MySQL setup & First Tables

•**Part 1 –** First of all we need to make sure that everybody has an active account for SQL that is required for future labs. In order to do that, perform the following steps: Relational Databases

– **How to connect to SQL!** In order to complete subsequent practical's you need to be setup in cloud9 if anyone does not have an account please let me know. If everything went right. We are in business. Fun starts now. **Some useful SQL commands:** If you want to see a list of databases that you have, type the following: **SHOW DATABASES;** If you want to use or work with a specific database, type the following (replace DATABASE with the name of database that you want to work with): **USE DATABASE;** If you want to see a list of tables within a database, type the following: **SHOW TABLES;** If you want to see the structure of a table, type the following (replace TABLE with the name of the table that you want to see the structure of): **DESCRIBE TABLE;** If you want to obtain the data from a table, type the following (replace TABLE with the name of the table of your interest): **SELECT * FROM TABLE;**

MySQL basics

Create a new word document and save it with your name and student number. Now execute the following commands and write down the effect of each command in the document. You should also put screen shot of the result you get from a query (use the *snipping tool* software installed on most of the machines in lab). Type these commands one at a time at the **mysql>** prompt.

1. SELECT VERSION(), USER();
Shows the version and user you are currently using.

```
mysql> SELECT VERSION(), USER();
+-------------------------+------------------+
| VERSION()               | USER()           |
+-------------------------+------------------+
| 5.5.57-0ubuntu0.14.04.1 | onionn@localhost |
+-------------------------+------------------+
1 row in set (0.00 sec)
```

2. SELECT CURRENT_DATE;
Shows you the current time.

```
mysql> SELECT CURRENT_DATE;
+--------------+
| CURRENT_DATE |
+--------------+
| 2018-11-03   |
+--------------+
1 row in set (0.00 sec)
```

3. USE DATABASE_NAME; (replace database_name with yours). (# USING c9 Database)
Command that allows you to use database called c9.

```
mysql> USE c9;
Database changed
```

4. CREATE TABLE PET (NAME VARCHAR(20), OWNER VARCHAR(20), SPECIES VARCHAR(20), SEX CHAR(1), BIRTH DATE, DEATH DATE);
Allows you to create the fields for your tables nae, owner, species, sex, birth and death with text restrictions.

```
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 (0.02 sec)
```

5. SHOW TABLES;
Shows the tables of the database you are using.

```
mysql> SHOW TABLES;
+--------------+
| Tables_in_c9 |
+--------------+
| PET          |
+--------------+
1 row in set (0.00 sec)
```

6. DESCRIBE PET;
Shows the fields and types of your table called 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)
```

7. SELECT * FROM PET;
Allows you to look at the values in the table PET.

```
mysql> SELECT * FROM PET;
Empty set (0.00 sec)
```

8. INSERT INTO PET VALUES ('FLUFFY', 'HAROLD', 'CAT', 'F', '2008-02-04', NULL), ('CLAWS', 'GWEN', 'CAT', 'M', '2009-03-17', NULL), ('BUFFY', 'HAROLD', 'DOG', 'F', '2004-05-13', NULL), ('FANG', 'BENNY', 'DOG' , 'M', '2005-08-27', NULL), ('BOWSER', 'DIANE', 'DOG', 'M', '1994-08-31', '2010- 07-29'), ('CHIRPY', 'GWEN', 'BIRD', 'F', '2012-09-11', NULL), ('WHISTLER', 'GWEN', 'BIRD', NULL, '2012-12-09', NULL), ('WHISTLER', 'GWEN', 'BIRD', NULL, '2012-12-09', NULL);
Inserts multiple values into the table called PET.

```
mysql> INSERT INTO PET VALUES ('FLUFFY', 'HAROLD', 'CAT', 'F', '2008-02-04', NULL), ('CLAWS',
'GWEN', 'CAT', 'M', '2009-03-17', NULL), ('BUFFY', 'HAROLD', 'DOG', 'F', '2004-05-13', NULL),
('FANG', 'BENNY', 'DOG' , 'M', '2005-08-27', NULL), ('BOWSER', 'DIANE', 'DOG', 'M', '1994-08-3
1', '2010- 07-29'), ('CHIRPY', 'GWEN', 'BIRD', 'F', '2012-09-11', NULL), ('WHISTLER', 'GWEN',
'BIRD', NULL, '2012-12-09', NULL), ('WHISTLER', 'GWEN', 'BIRD', NULL, '2012-12-09', NULL);
Query OK, 8 rows affected, 1 warning (0.01 sec)
Records: 8  Duplicates: 0  Warnings: 1
```

9. SELECT * FROM PET;
Allows you to look at the values in the table PET.

```
mysql> SELECT * FROM PET;
+----------+--------+---------+------+------------+------------+
| NAME     | OWNER  | SPECIES | SEX  | BIRTH      | DEATH      |
+----------+--------+---------+------+------------+------------+
| FLUFFY   | HAROLD | CAT     | F    | 2008-02-04 | NULL       |
| CLAWS    | GWEN   | CAT     | M    | 2009-03-17 | NULL       |
| BUFFY    | HAROLD | DOG     | F    | 2004-05-13 | NULL       |
| FANG     | BENNY  | DOG     | M    | 2005-08-27 | NULL       |
| BOWSER   | DIANE  | DOG     | M    | 1994-08-31 | 0000-00-00 |
| CHIRPY   | GWEN   | BIRD    | F    | 2012-09-11 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
+----------+--------+---------+------+------------+------------+
8 rows in set (0.00 sec)
```

10. INSERT INTO PET VALUES ('PUFFBALL', 'DIANE', 'HAMSTER', 'F', '2010-03- 30', NULL);
Inserted one row of values in a table called PET

```
mysql> INSERT INTO PET VALUES ('PUFFBALL', 'DIANE', 'HAMSTER', 'F', '2010-03- 30', NULL);
Query OK, 1 row affected, 1 warning (0.01 sec)
```

11. SELECT * FROM PET;
Allows you to look at the values in the table PET.

```
mysql> SELECT * FROM PET;
+----------+--------+---------+------+------------+------------+
| NAME     | OWNER  | SPECIES | SEX  | BIRTH      | DEATH      |
+----------+--------+---------+------+------------+------------+
| FLUFFY   | HAROLD | CAT     | F    | 2008-02-04 | NULL       |
| CLAWS    | GWEN   | CAT     | M    | 2009-03-17 | NULL       |
| BUFFY    | HAROLD | DOG     | F    | 2004-05-13 | NULL       |
| FANG     | BENNY  | DOG     | M    | 2005-08-27 | NULL       |
| BOWSER   | DIANE  | DOG     | M    | 1994-08-31 | 0000-00-00 |
| CHIRPY   | GWEN   | BIRD    | F    | 2012-09-11 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
| PUFFBALL | DIANE  | HAMSTER | F    | 0000-00-00 | NULL       |
+----------+--------+---------+------+------------+------------+
9 rows in set (0.00 sec)
```

12. UPDATE PET SET BIRTH = '2006-08-31' WHERE NAME = 'BOWSER';
Updates a row where the pet name is Bowser with a new date of birth '2006-08-31'.

```
mysql> UPDATE PET SET BIRTH = '2006-08-31' WHERE NAME = 'BOWSER';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

13. SELECT * FROM PET;
Allows you to look at the values in the table PET.

```
mysql> SELECT * FROM PET;
+----------+--------+---------+------+------------+------------+
| NAME     | OWNER  | SPECIES | SEX  | BIRTH      | DEATH      |
+----------+--------+---------+------+------------+------------+
| FLUFFY   | HAROLD | CAT     | F    | 2008-02-04 | NULL       |
| CLAWS    | GWEN   | CAT     | M    | 2009-03-17 | NULL       |
| BUFFY    | HAROLD | DOG     | F    | 2004-05-13 | NULL       |
| FANG     | BENNY  | DOG     | M    | 2005-08-27 | NULL       |
| BOWSER   | DIANE  | DOG     | M    | 2006-08-31 | 0000-00-00 |
| CHIRPY   | GWEN   | BIRD    | F    | 2012-09-11 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
| WHISTLER | GWEN   | BIRD    | NULL | 2012-12-09 | NULL       |
| PUFFBALL | DIANE  | HAMSTER | F    | 0000-00-00 | NULL       |
+----------+--------+---------+------+------------+------------+
9 rows in set (0.00 sec)
```

14. SELECT * FROM PET WHERE BIRTH >= '2011-1-1';

Allows you to see values in the table where BIRTH >= '2011-1-1' from PET.

```
mysql> SELECT * FROM PET WHERE BIRTH >= '2011-1-1';
+----------+-------+---------+------+------------+-------+
| NAME     | OWNER | SPECIES | SEX  | BIRTH      | DEATH |
+----------+-------+---------+------+------------+-------+
| CHIRPY   | GWEN  | BIRD    | F    | 2012-09-11 | NULL  |
| WHISTLER | GWEN  | BIRD    | NULL | 2012-12-09 | NULL  |
| WHISTLER | GWEN  | BIRD    | NULL | 2012-12-09 | NULL  |
+----------+-------+---------+------+------------+-------+
3 rows in set (0.00 sec)
```

15. SELECT * FROM PET WHERE SPECIES = 'DOG' AND SEX = 'F';

Allows you to see values in the table where SPECIES = 'DOG' AND SEX = 'F'. from PET.

```
mysql> SELECT * FROM PET WHERE SPECIES = 'DOG' AND SEX = 'F';
+-------+--------+---------+------+------------+-------+
| NAME  | OWNER  | SPECIES | SEX  | BIRTH      | DEATH |
+-------+--------+---------+------+------------+-------+
| BUFFY | HAROLD | DOG     | F    | 2004-05-13 | NULL  |
+-------+--------+---------+------+------------+-------+
1 row in set (0.00 sec)
```

16. SELECT * FROM PET WHERE SPECIES = 'SNAKE' OR SPECIES = 'BIRD';

Allows you to see values in the table where SPECIES = 'SNAKE' OR SPECIES = 'BIRD' from PET.

```
mysql> SELECT * FROM PET WHERE SPECIES = 'SNAKE' OR SPECIES = 'BIRD';
+----------+-------+---------+------+------------+-------+
| NAME     | OWNER | SPECIES | SEX  | BIRTH      | DEATH |
+----------+-------+---------+------+------------+-------+
| CHIRPY   | GWEN  | BIRD    | F    | 2012-09-11 | NULL  |
| WHISTLER | GWEN  | BIRD    | NULL | 2012-12-09 | NULL  |
| WHISTLER | GWEN  | BIRD    | NULL | 2012-12-09 | NULL  |
+----------+-------+---------+------+------------+-------+
3 rows in set (0.00 sec)
```

17. SELECT * FROM PET WHERE (SPECIES = 'CAT' AND SEX = 'M') OR (SPECIES = 'DOG' AND SEX = 'F');

Allows you to see values in the table where (SPECIES = 'CAT' AND SEX = 'M') OR (SPECIES = 'DOG' AND SEX = 'F') from PET.

```
mysql> SELECT * FROM PET WHERE (SPECIES = 'CAT' AND SEX = 'M') OR (SPECIES = 'DOG' AND SEX = '
F');
+-------+--------+---------+------+------------+-------+
| NAME  | OWNER  | SPECIES | SEX  | BIRTH      | DEATH |
+-------+--------+---------+------+------------+-------+
| CLAWS | GWEN   | CAT     | M    | 2009-03-17 | NULL  |
| BUFFY | HAROLD | DOG     | F    | 2004-05-13 | NULL  |
+-------+--------+---------+------+------------+-------+
2 rows in set (0.00 sec)
```

18. SELECT NAME, BIRTH FROM PET;

Allows you to see values in the table of fields NAME and BIRTH from PET.

```
mysql> SELECT NAME, BIRTH FROM PET;
+----------+------------+
| NAME     | BIRTH      |
+----------+------------+
| FLUFFY   | 2008-02-04 |
| CLAWS    | 2009-03-17 |
| BUFFY    | 2004-05-13 |
| FANG     | 2005-08-27 |
| BOWSER   | 2006-08-31 |
| CHIRPY   | 2012-09-11 |
| WHISTLER | 2012-12-09 |
| WHISTLER | 2012-12-09 |
| PUFFBALL | 0000-00-00 |
+----------+------------+
9 rows in set (0.00 sec)
```

19. SELECT OWNER FROM PET;

Allows you to see values in the table of fields owner from PET.

```
mysql> SELECT OWNER FROM PET;
+--------+
| OWNER  |
+--------+
| HAROLD |
| GWEN   |
| HAROLD |
| BENNY  |
| DIANE  |
| GWEN   |
| GWEN   |
| GWEN   |
| DIANE  |
+--------+
9 rows in set (0.00 sec)
```

20. SELECT DISTINCT OWNER FROM PET;

Allows you to see values of distinct owners(no multiple names in owner) in the table from PET.

```
mysql> SELECT DISTINCT OWNER FROM PET;
+--------+
| OWNER  |
+--------+
| HAROLD |
| GWEN   |
| BENNY  |
| DIANE  |
+--------+
4 rows in set (0.00 sec)
```

21. SELECT NAME, BIRTH FROM PET ORDER BY BIRTH;

Allows you to see values in the table of fields name and birth in order from PET.

```
mysql> SELECT NAME, BIRTH FROM PET ORDER BY BIRTH;
+----------+------------+
| NAME     | BIRTH      |
+----------+------------+
| PUFFBALL | 0000-00-00 |
| BUFFY    | 2004-05-13 |
| FANG     | 2005-08-27 |
| BOWSER   | 2006-08-31 |
| FLUFFY   | 2008-02-04 |
| CLAWS    | 2009-03-17 |
| CHIRPY   | 2012-09-11 |
| WHISTLER | 2012-12-09 |
| WHISTLER | 2012-12-09 |
+----------+------------+
9 rows in set (0.00 sec)
```

22. SELECT NAME, BIRTH FROM PET ORDER BY NAME;

Allows you to see values in the table of fields birth and name in order from PET.

```
mysql> SELECT NAME, BIRTH FROM PET ORDER BY NAME;
+----------+------------+
| NAME     | BIRTH      |
+----------+------------+
| BOWSER   | 2006-08-31 |
| BUFFY    | 2004-05-13 |
| CHIRPY   | 2012-09-11 |
| CLAWS    | 2009-03-17 |
| FANG     | 2005-08-27 |
| FLUFFY   | 2008-02-04 |
| PUFFBALL | 0000-00-00 |
| WHISTLER | 2012-12-09 |
| WHISTLER | 2012-12-09 |
+----------+------------+
9 rows in set (0.00 sec)
```

23. SELECT NAME, BIRTH FROM PET ORDER BY NAME DESC;

Allows you to see values in the table of fields birth and name in order backwards from PET.

```
mysql> SELECT NAME, BIRTH FROM PET ORDER BY NAME DESC;
+----------+------------+
| NAME     | BIRTH      |
+----------+------------+
| WHISTLER | 2012-12-09 |
| WHISTLER | 2012-12-09 |
| PUFFBALL | 0000-00-00 |
| FLUFFY   | 2008-02-04 |
| FANG     | 2005-08-27 |
| CLAWS    | 2009-03-17 |
| CHIRPY   | 2012-09-11 |
| BUFFY    | 2004-05-13 |
| BOWSER   | 2006-08-31 |
+----------+------------+
9 rows in set (0.00 sec)
```

24. SELECT OWNER, COUNT(*) FROM PET GROUP BY OWNER;

Allows you to see the number of owners count of same name in PET table

```
mysql> SELECT OWNER, COUNT(*) FROM PET GROUP BY OWNER;
+--------+----------+
| OWNER  | COUNT(*) |
+--------+----------+
| BENNY  |        1 |
| DIANE  |        2 |
| GWEN   |        4 |
| HAROLD |        2 |
+--------+----------+
4 rows in set (0.00 sec)
```

25. SELECT SPECIES, SEX, COUNT(*) FROM PET GROUP BY SPECIES, SEX;

Allows you to see values of species, sex and count by species and sex.

```
mysql> SELECT SPECIES, SEX, COUNT(*) FROM PET GROUP BY SPECIES, SEX;
+---------+------+----------+
| SPECIES | SEX  | COUNT(*) |
+---------+------+----------+
| BIRD    | NULL |        2 |
| BIRD    | F    |        1 |
| CAT     | F    |        1 |
| CAT     | M    |        1 |
| DOG     | F    |        1 |
| DOG     | M    |        2 |
| HAMSTER | F    |        1 |
+---------+------+----------+
7 rows in set (0.00 sec)
```