

MySQL Command Cheat Sheet: Quick Reference

In this cheat sheet, we are going to outline some of the fundamentals of when working with a MySQL database. This will include common command, the data types, and functions.

You can find a download PDF copy at the bottom of the cheat sheet.

Logging In and Out

Log in to MySQL.

```
mysql -u username -p
```

Log out of MySQL.

```
exit;
```

Working with Databases

Create a database.

```
CREATE DATABASE database_name;
```

Delete a database (be cautious).

```
DROP DATABASE database_name;
```

List all databases.

```
SHOW DATABASES;
```

Select a database to work with.

```
USE database_name;
```

Working with Tables

Create a table.

```
CREATE TABLE table_name (  
    column1 datatype,  
    column2 datatype,  
    ...  
);
```

Delete a table.

```
DROP TABLE table_name;
```

Show table structure.

```
DESCRIBE table_name;
```

Rename a table.

```
RENAME TABLE old_table TO new_table;
```

Data Manipulation

Insert a new row into a table.

```
INSERT INTO table_name (column1, column2, ...) VALUES (value1, value2, ...);
```

Update data in a table.

```
UPDATE table_name SET column1 = value1, column2 = value2 WHERE condition;
```

Delete data from a table.

```
DELETE FROM table_name WHERE condition;
```

Select data from a table.

```
SELECT column1, column2 FROM table_name WHERE condition;
```

Querying and Filtering

Filter data using WHERE clause.

```
SELECT * FROM table_name WHERE column_name = value;
```

Sort data using ORDER BY.

```
SELECT * FROM table_name ORDER BY column_name ASC/DESC;
```

Limit the number of results.

```
SELECT * FROM table_name LIMIT num_rows;
```

Aggregation Functions

Count rows.

```
SELECT COUNT(*) FROM table_name;
```

Calculate the average.

```
SELECT AVG(column_name) FROM table_name;
```

Find the maximum value.

```
SELECT MAX(column_name) FROM table_name;
```

Find the minimum value.

```
SELECT MIN(column_name) FROM table_name;
```

Joining Tables

Inner join.

```
SELECT * FROM table1 INNER JOIN table2 ON table1.column = table2.column;
```

Left join.

```
SELECT * FROM table1 LEFT JOIN table2 ON table1.column = table2.column;
```

Right join.

```
SELECT * FROM table1 RIGHT JOIN table2 ON table1.column = table2.column;
```

Backup and Restore

Export data (backup).

```
mysqldump -u username -p database_name > backup_file.sql
```

Import data (restore).

```
mysql -u username -p database_name < backup_file.sql
```

Data Types

Numeric Types

- `INT` - Integer (whole number)
- `TINYINT` - Tiny integer (small whole number)
- `SMALLINT` - Small integer
- `MEDIUMINT` - Medium integer
- `BIGINT` - Big integer
- `FLOAT` - Floating-point number (single precision)
- `DOUBLE` - Double-precision floating-point number
- `DECIMAL` - Exact numeric with a fixed number of decimal places

String Types

- `CHAR(n)` - Fixed-length character string
- `VARCHAR(n)` - Variable-length character string
- `TEXT` - Long text string
- `BINARY(n)` - Fixed-length binary string
- `VARBINARY(n)` - Variable-length binary string
- `BLOB` - Binary large object (for storing binary data)

Date and Time Types

- `DATE` - Date (YYYY-MM-DD)
- `TIME` - Time (HH:MM:SS)
- `DATETIME` - Date and time (YYYY-MM-DD HH:MM:SS)
- `TIMESTAMP` - Timestamp (YYYY-MM-DD HH:MM:SS)
- `YEAR` - Year (YYYY)

Boolean Type

- `BOOL` - Boolean (0 for false, 1 for true)

Enumerated Types

- `ENUM` - Enumerated type (a list of values)

Set Type

- `SET` - Set of values

Binary Large Objects (BLOBs)

- `TINYBLOB` - Tiny binary large object
- `BLOB` - Binary large object
- `MEDIUMBLOB` - Medium binary large object
- `LONGBLOB` - Long binary large object

Spatial Data Types (for geographic data)

- `GEOMETRY` - Geometric objects (points, lines, polygons, etc.)
- `POINT` - Point in a two-dimensional space
- `LINESTRING` - Curve in a two-dimensional space
- `POLYGON` - Polygonal shape in a two-dimensional space
- `GEOMETRYCOLLECTION` - Collection of geometric objects
- `MULTIPOINT` - Collection of points
- `MULTILINESTRING` - Collection of curves
- `MULTIPOLYGON` - Collection of polygonal shapes.

Function - Common Function

String Functions

- `CONCAT(str1, str2, ...)` - Concatenate strings.
- `UPPER(str)` - Convert a string to uppercase.
- `LOWER(str)` - Convert a string to lowercase.
- `SUBSTRING(str, start, length)` - Extract a substring from a string.
- `LENGTH(str)` - Get the length of a string.
- `TRIM(str)` - Remove leading and trailing spaces from a string.
- `REPLACE(str, from_str, to_str)` - Replace occurrences of a substring in a string.
- `LEFT(str, length)` - Get a specified number of characters from the left of a string.
- `RIGHT(str, length)` - Get a specified number of characters from the right of a string.

Numeric Functions

- `ABS(x)` - Get the absolute value of a number.
- `ROUND(x, d)` - Round a number to a specified number of decimal places.
- `CEIL(x)` - Round up to the nearest integer.
- `FLOOR(x)` - Round down to the nearest integer.
- `RAND()` - Generate a random number between 0 and 1.
- `MAX(expr1, expr2, ...)` - Find the maximum value in a set of expressions.
- `MIN(expr1, expr2, ...)` - Find the minimum value in a set of expressions.
- `SUM(expr)` - Calculate the sum of values in a column.
- `AVG(expr)` - Calculate the average of values in a column.

Date and Time Functions

- `NOW()` - Get the current date and time.
- `CURDATE()` - Get the current date.
- `CURTIME()` - Get the current time.
- `DATE_FORMAT(date, format)` - Format a date as a string.
- `TIMESTAMPDIFF(unit, datetime1, datetime2)` - Calculate the difference between two timestamps.
- `DATE_ADD(date, INTERVAL expr unit)` - Add an interval to a date or datetime.
- `DATE_SUB(date, INTERVAL expr unit)` - Subtract an interval from a date or datetime.

Conditional Functions

- `IF(expr, true_value, false_value)` - Return one value if a condition is true, and another if it's false.
- `CASE` - Perform conditional logic within a query.

Aggregate Functions (used with GROUP BY)

- `COUNT(expr)` - Count the number of rows.
- `SUM(expr)` - Calculate the sum of values.
- `AVG(expr)` - Calculate the average of values.
- `MAX(expr)` - Find the maximum value.
- `MIN(expr)` - Find the minimum value.

Math Functions

- `SQRT(x)` - Calculate the square root.
- `POW(x, y)` - Raise x to the power of y.
- `LOG(x)` - Natural logarithm of x.
- `EXP(x)` - Exponential function e^x .

End.

This is a quick reference guide for MySQL database. This only covers some of the essentials that we think you will appreciate when working with MySQL databases.