

# DELETE - SQL

This chapter covers the following topics:

- Function
- Syntax 1 - Searched DELETE
- Syntax 2 - Positioned DELETE

Belongs to Function Group: *Database Access and Update*

See also the following sections in the *Database Management System Interfaces* documentation:

- *DELETE - SQL* in the *Natural for DB2* part.
  - *DELETE - SQL* in the *Natural for SQL/DS* part.
  - *DELETE - SQL* in the *Natural SQL Gateway* part.
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## Function

The SQL DELETE statement is used to delete either rows in a table without using a cursor ("searched" DELETE) or rows in a table to which a cursor is positioned ("positioned" DELETE).

Two different structures are possible.

## Syntax 1 - Searched DELETE

The "searched" DELETE statement is a stand-alone statement not related to any SELECT statement. With a single statement you can delete zero, one, multiple or all rows of a table. The rows to be deleted are determined by a *search-condition* that is applied to the table. Optionally, the table name can be assigned a *correlation-name*.

### Note:

The number of rows that have actually been deleted with a "searched" DELETE can be ascertained by using the system variable \*ROWCOUNT; see *System Variables* documentation.

Common Set Syntax:

```
DELETE FROM table-name [(correlation-name )] [WHERE search-condition]
```

Extended Set Syntax:

```

DELETE FROM table-name [(correlation-name )]
[include-columns [SET assignment-clause]]
[WHERE search-condition]
[ WITH      { RR } ] [ SKIP LOCKED DATA] [QUERYNO integer]
  { RS }
  { CS }

```

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

Syntax Element Description:

Syntax Element	Description
FROM <i>table-name</i>	<b>FROM Clause:</b> This clause specifies the table from which the rows are to be deleted.
<i>correlation-name</i>	<b>Correlation Name:</b> Optionally, the table name can be assigned a <i>correlation-name</i> .
<i>include-columns</i>	<b>Include Columns Clause:</b> Optionally, specifies a set of columns that are included, along with the columns of <i>table-name</i> , in the result table of the DELETE statement, when it is nested in the FROM clause of a SELECT statement. For further details, see <i>include-columns</i> .
SET <i>assignment-clause</i>	<b>SET Assignment Clause:</b> Introduces the assignment of values to the included columns of the <i>include-columns</i> clause. See assignment clause of SQL UPDATE statement.
WHERE <i>search-condition</i>	<b>WHERE Clause:</b> This clause is used to specify the selection criteria for the rows to be deleted.  If no WHERE clause is specified, the entire table is deleted.
WITH	<b>WITH Isolation Level Clause:</b> This clause belongs to the SQL Extended Set.  This clause enables the explicit specification of the isolation level used when locating the row to be deleted.
	CS            Cursor Stability
	RR            Repeatable Read
	RS            Read Stability

Syntax Element	Description
SKIP LOCKED DATA	<p><b>SKIP LOCKED DATA Clause:</b></p> <p>This clause specifies that rows are skipped when incompatible locks are held on the row by other transactions.</p>
QUERYNO <i>integer</i>	<p><b>QUERYNO Clause:</b></p> <p>This clause belongs to the SQL Extended Set.</p> <p>This clause explicitly specifies the number to be used in EXPLAIN output and trace records for this statement. The number is used as QUERYNO column in the PLAN_TABLE for the rows that contain information on this statement.</p>

## Syntax 2 - Positioned DELETE

The "positioned" DELETE statement always refers to a cursor within a database loop. Therefore the table referenced by a positioned DELETE statement must be the same as the one referenced by the corresponding SELECT statement, otherwise an error message is returned. A positioned DELETE cannot be used with a non-cursor selection.

The functionality of the positioned DELETE statement corresponds to that of the "normal" Natural DELETE statement.

Common Set Syntax:

```
DELETE FROM table-name WHERE CURRENT OF CURSOR [(r)]
```

Extended Set Syntax:

```
DELETE FROM table-name WHERE CURRENT OF CURSOR [(r)] [ FOR ROW { [:host-variable] } OF ROWSET ]
```

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

Syntax Element Description:

Syntax Element	Description
FROM <i>table-name</i> WHERE CURRENT OF CURSOR	<b>FROM Clause:</b>  This clause specifies the table from which the rows are to be deleted.
( <i>r</i> )	<b>Statement Reference:</b>  The ( <i>r</i> ) notation is used to reference the statement which was used to select the row to be deleted. If no statement reference is specified, the DELETE statement is related to the innermost active processing loop in which a database record was selected.
FOR ROW ... OF ROWSET	<b>FOR ROW ... OF ROWSET Clause:</b>  This clause belongs to the SQL Extended Set.  The optional FOR ROW ... OF ROWSET clause for positioned SQL DELETE statements specifies which row of the current rowset has to be deleted. It should only be specified if the DELETE statement is related to a SELECT statement which uses rowset positioning and which has column arrays in its INTO clause, see <i>INTO Clause</i> . If this clause is omitted, all rows of the current rowset are deleted.