

Data Area Editor

- Invoking the Data Area Editor
- Editor Modes
- Editing Screen
- Command Mode
- Editor Commands
- Edit Mode
- Field Types
- Line Commands

The Natural data area editor is used to create and maintain local data areas, global data areas, and parameter data areas.

A data area may consist of user-defined variables, database views, and global data blocks (a collection of variables and/or views).

With the data area editor, you can create, change, save and stow data areas. The data areas can be checked for their syntactical correctness. You can also create copycode from a data area.

Invoking the Data Area Editor

The editor is invoked by the EDIT command specifying the type of data area to be edited (possible abbreviations are underlined):

$\text{EDIT } \left\{ \begin{array}{l} \underline{\text{G}}\text{LOBAL} \\ \underline{\text{L}}\text{OCAL} \\ \underline{\text{P}}\text{ARAMETER} \end{array} \right\} [\textit{area-name}]$
--

If you specify no data area name, the data area editor will create a new data area of that type.

Editor Modes

The data area editor operates in two different modes:

- Edit Mode
In edit mode, the data area can be modified. Lines can be added, deleted or changed.
- Command Mode
In command mode, data area editor commands such as `SAVE`, `STOW`, `CHECK`, etc. can be entered.

By default, the data area editor is in edit mode when you invoke it. To toggle from one mode to the other, you press `ESC`.

Editing Screen

The data area editing screen (with a local data area in the edit area) is shown below:

```

                                Press <ESC> to enter command mode
Mem: PER-DISL  Lib: SYSEXPG      Type: LOCAL   Bytes: 2352  Line:   0 of: 20
C T  Comment
*   *** Top of Data Area ***
V 1  PERS1                                PERSONNEL
    2  NAME                               A    20
    2  FIRST-NAME                          A    15
    2  INITIAL                             A     1
    2  SEX                                 A     1
    2  FAMILY-STATUS                       A    10
    2  NUMBER-OF-DEPENDENTS                N    2.0
    2  NUMBER                              N    5.0
    2  STREET                              A    20
    2  CITY                                A    15
    2  STATE                               A     2
    2  ZIP                                 N    5.0
    2  JOB                                 A    20
    2  SALARY                             N    6.0
    2  COMMISSION                          N    6.0
    2  YEARS-OF-EDUCATION                  N    2.0
    2  YEARS-WITH-COMPANY                  N    2.0
    2  VACATION-DAYS                       N    2.0
    2  SICK-DAYS                           N    2.0
F 1  HELP          F 2  CHOICE    F 3  QUIT      F 4  SAVE      F 5  STOW      F 6  CHECK
F 7  READ          F 8  CLEAR     F 9  MEM TYPE F10 GEN      F11 FLD TYPE F12
    
```

The editing screen of the data area editor is divided into five areas. These areas and their functions are listed below:

Area	Explanation
Command Line	The command line is used to issue editor commands. The command line consists of either a selection menu or a direct command line. Press ESC to move from editing to selection menu mode or the direct command line, whichever was most recently invoked. Use the "M" command to move from the direct command line to selection menu mode. Possible commands are described in the section Editor Commands.
Status Line	The status line contains the following information about the data area currently being edited: Mem: data area name Lib: current library Type: data area type (global, local, or parameter) Bytes: size of data area in bytes Line: number of current edit line of: total number of lines
Edit Area	In the edit area, the data area is displayed. The first line of the edit area is the edit header, which describes the current edit line. Note: In edit mode, the current edit line is highlighted.
F-Key Lines	Function-key assignments (edit mode only).
Message Line	This line displays error messages. An error message temporarily overwrites the first function-key line.

Command Mode

In command mode, you can enter a Natural edit command, or the name of a Natural program.

When you enter command mode, the direct command line appears by default.

To get to the selection menu, you enter the option "M" (menu). A selection menu is displayed containing the following items:

- Commands
- Direct Command Line
- Quit

To leave the data area editor, you select "Quit".

Note:

The current data area will not be saved.

Once the selection menu has been invoked, it will always appear when command mode is entered. Function-key assignments are not used.

To return to command mode, select the direct command menu item.

Note:

Most data area editor commands can be entered in both menu and direct command mode.

Editor Commands

When the editor is in command mode, the following edit commands can be entered in the command line of the data area editor or selected from the command menu:

Command	Function
CHECK	Checks the data area definition currently located in the edit source area for syntactical correctness. A window informs you that a syntax check is in process. If a syntax error is found, the line containing the error becomes the current line, an alarm sounds, and the error is displayed in the message line. If no errors are found, a corresponding message is displayed.
CLEAR	Deletes the current data area from the source area. However, it is not deleted from the library. Changes are lost if they were not previously saved.
FLD TYPE	This command is used to change the type of the actual data. A window appears containing the various data types: D - Data Field B - Block C - Constant H - Handle S - Structure U - Globally Unique ID * - Comment Note: The data type of fields within a view definition cannot be changed. Some field information can be lost if you change to another type. This command cannot be entered in direct command mode.
GEN <i>object-name</i>	Generates Natural copycode from the current data area. The copycode is generated into the source area, thus the data area is deleted from the source area. Changes made to the source area since the last SAVE or STOW are lost.
READ <i>object-name</i>	Reads a Natural object from a library into the edit source area. The object name must be specified.
SAVE <i>data-area</i>	Saves the data area currently in the source area. You are prompted for the data area and library. If the current name and library are correct, no entry is required. The definition is not checked before being saved.
SET ABS [ON OFF]	This command determines whether the SCAN command operates in absolute or non-absolute mode. ON: the SCAN command operates in absolute mode, which means that the value to be scanned need not be delimited by blanks or special characters. OFF: the SCAN command operates in non-absolute mode, which means that the value to be scanned must be delimited by blanks or special characters. The default is OFF.
SET SCAN COMMENT NAME LEVEL	If SET SCAN is set to COMMENT, you can scan for a value in the "Comment" column. If SET SCAN is set to NAME, you can scan for a value in the "Name" column. If SET SCAN is set to LEVEL, you can scan within a hierarchical structure. You cannot scan in both columns simultaneously; the default is NAME.

Command	Function
STOW <i>data-area</i>	Before a data area can be used in a Natural program, it must be stowed. The STOW command saves and catalogs the data area currently in the edit source area. You are prompted for the data area and library. The data area is checked before being cataloged. If no errors are found, a corresponding message is displayed. LDAs and PDAs are saved as source code only.
TYPE	This command is used to change the data area type. A list appears containing the various types available: G Global L Local A Parameter

After the execution of any command, the data area editor switches automatically back to edit mode. Press ESC to return to command mode.

Edit Mode

In edit mode, you can make changes to the data area. Changes can only be made on the current edit line which is highlighted.

The first line of the edit area may be accessed by using the HOME key. The last line of the data area may be accessed using the END key. The keys PAGE UP or PAGE DOWN can be used to move the edit line up or down one screen page at a time (Check your SAGtermcap file for entries if you have no access to any of these keys).

The edit area can also be scrolled using the UP ARROW and DOWN ARROW keys.

The displayed function keys can also be used with this mode.

The edit header will change according to the current edit line field type.

Field Types

The data area editor recognizes the following field types:

Type	Explanation
Data Field	User-defined or database variable.
Constant	User-defined constant value. (C)
Multiple Field	Database field with more than one occurrence. (M)
Structure	Consists of data fields, constants and other structures (max. levels: 9). Also known as a group. (S)
Database Group	Database group. (G)
Periodic Group	Database group with more than one occurrence. (P)
View	Database view. (V)
Block	Block definition within GDA. (B)
Redefine	Redefinition of a Field. (R)
Filler	Filler character. (F)
Counter Field	Counter (C*) for a multiple-value field or periodic group.
Comment	Comment line. (*)
Object Handle	Handle to reference objects in Natural programs. (O)
Globally Unique ID	Identifier for interface and classes guaranteed to be unique across all possible networks. (U)

Note:

Characters in parentheses are the abbreviations used to describe the field type.

The edit header changes according to field type. During editing, the first two columns displayed on the editor screen are the same for each edit line.

The first column (C) is used to enter the edit commands. The second column (T) is used to display the line field type.

Line information, based on field type, cannot always be displayed on one line.

Those types containing information exceeding one line are marked with an "X" in the last column (M). To display this information, the edit command SHOW can be used (see Line Commands).

Line Commands

Line commands for the data area editor can only be entered in the first column of each line.

Pressing F2 produces a list of all available line commands.

The following line commands are available in the data area editor:

Command	Function
C (Copy)	Copies one or more lines into the clipboard, without deletion. If COPY is issued within an edit block, all lines within this block are copied to the clipboard area.
D (Delete)	Deletes one or more lines. If DELETE is issued within an edit block, all lines within this block are deleted. Deleted lines are placed in the clipboard. For additional information, see the line commands COPY and PASTE.
E (Edit)	Modifies/edits information for an existing field. Please note that changing the initialization type deletes all previously entered initialization information.
H	Deselects the current edit block and must be issued from within the edit block.
I (Insert)	<p>Inserts a new field after the current line. A list displaying possible field types appears. After the desired type has been chosen, a window appears in which you can enter all information necessary for the selected field type. If field initialization is possible and desired, the initialization type must be entered. There are two initialization types:</p> <p>Free form - (enter F in the initialization field) initialization requires you to enter a complete initialization statement as defined by Natural (DEFINE DATA statement).</p> <p>Single value - (enter S in the initialization field) initialization requires you to enter the value of the field only. If the field is an array, all elements of the array are listed. A value for each element can be entered (optional). Values are entered based on field type.</p> <p>Note: Parentheses, apostrophes or value prefixes (for example, H=Hex, D=Date or T=Time) are not required.</p>
P (Paste)	Inserts lines from the clipboard into the data area after the current line. The contents of the clipboard are not deleted, thus they can be pasted more than once. Clipboard contents are changed when a COPY or DELETE command is issued or when a new data area is edited.
R (Redefine)	Redefines an object. The data area editor automatically creates a redefine line and a redefine window appears. The data area editor keeps track of the number of free bytes still available for redefinition. If there are no free bytes, the redefine function ends.
S (Show)	Displays a window which contains all information about the selected field. Changes are not possible. If an initialization has been specified, a separate window containing initialization information is also displayed. Information scrolling is possible.

Command	Function
V (Define view)	<p>Invokes a window to define a view. The window contains the following items:</p> <ul style="list-style-type: none"> - Name of view - Name of DDM - Comment <p>After these names have been entered, the DDM is displayed. You can scroll through the DDM with the cursor and select the fields which are to be included in the data area by marking them with:</p> <ul style="list-style-type: none"> X - to select individual fields A - to select all fields <i>blank</i> to select individual fields that are not to be included if you have also specified "A". <p>If you select a periodic group or multiple-value field, you are prompted to supply the number of occurrences.</p>
X	Marks the beginning of an edit block.
Y	Marks the end of an edit block.
Z	<p>Marks an entire structure as an edit block.</p> <p>The edit block starts at the current line and all continuous lines with levels less than the current line are marked. For example, if "Z" is entered in a view line the entire view is marked as the edit block.</p>
*	Creates a C* variable (internal count of occurrences) for a multiple-value field or periodic group.

The steps used to move a block to the clipboard and return it to the Data Area Editor (Block Move), are as follows: Mark the first line as "X" and the last line as "Y" and use the "C" command from within the marked block to move it to the clipboard. Position the cursor and use the "P" line command to paste the lines from the clipboard to below the cursor position.