Database Management

This section covers the following topics:

- SYSSQL Utility

- Natural System Commands for SQL/DS

SYSSQL Utility

The Natural interactive catalog utility `SYSSQL` allows you to do SQL/DS database management without leaving your development environment.

With `SYSSQL` you can maintain SQL/DS tables and other SQL/DS objects.

The `SYSSQL` utility incorporates an SQL generator that automatically generates from your input the SQL code required to maintain the desired SQL/DS object. You can display, modify, save and retrieve the generated SQL code.

The DDL/DCL definitions are stored in the library `SYSSQL` on the Natural system file `FDIC`.

The `SYSSQL` utility offers two modes of operation: Fixed Mode and Free Mode. To switch between the two modes, you press PF4.

- Fixed Mode

- Free Mode

Fixed Mode

In fixed mode, input screens with syntax graphs help you to specify correct SQL code. You simply enter the required data on input screens, and the data are automatically checked to ensure that they comply with the SQL syntax of SQL/DS. Then, SQL members are generated from the entered data. The members can be executed directly by pressing PF5 (Exec). But you can also switch to free mode, where the generated SQL code can be modified.

For each field where a window can be invoked, you can specify an `S`. When you press Enter, the window appears and you can select or enter the necessary information. If such a selection is required, an `S` is already preset when the corresponding screen is invoked.

When you press Enter again, the window closes and if data have been entered, the field is marked with `X` instead of `S`. If not, the field is left blank or marked with `S` again.

This continues each time you press Enter until no `S` remains. To redisplay a window where data have been entered, you change its `X` mark back to `S`.

If another letter or character is used, an appropriate error message appears on the screen. The wrong character is automatically replaced by an `S` and if you press Enter again, the corresponding window appears.

In fields where keywords are to be entered, you have to enter one of the keywords displayed beneath the field. Default keywords are highlighted.

Creating an SQL/DS Table

The following example illustrates how to use the SYSSQL utility to create an SQL/DS table in fixed mode.

▶ To create an SQL/DS table in fixed mode

1. Log on to library SYSSQL and issue the command MENU.

   The SYSSQL **Main Menu** appears:

```
 14:41:38                    **** SYSSQL Utility ****                  2006-05-25
                                  - Main Menu -


      +---------- Maintenance ---------+   +--------- Authorizations -------+
      !   x CREATE                     !   !   _ GRANT                       !
      !   _ ACQUIRE DBSPACE            !   !   _ REVOKE                      !
      !   _ ALTER                      !   !   _ LOCK TABLE                  !
      !   _ DROP                       !   !   _ CONNECT                     !
      !   _ UPDATE STATISTICS          !   !                                !
      +--------------------------------+   +--------------------------------+
                     +-------- Descriptions ----------+
                     !   _ EXPLAIN                     !
                     !   _ COMMENT ON                  !
                     +--------------------------------+


      +--------------------------- Comments ----------------------------+
      !  Enter ? for HELP or press PF1                                  !
      !  Enter . to QUIT or press PF12                                  !
      !  Press PF4 to enter Free-Mode                                   !
      +----------------------------------------------------------------+

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help              Free                                            Exit
 SYSSQL4776 Please mark your choice.
```

2. Mark the **CREATE** function with an X.

   Awindow is invoked which shows you a list of all available objects, and you are prompted for the type of object to be created::

```
 14:41:39                    **** SYSSQL Utility ****                  2006-05-25
                                 - Main Menu -

       +--------- M +------------------+   +--------- Authorizations -------+
       ! x CREATE  !  _ INDEX       !   ! _ GRANT                       !
       ! _ ACQUIRE !  _ SYNONYM     !   ! _ REVOKE                      !
       ! _ ALTER   !  x TABLE       !   ! _ LOCK TABLE                  !
       ! _ DROP    !  _ VIEW        !   ! _ CONNECT                     !
       ! _ UPDATE  !               !   !                               !
       +----------- +------------------+   +-------------------------------+
                    +-------- Descriptions ----------+
                    ! _ EXPLAIN                    !
                    ! _ COMMENT ON                 !
                    +------------------------------+

       +------------------------------- Comments ------------------------------+
       ! Enter ? for HELP or press PF1                                         !
       ! Enter . to QUIT or press PF12                                         !
       ! Press PF4 to enter Free-Mode                                          !
       +----------------------------------------------------------------------+

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help              Free                                              Exit
 SYSSQL4776 Please mark your choice.
```

3. Mark the **TABLE** keyword with an X and press Enter.

    The first **Create Table** syntax input screen is displayed:

```
 14:44:52                   **** SYSSQL/DS Utility ****               2006-05-25
                                 - Create Table -                     Page: 01

 >>---- CREATE TABLE ----- SAG_____ . PERSONNEL_____ --------------------->
                           <creator.>table-name

 >- PERS-NO_____    DECIMAL_____ ( 8____ ) NN -- _ -- _ -- _ -( S_ - A +
 +- NAME_____   CHAR_____ ( 25___ ) NN -- _ -- _ -- _ -- __ - _ +
 +- FIRST-NAME_____   CHAR_____ ( 25___ ) NN -- _ -- _ -- _ -- __ - _ +
 +- AGE_____   DECIMAL_____ ( 2____ ) NN -- _ -- _ -- _ -- __ - _ +
 +- SALARY_____   DECIMAL_____ ( 5,2__ ) __ -- _ -- _ -- _ -- __ - _ +
 +- FUNCTION_____   INTEGER_____ ( _____ ) __ -- _ -- _ -- _ -- __ - _ +
 +- EMPL_SINCE_____   DATE_____ ( _____ ) NN -- _ -- _ -- _ -- __ - _ +
 +- _____   _____ ( _____ ) __ -- _ -- _ -- _ -- __ - _ )
       column-name            format        length  NN    S  field CCS  PRIMARY !
                                                    NU    M  proc  ID   KEY A/D !
                                                    NP    B    +--------------+
                                                             +- PCTFREE=  __ ->
                                                                          0-99



 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next          Free  Exec  Top  Bwd  Fwd  Bot            Error Menu
```

You can enter the creator and table names on this screen, as well as the individual column names, formats and lengths, as shown below:

Note:
Since the specification of any special characters as part of a Natural field or DDM name does not comply with Natural naming conventions, any special characters allowed within SQL/DS should be avoided. The same applies to SQL/DS delimited identifiers, which are not supported by Natural.

In addition, various attributes can be specified for each column.

- In the **NN/NU/NP** field you can specify:

  ○ NN (NOT NULL) if the column may not contain null values,

  ○ NP (NOT NULL PRIMARY KEY) if the column is the primary key

  ○ NU (NOT NULL UNIQUE) if the column is a unique key

- In the **S/M/B** field you can specify the following for character columns:

  ○ S (FOR SBCS DATA)

  ○ B (FOR BIT DATA)

  ○ M (FOR MIXED DATA)

- You can mark the field **fieldproc** to display a window where you can specify a field procedure which has to be executed for that column.

- For character and graphic columns you can mark the CCSID to display a window where you can specify a CCSID to be used for that column.

You can also specify which columns are to be part of a primary key if the primary key is comprised of multiple columns. To do so enter an "S" or the positional number in the first column of the field **PRIMARY KEY**.

A primary key is a set of column values that enforce referential integrity. Only one primary key definition is allowed per table. Primary key values must be unique and must be defined as NOT NULL.

If a column is to be part of a primary key, you also have to specify whether the values from this column are to be arranged in ascending (A) or descending order (D), where A (Asc) is the default value. In addition, you can specify the percentage of space within each index page for later insertions and updates of the primary key (the default value is 10%).

If a letter or character other than those mentioned above is used, an appropriate error message appears on the screen and the wrong character is automatically replaced by the appropriate one.

4. If you need help for field input, enter the help character, that is, a question mark (?), in the appropriate field on the screen.

Windows like the one below may help you in making a valid selection:

```
  14:50:09                    **** SYSSQL Utility ****                2006-05-25
                               - Create Table -                       Page: 01

   >>--- CREATE TABLE ----- SAG_____ . PERSONNEL_____ ------------------->
                            <creator.>table-na +---------------------------+
                                              ! Please mark your choice:   !
    >-( PERS-NO_____ - DECIMAL_____ ( 8_ !  _ INTEGER            !
    >-- NAME_____ - CHAR_____ ( 25 !  _ SMALLINT           !
    >-- FIRST-NAME_____ - CHAR_____ ( 25 !  _ FLOAT(integer,integer)   !
    >-- AGE_____ - DECIMAL_____ ( 25 !  _ DECIMAL(integer,integer) !
    >-- SALARY_____ - DECIMAL_____ ( 2_ !  _ CHAR(integer)      !
    >-- FUNCTION_____ - INTEGER_____ ( 5, !  _ VARCHAR(integer)   !
    >-- EMPL-SINCE_____ - DATE_____ ( __ !  _ LONG VARCHAR       !
    >-- _____ - ?_____ ( __ !  _ GRAPHIC(integer)   !
        column-name            format      ( __ !  _ VARGRAPHIC(integer) !
                                           ( __ !  _ LONG VARGRAPHIC     !
                                                !  _ DATE                !
                                                !  _ TIME                !
                                                !  _ TIMESTAMP           !
                                                ! Valid abbreviations:   !
                                                ! I,S,F,DE,C,VARC,L VARC,G, !
    Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7 ! VARG,L VARG,DA,TIME,TIMES !
         Help  Next        Free  Exec  Top  Bwd !                        !
                                                +---------------------------+
```

As you can see on the above screen, the beginning of the syntax specification for an SQL statement is always indicated by >>.

Press Enter to close the window again.

5. In the case of complex SQL statements, more than one input screen may be required. If so, you can switch to the following screen by pressing PF2 (Next).

   If you press PF2 (Next), the next **Create Table** input screen screen is displayed, where you can specify up to 16 foreign keys for the current table together with their corresponding parent table and up to 16 unique keys.

```
  14:52:52                    **** SYSSQL/DS Utility ****              2006-05-25
                                  - Create Table -                     Page: 01

  >-+-+---------------------------------------------------------------------+-+-)->
     ! +- , - FOREIGN KEY --- AUTO-NAME_____ --- ( --- X --- ) ---->   ! !
     !                        <constraint-name>      column-names         ! !
     !                                                                      ! !
     !  >---- REFERENCES ---->                                             ! !
     !  >--- SAG_____ . AUTOMOBILES_____ - ON DELETE -+- _ - RESTRICT -+-+ !
     !       <creator>    table-name                     +- _ - CASCADE --+   !
     !                                                    +- S - SET NULL -+   !
     +--------------------------------<---------------------------------+

  >-+-+---------------------------------------------------------------------+-+-)->
     ! !                                                                      !
     ! +- , - UNIQUE -------- _____ --- ( --- _ --- ) ---->     !
     !                        <constraint-name>      column-names           !
     !  >---- PCTFREE= ------ __                                             !
     !                        0-99                                          !
     +--------------------------------<---------------------------------+
  Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Prev  Free  Exec  Top  Bwd  Fwd  Bot          Error Menu
```

On this screen, you can specify a referential constraint to another table. To do so, enter an S in the first **column-names** field and press Enter.

A list of all columns available in the current table (dependent table) is displayed, where you can select the column(s) to comprise the foreign key related to another table (parent table). You can also specify a name for the constraint. If not, the constraint name is derived from the first column of the foreign key.

A foreign key consists of one or more columns in a dependent table that together must take on a value that exists in the primary key of the related parent table.

In the **REFERENCES** part, you must specify the table name (with an optional creator name) of the parent table which is to be affected by the specified constraint. In addition, you must specify the action to be taken when a row in the referenced parent table is deleted. You have three options available:

- **RESTRICT** prevents the deletion of the parent row until all dependent rows are deleted (this is the default value).

- **CASCADE** deletes all dependent rows, too.

- **SET NULL** sets to null all columns of the foreign key in each dependent row that can contain null values.

You can also specify a unique key for that table. To do so, enter an S in the second **column-names** field and press Enter.

A list of all columns available in the current table is displayed, where you can select the column(s) to comprise the key. All selected columns must have been defined with the NOT NULL attribute. If this is not the case, a window is displayed where you can set NOT NULL for this column. You can also specify a name for the constraint. If you do not, the constraint name is derived from the first column of the unique key.

You can specify up to 16 constraint blocks. In each block you can define a foreign key and a unique key. In the top right-hand corner of the screen, the index of the currently displayed referential constraint block (1) is displayed. You can page forward and backward through the contraint blocks by pressing PF7 (-) and PF8 (+).

6. When you have entered all information, you can press either PF3 (Prev) to return to the previous screen, or PF2 (Next) to go to the last screen as shown below:

```
 15:05:38                      **** SYSSQL/DS Utility ****                  2006-05-25
                                  - Create Table -                          Page: 01




 >-----------+----------------------------------------------------+-------->< 
             !                                                     !
             +-------- IN -- SAG_____ . DEMO_____ ---------+
                             <owner.>dbspace-name









 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help        Prev  Free  Exec                              Error Menu
```

On this screen, you can specify the dbspace where the table is to be created.

As you can see on the above screen, the end of the syntax specification for an SQL statement is always indicated by ><.

If you press PF2 (Prev) on this screen, you return to the previous screen.

7. When all information has been entered, you can either switch to free mode by pressing PF4 (Free) or submit the created member directly to SQL/DS for execution by pressing PF5 (Exec).

If execution is successful, you receive the message:

Statement(s) successful, SQLCODE = 0

If not, an error code is returned.

Once a table has been created, the data type of its columns cannot be changed and columns cannot be deleted. However, new columns can be added using the **ALTER TABLE** function as described in the following section.
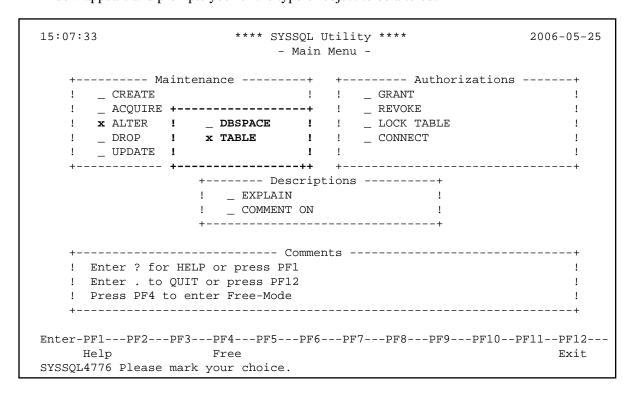
Altering an SQL/DS Table

With the **ALTER TABLE** function you can add single columns to an existing table. You can also add, drop, activate or deactivate primary and foreign keys. The following example illustrates how to use the SYSSQL utility to alter an SQL/DS table in fixed mode.

▶ **To alter an SQL/DS table**

1. On the SYSSQL **Main Menu**, mark the **ALTER** function with an X and press Enter.

   A window appears and prompts you for the type of object to be altered:

```
 15:07:33                    **** SYSSQL Utility ****                2006-05-25
                               - Main Menu -

     +---------- Maintenance ---------+   +--------- Authorizations -------+
     !   _ CREATE                     !   !   _ GRANT                      !
     !   _ ACQUIRE +-----------------+ !   !   _ REVOKE                     !
     !   x ALTER   !   _ DBSPACE     ! !   !   _ LOCK TABLE                 !
     !   _ DROP    !   x TABLE       ! !   !   _ CONNECT                    !
     !   _ UPDATE  !                 ! !   !                                !
     +----------- +-----------------++   +--------------------------------+
                  +-------- Descriptions ----------+
                  !   _ EXPLAIN                     !
                  !   _ COMMENT ON                  !
                  +-------------------------------+

     +-------------------------- Comments ----------------------------+
     !  Enter ? for HELP or press PF1                                 !
     !  Enter . to QUIT or press PF12                                 !
     !  Press PF4 to enter Free-Mode                                  !
     +---------------------------------------------------------------+

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help                Free                                          Exit
 SYSSQL4776 Please mark your choice.
```

2. Mark the **TABLE** keyword with an X and press Enter.

   When you press Enter again, the first **Alter Table** input screen is displayed:

```
 15:07:04                  **** SYSSQL/DS Utility *              2006-05-25
                             - Alter Table -

   >>--- ALTER TABLE ---------- _____ . _____ ---------------->
                                  <creator.>table-name

   >-+-- ADD -- _____  _____ ( _____ ) -- _ -- _ -- _-+->
     !            column-name           format         length    S  field CCS !
     !                                                            M  proc  ID !
     !                                                            B            !
     !                                                                         !
     +--+-------+-- PRIMARY KEY --- ( --- _ --- ) ---- PCTFREE= -- __   -----+
     !  +- ADD -+                     column-names                    0-99     !
     !                                                                         !
     +-- DROP --+-- PRIMARY KEY --- _ -------------------------------------+
                !                                                          !
                +-- FOREIGN KEY --- _____ ---------------------+
                !                       constraint-name                     !
                +-- UNIQUE KEY  --- _____ ---------------------+
                                        constraint-name

  Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next         Free  Exec                            Error Menu
```

You can enter the creator and table names on this screen, as well as the name, format and length of an additional column.

In addition, you can define a primary key as described in the section *Creating an SQL/DS Table*. You can also drop an already existing primary key, thereby removing all referential constraints in which the current table is a parent table.
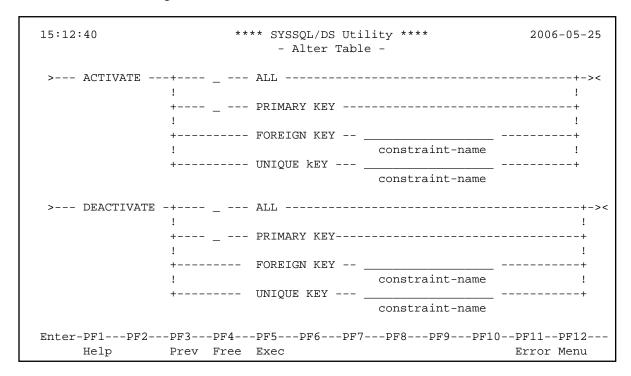
You can also drop any already existing foreign key or unique key by specifying its constraint name. If a foreign key is dropped the corresponding referential constraint is removed.

3. Once you have entered all necessary information, press PF2 (Next) to display the next **Alter Table** input screen, where you can add or drop foreign keys and unique keys.

```
 15:09:56                      **** SYSSQL/DS Utility *            2006-05-25
                                  - Alter Table -



  +>>----+-------+- FOREIGN KEY --- _____ --- ( --- _ --- ) ---+->
         +- ADD -+                    constraint-name      column-names

         >---- REFERENCES ---------- _____ . _____ ----------->
                                     <creator.> table-name
         >---- ON DELETE -+- S - RESTRICT -+-+-------------------------------><
                          +- _ - CASCADE --+
                          +- _ - SET NULL -+


  +>>----+-------+- UNIQUE KEY ---- _____ --- ( --- _ --- ) ----->
         +- ADD -+                    constraint-name      column-names

         >---------- PCTFREE= ------ __ --------------------------------------><
                                     0-99

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Prev  Free  Exec                               Error Menu
```

A foreign key or unique key is added as described in the section *Creating an SQL/DS Table*.

4. When you have entered all information you can press either PF3 (Prev) to return to the previous screen, or PF2 (Next) to go to the last screen as shown below:

```
 15:12:40                      **** SYSSQL/DS Utility ****         2006-05-25
                                  - Alter Table -

  >--- ACTIVATE ---+---- _ --- ALL ------------------------------------+-><
                   !                                                    !
                   +---- _ --- PRIMARY KEY ------------------------------+
                   !                                                    !
                   +--------- FOREIGN KEY -- _____ ----------+
                   !                          constraint-name           !
                   +--------- UNIQUE kEY --- _____ ----------+
                                             constraint-name

  >--- DEACTIVATE -+---- _ --- ALL ------------------------------------+-><
                   !                                                    !
                   +---- _ --- PRIMARY KEY------------------------------+
                   !                                                    !
                   +--------- FOREIGN KEY -- _____ ----------+
                   !                          constraint-name           !
                   +--------- UNIQUE KEY --- _____ ----------+
                                             constraint-name

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help        Prev  Free  Exec                               Error Menu
```

In the **ACTIVATE** part you have three options available. You can activate:

- **ALL**, which automatically enforces all the referential constraints defined for a primary key.

- **PRIMARY KEY**, which automatically enforces the primary key.

- **FOREIGN KEY constraint-name**, which automatically enforces the specified referential constraint.

In the **DEACTIVATE** part you have three options available. You can deactivate:

- **ALL**, which deactivates the primary key and all active foreign keys in the table.

- **PRIMARY KEY**, which drops the primary key index from the table and implicitly deactivates all active dependent foreign keys.

- **FOREIGN KEY constraint-name**, which deactivates the specified referential constraint.

By specifying any of these options, the restrictions imposed by the referential constraints are suspended and the parent and dependent tables involved in a referential constraint are made unavailable to users other than the DBA and the owner of the table.

Press PF2 (Prev) to return to the previous screen.

Free Mode

When free mode is invoked from fixed mode, the data that were entered in fixed mode are shown as generated SQL code, which can be saved for later use or modification. The editor provided is an adapted version of the Natural program editor.

If you modify an SQL member in free mode, this has no effect on the fixed-mode version of the member. You can save your modified code in free mode, but when you return to fixed mode, the original data appear again. Thus, both original and modified data are available.

In free mode you can execute the member currently in the source area by pressing PF5 (Exec) (as in fixed mode).

If you switch to free mode after you have created an SQL/DS table in fixed mode as described in the section *Creating an SQL/DS Table*, the free-mode editor displays the generated SQL code as in the following sample screen:

```
 15:15:39                     **** SYSSQL Utility ****               2006-05-25
                              - Free Mode -              Member:

     Command:
     +------------------------------------------------------------------------+
     ! CREATE TABLE SAG.PERSONNEL                                             !
     !  (PERS-NO              DECIMAL(8)             NOT NULL,                !
     !   NAME                 CHAR(25)               NOT NULL,                !
     !   FIRST-NAME           CHAR(25)               NOT NULL,                !
     !   AGE                  DECIMAL(2)             NOT NULL,                !
     !   SALARY               DECIMAL(5,2),                                   !
     !   FUNCTION             INTEGER,                                        !
     !   EMPL-SINCE           DATE                   NOT NULL,                !
     !   PRIMARY KEY (PERS-NO),                                              !
     !   FOREIGN KEY  AUTO-NAME (NAME)                                       !
     !     REFERENCES SAG.AUTOMOBILES                                        !
     !     ON DELETE SET NULL                                               !
     !  )                                                                    !
     !   IN SAG.DEMO                                                         !
     +------------------------------------------------------------------------+


 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help                Fix   Exec  Top  Bwd  Fwd  Bot          Error Menu
```

Free-Mode Editor

The free-mode editor available is almost identical to the Natural program editor and allows you to edit the generated SQL code. All program editor line commands and the following editor commands are available:

Command	Function
`ADD dnf`	Adds *n* empty lines.

`CHANGE`	Scans for the value entered as *scandata* and replaces each such value found with the value entered as *replacedata*. The syntax for this command is:
	
	`CHANGE 'scandata'`
	`          'replacedata'`

`CLEAR`	Clears the editor source area (including the line markers `X` and `Y`).
`DX, DY, DX-Y`	Deletes the `X`-marked line or the `Y`-marked line or the block of lines delimited by `X` and `Y`.
`EX, EY, EX-Y`	Deletes source lines from the top of the source area to - but not including - the `X`-marked line, or from the source line following the `Y`-marked line to the bottom of the source area, or all source lines in the source area excluding the block of lines delimited by `X` and `Y`.
`LET`	Undoes all modifications made to the current screen since the last time Enter was pressed, including all line commands already entered but not yet executed.
`POINT`	Positions the line in which the line command `.N` was entered to the top of the current screen.
`RESET`	Deletes the current `X` and/or `Y` line markers and any marker previously set with the line command `.N`.
`SCAN ['scan-value']`	Scans for the string *scan-value* in the source area.
`SCAN = [+|-]`	Scans forwards (+) or backwards (–) for the next occurrence of the scan value.
`SHIFT [-|+ nn]`	Shifts the block of source lines delimited by the `X` and `Y` markers to the left (–) or right (+). *nn* represents the number of characters the source line is to be shifted.

For further details, refer to *Program Editor* in the Natural *Editors* documentation.

In addition, the following SQL code maintenance commands are available:

Command	Function
`INSERT member-name`	Saves the code in the source area as a member. If you press PF5 (Exec), the code in the source area can also be executed as in fixed mode.
`SELECT member-name`	Reads the specified member into the source area.
`DELETE member-name`	Deletes the specified member.
`LIST QUERY member-name`	Displays a list of members on the screen using asterisk notation (*). For example, `L Q A*` would display a list of all SQL code members beginning with `A`.

Member names must correspond to the naming conventions for Natural objects, which means they can be up to eight characters long and must start with a letter.

You can also always refer to the SYSSQL help system, which is invoked via PF1 (Help).

Natural System Commands for SQL/DS

The following Natural system commands have been incorporated into the **Natural Tools for DB2**:

Natural System Command	Explanation
LISTSQL	Lists Natural DML statements and their corresponding SQL statements.
SQLERR	Provides diagnostic information about an SQL/DS error
LISTDBRM	Displays either a list of packages for a particular Natural program or a list of Natural programs that reference a particular package.

For a description of these commands, follow the links leading to the Natural *System Commands* documentation.