

# PDS Members

In the PDS members maintenance facility, you can list, edit, delete, copy, rename and browse PDS members.

- If the member consists of job control, you can use the Natural ISPF Macro facility and all types of macro statements. Macro expansion is performed at submission time (see the SUBMIT command below).  
When creating a new member, you can also use the Edit macro feature to automatically create text lines which can then be modified. For details on the Macro facility, see the section Macro Facility in the Natural ISPF Programmer's Guide).
- If the member is a load module, its attributes, applied zaps and the external references to it can be displayed. You can also generate a list of all the load module's CSECTs. Note that CSECTs are a separate object type in Natural ISPF, see the subsection Load Modules and CSECTs.

## ▶ To enter the PDS object maintenance facility

- Select the PDS option from the Natural ISPF Main Menu.

The PDS Objects Entry Panel appears:

```

-----PDS-OBJECTS---ENTRY-PANEL-----
COMMAND ===>

Data Set Name ===> MBE.COMN.SOURCE
Member         ===>
Volume         ===>                (If not catalogued)
Password       ===>                (If password protected)
Scan for       ===>
Edit macro     ===>
Node           ===>

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Split End  Suspe Rfind Rchan Up      Down Swap Left Right Curso

```

Specify the PDS object you wish to maintain in the input fields and enter a function command in the command line.  
Meaning of the input fields:

Field	Meaning
Data Set Name	Displays the PDS name last used. You can select any other PDS by overtyping this name, or generate a list of datasets for a specified volume in the same way as described for the Member field below. See also the subsection Support of HSM.
Member	Name of required member. Leave blank or use a combination of strings and wildcards (* and _) to generate a list of member names in the specified library. See the subsection Selection Windows and Wildcards in Section Command Logic. See also the subsection Support of HSM.
Volume	Volume serial number. Required only for uncataloged datasets. Enter the wildcard * to list volume numbers or generate a list of volumes as described for the Member field above.
Password	System password if file is protected. Must be specified irrespective of read or write protection.
Scan for	Lists members which contain the string specified here. When you select a member from this list for EDIT or BROWSE, the cursor is placed on the first occurrence of this string in the member. Issue the RFIND command to find the next occurrence.
Edit macro	Name of macro object to be used as a model for the member. The specified macro is executed and loaded into the Editor. See Section Macro Facility in the Natural ISPF Programmer's Guide for details. When used with LIST, the list contains all members according to the name criteria that use the specified macro as a model.
Node	Select Entire System Server node. Enter a question mark ? and press Enter to open a window in which all node numbers are scrolled with an ACTIVE or INACTIVE status report. If you do not specify a node, the default node is assumed.

## Support of HSM - Hierarchical Storage Manager

Your Natural ISPF system may be configured to prompt every time you are trying to access a dataset or a member of a dataset which has been migrated by HSM to secondary storage. The prompt window allows you to continue working or to abort the current function and avoid the overhead of recalling a dataset which you do not want to use.

Usually your system is set up to wait until a dataset recall has terminated, but it can also perform a asynchronous recall in batch using a Natural ISPF exit. If you have questions about your configuration, contact your administrator.

## Function Commands

The available function commands for PDS members are as follows (but see also the subsection Automatic Transfer of Commands in Section Useful Features):

Command	Parameter Syntax
BROWSE	dataset(member) VOL=n PASSWORD=p NODE=id
COPY	dataset(member) VOL=n PASSWORD=p NODE=id, object-type object-parms, REP
DELETE	dataset(member) VOL=n PASSWORD=p NODE=id
DOWNLOAD	dataset(member) VOL=n PASSWORD=p NODE=id
EDIT	dataset(member) VOL=n PASSWORD=p MACRO=name NODE=id
EXPORT	dataset(member) VOL=n PASSWORD=p NODE=id, target-environment
EXTERNS	dataset(member) VOL=n PASSWORD=p NODE=id
INFO	dataset(member) VOL=n PASSWORD=p NODE=id
HOLD	dataset(member) VOL=n PASSWORD=p NODE=id
LIST	dataset(*_*) VOL=n PASSWORD=p SC=string MACRO=name NODE=id
PLAY	dataset(member) VOL=n PASSWORD=p NODE=id
PRINT	dataset(member) VOL=n PASSWORD=p NODE=id, printer-name CC
RENAME	dataset(member) VOL=n PASSWORD=p NODE=id, new-name
SUBMIT	dataset(member) VOL=n PASSWORD=p NODE=id1, TARGET=id2
UPLOAD	dataset(member) VOL=n PASSWORD=p NODE=id
ZAPS	dataset(member) VOL=n PASSWORD=p NODE=id

The **dataset** parameter is optional, Natural ISPF then takes the current dataset name, or if you issue a command from outside the PDS facility, from your profile.

A full description of these commands is contained in the section Command Reference. The object parameters correspond to the input fields on the PDS Objects Entry Panel.

**Note:**

If you issue any of the above function commands from outside the PDS facility, you must specify the object-type parameter P before the object parameters.

For more information on the EXTERNS and ZAPS commands, see the subsection Load Modules and CSECTS.

**Example: INFORMATION**

The following display is the result of the command:

```
INFO P FHI . SOURCE ( E2AIBM )
```

```

----- PDS MEMBER INFORMATION -----
COMMAND ==>>

Data set name : FHI.SOURCE

Volume Serial : ADA004
Device Type   : 3380
Organization  : PO
Record format : FB
Record length : 80
Block size    : 6000

Member       : E2AIBM3           Alias of: E2AIBM

Version      : 01.21             Maximum no. of versions : 20_
Created      : 2001-01-20        Actual no. of versions  :
Modified     : 2001-01-26 12:10
User        : FHI
Initial     : 36
Size        : 36

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Split End  Suspe Rfind Rchan Up    Down Swap Left  Right Curso

```

The information fields in this display generally speak for themselves.

**Note:**

- If the member is an alias for another PDS member, "Alias of" contains the name of the original member. For example E2AIBM3 is an alias of E2AIBM.
- You can modify the "Maximum number of versions" field here to override the default value set by the system administrator.

## Listing Volumes, Datasets, Members and CSECTS

The following items can be listed using the LIST command and selection criteria in the parameter input fields of the PDS Objects Entry Panel:

- Volumes according to prefix;
- Dataset names according to prefix;
- All datasets on a specified volume (VTOC); you can optionally narrow the list down by specifying a prefix, suffix or a string for dataset names using the wildcard \* (see the subsection Selection Windows and Wildcards);
- Members in a partitioned dataset (PDS); you can optionally specify a prefix for member names using wildcards (\* and \_);
- Members in a partitioned dataset (PDS) according to prefix or wildcard specification, but whose data contain a certain character string (Scan for option);
- Previous versions of the specified member;
- CSECTS, if the specified member is a load module.

If you wish to generate lists using function command syntax in the command line of any screen, you must address the following object types:

Type of List	Object-Type
List of volumes	VOL
List of datasets	D
List of members, versions or CSECTs	P

This section deals with maintenance of PDS members only. For details on dataset handling and volumes, see the subsection OS/390 Dataset Maintenance. For details on previous versions, see the subsection Versioning in the section Useful Features. For details on CSECTs, see the subsection Load Modules and CSECTs.

Below are some examples of the LIST function command using full command syntax.

**Example LIST (1)**

The following figure shows an example of a list of all members in a PDS library generated using the command:

```

LIST P FHI.SOURCE(*)
-----
LIST-PDS:FHI.SOURCE(*) ----- Row 0 of 51 - Columns 010 076
COMMAND====>                                SCROLL====> CSR
MEMBER          VV.MM  CREATED  MODIFIED TIME  SIZE  INIT  TID  ID
** ***** top of list *****
ACB
ADACDEP          01.01  19940921 19940921 11:39   148   148   FHI
A2EIBM           01.38  19940120 19940126 11:57    36    36   FHI
A2ESIE           01.57  19940120 19940126 12:46    36    36   FHI
A2EWIN           01.01  19950327 19950327 14:49    36    36   FHI
CCALL
CPCHAIN
CPROLOG
CQ
CREGS
E2AIBM           01.21  19940120 19940126 12:10    36    36   FHI
E2ASIE           01.22  19940120 19940126 12:45    36    36   FHI
E2AWIN           01.02  19950327 19950327 15:07    36    36   FHI
FHITST           01.01  19980918 19980918 15:57     2     2   FHI
FHITST5          01.21  19940120 19940126 12:10    36    36   FHI
NATOSDF          01.01  19980115 19980115 16:54   376   376   FHI
NAT1ZAP          01.01  19940329 19940329 15:02   180   180   FHI
NAT2ZAP          01.01  19940329 19940329 15:02    54    54   FHI
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Split End  Suspe Rfind Rchan Up      Down Swap Left Right Curso
    
```

Meaning of the column headings:

Column	Meaning
MEMBER	Name of member.
VV	Version number of member. When a member is created, this field shows 01. It can be increased using the HOLD function command. <sup>1</sup>
MM	Modification level: shows the number of times the current version of the member has been modified. A plus sign (+) in this field means that previous versions exist for the member. <sup>1</sup>
CREATED	Date this member was created.
MODIFIED	Date of last modification.
TIME	Time of last modification.
SIZE	Number of lines in member.
INIT	Initial size of this version.
TID	Terminal ID at which the member was last modified.
ID	User who modified member last.

<sup>1</sup> The string ALIAS in the columns below VV.MM indicates that the member name shown in this line is an alias name.

**Example LIST (2)**

The following figure illustrates a list of members generated using the SCAN= option in the command:

```

LIST P MBE.COMN.SOURCE(NSPF*) SC=NATURAL

LIST-PDS:MBE.COMN.SOURCE(NSPF*)/SCAN=NATURAL --- Row 0 of 12 - columns 010 076
COMMAND===>                                SCROLL===> CSR
MEMBER                NUM FIRST FOUND
** ***** top of list *****
NSPFINST              69 .chap1 'Installing NATURAL ISPF'
NSPFREF0              111 .init 'NATURAL ISPF Reference Manual'
NSPFREF1              122 .chap1 'Working with NATURAL ISPF'
NSPFREF2              91 .chap1 'NATURAL Objects'
NSPFREF3              10 NATURAL ISPF provides a facility with which you can
NSPFREF4              9 (DATA SETS) from the NATURAL ISPF main menu. This di
NSPFREF5              4 (SYSTEM) from the NATURAL ISPF main menu. This displ
NSPFREF6              16 output files of NATURAL programs for further mainten
NSPFREF7              24 with NATURAL ISPF.
NSPFREF8              39 .chap1 'NATURAL ISPF Commands'
** ***** bottom of list *****
    
```

The list displays all members starting with NSPF which contain the string Natural in the PDS library MBE.COMN.SOURCE.

Meaning of the column headings:

Column	Meaning
MEMBER	Name of member.
NUM	Number of occurrences of specified string in member.
FIRST FOUND	First occurrence of specified string in member.

The lists appear in Natural ISPF Editor format in browse mode. This means you can use all available Editor browse commands (UP, DOWN, BOTTOM, TOP, FIND, LOCATE).

If you select a member from a list generated with the Scan for option for EDIT or BROWSE, the cursor is placed on the first occurrence of the string. If you then issue the RFIND command, the cursor is placed on the next occurrence.

### Example LIST (3)

the command:

```
LIST P MBE.(A*E*)
```

opens an active help window containing a list of all datasets with prefix MBE on the default node. After selecting a dataset name from the list, all members in the dataset are listed that begin with **A** and also have an **E** in their name.

## Line Commands

You select a member from a list by typing in a line command in the input field preceding the member name and pressing Enter. Each line command is an abbreviation of a function command (exception - the special **L** line command for a member):

Line Command	Corresponding Function Command
B	BROWSE
CP	COPY
D	DELETE
DW	DOWNLOAD
E	EDIT
EX	EXPORT
HL	HOLD
I	INFORMATION
L	LIST previous versions of the member, or, if the member is a load module, list the CSECTs.
PL	PLAY
PR	PRINT
R	RENAME
SB	SUBMIT
UP	UPLOAD
XT	EXTERNS
ZP	ZAPS

Line commands can also be used as valid abbreviations of function commands entered in the command line of any system screen.

## Local Commands

### In Edit Mode:

If you display a PDS member in Editor format in EDIT mode, you can issue local commands from the Editor command line in addition to Editor commands.

The following local commands are available:

Command	Meaning
IMPORT	Imports a PC file or Con-nect document into the PDS member (see Section Useful Features).
PASSWORD <password>	If the dataset is password-protected, use this command to enter the valid password in order to update the member. If you enter the PASSWORD command without parameter, a window prompts you for the password. Password input in the window is invisible.
REGENERATE	Available for members written using the Edit macro option. Reexecutes the specified macro object and writes the result in protected lines in the current edit session. Any defined user code remains in place. For details, see Section Macro Facility in the Natural ISPF Programmer's Guide.

### In List Mode:

If you display lists of PDS libraries or members in Editor format, you can issue the following local commands in addition to Editor scroll commands: ALL, LAYOUT, RELIST and SORT. For detailed information, see the subsections in Section Useful Features.

## Previous Versions

Previous versions of PDS members can be listed and retrieved (see the line command **L** for LIST). They are separate objects in Natural ISPF, accessible via the PDS Objects Entry Panel or using function commands that address object type PV from any screen. To activate the versioning feature, you must issue the command VERSIONS ON before starting your edit session, unless your administrator has activated obligatory versioning for the member's dataset. For details, see the subsection Versioning in the section Useful Features.