

Data Types

CHAR / VARCHAR	String (0 - 255)
TEXT	String (0 - 65535)
MEDIUMTEXT	String (0 - 16777215)
LONGTEXT	String (0 - 4294967295)
TINYINT x	Integer(-128 to 127)
SMALLINT x	Integer(-32768 to 32767)
MEDIUMINT x	Integer (-8388608 to 8388607)
INT x	Integer (-2147483648 to 2147483647)
BIGINT x	Integer (-9223372036854775808 to 9223372036854775807)
FLOAT	Decimal (precise up to 23 digits)
DOUBLE	Decimal (24 to 53 digits)
DATE	YYYY-MM-DD
DATETIME	YYYY-MM-DD HH:MM:SS
TIMESTAMP	YYYYMMDDHHMMSS
TIME	HH:MM:SS
ENUM	One of preset options
SET	Selection of preset options

Integers (marked x) that are "UNSIGNED" have the same range of values but start from 0 (i.e., an UNSIGNED TINYINT can have any value from 0 to 255).

Select queries

Select all columns

```
SELECT * FROM tbl;
```

Select some columns

```
SELECT col1, col2 FROM tbl;
```

Select queries (cont)

Filter results

```
[SELECT Statement] WHERE condition;
```

Column alias

```
[SELECT Statement] AS newname;
```

Order results

```
[SELECT Statement] ORDER BY col [ASC | DESC];
```

Group results

```
[SELECT Statement] GROUP BY col1;
```

Limit amount of Results

```
[SELECT Statement] LIMIT = num
```

Select only unique records

```
SELECT DISTINCT FROM tbl
```

Creating and modifying

Create a database

```
CREATE DATABASE db_name;
```

Select a database

```
USE db_name;
```

List the databases on the server

```
SHOW DATABASES;
```

Show a table's fields

```
DESCRIBE tbl;
```

Create a new table

```
CREATE TABLE tbl(col1, col2);
```

Insert data into a table

```
INSERT INTO tbl VALUES("val1", "val2");
```

Delete a row

```
DELETE * FROM tbl WHERE condition;
```

Add a column to a table

```
ALTER TABLE tbl ADD COLUMN col;
```

Remove a column from a table

```
ALTER TABLE tbl DROP COLUMN col;
```

Make a column a primary key

```
ALTER TABLE tbl ADD PRIMARY KEY (col);
```

Creating and modifying (cont)

Update the values of a column

```
UPDATE tbl SET col1="val" WHERE condition;
```

Clear everything except table structure

```
TRUNCATE TABLE tbl;
```

Delete a table

```
DROP TABLE tbl;
```

Delete a database

```
DROP DATABASE db_name;
```

List all tables in database

```
SHOW TABLES;
```

Joins

INNER JOIN Returns only when in both tables

OUTER JOIN Returns non-matching records if in at least one table

LEFT JOIN Also returns non-matching records from the left table

RIGHT JOIN Also returns non-matching records from the right table

JOIN syntax:

```
SELECT * FROM tbl1 [INNER | OUTER | LEFT | RIGHT] JOIN tbl2 ON tbl1.id = tbl2.id;
```

String functions

Compare strings `STRCMP("str1", "str2");`

Convert to lower case `LOWER("str");`

Convert to upper case `UPPER("str");`

(Right) trim `RTIM("str");`

Left trim `LTRIM("str");`

Substring `SUBSTRING("str", start_pos, num_chars);`

Concatenate `CONCAT("str1", "str2");`