



INTERNATIONAL STANDARD ISO/IEC 9075-4:2016
TECHNICAL CORRIGENDUM 2

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**Information technology — Database languages — SQL — Part 4:
Persistent stored modules (SQL/PSM)**

TECHNICAL CORRIGENDUM 2

*Technologies de l'information — Langages de base de données — SQL — Partie 4: Modules
stockés persistants (SQL/PSM)*

RECTIFICATIF TECHNIQUE 2

Technical Corrigendum 2 to ISO/IEC 9075-4:2016 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

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4 Concepts

4.1 SQL-server modules

1. *Rationale: Clarify the precision of timestamps.*

Replace the 9th bullet of the 5th paragraph with:

- The creation timestamp, of an implementation-defined timestamp type.

5 Lexical elements

5.2 Names and identifiers

1. *Rationale: Add missing condition.*

Replace the lead text of Syntax Rule 5) b) with:

5) ...

- b) If *UDTN* is simply contained in <schema-resolved user-defined type name> and *UDTN* does not contain a <schema name>, then

Case:

9 Additional common elements

9.1 <routine invocation>

1. *Rationale: Supply the correct arguments.*

Replace Syntax Rule 4) with:

- 4) Replace SR 9)h)iii)5) If XA_i is an <SQL variable reference>, an <SQL parameter reference>, a <column reference>, or a <target array element specification>, then the Syntax Rules of Subclause 9.2, "Store assignment", in ISO/IEC 9075-2, are applied with XA_i as *TARGET* and P_i as *VALUE*.

NOTE 11 — The <column reference> can only be a new transition variable column reference.

11 Access control

11.2 <privileges>

1. *Rationale: Replace the use of "may" and clarify.*

Replace Syntax Rule 1) with:

- 1) Insert after SR 4)d) If the object identified by *ON* is an SQL-server module, then *AC* shall specify EXECUTE.

NOTE 2 — The Rule number above is the one after the application of the TC for SQL/Foundation.

11.3 <revoke statement>

1. *Rationale: Add missing containers of subject routines.*

Replace General Rule 8) with:

- 8) Insert after GR 29)a) EXECUTE privilege on every SQL-server module that includes one or more SQL-invoked routines that are among the subject routines of a <routine invocation>, <method invocation>, <static method invocation>, or <method reference> that is contained in the <SQL routine body> of *RD* or in the <parameter default> of any SQL parameter of *RD*.

2. *Rationale: Add missing containers of subject routines.*

Replace General Rules 9) a) and b) with:

- 9) ...
- a) EXECUTE privilege on every schema-level routine that is among the subject routines of a <routine invocation>, <method invocation>, <static method invocation>, or <method reference> that is contained in the <SQL routine body> of any SQL-invoked routine included in *SSM*.
- b) EXECUTE privilege on every SQL-server module that includes one or more SQL-invoked routines that are among the subject routines of a <routine invocation>, <method invocation>, <static method invocation>, or <method reference> that is contained in the <SQL routine body> of any SQL-invoked routine included in *SSM*.

3. *Rationale: Use the correct BNF terms.*

Replace General Rule 9) e) with:

- 9) ...
- e) SELECT privilege on at least one column of each table identified by a <table reference> contained in a <search condition> contained in a <delete statement: searched>, an <update statement: searched>, or a <merge statement> contained in the <SQL routine body> of any SQL-invoked routine with an SQL security characteristic of DEFINER included in *SSM*.

12 SQL-client modules

12.2 <SQL procedure statement>

1. *Rationale: Address the case where there is no most appropriate handler.*

Replace General Rule 3) with: