Date and Time Types

DATE

- Used only for date values.
- Values are displayed in YYYY-MM-DD format regardless of the format that was entered.
- The supported range is 1000-01-01 to 9999-12-31.

DATETIME

- Used for date and time values.
- Values are displayed in YYYY-MM-DD hh:mm:ss format regardless of the format that was entered.
- The supported range is 1000-01-01 00:00:00 to 9999-12-31 23:59:59.
- Can contain fractional seconds up to six digits long that are separated from the time by a decimal.

Date and Time Types

TIMESTAMP

- Used for date and time values.
- Values are displayed in YYYY-MM-DD hh:mm:ss format regardless of the format that was entered.
- The supported range is 1970-01-01 00:00:01 UTC to 2038-01-19 03:14:07 UTC.
- Can contain fractional seconds up to six digits that are separated from the time by a decimal.
- Values are converted from the current time zone to UTC for storage and then back to the current time zone upon retrieval.

Note: The current time zone will be set to the server's time zone by default, but this can be changed on a per-connection basis. For example, to set the time zone to UTC for the current session, use *SET time_zone='00:00';

TIME

- Used only for time values.
- Values are displayed in hh:mm:ss or hhh:mm:ss format.
- The supported range is -838:59:59 to 838:59:59.
- Can contain fractional seconds up to six digits that are separated from the time by a decimal.

Date and Time Types

YEAR

- Used only for valid year values.
- Values are displayed in `YYYY` format.
- The supported range is `1901` to `2155`.
- Input for 4-digit `YEAR` values can be in number or string format `1901` to `2155` and `'1901'` to `'2155'` respectively.
- Input for 1 or 2-digit `YEAR` numbers can range from `1` to `99` (1 to 69 is converted into 2001 to 2069, and 70 to 99 is converted into 1970 to 1999).
- Input for 1 or 2-digit `YEAR` strings can range from `'0'` to `'99'` ('0' to '69' is converted into 2000 to 2069, and '70' to '99' is converted into 1970 to 1999).

Creating Tables

Date and Time Formats

- MySQL allows any punctuation character to serve as a delimiter for dates and times, except for a decimal when it is used to indicate fractional seconds. For example, `1988;02;27` would be converted to `1988-02-27`.
- Invalid dates and times are stored as `'0000-00-00'` and `'00:00:00'` respectively.
- Two digit year values are interpreted as follows:
  - 00-69 is converted to 2000-2069
  - 70-99 is converted to 1970-1999
- Abbreviated `TIME` values with colons are interpreted as the time of the day (i.e. 10:30 is interpreted as 10:30:00 not 00:10:30).
- Abbreviated `TIME` values without colons are interpreted assuming the two rightmost digits are seconds (i.e. 1030 is interpreted as 00:10:30 not 10:30:00).