

CHEATSHEET – DATABASES

Table of Contents

INITIALIZE.....	2
CREATE.....	2
MANAGE	3
ANNEX 1.....	4

INITIALIZE

To exploit databases, there are two choices:

- Command lines
- Databases client. There are two well-known, Datagrip which is from the JetBrains suite (paid account is needed though), or sequel pro (free and lighter)

Our DB scheme will be based on SQL as it is the only data structure we're using (even though there exist other ones as NoSQL).

The DB are hosted on the production and development server.

Development Server: `forge@13.229.90.223`

Production Server: `forge@35.183.8.67`

When connected by ssh, use the MySQL instance as such :

```
Mysql -u forge -p password
```

Replace the password with the one in the keypass file (under MySQL instance)

CREATE

Before using it, it is important to create a database for the website to use.

To do so, connect to mysql and then

create database example

Make sure to create a new username and a password. Never use the default credentials, otherwise it would be a security breach.

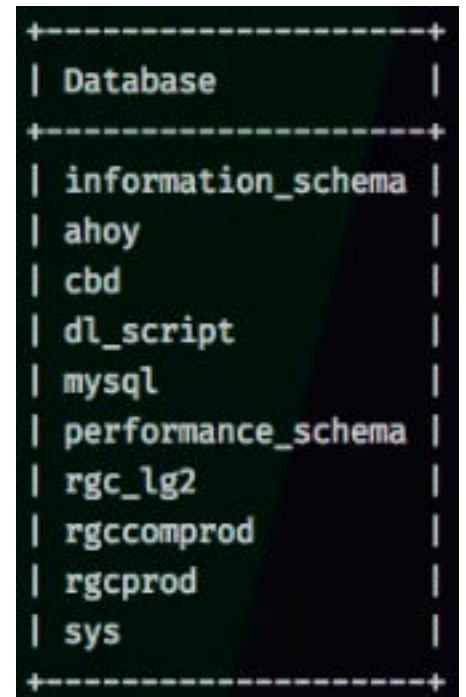
Follow this tutorial : <https://www.digitalocean.com/community/tutorials/how-to-create-a-new-user-and-grant-permissions-in-mysql>

Once the user has been created, do:

```
GRANT ALL PRIVILEGES ON *.* TO  
'newuser'@'localhost'  
  
FLUSH PRIVILEGES
```

This last line is important as it tells the server to reload the grant tables

MANAGE

A screenshot of a MySQL command-line interface showing a list of databases. The list is enclosed in a dashed box. The databases listed are: information_schema, ahoy, cbd, dl_script, mysql, performance_schema, rgc_lg2, rgccomprod, rgcprod, and sys.

Database
information_schema
ahoy
cbd
dl_script
mysql
performance_schema
rgc_lg2
rgccomprod
rgcprod
sys



Many commands are useful in MySQL, and lot of cheatsheets are out there, like this one from [Cheatography.com](https://cheatography.com) (cf [Annex 1](#))

For instance, to have the list of available databases, use

```
show databases
```

To handle a specific database:

```
use db_name
```

ANNEX 1

Cheatography

Essential MySQL Cheat Sheet
by guslong via cheatography.com/1345/cs/520/

MySQL Data Types	Select queries	Creating and modifying (cont)
CHAR String (0 - 255)	select all columns SELECT * FROM tbl;	return only 1 row matching query ... LIMIT = 1
VARCHAR String (0 - 255)	select some columns SELECT col1, col2 FROM tbl;	amend the values of a column UPDATE table SET column1="val1" WHERE ...
TINYTEXT String (0 - 255)	select only unique records SELECT DISTINCT FROM tbl WHERE condition;	clear all the values, leaving the table structure TRUNCATE TABLE tbl;
TEXT String (0 - 65535)	column alias with AS SELECT col FROM tbl AS newname;	delete the table DROP TABLE tbl;
BLOB String (0 - 65535)	order results SELECT * FROM tbl ORDER BY col [ASC DESC];	delete the database DROP DATABASE db_name;
MEDIUMTEXT String (0 - 16777215)	group results SELECT col1, SUM(col2) FROM tbl GROUP BY col1;	Matching data
MEDIUMBLOB String (0 - 16777215)	Creating and modifying	matching data using LIKE SELECT * FROM tbl1 WHERE col LIKE "%value%"
LONGTEXT String (0 - 4294967295)	create a database CREATE DATABASE db_name;	matching data using REGEX SELECT * FROM tbl1 WHERE col RLIKE 'regular_expression'
LOBLOB String (0 - 4294967295)	select a database USE db_name;	Joins
TINYINT x Integer (-128 to 127)	list the databases on the server SHOW DATABASES;	INNER returns only where match in both JOIN tables
SMALLINT x Integer (-32768 to 32767)	show a table's fields DESCRIBE tbl;	OUTER also returns non-matching records JOIN from both tables
MEDIUMINT x Integer (-8388608 to 8388607)	create a new table CREATE TABLE tbl (field1, field2);	LEFT also returns non-matching records JOIN from left table
INT x Integer (-2147483648 to 2147483647)	insert data into a table INSERT INTO tbl VALUES ("val1", "val2");	RIGHT also returns non-matching records JOIN in right table
BIGINT x Integer (- 9223372036854775808 to 9223372036854775807)	delete a row DELETE * FROM tbl WHERE condition;	JOIN syntax: SELECT * FROM tbl1 INNER JOIN tbl2 ON tbl1.id = tbl2.id;
FLOAT Decimal (precise to 23 digits)	add a column from a table ALTER TABLE tbl ADD COLUMN col;	String functions mySQL
DOUBLE Decimal (24 to 53 digits)	remove a column from a table ALTER TABLE tbl DROP COLUMN col;	Compare strings STRCMP("str1", "str2")
DECIMAL "DOUBLE" stored as string	make a column a primary key ALTER TABLE tbl ADD PRIMARY KEY (col);	Convert to lower case LOWER("str")
DATE YYYY-MM-DD		Convert to upper case UPPER("str")
DATETIME YYYY-MM-DD HH:MM:SS		case
TIMESTAMP YYYYMMDDHHMMSS		Left trim LTRIM("str")
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).		



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Page 1 of 2.

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