

CRIB SHEET MYSQL/PHP

Command

Results

Connect to server:

Open Terminal and insert the following:

ssh
cjohn053@igor.gold.ac.uk

```
Coreen-Andersons-MacBook-Pro:~ coreenanderson$
Coreen-Andersons-MacBook-Pro:~ coreenanderson$ ssh cjohn053@igor.gold.ac.uk
cjohn053@igor.gold.ac.uk's password:
Last login: Tue Aug 15 10:35:59 2017 from host-89-241-118-235.as13285.net
-----GOLDSMITHS COLLEGE DEPARTMENT OF COMPUTING-----
      (.)
      ||_/_/_/_/_| | |
      ||( )|( )||
      ||_/_/_/_/_|
      |_/
      Email enquiries regarding this server to sysadmin@doc.gold.ac.uk
-----
[cjohn053@igor ~]$
```

MySql Login:

```
[cjohn053@igor ~]$ mysql  
-h igor -u cjohn053 -p
```

then

Enter password:

```
[cjohn053@igor ~]$ mysql -h igor -u cjohn053 -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 679297
Server version: 5.5.41 MySQL Community Server (GPL)

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

Command prompts:

```
mysql> ready for new command
```

-> waiting for command

'> close speech mark

"> double speech mark

```
`> next line
```

```
/*> close comment
```

`\c` cancel a command

Version:

(not case sensitive)

```
select version();
```

```
mysql> select version();
```

version()
5.5.41

```
1 row in set (0.00 sec)
```

Current date:

Command

select current_date;

Results

```
mysql> select current_date;
+-----+
| current_date |
+-----+
| 2017-08-15   |
+-----+
1 row in set (0.00 sec)
```

select now();

```
mysql> select now();
+-----+
| now() |
+-----+
| 2017-08-15 11:46:29 |
+-----+
1 row in set (0.00 sec)
```

Username:

select user();

```
mysql> select user();
+-----+
| user() |
+-----+
| cjohn053@igor.gold.ac.uk |
+-----+
1 row in set (0.00 sec)
```

Calculator functions:

select SIN(PI()/4),
(4+1)*5;

```
mysql> select SIN(PI()/4), (4+1)*5;
+-----+-----+
| SIN(PI()/4) | (4+1)*5 |
+-----+-----+
| 0.7071067811865475 | 25 |
+-----+-----+
1 row in set (0.00 sec)
```

Databases:

(Always check which databases are present on the server)

show databases;

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| cjohn053 |
| cjohn053_Food |
| cjohn053_webdb |
| test |
+-----+
5 rows in set (33.53 sec)
```

create database
cjohn053_test2;

```
mysql> create database cjohn053_test2;
Query OK, 1 row affected (0.04 sec)
```

To select database:

use cjohn053_test2;

```
mysql> use cjohn053_test2;
Database changed
```

Creating data to store in a table:

Create table pet (
name VARCHAR(20),
owner VARCHAR(20),
species VARCHAR(20),
sex CHAR(1),
date of birth DATE, date of
death DATE);

```
mysql> create table pet (
-> name VARCHAR(20),
-> owner VARCHAR(20),
-> species VARCHAR(20),
-> sex CHAR(1),
-> birth DATE,
-> death DATE);
Query OK, 0 rows affected (0.16 sec)
```

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Table verification:

show tables;

```
mysql> show tables;
+-----+
| Tables_in_cjohn053_test2 |
+-----+
| pet                       |
+-----+
1 row in set (0.04 sec)
```

Table structure:

describe pet;

```
mysql> describe pet;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| name  | varchar(20)   | YES  |     | NULL    |       |
| owner | varchar(20)   | YES  |     | NULL    |       |
| species | varchar(20) | YES  |     | NULL    |       |
| sex   | char(1)       | YES  |     | NULL    |       |
| birth | date          | YES  |     | NULL    |       |
| death | date          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

Deleting a table:

drop table pet;

Inserting table data:

Insert into pet values
(‘Fluffy’, ‘Harold’, ‘cat’, ‘f’, ‘1999-02-04’, NULL);

```
mysql> insert into pet values ('Fluffy', 'Harold', 'cat', 'f', '1999-02-04', NULL);
Query OK, 1 row affected (0.01 sec)
```

To view table data:

select * from pet;

```
mysql> select * from pet;
+-----+-----+-----+-----+-----+-----+
| name  | owner | species | sex | birth      | death |
+-----+-----+-----+-----+-----+-----+
| Fluffy | Harold | cat     | f   | 1999-02-04 | NULL  |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.04 sec)
```

Delete a row from a table:

delete from pet where
name = ‘fluffy’;

```
mysql> select * from pet;
+-----+-----+-----+-----+-----+-----+
| name  | owner | species | sex | birth      | death |
+-----+-----+-----+-----+-----+-----+
| Fluffy | Harold | cat     | f   | 1999-02-04 | NULL  |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.04 sec)

mysql> delete from pet where name = 'fluffy';
Query OK, 1 row affected (0.00 sec)

mysql> select * from pet;
Empty set (0.03 sec)
```

Loading data from a file:

Save your text file into the igor root directory. To load the file into your table:

Command

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Mysql>Load data local infile "pet.txt" into table pet lines terminated by '\r';

```
mysql> select * from pet;
+-----+-----+-----+-----+-----+-----+
| name   | owner | species | sex | birth       | death       |
+-----+-----+-----+-----+-----+-----+
| Buffy  | Harold | dog     | f   | 1989-05-13  | NULL       |
| Fluffy | Harold | cat     | f   | 1999-02-04  | NULL       |
| Claws  | Gwen  | cat     | m   | 1994-03-17  | NULL       |
| Fang   | Benny  | dog     | m   | 1990-08-27  | NULL       |
| Bowser | Diane  | dog     | m   | 1998-08-31  | 1995-07-29 |
| Chirpy | Gwen  | bird    | f   | 1998-09-11  | NULL       |
| Whistler | Gwen | bird    | m   | 1997-12-09  | NULL       |
| Slim   | Benny  | snake   | m   | 1996-04-29  | NULL       |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

Pulling information from the table:

Select * from pet WHERE name = "Bowser";

```
mysql> select * from pet where name = "Bowser";
+-----+-----+-----+-----+-----+-----+
| name   | owner | species | sex | birth       | death       |
+-----+-----+-----+-----+-----+-----+
| Bowser | Diane | dog     | m   | 1998-08-31  | 1995-07-29 |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.02 sec)
```

Selecting from particular rows:

(Find all animals born after 1998)

Select * FROM pet WHERE birth >="1998-1-1";

```
mysql> select * from pet where birth >="1998-1-1";
+-----+-----+-----+-----+-----+-----+
| name   | owner | species | sex | birth       | death       |
+-----+-----+-----+-----+-----+-----+
| Fluffy | Harold | cat     | f   | 1999-02-04  | NULL       |
| Bowser | Diane  | dog     | m   | 1998-08-31  | 1995-07-29 |
| Chirpy | Gwen  | bird    | f   | 1998-09-11  | NULL       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

(Find all female dogs use logical AND)

Select * FROM pet WHERE species = "dog" AND sex = "f";

```
mysql> select * from pet WHERE species = "dog" AND sex = "f";
+-----+-----+-----+-----+-----+-----+
| name   | owner | species | sex | birth       | death       |
+-----+-----+-----+-----+-----+-----+
| Buffy  | Harold | dog     | f   | 1989-05-13  | NULL       |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.02 sec)
```

(Find all snakes or birds use logical OR)

Select * FROM pet WHERE species = "snake" OR species = "bird";

```
mysql> select * from pet where species ="snake" OR species ="bird";
+-----+-----+-----+-----+-----+-----+
| name   | owner | species | sex | birth       | death       |
+-----+-----+-----+-----+-----+-----+
| Chirpy | Gwen  | bird    | f   | 1998-09-11  | NULL       |
| Whistler | Gwen | bird    | m   | 1997-12-09  | NULL       |
| Slim   | Benny  | snake   | m   | 1996-04-29  | NULL       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

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Selecting from columns

select name, birth from pet;

```
mysql> select name, birth from pet;
+-----+-----+
| name  | birth |
+-----+-----+
| Buffy | 1989-05-13 |
| Fluffy | 1999-02-04 |
| Claws | 1994-03-17 |
| Fang  | 1990-08-27 |
| Bowser | 1998-08-31 |
| Chirpy | 1998-09-11 |
| Whistler | 1997-12-09 |
| Slim  | 1996-04-29 |
+-----+-----+
8 rows in set (0.00 sec)
```

Queries:

(Find out who owns a pet)

select owner from pet;

```
mysql> select owner from pet;
+-----+
| owner |
+-----+
| Harold |
| Harold |
| Gwen  |
| Benny  |
| Diane  |
| Gwen  |
| Gwen  |
| Benny  |
+-----+
8 rows in set (0.02 sec)
```

(To retrieve each unique output record)

select DISTINCT owner from pet;

```
mysql> select distinct owner from pet;
+-----+
| owner |
+-----+
| Harold |
| Gwen  |
| Benny  |
| Diane  |
+-----+
4 rows in set (0.01 sec)
```

Sorting data:

(To sort a result use an ORDER BY clause)

Select name, birth FROM pet ORDER BY birth;

```
mysql> select name, birth FROM pet ORDER by birth;
+-----+-----+
| name  | birth |
+-----+-----+
| Buffy | 1989-05-13 |
| Fang  | 1990-08-27 |
| Claws | 1994-03-17 |
| Slim  | 1996-04-29 |
| Whistler | 1997-12-09 |
| Bowser | 1998-08-31 |
| Chirpy | 1998-09-11 |
| Fluffy | 1999-02-04 |
+-----+-----+
8 rows in set (0.01 sec)
```

Command

(To sort in reverse order add the DESC)

Select name, birth FROM
pet ORDER BY birth
DESC;

Results

```
mysql> select name, birth FROM pet ORDER by birth desc;
+-----+-----+
| name  | birth |
+-----+-----+
| Fluffy | 1999-02-04 |
| Chirpy | 1998-09-11 |
| Bowser | 1998-08-31 |
| Whistler | 1997-12-09 |
| Slim  | 1996-04-29 |
| Claws | 1994-03-17 |
| Fang  | 1990-08-27 |
| Buffy | 1989-05-13 |
+-----+-----+
8 rows in set (0.00 sec)
```

NULLS

NULL means missing value or unknown value

To test for NULL, you cannot use the arithmetic comparison operators, such as =, < or >;

Rather you must use this IS NULL and ISNOT NULL operators instead.

(Find all dead pets)

select name from pet
where death IS NOT
NULL;

```
mysql> select name from pet where death is not null;
+-----+
| name  |
+-----+
| Bowser |
+-----+
1 row in set (0.00 sec)
```

Patten matching:

(Find names beginning with 'b')

select * from pet WHERE
name like "b%";

```
mysql> select * from pet where name like "b%";
+-----+-----+-----+-----+-----+-----+
| name  | owner | species | sex | birth      | death      |
+-----+-----+-----+-----+-----+-----+
| Buffy | Harold | dog      | f   | 1989-05-13 | NULL       |
| Bowser | Diane | dog      | m   | 1998-08-31 | 1995-07-29 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

(Find names ending with 'fy')

select * from pet WHERE
name like "%fy";

```
mysql> select * from pet WHERE name like "%fy";
+-----+-----+-----+-----+-----+-----+
| name  | owner | species | sex | birth      | death      |
+-----+-----+-----+-----+-----+-----+
| Buffy | Harold | dog      | f   | 1989-05-13 | NULL       |
| Fluffy | Harold | cat      | f   | 1999-02-04 | NULL       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

(Find names containing a 'w')

select * from pet WHERE
name like "%w%";

```
mysql> select * from pet where name like "%w%";
+-----+-----+-----+-----+-----+-----+
| name  | owner | species | sex | birth      | death      |
+-----+-----+-----+-----+-----+-----+
| Claws | Gwen  | cat      | m   | 1994-03-17 | NULL       |
| Bowser | Diane | dog      | m   | 1998-08-31 | 1995-07-29 |
| Whistler | Gwen | bird     | m   | 1997-12-09 | NULL       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.02 sec)
```

Command

(Find names containing exactly 5 characters)

select * from pet WHERE
name like "_";

Results

```
mysql> select * from pet where name like "_";
+-----+-----+-----+-----+-----+-----+
| name | owner | species | sex | birth      | death |
+-----+-----+-----+-----+-----+-----+
| Buffy | Harold | dog      | f   | 1989-05-13 | NULL   |
| Claws | Gwen  | cat      | m   | 1994-03-17 | NULL   |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

REG EX Example:

(Find names beginning with b,
use ^ to match the beginning of
the name)

select * from pet WHERE
name REGEXP "^b";

```
mysql> select * from pet where name REGEXP "^b";
+-----+-----+-----+-----+-----+-----+
| name | owner | species | sex | birth      | death |
+-----+-----+-----+-----+-----+-----+
| Buffy | Harold | dog      | f   | 1989-05-13 | NULL   |
| Bowser | Diane | dog      | m   | 1998-08-31 | 1995-07-29 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.02 sec)
```

(Find names ending with 'fy',
use '\$' to match the end of the
name)

select * from pet WHERE
name REGEXP "fy\$";

```
mysql> select * from pet where name REGEXP "fy$";
+-----+-----+-----+-----+-----+-----+
| name | owner | species | sex | birth      | death |
+-----+-----+-----+-----+-----+-----+
| Buffy | Harold | dog      | f   | 1989-05-13 | NULL   |
| Fluffy | Harold | cat      | f   | 1999-02-04 | NULL   |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.03 sec)
```

(Counting rows – determine the
total number of pets)

select COUNT (*) from
pet;

```
mysql> select count(*) from pet;
+-----+
| count(*) |
+-----+
|         8 |
+-----+
1 row in set (0.00 sec)
```