MySQL data types

The following table contains all numeric data types that support in MySQL:

Data Type Syntax	Description
TINYINT	It is a very small integer that can be signed or unsigned. If signed, the allowable range is from -128 to 127. If unsigned, the allowable range is from 0 to 255. We can specify a width of up to 4 digits. It takes 1 byte for storage.
SMALLINT	It is a small integer that can be signed or unsigned. If signed, the allowable range is from -32768 to 32767. If unsigned, the allowable range is from 0 to 65535. We can specify a width of up to 5 digits. It requires 2 bytes for storage.
MEDIUMINT	It is a medium-sized integer that can be signed or unsigned. If signed, the allowable range is from -8388608 to 8388607. If unsigned, the allowable range is from 0 to 16777215. We can specify a width of up to 9 digits. It requires 3 bytes for storage.
INT	It is a normal-sized integer that can be signed or unsigned. If signed, the allowable range is from -2147483648 to 2147483647. If unsigned, the allowable range is from 0 to 4294967295. We can specify a width of up to 11 digits. It requires 4 bytes for storage.
BIGINT	It is a large integer that can be signed or unsigned. If signed, the allowable range is from -9223372036854775808 to 9223372036854775807. If unsigned, the allowable range is from 0 to 18446744073709551615. We can specify a width of up to 20 digits. It requires 8 bytes for storage.
FLOAT(m,d)	It is a floating-point number that cannot be unsigned. You

	can define the display length (m) and the number of decimals (d). This is not required and will default to 10,2, where 2 is the number of decimals, and 10 is the total number of digits (including decimals). Decimal precision can go to 24 places for a float type. It requires 2 bytes for storage.
DOUBLE(m,d)	It is a double-precision floating-point number that cannot be unsigned. You can define the display length (m) and the number of decimals (d). This is not required and will default to 16,4, where 4 is the number of decimals. Decimal precision can go to 53 places for a double. Real is a synonym for double. It requires 8 bytes for storage.
DECIMAL(m,d)	An unpacked floating-point number that cannot be unsigned. In unpacked decimals, each decimal corresponds to one byte. Defining the display length (m) and the number of decimals (d) is required. Numeric is a synonym for decimal.
BIT(m)	It is used for storing bit values into the table column. Here, M determines the number of bit per value that has a range of 1 to 64.
BOOL	It is used only for the true and false condition. It considered numeric value 1 as true and 0 as false.
BOOLEAN	It is Similar to the BOOL.

Date and Time Data Type:

This data type is used to represent temporal values such as date, time, datetime, timestamp, and year. Each temporal type contains values, including zero. When we insert the invalid value, MySQL cannot represent it, and then zero value is used.

The following table illustrates all date and time data types that support in MySQL:

Data Type	Maximum Size	Explanation

Syntax		
YEAR[(2|4)]	Year value as 2 digits or 4 digits.	The default is 4 digits. It takes 1 byte for storage.
DATE	Values range from '1000-01-01' to '9999-12-31'.	Displayed as 'yyyy-mm-dd'. It takes 3 bytes for storage.
TIME	Values range from '-838:59:59' to '838:59:59'.	Displayed as 'HH:MM:SS'. It takes 3 bytes plus fractional seconds for storage.
DATETIME	Values range from '1000-01-01 00:00:00' to '9999-12-31 23:59:59'.	Displayed as 'yyyy-mm-dd hh:mm:ss'. It takes 5 bytes plus fractional seconds for storage.
TIMESTAMP(m)	Values range from '1970-01-01 00:00:01' UTC to '2038-01-19 03:14:07' TC.	Displayed as 'YYYY-MM-DD HH:MM:SS'. It takes 4 bytes plus fractional seconds for storage.

String Data Types:

The string data type is used to hold plain text and binary data, for example, files, images, etc. MySQL can perform searching and comparison of string value based on the pattern matching such as LIKE operator, Regular Expressions, etc.

The following table illustrates all string data types that support in MySQL:

Data Type Syntax	Maximum Size	Explanation
CHAR(size)	It can have a maximum size of 255 characters.	Here size is the number of characters to store. Fixed-length strings. Space padded on the right to equal size characters.
VARCHAR(size)	It can have a maximum size of 255 characters.	Here size is the number of characters to store. Variable-length string.
TINYTEXT(size)	It can have a maximum size of 255 characters.	Here size is the number of characters to store.
TEXT(size)	Maximum size of 65,535	Here size is the number of

	characters.	characters to store.
MEDIUMTEXT (size)	It can have a maximum size of 16,777,215 characters.	Here size is the number of characters to store.
LONGTEXT(size)	It can have a maximum size of 4GB or 4,294,967,295 characters.	Here size is the number of characters to store.
BINARY(size)	It can have a maximum size of 255 characters.	Here size is the number of binary characters to store. Fixed-length strings. Space padded on the right to equal size characters. (introduced in MySQL 4.1.2)
VARBINARY(size)	It can have a maximum size of 255 characters.	Here size is the number of characters to store. Variable-length string. (introduced in MySQL 4.1.2)
ENUM	It takes 1 or 2 bytes that depend on the number of enumeration values. An ENUM can have a maximum of 65,535 values.	It is short for enumeration, which means that each column may have one of the specified possible values. It uses numeric indexes (1, 2, 3...) to represent string values.
SET	It takes 1, 2, 3, 4, or 8 bytes that depends on the number of set members. It can store a maximum of 64 members.	It can hold zero or more, or any number of string values. They must be chosen from a predefined list of values specified during table creation.

Binary Large Object Data Types (BLOB):

BLOB in MySQL is a data type that can hold a variable amount of data. They are categories into four different types based on the maximum length of values can hold.

The following table shows all Binary Large Object data types that support in MySQL:

Data Type Syntax	Maximum Size
TINYBLOB	It can hold a maximum size of 255 bytes.
BLOB(size)	It can hold the maximum size of 65,535 bytes.
MEDIUMBLOB	It can hold the maximum size of 16,777,215 bytes.
LONGBLOB	It can hold the maximum size of 4gb or 4,294,967,295 bytes.