

SELECT statement (see <https://mariadb.com/kb/en/selecting-data/> for more details)

General form:

```
SELECT [DISTINCT] { * | [columnExpression [AS name]] [, ...] }  
FROM TableName [AS name] [[, ...] | [joinExpression]]  
[WHERE condition]  
[GROUP BY columnList] [HAVING condition]  
[ORDER BY columnList]
```

Basic conditions:

- **Comparison:**
 - =, <> (!=), <, <=, >, >=
- **Range:**
 - BETWEEN, NOT BETWEEN
- **Set membership:**
 - IN, NOT IN
- **Pattern match:**
 - LIKE, NOT LIKE
- **Null:**
 - IS NULL, IS NOT NULL

Numeric operators:

- +, -, *, /, %

Logical expression:

- NOT, AND, OR
- (,)

Aggregate functions:

- COUNT
- SUM
- MIN
- MAX
- AVG

Joins:

- TableName1 INNER JOIN TableName2 ON joinCondition
- TableName1 LEFT OUTER JOIN TableName2 ON joinCondition
- TableName1 RIGHT OUTER JOIN TableName2 ON joinCondition

Subqueries:

- **Scalar subqueries:**
... attributeName [op] (SELECT [columnExpression] FROM ...)
- **TABLE subqueries:**
... attributeName [NOT] IN (SELECT ...)
... (attributeName1, attributeName2 [, ...]) [NOT] IN
 (SELECT ...)
... FROM (SELECT ...) AS tempTableName ...

- EXISTS subqueries:
... WHERE [NOT] EXISTS (SELECT * FROM ...)

SQL Update Statements (see <https://mariadb.com/kb/en/inserting-loading-data/> and <https://mariadb.com/kb/en/changing-deleting-data/> for more details):

Inserting data into the database

```
INSERT INTO TableName [(columnList)]
VALUES (dataValueList) [, ...]
```

```
INSERT INTO TableName [(columnList)]
SELECT ...
```

Updating data in the database

```
UPDATE TableName
SET columnName1 = dataValue1 [, columnName2 = dataValue2 ...]
[WHERE searchCondition]
```

Deleting data from the database

```
DELETE FROM TableName
[WHERE searchCondition]
```

MariaDB built-in functions:

Selected string functions (See <https://mariadb.com/kb/en/string-functions/> for more):

CHAR_LENGTH: Length of the string in characters.

CONCAT: Returns concatenated string.

CONCAT_WS: Concatenate with separator.

FORMAT: Formats a number.

INSERT: Replaces a part of a string with another string.

INSTR: Returns the position of a string within a string.

LEFT: Returns the leftmost characters from a string.

LOCATE: Returns the position of a substring in a string.

LOWER: Returns a string with all characters changed to lowercase.

LPAD: Returns the string left-padded with another string to a given length.

LTRIM: Returns the string with leading space characters removed.

POSITION: Returns the position of a substring in a string.

QUOTE: Returns quoted, properly escaped string.

REGEXP: Performs pattern matching

REGEXP_INSTR: Position of the first appearance of a regex

REGEXP_REPLACE: Replaces all occurrences of a pattern

REGEXP_SUBSTR: Returns the matching part of a string

REVERSE: Reverses the order of a string.

RIGHT: Returns the rightmost N characters from a string.

RPAD: Returns the string right-padded with another string to a given length.

RTRIM: Returns the string with trailing space characters removed.

STRCMP: Compares two strings in sort order.
SUBSTR: Returns a substring from string starting at a given position.
TRIM: Returns a string with all given prefixes or suffixes removed.
UPPER: Changes string to uppercase.

Selected ate and time functions (See <https://mariadb.com/kb/en/date-time-functions/> for more):

ADDDATE: Add days or another interval to a date.
ADDTIME: Adds a time to a time or datetime.
CURDATE: Returns the current date.
CURTIME: Returns the current time.
DATE: Extracts the date portion of a datetime.
DATEDIFF: Difference in days between two date/time values.
DATE_ADD: Date arithmetic - addition.
DATE_FORMAT: Formats the date value according to the format string.
DATE_SUB: Date arithmetic - subtraction.
DAYOFMONTH: Returns the day of the month.
DAYOFWEEK: Returns the day of the week index.
DAYOFYEAR: Returns the day of the year.
HOUR: Returns the hour.
MINUTE: Returns a minute from 0 to 59.
MONTH: Returns a month from 1 to 12.
NOW: Returns the current date and time.
SECOND: Returns the second of a time.
SUBDATE: Subtract a date unit or number of days.
SUBTIME: Subtracts a time from a date/time.
TIME: Extracts the time.
TIMEDIFF: Returns the difference between two date/times.
TIME_FORMAT: Formats the time value according to the format string.
WEEKDAY: Returns the weekday index.
YEAR: Returns the year for the given date.

Selected numeric functions (See <https://mariadb.com/kb/en/numeric-functions/> for more):

DIV: Integer division.
ABS: Returns an absolute value.
CEILING: Returns the smallest integer not less than X.
EXP: e raised to the power of the argument.
FLOOR: Largest integer value not greater than the argument.
LN: Returns natural logarithm.
LOG: Returns the natural logarithm.
LOG10: Returns the base-10 logarithm.
LOG2: Returns the base-2 logarithm.
MOD: Modulo operation. Remainder of N divided by M.

PI: Returns the value of π (pi).

POW: Returns X raised to the power of Y.

RAND: Random floating-point value.

ROUND: Rounds a number.

SQRT: Square root.

TRUNCATE: Truncates a number to a specified number of decimal places.

Selected encryption, hashing, and compression functions (See

<https://mariadb.com/kb/en/encryption-hashing-and-compression-functions/> for more):

AES_DECRYPT: Decryption data encrypted with `AES_ENCRYPT()`.

AES_ENCRYPT: Encrypts a string with the AES algorithm.

COMPRESS: Returns a binary, compressed string.

DECODE: Decrypts a string encoded with `ENCODE()`.

DES_DECRYPT: Decrypts a string encrypted with `DES_ENCRYPT()`.

DES_ENCRYPT: Encrypts a string using the Triple-DES algorithm.

ENCODE: Encrypts a string.

PASSWORD: Calculates a password string.

SHA1: Calculates an SHA-1 checksum.

SHA2: Calculates an SHA-2 checksum.

UNCOMPRESS: Uncompresses string compressed with `COMPRESS()`.