

Additional Resources

These standards are important for the MySQL implementation of spatial operations:

- SQL/MM Part 3: Spatial.
- The [Open Geospatial Consortium](http://www.opengeospatial.org/) publishes the *OpenGIS® Implementation Standard for Geographic information*, a document that proposes several conceptual ways for extending an SQL RDBMS to support spatial data. See in particular Simple Feature Access - Part 1: Common Architecture, and Simple Feature Access - Part 2: SQL Option. The Open Geospatial Consortium (OGC) maintains a website at <http://www.opengeospatial.org/>. The specification is available there at <http://www.opengeospatial.org/standards/sfs>. It contains additional information relevant to the material here.
- The grammar for [spatial reference system](#) (SRS) definitions is based on the grammar defined in *OpenGIS Implementation Specification: Coordinate Transformation Services*, Revision 1.00, OGC 01-009, January 12, 2001, Section 7.2. This specification is available at <http://www.opengeospatial.org/standards/ct>. For differences from that specification in SRS definitions as implemented in MySQL, see [Section 13.1.19, “CREATE SPATIAL REFERENCE SYSTEM Statement”](#).

If you have questions or concerns about the use of the spatial extensions to MySQL, you can discuss them in the GIS forum: <https://forums.mysql.com/list.php?23>.

11.4.1 Spatial Data Types

MySQL has spatial data types that correspond to OpenGIS classes. The basis for these types is described in [Section 11.4.2, “The OpenGIS Geometry Model”](#).

Some spatial data types hold single geometry values:

- [GEOMETRY](#)
- [POINT](#)
- [LINESTRING](#)
- [POLYGON](#)

[GEOMETRY](#) can store geometry values of any type. The other single-value types ([POINT](#), [LINESTRING](#), and [POLYGON](#)) restrict their values to a particular geometry type.

The other spatial data types hold collections of values:

- [MULTIPOINT](#)
- [MULTILINESTRING](#)
- [MULTIPOLYGON](#)
- [GEOMETRYCOLLECTION](#)

[GEOMETRYCOLLECTION](#) can store a collection of objects of any type. The other collection types ([MULTIPOINT](#), [MULTILINESTRING](#), and [MULTIPOLYGON](#)) restrict collection members to those having a particular geometry type.

Example: To create a table named [geom](#) that has a column named [g](#) that can store values of any geometry type, use this statement: