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MySQL CLI Cheatsheet

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# MySQL

## Getting started

- <http://www.sqlteaching.com/>
- <https://www.codecademy.com/learn/learn-sql>

## Related tutorials

- [MySQL-CLI](#)
- [Analyzing Business Metrics](#)
- [SQL joins infographic](#)

## Tools

- [TablePlus](#)
- [DataGrip](#)
- [Sequel Pro](#) (abandoned)

## Commands

Access monitor: `mysql -u [username] -p;` (will prompt for password)

Show all databases: `show databases;`

Access database: `mysql -u [username] -p [database]` (will prompt for password)

Create new database: `create database [database];`

Select database: `use [database];`

Determine what database is in use: `select database();`

Show all tables: `show tables;`

Show table structure: `describe [table];`

List all indexes on a table: `show index from [table];`

Create new table with columns: `CREATE TABLE [table] ([column] VARCHAR(120), [another-column] DATETIME);`

Adding a column: `ALTER TABLE [table] ADD COLUMN [column] VARCHAR(120);`

Adding a column with an unique, auto-incrementing ID: `ALTER TABLE [table] ADD COLUMN [column] int NOT NULL AUTO_INCREMENT PRIMARY KEY;`

Inserting a record: `INSERT INTO [table] ([column], [column]) VALUES ('[value]', [value]);`

MySQL function for datetime input: `NOW()`

Selecting records: `SELECT * FROM [table];`

Explain records: `EXPLAIN SELECT * FROM [table];`

Selecting parts of records: `SELECT [column], [another-column] FROM [table];`

Counting records: `SELECT COUNT([column]) FROM [table];`

Counting and selecting grouped records: `SELECT *, (SELECT COUNT([column]) FROM [table]) AS count FROM [table] GROUP BY [column];`

Selecting specific records: `SELECT * FROM [table] WHERE [column] = [value];` (Selectors: `<`, `>`, `!=`; combine multiple selectors with `AND`, `OR`)

Select records containing [value]: `SELECT * FROM [table] WHERE [column] LIKE '%[value]%';`

Select records starting with [value]: `SELECT * FROM [table] WHERE [column] LIKE '[value]%';`

Select records starting with val and ending with ue: `SELECT * FROM [table] WHERE [column] LIKE '[val_ue]';`

Select a range: `SELECT * FROM [table] WHERE [column] BETWEEN [value1] and [value2];`

Select with custom order and only limit: `SELECT * FROM [table] WHERE [column] ORDER BY [column] ASC LIMIT [value];` (Order: `DESC`, `ASC`)

Updating records: `UPDATE [table] SET [column] = '[updated-value]' WHERE [column] = [value];`

Deleting records: `DELETE FROM [table] WHERE [column] = [value];`

Delete *all records* from a table (without dropping the table itself): `DELETE FROM [table];` (This also resets the incrementing counter for auto generated columns like an id column.)

Delete all records in a table: `truncate table [table];`

Removing table columns: `ALTER TABLE [table] DROP COLUMN [column];`

Deleting tables: `DROP TABLE [table];`

Deleting databases: `DROP DATABASE [database];`

Custom column output names: `SELECT [column] AS [custom-column] FROM [table];`

Export a database dump (more info [here](#)): `mysqldump -u [username] -p [database] > db_backup.sql`

Use `--lock-tables=false` option for locked tables (more info [here](#)).

Import a database dump (more info [here](#)): `mysql -u [username] -p -h localhost [database] < db_backup.sql`

Logout: `exit;`

## Aggregate functions

Select but without duplicates: `SELECT distinct name, email, acception FROM owners WHERE acception = 1 AND date >= 2015-01-01 00:00:00`

Calculate total number of records: `SELECT SUM([column]) FROM [table];`

Count total number of [column] and group by [category-column]: `SELECT [category-column], SUM([column]) FROM [table] GROUP BY [category-column];`

Get largest value in [column]: `SELECT MAX([column]) FROM [table];`

Get smallest value: `SELECT MIN([column]) FROM [table];`

Get average value: `SELECT AVG([column]) FROM [table];`

Get rounded average value and group by [category-column]: `SELECT [category-column], ROUND(AVG([column]), 2) FROM [table] GROUP BY [category-column];`

## Multiple tables

Select from multiple tables: `SELECT [table1].[column], [table1].[another-column], [table2].[column] FROM [table1], [table2];`

Combine rows from different tables: `SELECT * FROM [table1] INNER JOIN [table2] ON [table1].[column] = [table2].[column];`

Combine rows from different tables but do not require the join condition: `SELECT * FROM [table1] LEFT OUTER JOIN [table2] ON [table1].[column] = [table2].[column];` (The left table is the first table that appears in the statement.)

Rename column or table using an *alias*: `SELECT [table1].[column] AS '[value]', [table2].[column] AS '[value]' FROM [table1], [table2];`

## Users functions

List all users: `SELECT User,Host FROM mysql.user;`

Create new user: `CREATE USER 'username'@'localhost' IDENTIFIED BY 'password';`

Grant ALL access to user for \* tables: `GRANT ALL ON database.* TO 'user'@'localhost';`

## Find out the IP Address of the Mysql Host

`SHOW VARIABLES WHERE Variable_name = 'hostname';` ([source](#))

 [bash\\_profile](#)

1 `alias mysql=/Applications/MAMP/Library/bin/mysql`

 [my.cnf](#)

1 `[mysqld]`  
2 `max_allowed_packet=64M`



**franz-josef-kaiser** commented on Nov 8, 2014

Delete *all* records from a table (without dropping the table itself): `delete from [tablename]` . This also resets the incrementing counter for auto generated columns like an `id` column.



**hofmannsven** commented on Nov 8, 2014

Author

Owner

Thanks! I've added it above and also shared it on [WPSE](#) :)



**anjanb** commented on Jul 24, 2015

Grunt ALL  
Should that not be "GRANT ALL" ?



**hofmannsven** commented on Aug 11, 2015

Author

Owner

@**anjanb** Thx for the hint! Fixed it.



**matthewhartsto...** commented on Dec 6, 2015

For scripting:  
Comments: /\* This is a comment \*/  
  
Gets me every time between all the languages haha



**mhenes** commented on Jan 12, 2016

For importing or loading data from local csv file into MySQL db (remove LOCAL if not local):  
`LOAD DATA LOCAL INFILE 'file/path/inputdata.csv' INTO TABLE table_name FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\r' IGNORE 1 LINES;`

For exporting MySQL table from MySQL prompt to csv file (will require root permission most likely) :  
`SELECT column_name FROM table_name INTO OUTFILE 'tmp/outfile.csv' FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n';`

For exporting MySQL table from Terminal or Apple Command line to csv file:  
`mysql --host=localhost --user=user_name -p table_name -e "select column_name from table_name INTO OUTFILE 'tmp/outfile.csv' FIELDS TERMINATED BY ',' LINES TERMINATED BY '\n';"`



**junrillg** commented on Feb 1, 2016

## Find out the IP Address of the Mysql Host

```
SHOW VARIABLES WHERE Variable_name = 'hostname'
```

[resource](#)



**hofmannsven** commented on Feb 5, 2016

Author

Owner



**maxwsd** commented on May 12, 2016

when I create that alias you suggested for MAMP and "show databases" all of my databases are not visible, only information\_schema database. Any idea? Thank you!



**hofmannsven** commented on May 23, 2016

Author

Owner

@**maxwsd** Did you source your config file after the change like `source .bash_profile` ?



**vungocthien** commented on Jun 8, 2016

Great! Thanks so much!



**nweak38** commented on Jun 11, 2016

Thanks bro! very helpful for me as a beginner.



**asinode** commented on Jun 13, 2016

Thank you. Very helpful.



**Soufraz** commented on Jul 18, 2016 • edited ▼

```
select database();  
To determine what database is in use  
  
truncate table [table-name];  
To delete all records in a table
```



**tomc12n** commented on Jul 26, 2016

To list indexes on a table, SHOW INDEX FROM tbl\_name.



**hofmannsven** commented on Jul 28, 2016

Author

Owner

Thank you very much for your addition 🙌



**ryanjstout** commented on Aug 11, 2016

Might be helpful to add `-h` note at top on initial connection (for those connecting to remote DB like AWS RDS):

```
mysql -h endpoint.amazonaws.com -P 3306 -u username -p
```



**Soufraz** commented on Aug 24, 2016 • edited ▼

```
mysqldump -u [user] -p[password] --all-databases > all_databases.sql  
Backup all databases
```



**sirfrank** commented on Sep 7, 2016

TRUNCATE TABLE `tablename`; is the one to reset the auto-increment value,

```
mysql> delete from `000master`;
Query OK, 5 rows affected (0.01 sec)

mysql> TRUNCATE TABLE `000master`;
Query OK, 47 rows affected (0.06 sec)

mysql> select * from `000master` LIMIT 100;
Empty set (0.00 sec)
```

not the DELETE FROM `tablename`;



**sirfrank** commented on Sep 7, 2016

add unique key to column:

ALTER IGNORE TABLE `mytbl` ADD UNIQUE (`columnName`);



**sirfrank** commented on Sep 12, 2016 • edited ▼

## rename table

RENAME TABLE `oldTableName` TO `nemTableName`;



**mansurabbas** commented on Oct 15, 2016

I can't get to mysql monitor

**Acrunam** commented on Nov 1, 2016

This is REALLY useful. Thanks!



**denohk** commented on Nov 8, 2016

**All of these stuff are the skin of knowledge of DB. But they are helpful. could you provide the DB background resource also? thx.**



**vishwakarma09** commented on Nov 9, 2016

create a table from some other table

1. with data  
create table `<targettable>` as select \* from `<sourcedb>.<sourcetable>`
2. without data  
create table `<targettable>` like `<sourcedb>.<sourcetable>`



**pascalandy** commented on Nov 13, 2016 • edited ▼

Hi folks!

Trying to create a a new DB and a new USER with variables (via a bash script). These classic commands are working:

```
CREATE DATABASE usermama;
CREATE USER 'usermama'@'%' IDENTIFIED BY 'fancypass0ZGViygn7rRHh6ny';
```

```
GRANT ALL PRIVILEGES ON usermama.* TO 'usermama'@'%';
FLUSH PRIVILEGES;
SHOW DATABASES;
```

All good! Now same concept with variables:

```
SET @ENV_ID := 'usermama';
SET @ENV_PASS := 'fancypass0ZGViYgn7rRHh6ny';
CREATE DATABASE '@ENV_ID';
CREATE USER '@ENV_ID'@'%' IDENTIFIED BY '@ENV_PASS';
GRANT ALL PRIVILEGES ON '@ENV_ID.*' TO '@ENV_ID'@'%';
FLUSH PRIVILEGES;
SHOW DATABASES;
```

I getting this error :(

```
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server
version for the right syntax to use near '@ENV_ID' at line 1
```

Will really appreciate your help!  
[twitter.com/\\_pascalandy](https://twitter.com/_pascalandy)



**f9n** commented on Mar 17, 2017 • edited ▼

Thanks, this is nice document. Maybe we can show better (<https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet>).  
 Like this.(``sql)

```
CREATE TABLE [table] (
  [column] VARCHAR(120),
  [another-column] DATETIME
);
```

I saw [this](#) gist now.



**matthewhartsto...** commented on Mar 29, 2017 • edited ▼

One line to Create user and Grant ALL access to user for \* tables: GRANT ALL PRIVILEGES ON database\_name.\* To 'user'@'localhost'  
 IDENTIFIED BY 'password';



**KNOWV** commented on Apr 6, 2017

```
mysql> select * from CALLOG limit 3;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
oid vendor startdate duration agent status disposition
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 TCR 2017-01-04 09:22:39 0 NOTANDOG 00-NAN
2 TCR 2017-01-18 14:06:44 1 NOXOLOD1 01-NPC
3 TCR 2017-01-04 09:22:32 5 NOTANDOG 01-NPC
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
```

Hi guy,

Need your help here

I want to do distinct count on "disposition" where start date is >='2017-01-01 00:00:00' , <'2017-02-01 00:00:00';

Thank you in advance

Regards,



**saurabh-rao** commented on May 26, 2017 • edited ▼

Another command that we can add is the show table status command. Gives more information about the table ( ex : create\_time , rows etc ) .

Format :

```
SHOW TABLE STATUS;
```

-- this shows the status for all the tables in the database

```
SHOW TABLE STATUS LIKE '[TABLE_NAME]';
```

-- this shows the status for a particular table in the database. `

`Hope this is useful !



**rajn3866** commented on Oct 7, 2017

How to check "pause after each screenful of information" in MYSQL like /p in command

or

check tables page wise in mysql



**sebastian-blum** commented on Dec 13, 2017 • edited ▼

For adding the ID column: maybe add "FIRST" attribute to make it the 1st column in the table.

```
ALTER TABLE [table] ADD COLUMN [column] int NOT NULL AUTO_INCREMENT PRIMARY KEY FIRST;
```



**whitni** commented on Dec 20, 2017 • edited ▼

I'd "updated" the update command.

```
UPDATE [table] SET [column] = replace([column], '[old string]', '[new string]');
```

Example: UPDATE names SET first = replace(first, 'Mike', 'Michael');

This will update all records in the names table, first field that have Mike and change them to Michael.

```
UPDATE [table] SET [column] = replace([column], '[old string]', '[new string]'); WHERE [column] like '%[string]%'
```

This allows you to only affect rows with a certain string anywhere in them.

```
UPDATE [table] SET [column] = replace([column], '[old string]', '[new string]'); WHERE [column] like '[string]'
```

This allows you to only affect rows that end with a certain string.

```
UPDATE [table] SET [column] = replace([column], '[old string]', '[new string]'); WHERE [column] like '[string]'
```

This allows you to only affect rows that start with a certain string.



**strarsis** commented on Jan 18, 2018

IMHO examples are missing for:

- Checking a database or all databases
- Repairing a database or all databases



**fbownz** commented on Feb 21, 2018

To repair a table on Mysql

If your MySQL process is running, stop it. On Debian:



```
sudo service mysql stop
```

Go to your data folder. On Debian:

```
cd /var/lib/mysql/$DATABASE_NAME
```

Try running:

```
myisamchk -r $TABLE_NAME
```

Or if you have more files with the same table name.

```
myisamchk -r $TABLE_NAME.*
```

If that doesn't work, you can try:

```
myisamchk -r -v -f $TABLE_NAME.*
```

You can start your MySQL server again. On Debian:

```
sudo service mysql start
```

I had to repair one of my tables recently.

Hope this helps



**nareshnaani** commented on Apr 1, 2018

Thanks.

it's very useful.



**xxandra** commented on Apr 9, 2018

nice... thanks!



**baikaresandeep** commented on Apr 13, 2018 • edited ▼

Really Nice.

Very helpful for me!

Thanks.



**kridley73** commented on Apr 17, 2018

Faced with a relational database that is completely new to you, what CLI statements might you run to stealthily learn about what it contains?



**Edser9** commented on Apr 27, 2018

View variables:

show variables like 'variable\_name';

show global variables like 'variable\_name';

Set variables:

set variable\_name=0000;

set global variable\_name=0000;



**AzimTirmizi** commented on May 3, 2018

[I am new to Mysql, I am using the following command]  
SELECT \* StudentDetails WHERE firstname LIKE '%miz%';  
[Gives me] '>  
what is the meaning of this and why am I getting this '>'. [I believe my syntax is correct so why do I get this '> ?]  
[Please advice?]



**Neil-Mitchell** commented on May 4, 2018

this is an awesome cheat sheet. Maybe include View commands?

<http://www.mysqltutorial.org/mysql-views-tutorial.aspx>



**abaar** commented on May 7, 2018

how to show all view tables?



**sergiihoroshko** commented on May 14, 2018 • edited ▼

README.md has 404 on codecademy link. Now SQL for [codecademy](#) Thanks you



**OlukaDenis** commented on May 16, 2018

How can I create two alias names for more than one column?  
I tried this;  
SELECT CustomerName AS Customer, ContactName AS [Contact Person]  
FROM Customers;  
and it was giving me an error.  
what is the best way to manipulate that command?



**molekulerbiyolog** commented on May 28, 2018

Thanks a lot!!!!



**bradw2k** commented on May 30, 2018

Very good! Need to add -h to the first line, for selecting the host machine.



**dash025** commented on Jun 10, 2018

Thanks, very helpful!



**jamalahmedmaaz** commented on Jul 8, 2018

Nice Post,

1. Is it possible to add summarization and window functions?
2. In the real world, any project will require these functionalities.
3. Also similar to Postgres, how would you do create channels and listen on channels.
4. How to get the current transaction id. building a use case around and explain with the cheat sheet, will help everyone.

Request/Suggestion.

Thanks for sharing the cheatsheet.



**Axe147** commented on Jul 20, 2018

I am new to this, Can someone help me out with the tricks on how to get command together for execution using Mysql  
I have studied the command for my SQL but i don't know how to get them together for execution  
I have everything ready



**samjco** commented on Aug 3, 2018

It would be nice if you can break the text from the commands for a better read.



**DamienPirsy** commented on Sep 19, 2018 • edited ▼

It's worth noting that the GRANT FILE privilege *isn't included* into the GRANT ALL, since this privilege is given GLOBALLY to the user and cannot be given to a specific database.

```
GRANT FILE ON *.* TO 'root'@'localhost';
```

affects every database of the system (since the user needs to write on the filesystem space, not the table space).

So, if you need to make a `LOAD DATA INFILE` or `SELECT...INTO OUTFILE` you need to explicitly give this permission to the database user that requires it.



**saitejayelubolu** commented on Sep 19, 2018

how to fetch tables data from the database using mysql php html?

In my database totally three tables are there

- 1.tableone
- 2.tabletwo
- 3.tablethree

so, here my question is

from the html search bar, i need to search the table data

in the html search bar when i type "tabletwo" it have to display the tabletwo data and when i type "tablethree" it has to display tablethree data  
Note : One more thing from these three column names are same. And in the "tablename" column 'table name' is data for every row in that column.

below code is searching only 1 table only not for multiple tables

```
<DOCTYPE! html>
```

```
//set variables
```

```
$serverName='localhost';
```

```
$userName='root';
```

```
$password='';
```

```
$dbName='mydatabase';
```

```
//create connection
```

```
$connection=mysqli_connect($serverName,$userName,$password,$dbName);
```

```
//check connection
```

```
/* if (!$connection){
```

```
die("connection failed: ".mysqli_connect_error());
```

```
}
```

```
echo "connected successfully!!!
```

```
"; */
```

```

if(isset($_POST['search']))){
$value = $_POST['Valuetosearch'];
$sql2 = "SELECT * FROM tableone WHERE tablename='$value'";
$result = mysqli_query($connection, $sql2);
echo "

";
echo """;
while($row = mysqli_fetch_array($result)){
echo """;
echo """;
echo """;
echo """;
echo """;
echo """;
echo """;
echo """;
echo """;
}
echo "

";
}else{
echo "NOTE: enter the table name";
}

?>

```

| Manufacturer_Name              | Brand              | Type              | Package_Qty                | Price              | tablename                |
|--------------------------------|--------------------|-------------------|----------------------------|--------------------|--------------------------|
| " . \$row['Manufacturer_Name'] | " . \$row['Brand'] | " . \$row['Type'] | " . \$row['Package_Qty'] . | " . \$row['Price'] | " . \$row['tablename'] . |



manojkumarlinux commented on Oct 5, 2018 • edited ▼

change column

```
ALTER TABLE "table_name" CHANGE "column_old_name" "column_new_name" varchar(50);
```

(Or)

More column using down

```
ALTER TABLE "table_name" CHANGE "column 1" "change_column 1" ["Data Type"], CHANGE "column 2" "change_column 2" ["Data Type"];
```

Thanks



condescrim commented on Oct 7, 2018

Thanks you! 🍌



saarques commented on Dec 18, 2018

To add a column with a default value:

```
ALTER TABLE [table name] ADD COLUMN [column name] [int()/varchar()] default [value];
```



**JStoreInTheHills** commented on Jan 8

Thanks. Great Job.



**123xylem** commented on Jan 14

Thanks!



**AaronCHH** commented on Jan 19

Nice!



**danfoust** commented on Feb 8

### Find out the IP Address of the Mysql Host

```
SHOW VARIABLES WHERE Variable_name = 'hostname'
```

[resource](#)

A shorter syntax would be `select @@hostname;`



**technical-newfr...** commented on Feb 14

Nice one



**NormanEdance** commented on Feb 20

## Check the default character set and collation

### For a given database:

```
USE Music;
SELECT @@character_set_database, @@collation_database;
```

### For Schemas via Querying the information\_schema.schemata Table:

This eliminates the need to change the default database (like in the previous statement)

```
SELECT default_character_set_name, default_collation_name FROM information_schema.SCHEMATA
WHERE schema_name = "schemaname";
```

### For Tables:

```
SELECT CCSA.character_set_name FROM information_schema.`TABLES` T,
       information_schema.`COLLATION_CHARACTER_SET_APPLICABILITY` CCSA
WHERE CCSA.collation_name = T.table_collation
      AND T.table_schema = "schemaname"
      AND T.table_name = "tablename";
```

### For Columns:

```
SELECT character_set_name FROM information_schema.`COLUMNS`  
WHERE table_schema = "schemaname"  
AND table_name = "tablename"  
AND column_name = "columnname";
```



pranjaljately commented on Apr 23

Thanks! Very useful.

Might be useful to change List all users: `SELECT User FROM mysql.user;`



neerajsinghsonu commented 10 days ago • edited ▼

Very nice collection :), and another tips are:

#### Import MySQL file to database:

```
mysql -u <user-name> -p < /full/path/database_import.sql>
```

#### Export MySQL file to database:

```
mysql -u <user-name> -p database > < /full/path/database_export.sql>
```

#### Show all database sizes:

```
SELECT table_schema "<MY-DATABASE-NAME>", sum( data_length + index_length ) / 1024 / 1024 "Data Base Size in MB" FROM
```



#### Show all tables sizes for database:

```
SELECT table_name AS `Table`, round(((data_length + index_length) / 1024 / 1024), 2) `Size in MB` FROM information_sch
```



Thank you :)



udayakumar-ziffity commented 3 days ago

Use "--single-transaction" flag with mysqldump command to avoid database locks.