

BS2000/OSD Files

The BS2000/OSD file maintenance facility enables you to perform functions on cataloged disk files of type SAM, ISAM and PAM, including LMS libraries. You can:

- LIST, COPY, RENAME and DELETE all types of files, display INFORMATION for them and CHANGE file attributes;
- ALLOCATE all types of files except LMS libraries;
- BROWSE, EDIT, SUBMIT, PRINT and EXPORT files of type SAM and ISAM.

If the file consists of job control, you can make use of the Natural ISPF Macro facility. You can use all types of macro statements. Macro expansion is performed at submission time (see the SUBMIT command below). When creating a new file, 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).

To enter the BS2000/OSD files maintenance facility

- Select the BS2000/OSD FILES option from the Natural ISPF Main Menu.

The BS2000/OSD Files Entry Panel appears:

```

----- BS2000 FILES - ENTRY PANEL -----
COMMAND ===>

File Name      ===> *
Volume         ===>          ( for selection list      )
Password       ===>          ( If password protected )
Edit macro     ===>
Shared file    ===>          ( for selection list      )
More criteria  ===>          ( mark for special selection )
Node           ===> 31
  
```

You can specify the file you wish to maintain in the input fields and enter a function command in the command line.

Meaning of the input fields:

Field	Meaning
File Name	Displays the file name last used. You can select any other file by overtyping this name. Leave blank or use strings and wildcards (* and _) to generate a more selective list of files. See the subsection Selection Windows and Wildcards in the section Command Logic.
Volume	Volume serial number. Usually not needed, unless you want to restrict a list of files to those on a specific volume.
Password	System password if file is protected. Must be specified irrespective of read or write protection.
Edit macro	Name of macro object to be used as a model for the file. The specified macro is executed and loaded into the Editor. See the section Macro Facility in the Natural ISPF Programmer's Guide for details. When used with LIST, the list contains all files according to the name criteria that use the specified macro as a model.
Shared file	Enter YES to restrict the LIST function to shared (public) files or NO to restrict it to non-shared files.
More criteria	Option. Can be marked with any character to open a window where additional criteria for LIST selection can be specified. See the corresponding subsection.
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 indicated on the Main Menu is assumed.

Apart from the input fields listed above, some parameters of the LIST command are supported which do not correspond to an input field of the panel, but which can be specified either by direct command syntax (see below) or by means of the More criteria option:

```

----- BS2000 FILES - ENTRY PANEL -----
COMMAND ==>>

+-----Options for LIST-BS2FILE:-----+
!                                     !
! File Name      ==> * _____ !
! Volume        ==> _____ !
! Support Type  ==> _____ ( blank, PUB, PRD, ANYDisk or TAPE ) !
! Access Type   ==> _____ ( blank, READ or WRITE ) !
! Shared File   ==> _____ ( blank, YES or NO ) !
! FGGs only     ==> _ ( mark to restrict search ) !
! Unclosed only ==> _ ( mark to restrict search ) !
! FCB Type      ==> _____ ( P, S, I, N or combination ) !
! Passw.security ==> _____ ( R, W, E, N or combination ) !
! Range keyword ==> _____ ( SI, FR, CR, LA, EXD, EXT or BAC ) !
! Range value   ==> _____ !
! Node          ==> 31_ !
!                                     !
+-----+

```

Meaning of the input fields:

Field	Meaning
Support Type	Select BS2000/OSD files that reside on a specific storage medium. If you omit this parameter, or if you enter the wildcard *, all kinds of files are selected, including tape files. Valid options are: ** ANYDISK Files residing on any kind of disk. PRDISK Files on private disks. PRIVATE Synonym for PRDISK. PUBLIC Files on public disks. TAPE Tape files.
Access Type	Select BS2000/OSD files that are - or are not - protected against modification. Valid options are: ** READ Protected files only. WRITE Non-protected files only.
FGGs only	Mark this field with any non-blank character if only file generation groups and the related individual generations are to be selected and included in the resulting list of BS2000/OSD files.
Unclosed only	Mark this field with any non-blank character if you want the resulting list of BS2000/OSD files to contain only files that were opened for output (write, extend or update) and that have not yet been closed.
FCBType	Select BS2000/OSD files that correspond to one or more file organization attributes (SAM, PAM, ISAM, NONE or combination). To select for a combination, concatenate the first characters of the requested attributes to form a string, for example: PI for PAM and ISAM)

* Fields not mentioned here (File Name, Volume, Shared File and Node) contain the values specified in the corresponding fields of the BS2000/OSD Files Entry Panel and have the same meaning as described above.

** Options can be abbreviated as indicated by underlining.

Field	Meaning
Passw. security	Fill in the appropriate specification if you want the resulting list of BS2000/OSD files to contain only files that are (or are not) password protected. Possible values: E, EXEC or EXPASS Selects only files protected against unauthorized execution N or NONE Selects only files without any kind of password protection R, READ or RDPASS Selects only files protected against unauthorized read access W, WRITE or WRPASS Selects only files protected against unauthorized modification Combinations of the above values can also be specified as selection criteria simply by concatenating the value abbreviations. Examples: RWES Selects all files that are subject to any kind of password protection NW Selects all files that are either not protected by any password definition, or that are protected against modification.

Range keyword	<p>The range options listed below narrow down a list of files. To use one of these, enter one of the following abbreviations:</p> <p>BAC Backup class option: selects files with a backup frequency attribute that corresponds to the specified value or list of values. Each value must be a character A, B, C, D or E.</p> <p>CR Creation date option: selects files created (or updated) in the period specified in the range field.</p> <p>FR Freesize option: selects files with a number of unused PAM pages within the specified range.</p> <p>EXD Expiration date option: selects files with an expiration date corresponding to the specified time range.</p> <p>EXT Extents option: selects files with an extent count value corresponding to the specified range.</p>
Range keyword (continued)	<p>LA Last-access-date option: selects files last accessed in the period specified in the range field</p> <p>SI Size option: selects files with space allocation (number of PAM pages) corresponding to the given value or range of values.</p> <p>Note: The above options cannot be combined in the same selection, that is, only one of these options can be specified in one selection. If you specify one of these options, you must specify the corresponding range itself (either single value or list of values) in the Range value field below.</p>
Range value	<p>Use this field to specify:</p> <ul style="list-style-type: none"> · a range of numbers or dates (i.e. a time period); or · a single value or a list of values. <p>The format of this specification depends on the Range option entered in the previous field and is identical to the notation used with a BS2000/OSD FSTATUS command. The only exception is that a range can be given either in the notation (start-v,end-v) or as (start-v:end-v), that is, both a comma and a colon are accepted as separators.</p> <p>Examples:</p> <p>Range keyword: CR Range value: (1994-06-01,1994-09-30)</p> <p>Range keyword: CR Range value: Yesterday created on previous day</p> <p>Range keyword: LA Range value: (-30:Today) last 30 days</p> <p>Range keyword: SI Range value: (80:) 80 or more PAM pages</p>

Function Commands

The available function commands for BS2000/OSD files are as follows:

Command	Parameter Syntax
ALLOCATE	file-name PASSWORD=p NODE=id
BROWSE	file-name PASSWORD=p NODE=id
CHANGE	file-name PASSWORD=p NODE=id, SHARE=YES/NO ACCESS=READ/WRITE RETPD=nnnn READPSWD=rpwd WRITEPSWD=wpwd EXECPSWD=epwd BACKUP=A/B/C/D/E ¹
COPY	file-name PASSWORD=p NODE=id, object-type object-parms, REP
DELETE	file-name PASSWORD=p NODE=id
EDIT	file-name PASSWORD=p NODE=id RECLen=nnn MACRO=name
EXPORT	file-name PASSWORD=p NODE=id, target-environment.
INFORM	file-name PASSWORD=p NODE=id
LIST	*_* NODE=id SHARE=YES/NO VOLSER=vol ACCESS=READ/WRITE SUPPORT=PUB/PRD/ANY/TAPE FCBTYPE=ttt STATE=NOCLOSE/* < SIZE=s-range / CREATION=c-range / LAST-ACCESS=la-range > ²
PRINT	file-name PASSWORD=p NODE=id, printer-name CC
RENAME	file-name PASSWORD=p NODE=id, new-name
SUBMIT	file-name PASSWORD=p NODE=id1, TARGET=id2

¹ For the CHANGE command, see also the subsection Changing the Attributes of a BS2000/OSD File.

² Enter only one of the parameters enclosed in brackets <>. For the LIST command, see also the subsection Listing BS2000/OSD Files.

A full description of these commands is contained in the section Command Reference. For all function commands except LIST and CHANGE, the object parameters correspond to the input fields on the BS2000/OSD Files Entry Panel.

Notes:

1. If you issue any of the above function commands from outside the BS2000/OSD files facility, you must specify the object-type parameter BF before the object parameters.
2. The RECLen parameter can be specified on the EDIT command to reduce storage requirements. For example, you can specify RECLen=80 if you issue an EDIT command for a file with record format V which does not contain lines that exceed length 80. If you omit the RECLen parameter, the value from the catalog information is assumed, if available. Otherwise, the maximum line length for BROWSE or EDIT sessions is taken, that is, 253.
3. The ALLOCATE command applies only to non-standard files. A file with standard attributes (that is, SAM files with record format V) is automatically allocated simply by starting an edit session and issuing the SAVE command. The ALLOCATE command does not apply to LMS libraries, either. LMS libraries can be allocated using the COPY command (for example, copy an empty library).
4. For all commands except LIST, if you do not specify the full file name, but only a prefix followed by the wildcard *, a selection window opens that lists the existing files which start with that prefix. If you specify only the wildcard * as file name without a prefix, the selection window lists file names for which short IDs are defined, that is, in this case the selection is based on profile definitions rather than on catalog information (see the subsection Library Definition in the section Profile Maintenance). In both kinds of selection window, you can select a file for further processing by marking it with any character and pressing Enter.

Listing BS2000/OSD Files

Selecting Files by a Pathname Pattern and/or by Descriptive Parameters

Lists of BS2000/OSD files can be generated using the LIST command and selection criteria in the parameter input fields of the BS2000/OSD Files Entry Panel. Alternatively, you can issue the LIST command with appropriate parameters from any system screen. In the FILE-NAME parameter, you can optionally specify a catalog ID and/or a user ID. This lists shared files only. If you omit the catalog ID / user ID specification, or if you specify the current user ID, all files for which the user ID is authorized are listed.

Note:

If a catalog ID is specified, it must be embedded between colons : : .

If a user ID is specified, it must be preceded by the dollar sign \$.

Keyword Syntax for Descriptive Parameters

Descriptive parameters can be specified with usual keyword syntax.

- The keyword parameters SHARE and VOLSER correspond to the fields on the BS2000/OSD Files Entry Panel (see **above**).
- The keyword parameters ACCESS, SUPPORT and FCBTYPE correspond to the fields on the More criteria options screen ; the keyword parameter STATE corresponds to the field Unclosed only on that screen. Specify STATE=NOCLOSE to restrict the list to files that were opened for output (WRITE, EXTEND or UPDATE) and have not yet been closed.
- The keyword parameter SIZE can be used to select BS2000/OSD files with space allocation (number of PAM pages) corresponding to the given value or range of values. A range must be specified as (n:m), for example: (24:999). If only one of the boundaries *n* and *m* is relevant, you can omit the other.
- The keyword parameter CREATION can be used to select BS2000/OSD files that were created (or updated) on a specific day, or within a range of days. A range must be specified as (from:to). If only one of the boundaries (from or to) is relevant, you can omit the other one. The boundaries, as well as a specific day, can both be specified in one of the following notations:

Notation	Description
YYYY-MM-DD	Long date notation
YYMMDD	Short date notation
-n	Relative date notation
T or TODAY	(relative to the current day) Current day
Y or YESTERDAY	Previous day

- The keyword parameter LAST-ACCESS can be used to select BS2000/OSD files that were last accessed on a specific day, or within a range of days. The syntax conventions for specifying the day or time range are the same as for CREATION.
- The keyword parameters SIZE, CREATION and LAST-ACCESS are mutually exclusive, that is, these must not occur in the same command.

Example: LIST BF (1)

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

1. **LIST BF ADA***

lists all files starting with ADA owned by current user ID.

2. **LIST BF \$DEMO.*ADA***

lists all public files owned by user ID DEMO that have ADA as part of their name.

3. **LIST BF :K:\$DEMO.***

lists all public files in catalog **K** owned by user ID DEMO.

4. **LIST BF *LIS* LAST-ACCESS=(940601:940930)**

lists all files owned by current user ID with string LIS occurring as part of the file name, and last accessed within the specified period.

5. **LIST BF \$DEMO.* NODE=38**

lists all public files owned by user ID DEMO on Entire System Server node 38 in a multi-node environment.

An example of a list of BS2000/OSD files follows.

Example: LIST BF (2)

The following figure shows an example of a list of BS2000/OSD files generated using the command:

```
LIST BF :N:$ADABAS.*TEST*
```

The list generated shows all public files owned by user ID Adabas in catalog N that have the string TEST in their names:

```
LIST-BF::N:$ADABAS.*TEST* ----- Row 0 of 3 - Columns 056 071
COMMAND===>                                SCROLL===> CSR
  PATH-NAME OF FILE                          PAM-PGS
** ***** top of list *****
  :N:$ADABAS.ADA.TEST.F1                      0000102
  :N:$ADABAS.ADA.TEST.F2                      0000063
  :N:$ADABAS.ADA.TEST.F3                      0000114
** ***** bottom of list *****
```

Meaning of column headings:

Column	Meaning
PATH-NAME	Full path name including catalog ID and user ID specification.
PAM-PGS	Number of disc pages allocated for the file.

Session Header Information

The session header reflects the path name pattern used for selection and, optionally, additional criteria specified by means of function command syntax in the BS2000/OSD Files Entry Panel or in the LIST options window. If this information does not fit into a screen line, it is truncated.

Example: Session Header Line

LIST-BF:*LIB*/LAST=(940601:940930) ----- Row 0 of 2 - Columns 056 071

Line Commands

You select a file from a list by typing in a line command in the input field preceding the file name and pressing Enter. Each line command is an abbreviation of a function command.

Line Command	Function Command	Meaning
A *	ALLOCATE	Allocate a new file. The attributes of the selected file are displayed, which you can modify for the new file.
B	BROWSE	Display sequential file (SAM or ISAM). No modification is possible.
CH	CHANGE	Change attributes of file, for example, define a password.
CP	COPY	Copy the file into another object (target object type and name will be prompted).
D	DELETE	Erase the file from catalog and/or disk.
E	EDIT	Edit sequential file (SAM or ISAM).
EX	EXPORT	Export sequential file (SAM or ISAM) to external environment (PC or Con-nect).
I	INFORM	Display file attributes.
L	LIST	List elements of the file, if LMS-type file.
PR	PRINT	Create a report of sequential file (SAM or ISAM).
R	RENAME	Rename the file.
SB	SUBMIT	Submit the file (an ENTER job; if applicable, after macro expansion).

* Not for LMS libraries, see note on the ALLOCATE command in the subsection Function Commands.

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

Local Commands

If you display a file in Editor format, you can issue some local commands from the Editor command line in addition to Editor commands.

The following local commands are available.

In Edit Mode:

Command	Meaning
IMPORT	Imports a PC file or Con-nect document into the file (see the section Useful Features)
PASSWORD <password>	If the file is password-protected, use this command to enter the valid password in order to update the file. 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 files 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 the section Macro Facility in the Natural ISPF Programmer's Guide.

In List Mode:

If you display lists of BS2000/OSD files 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 corresponding subsections in the section Useful Features.

Changing the Attributes of a BS2000/OSD File

The CHANGE function command allows you to modify attributes of a file that are stored in the system catalog. You can specify one or more new attribute values as function parameters, using keyword parameter syntax (see Example 3).

If you issue the CHANGE command with or without object parameters, but without any function parameters, or if you issue the line command CH from a list of files, a window opens that displays the current attribute values, except for passwords. To modify one or more attributes, overwrite the values in the input fields and press Enter.

Example 1:

The following window opens if you enter the command:

```
CHANGE BF D.CH.TEST
```

```

----- BS2000 FILES - ENTRY PANEL -----
COMMAND ==> CHANGE BF D.CH.TEST

File Name      ==>
Vol +-----CHANGE-BS2FILE: D.CH.TEST-----+
Pas !                                                !
Edi ! Modify attributes as desired:                !
Sha !                                                !
Mor ! SHARED FILE      : NO_      (YES/NO)         ! n )
Nod ! ACCESS-TYPE      : WRITE     (READ/WRITE)     !
    ! RETENTION-PERIOD : _____ (in days)      !
    ! READ-PASSWORD     :           !
    ! WRITE-PASSWORD    :           !
    ! EXEC-PASSWORD     :           !
    ! BACKUP-TYPE       : D         !
    !                                                           !
    +-----+

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 input fields:

Field	Meaning
SHARED FILE - SHARE	Enter Y or YES to make the file accessible to other users. Enter N or NO to restrict access to the owner user ID.
ACCESS-TYPE - ACCESS	Enter W or WRITE to allow write access to the specified file, which also implicitly includes authorization for read access. Enter R or READ to allow read access only.
RETENTION-PERIOD - RETPD	Enter a number representing a retention period (in days) that is to be assigned to the specified file: This means it can neither be modified nor deleted within the specified period of time.
READ-PASSWORD - READPSWD	Enter a password to protect the file against unauthorized read accesses. Enter *NONE to reset an existing password, provided that you specified that password together with the current CHANGE function.
WRITE-PASSWORD - WRITEPSWD	Enter a password to protect the file against unauthorized modification or deletion. Enter *NONE to reset an existing password, provided that you specified that password together with the current function.
EXEC-PASSWORD - EXECPSWD	Enter a password to protect the file against unauthorized execution; this applies to procedure files and load modules. Enter *NONE to reset an existing password, provided that you specified that password together with the current CHANGE function.
BACKUP-TYPE - BACKUP	Enter a backup class to be assigned to the specified file, thus controlling how the file is to be handled by (periodic) runs of the ARCHIVE and HSMS utility routines. Possible values: A Saved with every ARCHIVE run (default). B Saved with runs for Level B, C and D. C Saved with runs for Level C and D. D Saved with runs for Level D. E Not automatically saved. E is the only value which is valid for temporary files.

Example 2:

If the file you wish to maintain is password-protected, correct password specification is also required for the CHANGE command. For example, if you enter the command:

```
CHANGE BF T.TEST PASSW=HUGO
```

the following window opens:

```

----- BS2000 FILES - ENTRY PANEL -----
COMMAND ==>> CHANGE BF T.TEST PASSW=HUGO

File Name      ==>>
Vol +-----CHANGE-BS2FILE: T.TEST-----+
Pas !                                                !
Edi ! Modify attributes as desired:                !
Sha !                                                !
Mor ! SHARED FILE      : YES      (YES/NO)         ! n )
Nod ! ACCESS-TYPE      : WRITE    (READ/WRITE)     !
     ! RETENTION-PERIOD : _____ (in days)     !
     ! READ-PASSWORD    :                               !
     ! WRITE-PASSWORD   :                               (Enter *NONE to reset) !
     ! EXEC-PASSWORD    :                               !
     ! BACKUP-TYPE     : B                               !
     !                                                         !
+-----+

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

```

Enter *NONE to reset the password.

To avoid visible input of the old password on your screen, issue the CHANGE command from the BS2000/OSD Files Entry Panel and specify the password in the corresponding input field of the CHANGE window.

Example 3:

To avoid being prompted for the new attribute values (for example, during a batch run or during execution of a command script), specify them as function parameters using the keywords indicated above. For example, the command:

```
CH BF DEMO.PHASE, ACCESS=READ BACKUP=E
```

inhibits modification of the file DEMO.PHASE and assigns backup type **E**, that is, the file is not saved automatically with any periodic ARCHIVE run.

Concurrent Editing of Files - BS2000/OSD Version 11 or higher

When you save a BS2000/OSD file, Natural ISPF checks if the file has been modified by another user or another session while you were editing. If this is the case, you are notified by a message and the SAVE operation is not executed. However, this check can only be performed if Version 11 (OSD V1) or higher of BS2000/OSD is installed

at your site. For lower versions of BS2000/OSD, Natural ISPF does not check for concurrent editing. If your **SAVE** operation is rejected due to concurrent editing, you can use the **BROWSE** command to inspect the file and you can decide whether to override it with your latest modifications or not. To override it, you can either:

- use the **REPLACE** command for the existing file, or
- delete the existing file and then save the version with your latest changes.