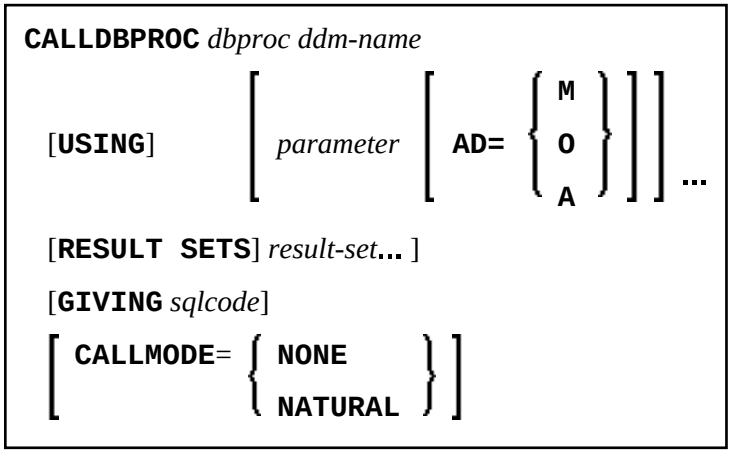
CALLDBPROC - SQL



This chapter covers the following topics:

- Function
- Restriction
- Syntax Description
- Example

For an explanation of the symbols used in the syntax diagram, see *Syntax Symbols*.

Belongs to Function Group: *Database Access and Update*

See also *NDB - CALLDBPROC* in the *Natural for DB2* part of the *Database Management System Interfaces* documentation.

Function

The CALLDBPROC statement is used to invoke a stored procedure of the SQL database system to which Natural is connected.

The stored procedure can be either a Natural subprogram or a program written in another programming language.

In addition to the passing of parameters between the invoking object and the stored procedure, CALLDBPROC supports "result sets"; these make it possible to return a larger amount of data from the stored procedure to the invoking object than would be possible via parameters.

The result sets are "temporary result tables" which are created by the stored procedure and which can be read and processed by the invoking object via a READ RESULT SET statement.

Note:
In general, the invoking of a stored procedure could be compared with the invoking of a Natural subprogram: when the CALLDBPROC statement is executed, control is passed to the stored procedure;

after processing of the stored procedure, control is returned to the invoking object and processing continues with the statement following the CALLDBPROC statement.

Restriction

This statement is not available with Natural for SQL.

Syntax Description

dbproc	**Stored Procedure To Be Invoked:** As *dbproc* you specify the name of the stored procedure to be invoked. The name can be specified either as an alphanumeric variable or as a constant (enclosed in apostrophes). The name must adhere to the rules for stored procedure names of the target database system. If the stored procedure is a Natural subprogram, the actual procedure name must not be longer than 8 characters.
ddm-name	**Name of a Natural Data Definition Module:** The name of a DDM must be specified to provide the "address" of the database which executes the stored procedure. For more information see *ddm-name*.
[USING] ***parameter***	**Parameters To Be Passed:** As *parameter*, you can specify parameters which are passed from the invoking object to the stored procedure. A *parameter* can be • a host-variable (optionally with INDICATOR and LINDICATOR clauses), • a constant, or • the keyword NULL. See further details on *host-variable*.

<table>
<tr><td>AD=</td><td colspan="2">Attribute Definition:
If the parameter is a host-variable, you can mark it as follows:</td></tr>
<tr><td></td><td>AD=O</td><td>Non-modifiable, see session parameter AD=O.

(Corresponding procedure notation in DB2 for z/OS: IN.)</td></tr>
<tr><td></td><td>AD=M</td><td>Modifiable, see session parameter AD=M.

(Corresponding procedure notation in DB2 for z/OS: INOUT.)</td></tr>
<tr><td></td><td>AD=A</td><td>For input only, see session parameter AD=A.

(Corresponding procedure notation in DB2 for z/OS: OUT.)</td></tr>
<tr><td></td><td colspan="2">If the parameter is a constant, AD cannot be explicitly specified. For constants AD=O always applies.</td></tr>
<tr><td>result-set</td><td colspan="2">Field for Result-Set Locator Variable:

As result-set you specify a field in which a result-set locator is to be returned.

A result set has to be a variable of format/length I4.

The value of a result set variable is merely a number which identifies the result set and which can be referenced in a subsequent READ RESULT SET statement.

The sequence of the result-set values correspond to the sequence of the result sets returned by the stored procedure.

The contents of the result sets can be processed by a subsequent READ RESULT SET statement.

If no result set is returned, the corresponding result-set variable will contain 0.

Multiple result sets can be specified.

See also Result Sets (in the Natural for DB2 part of the Database Management System Interfaces documentation).</td></tr>
<tr><td>GIVING sqlcode</td><td colspan="2">GIVING sqlcode Option:

This option may be used to obtain the SQL code of the SQL CALL statement invoking the stored procedure.

If this option is specified and the SQL code of the stored procedure is not 0, no Natural error message will be issued. In this case, the action to be taken in reaction to the SQL code value has to be coded in the invoking Natural object.

The sqlcode field has to be a variable of format/length I4.

If the GIVING sqlcode option is omitted, a Natural error message will be issued if the SQL code of the stored procedure is not 0.</td></tr>
</table>

CALLMODE	**CALLMODE Parameter:** If the stored procedure is a Natural subprogram which is defined with `PARAMETER STYLE GENERAL` or `PARAMETER STYLE GENERAL WITH NULL`, `CALLMODE=NATURAL` has to be specified, otherwise specify `NONE`. **Note:** `CALLMODE=NATURAL` also has an impact on internal parameters that are passed to/from the stored procedure; see *CALLMODE=NATURAL* (in the section *NDB - CALLDBPROC* of the *Database Management System Interfaces* documentation) for details.

Example

The following example shows a Natural program that calls the stored procedure `DEMO_PROC` to retrieve all names of table `PERSON` that belong to a given range.

Three parameter fields are passed to `DEMO_PROC`: the first and second parameters pass starting and ending values of the range of names to the stored procedure, and the third parameter receives a name that meets the criterion.

In this example, the names are returned in a result set that is processed using the `READ RESULT SET` statement.

```
DEFINE DATA LOCAL
1 PERSON VIEW OF DEMO-PERSON
  2 PERSON_ID
  2 LAST_NAME
1 #BEGIN    (A2) INIT <'AB'>
1 #END      (A2) INIT <'DE'>
1 #RESPONSE (I4)
1 #RESULT   (I4)
1 #NAME (A20)
END-DEFINE

...

CALLDBPROC 'DEMO_PROC' DEMO-PERSON #BEGIN (AD=O) #END (AD=O) #NAME (AD=A)
    RESULT SETS #RESULT
    GIVING #RESPONSE

READ RESULT SET #RESULT INTO #NAME FROM DEMO-PERSON
    GIVING #RESPONSE
  DISPLAY #NAME
END-RESULT

...

END
```

For further examples, see *Example of CALLDBPROC/READ RESULT SET* (in the section *NDB - CALLDBPROC* of the *Database Management System Interfaces* documentation).