with their type and description. The tasks available here are delete, rename/label, and copy. Other selected commands are available depending on the catalog type. Some member types can be browsed in this window. The copy command allows copying within the selected catalog. Options permitted are copying a member to a new name or copying a member of another catalog into the current catalog. This command can be issued from "File" on the action bar using "open" and "copy an object".

The delete is a two step delete, when issued on the selection field. The menu bar also can be used for delete but it is not a confirmed delete.

When the edit command is issued for a catalog entry the window appropriate for the entry will be opened. For example: Proc Build can be accessed when the edit command is issued for SAS/AF® type entries. All functionality of Proc Build is available on the edited members. The SAS/AF product is used to support this function. Additional selection field options are described in the help windows (Figure 3). Management of catalogs is an effortless task using the Catalog selection.

Figure 3



Filename list (FILENAME)

A fast way to see a list of the fileref's assigned to this SAS session. The fileref name is listed and the entire host file name that you assigned.

External Files

This option contains four options on the sub menu: assign a fileref, list current librefs, clear a fileref, browse an external file. With these options, a user has the ability to manage non-SAS data in one place.

External Files → Assign a fileref.

Assigning a non-SAS file to a session can be easily done in this window. It is similar to allocating a libref for a SAS file but a fileref is for a non SAS file. The fileref name is the name you can then refer to during the SAS session. Several examples of uses are: data in a file you wish to read into a SAS data set with an infile and input statement, or a program you wish to include. The entry in the field "Name of non-SAS file" is very much operating system specific. A specific file can be named or a directory. SAS statements using a fileref are: infile, file and include. You can re-assign the same fileref to a new name and it will give you a warning that the fileref is reassigned.

External Files → List current librefs

This option produces the same results as the filename list.

External Files → Clear a fileref

This selection will present a list of currently assign filerefs and a selection can be made to clear the file from reference in the SAS session.

External files → Browse an external file

This window is very useful for looking at non SAS files. If the file has been allocated to the SAS session then a fileref can be entered in the "Object to browse" field. You can also enter a complete file name to browse. If the name points to a directory, a directory list will be displayed and the member can be selected to browse. SAS/FSP FSLIST is the display. From the action bar menu, a selection can be made to open another file.

External files → Data set information (MVS operating system)

In this very simple window, a view of an external file can be done by entering the filename within quotes.

View a file.

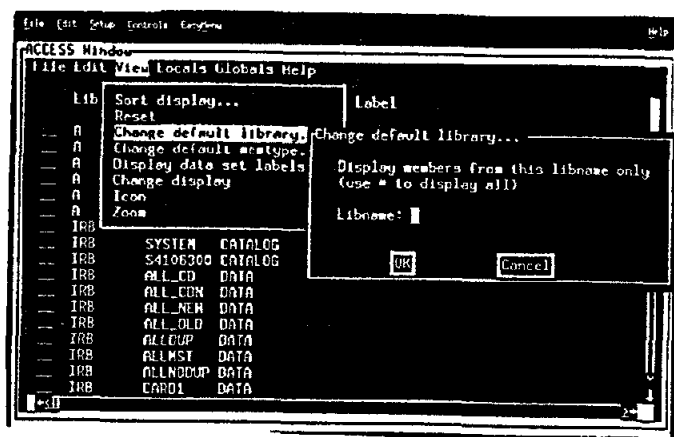
On some operating systems it performs the same function as the Browse an external file function. Additional options are available on MVS.

Globals → ACCESS

The ACCESS window puts all of the SAS data management functions for SAS libraries within one window selection. More of the functionality has been brought to a higher level window. Using ACCESS is faster as there are not as many windows to open. The window, when displayed, is initialized with all SAS libraries allocated to the current SAS session. Standard functions of delete, rename/label, copy, and list are all possible.

With the use of the action bar selections additional options can be easily performed. Using the "VIEW" selection, the pull down reveals options to change the display of the window. Facilities as shown in Figure 4 are useful if the member list is long. Sorting by Libname, name and memtype groups display for easier access. The window is initially displayed in libname order. Display can be limited to only selected member types through the "Change default memtype" or only a selected library using "Change default library".

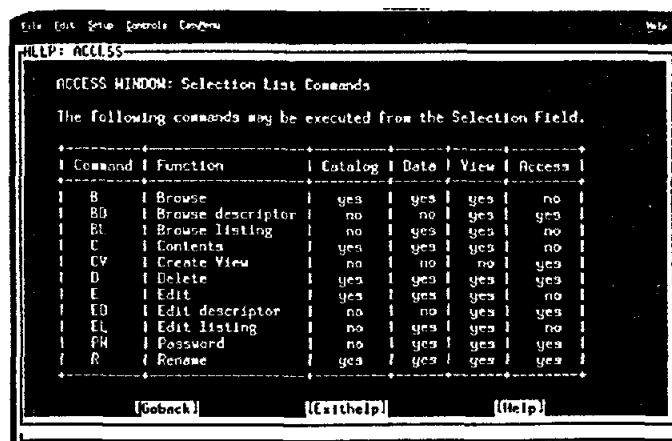
Figure 4



A simple to use series of windows permits copying individual members, whole catalogs or whole libraries from the "File" on the action bar menu and a selection of "Open". "Copy an object" will open another pull down selection list with the copy functions.

The selection field commands (Figure 5) offer some of the same functions available in the Data Management section. Some additional features such as adding, reviewing and changing passwords are possible through the "PW" selection in the selection field.

Figure 5



A "C" in the selection field opens the contents window in browse mode for SAS data views and edit mode for a member type of data. The "Data set attributes" push-button displays essential information about the

data set both current and historic. The display is more functional than the "VAR" window but the same options are available for the member type of data. The display of the variable list can be altered through the "View" on the action bar menu and the "Sort by name" option. In edit mode, additional features of creating an index on the data set and reviewing the index can be accomplished. The SAS/ACCESS® product can be invoked through this window.

Globals → SAS/ASSIST

The SAS/ASSIST application is a productivity tool for novice and advanced SAS users. The data management windows described in this tutorial are all accessible in SAS/ASSIST. The Primary Menu has an Index selection that can be used to search for the task.

Generally, the SAS data libraries and External Files are under the "Setup" selection. Additional selections assign map libraries and format libraries. Data sets can be sorted here along with viewing the window with similar options as the CATALOG window in a browse mode. Forms can be managed here, function keys maintained, and paths for results are some of the many tasks available in the "Setup" selection list. Using the program editor selection permits the user to go to Globals for any of the Global options.

The DATA MANAGEMENT selection on the Primary menu offers more capabilities. In the UTILITIES offering, the Contents window is available. Manipulating transport files is easily done with a graphical interface. Also available is the ability to transpose a SAS data set.

The DBMS menu selection is the ASSIST entry into the ACCESS window. See above section for available options.

Helpful Hints

- Use a ? in selection fields to pull down a menu of possible selections.
- It is faster and more accurate to use selection fields to initialize the next panel than to type library or member names.
- Understand the difference between Libref (SAS file organization) and fileref (non-SAS - all others).
- Help is everywhere. Use the Help push-button or Help on the action bar menu (extended Help).
- For experienced SAS users - do not be concerned about the code or procedure being executed just accept that it works.
- Learn how to print using "File" and "Print" on the pull down to increase your capabilities.
- Use "Find" under "View" on the action bar for a faster path on a long list.

Conclusion

This tutorial is presented from the perspective of the author. There are many options and tasks that can be performed but not discussed here. Therefore, this is not an exhaustive dissertation on the subject, just what the author has found to be the most useful. The mostly graphical and helpful data management tasks are simply accomplished in the global options discussed here. To explore other possibilities select an option or find it in the index of SAS/ASSIST. Use the help supplied for the window. This method is much easier than trying to find the information in the two feet of manuals available for the complete SAS system.

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