

# Natural System Commands for the Natural SQL Gateway

The following system commands are available:

- LISTSQL Command
  - SQLERR Command
- 

## LISTSQL Command

`LISTSQL [object-name]`

The LISTSQL command lists the Natural statements in the source code of a programming object that are associated with a relational database access, and the corresponding SQL statements into which they have been translated.

LISTSQL is issued from the Natural NEXT prompt.

Thus, before executing a Natural program which accesses an SQL table, you can view the generated SQL code by using the command LISTSQL.

If a valid object name is specified, the object to be displayed must be cataloged or stowed in the library to which you are currently logged on.

If no object name is specified, LISTSQL refers to the object currently in the Natural source area.

In any case, LISTSQL needs a cataloged or stowed object to perform its functionality.

The generated SQL statements contained in the specified object are listed one per page.

## Sample LISTSQL Screen

```

09:44:09          ***** NATURAL TOOLS FOR SQL *****          2009-09-11
Member NSBDSEL          - LISTSQL -          Library SYSDB2

Natural statement at line 0150          Stmt  1 / 1

  SELECT *
    INTO VIEW NSB-DEMO
    FROM NSB-DEMO

Generated SQL statement  Mode : dynamic  DBRM :          Line  1 / 3

  SELECT PERS_ID, NAME, ADDRESS, DATEOFBIRTH, SALARY
  FROM   NSB.DEMO
  FOR FETCH ONLY

Command ==>          Queryno for EXPLAIN 1____

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Error Exit Expl          Parms - +          Prev Next Canc
    
```

Within the listed results, you can go from one listed SQL statement to another by pressing PF10 (Prev) or PF11 (Next). If a single SQL statement does not fit on the screen, you can scroll backwards or forwards by pressing PF7 or PF8, respectively.

If an error occurs, PF2 (Error), which executes the *SQLERR* system command (described in *SQLERR Command*), can be used to provide information on SQL errors.

With PF6 (Parms), a further screen is displayed which lists all parameters from the *SQLDA* for the currently displayed SQL statement:

```

09:46:47          ***** NATURAL TOOLS FOR SQL *****          2009-09-11
Member NSBDSEL          LISTSQL          Library SYSDB2

  Mode : dynamic  DBRM :          Contoken :
          (3rd/pre)
  static parms : (1st)
          (2nd)

  SQLDA

          DBID : 255  FNR : 102  CMD : S1 0150 08

  Nr  Type      Length      CCSID
  1. CHAR        10          8001 0000 000A 01C4 0000 0000 1E00 0000
  2. CHAR        20          8002 0000 0014 01C4 0000 0000 0800 0000
  3. CHAR       100          8003 0000 0064 01C4 0000 0000 0800 0000
  4. CHAR        10          8004 0000 000A 01C4 0000 0000 0800 0000
  5. DECIMAL     9.2        8005 4000 0902 01E5 0000 0000 0800 0000

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Exit          - +          Canc
    
```

## SQLERR Command

The SQLERR system command is used to obtain diagnostic information on an SQL error.

When an SQL error occurs, Natural issues an appropriate error message. When you enter the SQLERR system command, the following information on the most recent SQL error is displayed:

- the Natural error message number;
- the corresponding reason code (if applicable);
- the SQL code returned by the ConnecX SQL engine or the SQL database system;
- the corresponding error message.

The SQLERR system command can be issued either from the Natural NEXT prompt or from within a Natural program (by using the FETCH statement).

### Sample SQLERR Diagnostic Information Screen

```

*** SQLERR Diagnostic Information ***
----- Natural SQL Interface Codes -----
Return Code: 3700      Reason Code: 0          ZZN01      SQL code: -4017
----- SQLCA -----

SQLERRD (Additional Information)

      Number of Rows Processed          :          0

SQLWARN (Warning Flags)
      Data truncated                    :

      No. of columns greater than No. of host variables :
CNX Error Message :
4017(E): SERVER ERROR: ODBC:(HY000) NATIVE:(0) : Ambiguous table reference: (D
EMO) ? PERS_ID , NAME , ADDRESS , DATEOFBIRTH , SALARY FROM << Syntax Error >>
NSB.DEMO ?.

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Error Exit  Expl      Parms  -      +      Prev Next  Canc

```