
**Information technology — Database
languages — SQL —**

**Part 5:
Host Language Bindings (SQL/Bindings)**

*Technologies de l'information — Langages de base de données — SQL —
Partie 5: Liants de langage d'hôte (SQL/Liants)*
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

International Standard ISO/IEC 9075-5 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 32, *Data management and interchange*.

ISO/IEC 9075 consists of the following parts, under the general title *Information technology — Database languages — SQL*:

- *Part 1: Framework (SQL/Framework)* [ISO/IEC 9075-5:1999](https://standards.iso.org/standards/sist/ed9b7868-c620-46d9-b8cb-49678bd2646a/iso-iec-9075-5-1999)
- *Part 2: Foundation (SQL/Foundation)*
- *Part 3: Call-Level Interface (SQL/CLI)*
- *Part 4: Persistent Stored Modules (SQL/PSM)*
- *Part 5: Host Language Bindings (SQL/Bindings)*

Annexes A, B, C, D, E, and F of this part of ISO/IEC 9075 are for information only.

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Introduction

The organization of this part of ISO/IEC 9075 is as follows:

- 1) Clause 1, "Scope", specifies the scope of this part of ISO/IEC 9075.
- 2) Clause 2, "Normative references", identifies additional standards that, through reference in this part of ISO/IEC 9075, constitute provisions of this part of ISO/IEC 9075.
- 3) Clause 3, "Definitions, notations, and conventions", defines the notations and conventions used in this part of ISO/IEC 9075.
- 4) Clause 4, "Concepts", presents concepts used in the definition of Persistent SQL modules.
- 5) Clause 5, "Lexical elements", defines the lexical elements of the language.
- 6) Clause 6, "Scalar expressions", defines the elements of the language that produce scalar values.
- 7) Clause 7, "Query expressions", defines the elements of the language that produce rows and tables of data.
- 8) Clause 8, "Additional common elements", defines additional language elements that are used in various parts of the language.
- 9) Clause 9, "Data assignment rules and routine determination", specifies the rules for assignments that retrieve data from or store data into SQL-data, and formation rules for set operations.
- 10) Clause 10, "Schema definition and manipulation", defines facilities for creating and managing a schema.
- 11) Clause 11, "SQL-client modules", defines modules and procedures.
- 12) Clause 12, "Data manipulation", defines the data manipulation statements.
- 13) Clause 13, "Transaction management", defines the SQL-transaction management statements.
- 14) Clause 14, "Session management", defines the SQL-session management statements.
- 15) Clause 15, "Dynamic SQL", defines the SQL dynamic statements.
- 16) Clause 16, "Embedded SQL", defines the host language embeddings.
- 17) Clause 17, "Direct invocation of SQL", defines direct invocation of SQL language.
- 18) Clause 18, "Diagnostics management", defines the diagnostics management facilities.
- 19) Clause 19, "Definition Schema", defines base tables on which the viewed tables containing schema information depend.
- 20) Clause 20, "Status codes", defines values that identify the status of the execution of SQL-statements and the mechanisms by which those values are returned.
- 21) Clause 21, "Conformance", defines the criteria for conformance to this part of ISO/IEC 9075.

- 22) Annex A, "SQL Conformance Summary", is an informative Annex. It summarizes the conformance requirements of the SQL language.
- 23) Annex B, "Implementation-defined elements", is an informative Annex. It lists those features for which the body of this part of ISO/IEC 9075 states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or any other behavior is partly or wholly implementation-defined.
- 24) Annex C, "Implementation-dependent elements", is an informative Annex. It lists those features for which the body of this part of ISO/IEC 9075 states that the syntax, the meaning, the returned results, the effect on SQL-data and/or schemas, or any other behavior is partly or wholly implementation-dependent.
- 25) Annex D, "Deprecated features", is an informative Annex. It lists features that the responsible Technical Committee intends will not appear in a future revised version of ISO/IEC 9075.
- 26) Annex E, "Incompatibilities with ISO/IEC 9075:1992", is an informative Annex. It lists the incompatibilities between this version of ISO/IEC 9075 and ISO/IEC 9075:1992.
- 27) Annex F, "SQL feature and package taxonomy" is an informative Annex. It identifies features of the SQL language specified in this part of ISO/IEC 9075 by a numeric identifier and a short descriptive name. This taxonomy is used to specify conformance to Core SQL and may be used to develop other profiles involving the SQL language.

In the text of this part of ISO/IEC 9075, Clauses begin a new odd-numbered page, and in Clause 5, "Lexical elements", through Clause 21, "Conformance", Subclauses begin a new page. Any resulting blank space is not significant.

Information technology — Database languages — SQL —

Part 5:

Host Language Bindings (SQL/Bindings)

1 Scope

This part of ISO/IEC 9075 specifies:

- Syntax for embedding SQL-statements in a compilation unit that otherwise conforms to the standard for a particular programming language (host language).
- How an equivalent compilation unit may be derived that conforms to the particular programming language standard. In that equivalent compilation unit, each embedded SQL-statement has been replaced by one or more statements in the host language, some of which invoke an SQL externally-invoked procedure that, when executed, has an effect equivalent to executing the SQL-statement.
- Syntax for direct invocation of SQL-statements.
- SQL language to support dynamic preparation and execution of SQL-statements.

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2 Normative references

Insert this paragraph The following standards contain provisions that, through reference in this text, constitute provisions of this part of ISO/IEC 9075. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 9075 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 1539-1:1997, *Information technology — Programming languages — Fortran — Part 1: Base language*.

ISO 1989:1985, *Programming languages — COBOL*.
(Endorsement of ANSI X3.23-1985).

ISO 6160:1979, *Programming languages — PL/I*.
(Endorsement of ANSI X3.53-1976).

ISO/IEC 7185:1990, *Information technology — Programming languages—Pascal*.

ISO 8652:1995, *Information technology — Programming languages — Ada*.

ISO/IEC 9075-1, *Information technology — Database languages — SQL — Part 1: Framework (SQL/Framework)*.

ISO/IEC 9075-2, *Information technology — Database languages — SQL — Part 2: Foundation (SQL/Foundation)*.

ISO/IEC 9075-3:1995, *Information technology — Database languages — SQL — Part 3: Call-Level Interface (SQL/CLI)*.

ISO/IEC 9075-4, *Information technology — Database languages — SQL — Part 4: Persistent Stored Modules (SQL/PSM)*.

ISO/IEC 9899:1990, *Programming languages — C*.

ISO/IEC 9899:1990/Amendment 1:1995, *Amendment to ISO/IEC 9899:1990 — C Integrity*.

ISO/IEC 10206:1991, *Information technology — Programming languages—Extended Pascal*.

ISO/IEC 11756:1992, *Information technology—Programming languages — MUMPS*.