

Lesson 5- CRUD commands

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Crud

Create
Read
Update
Delete

Create

```
CREATE TABLE cats
(
  cat_id INT NOT NULL AUTO_INCREMENT,
  name VARCHAR(100),
  breed VARCHAR(100),
  age INT,
  PRIMARY KEY (cat_id)
);
```

Insert (keep this data because we are using this data through out the tutorial)

```
INSERT INTO cats(name, breed, age)
VALUES ('Ringo', 'Tabby', 4),
       ('Cindy', 'Maine Coon', 10),
       ('Dumbledore', 'Maine Coon', 11),
       ('Egg', 'Persian', 4),
       ('Misty', 'Tabby', 13),
       ('George Michael', 'Ragdoll', 9),
       ('Jackson', 'Sphynx', 7);
```

Read

Remember This?

```
SELECT * FROM cats;
```

Specific column to read command

```
SELECT name FROM cats;
```

```
SELECT age FROM cats;
```

```
SELECT name, age FROM cats;
```

Where /select data

```
SELECT * FROM cats WHERE age=4;
```

```
SELECT * FROM cats WHERE name='Egg';
```

Read exercises

Write the SQL that selects the following:

cat_id
1
2
3
4
5
6
7

Write the SQL that selects the following:

name	breed
Ringo	Tabby
Cindy	Maine Coon
Dumbledore	Maine Coon
Egg	Persian
Misty	Tabby
George Michael	Ragdoll
Jackson	Sphynx

Write the SQL that selects the following:

(Just the Tabby cats)

name	age
Ringo	4
Misty	13

Write the SQL that selects the following:
cat_id is same as age

cat_id	age
4	4
7	7

Solution of read exercise

```
1 row in set (0.01 sec)

mysql> SELECT cat_id FROM cats;
+-----+
| cat_id |
+-----+
| 1      |
| 2      |
| 3      |
| 4      |
| 5      |
| 6      |
| 7      |
+-----+
7 rows in set (0.00 sec)

mysql>
```

```
7 rows in set (0.00 sec)

mysql> SELECT name, breed FROM cats;
+-----+-----+
| name  | breed |
+-----+-----+
| Ringo | Tabby  |
| Cindy | Maine Coon |
| Dumbledore | Maine Coon |
| Egg   | Persian |
| Misty | Tabby  |
| George Michael | Ragdoll |
| Jackson | Sphynx |
+-----+-----+
7 rows in set (0.00 sec)
```

```
mysql>
mysql>
mysql>
mysql>
mysql>
mysql>
mysql> SELECT name, age FROM cats WHERE breed='Tabby';
+-----+-----+
| name  | age |
+-----+-----+
| Ringo | 4    |
| Misty | 13   |
+-----+-----+
2 rows in set (0.00 sec)
```

```
+-----+-----+
| name  | age |
+-----+-----+
| Ringo | 4    |
| Misty | 13   |
+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT cat_id, age FROM cats WHERE cat_id=age;
+-----+-----+
| cat_id | age |
+-----+-----+
| 4      | 4    |
| 7      | 7    |
+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

```

+----+-----+
| cat_id | age |
+----+-----+
| 4 | 4 |
| 7 | 7 |
+----+-----+
2 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE cat_id=age;
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 4 | Egg | Persian | 4 |
| 7 | Jackson | Sphynx | 7 |
+----+-----+-----+-----+
2 rows in set (0.00 sec)

```

Easy way to read data and alter the data itself

```
SELECT cat_id AS id, name FROM cats;
```


```

+----+-----+
2 rows in set (0.00 sec)

mysql> SELECT cat_id AS id, name FROM cats;
+----+-----+
| id | name |
+----+-----+
| 1 | Ringo |
| 2 | Cindy |
| 3 | Dumbledore |
| 4 | Egg |
| 5 | Misty |
| 6 | George Michael |
| 7 | Jackson |
+----+-----+
7 rows in set (0.00 sec)

mysql>

```



id	name
1	Ringo
2	Cindy
3	Dumbledore
4	Egg
5	Misty
6	George Michael
7	Jackson

```

+----+-----+
7 rows in set (0.00 sec)

mysql> SELECT name AS 'cat name', breed AS 'kitty breed' FROM cats;
+----+-----+-----+
| cat name | kitty breed |
+----+-----+-----+
| Ringo | Tabby |
| Cindy | Maine Coon |
| Dumbledore | Maine Coon |
| Egg | Persian |
| Misty | Tabby |
| George Michael | Ragdoll |
| Jackson | Sphynx |
+----+-----+-----+
7 rows in set (0.00 sec)

```

Update data

```
UPDATE cats SET breed='Shorthair'
WHERE breed='Tabby';
```

7 rows in set (0.00 sec)

mysql> select * from cats;

cat_id	name	breed	age
1	Ringo	Tabby	4
2	Cindy	Maine Coon	10
3	Dumbledore	Maine Coon	11
4	Egg	Persian	4
5	Misty	Tabby	13
6	George Michael	Ragdoll	9
7	Jackson	Sphynx	7

7 rows in set (0.00 sec)

cat_id	name	breed	age
1	Ringo	Tabby	4
2	Cindy	Maine Coon	10
3	Dumbledore	Maine Coon	11
4	Egg	Persian	4
5	Misty	Tabby	13
6	George Michael	Ragdoll	9
7	Jackson	Sphynx	7

7 rows in set (0.00 sec)

mysql> UPDATE cats SET breed='Shorthair'
-> WHERE breed='Tabby';

Query OK, 2 rows affected (0.01 sec)
Rows matched: 2 Changed: 2 Warnings: 0

mysql> select * from cats;

Rows matched: 2 Changed: 2 Warnings: 0

mysql> select * from cats;

cat_id	name	breed	age
1	Ringo	Shorthair	4
2	Cindy	Maine Coon	10
3	Dumbledore	Maine Coon	11
4	Egg	Persian	4
5	Misty	Shorthair	13
6	George Michael	Ragdoll	9
7	Jackson	Sphynx	7

7 rows in set (0.00 sec)

```
UPDATE cats SET age=14
WHERE name='Misty';
```

cat_id	name	breed	age
1	Ringo	Shorthair	4
2	Cindy	Maine Coon	10
3	Dumbledore	Maine Coon	11
4	Egg	Persian	4
5	Misty	Shorthair	13
6	George Michael	Ragdoll	9
7	Jackson	Sphynx	7

7 rows in set (0.00 sec)

mysql> UPDATE cats SET age=14

-> WHERE name='Misty';

Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> select * from cats;
```

cat_id	name	breed	age
1	Ringo	Shorthair	4
2	Cindy	Maine Coon	10
3	Dumbledore	Maine Coon	11
4	Egg	Persian	4
5	Misty	Shorthair	14
6	George Michael	Ragdoll	9
7	Jackson	Sphynx	7

```
7 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM cats WHERE name='Misty'l
-> ;
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 'l' at line 1
mysql> SELECT * FROM cats WHERE name='Misty';
```

cat_id	name	breed	age
5	Misty	Shorthair	14

```
1 row in set (0.01 sec)
```

Update exercise

Change Jackson's name to "Jack"

Change Ringo's breed to
"British Shorthair"

Update both Maine Coons'
ages to be 12

Solution of update exercise

```
mysql>
mysql> SELECT * FROM cats WHERE name='Jackson';
```

cat_id	name	breed	age
7	Jackson	Sphynx	7

```
1 row in set (0.00 sec)

mysql> UPDATE cats SET name='Jack' WHERE name='Jackson';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM cats WHERE name='Jackson';
Empty set (0.00 sec)

mysql> SELECT * FROM cats WHERE name='Jackson';
```

```

1 row in set (0.00 sec)

mysql> UPDATE cats SET name='Jack' WHERE name='Jackson';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM cats WHERE name='Jackson';
Empty set (0.00 sec)

mysql> SELECT * FROM cats WHERE name='Jack';
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 7 | Jack | Sphynx | 7 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

```

```

+----+-----+-----+-----+
| 7 | Jack | Sphynx | 7 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM cats WHERE name='Ringo';
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 1 | Ringo | Shorthair | 4 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> UPDATE cats SET breed='British Shorthair' WHERE name='Ringo';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM cats WHERE name='Ringo';

```

```

+----+-----+-----+-----+
| 1 | Ringo | Shorthair | 4 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> UPDATE cats SET breed='British Shorthair' WHERE name='Ringo';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM cats WHERE name='Ringo';
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 1 | Ringo | British Shorthair | 4 |
+----+-----+-----+-----+
1 row in set (0.00 sec)

```

```

1 row in set (0.00 sec)

mysql> SELECT * FROM cats;
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 1 | Ringo | British Shorthair | 4 |
| 2 | Cindy | Maine Coon | 10 |
| 3 | Dumbledore | Maine Coon | 11 |
| 4 | Egg | Persian | 4 |
| 5 | Misty | Shorthair | 14 |
| 6 | George Michael | Ragdoll | 9 |
| 7 | Jack | Sphynx | 7 |
+----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE breed='Maine Coon';

```

```

+----+-----+-----+-----+
| 3 | Dumbledore | Maine Coon | 11 |
| 4 | Egg | Persian | 4 |
| 5 | Misty | Shorthair | 14 |
| 6 | George Michael | Ragdoll | 9 |
| 7 | Jack | Sphynx | 7 |
+----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE breed='Maine Coon';
+----+-----+-----+-----+
| cat_id | name | breed | age |
+----+-----+-----+-----+
| 2 | Cindy | Maine Coon | 10 |
| 3 | Dumbledore | Maine Coon | 11 |
+----+-----+-----+-----+
2 rows in set (0.00 sec)

```



```

      3 | Dumbledore | Maine Coon | 11 |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> UPDATE cats SET age=12 WHERE breed='Maine Coon';
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2  Changed: 2  Warnings: 0

mysql> SELECT * FROM cats WHERE breed='Maine Coon';
+----+-----+-----+
| cat_id | name      | breed   | age |
+----+-----+-----+
| 2 | Cindy    | Maine Coon | 12 |
| 3 | Dumbledore | Maine Coon | 12 |
+----+-----+-----+
2 rows in set (0.00 sec)

```

Delete data (drop table means deleting entire table/ and delete tables mean table is still there but entry is deleted)

```
DELETE FROM cats WHERE name='Egg';
```

```

      6 | George Michael | Ragdoll | 9 |
      7 | Jack           | Sphynx  | 7 |
+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE name='egg';
+----+-----+-----+
| cat_id | name | breed   | age |
+----+-----+-----+
| 4 | Egg | Persian | 4 |
+----+-----+-----+
1 row in set (0.00 sec)

mysql> DELETE FROM cats WHERE name='egg';
Query OK, 1 row affected (0.02 sec)

mysql> SELECT * FROM cats;

```

```

mysql> DELETE FROM cats WHERE name='egg';
Query OK, 1 row affected (0.02 sec)

mysql> SELECT * FROM cats;
+----+-----+-----+
| cat_id | name      | breed       | age |
+----+-----+-----+
| 1 | Ringo     | British Shorthair | 4 |
| 2 | Cindy     | Maine Coon | 12 |
| 3 | Dumbledore | Maine Coon | 12 |
| 5 | Misty     | Shorthair | 14 |
| 6 | George Michael | Ragdoll | 9 |
| 7 | Jack      | Sphynx    | 7 |
+----+-----+-----+
6 rows in set (0.00 sec)

```

Delete exercise

DELETE cats whose age is
the same as their cat_id

DELETE all cats 🐱

Solution of delete exercise

```
6 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE age=4;
+-----+-----+-----+-----+
| cat_id | name | breed | age |
+-----+-----+-----+-----+
| 1 | Ringo | British Shorthair | 4 |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

mysql> DELETE FROM cats WHERE age=4;
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM cats WHERE age=4;
Empty set (0.00 sec)
```

```
5 rows in set (0.00 sec)

mysql> SELECT * FROM cats WHERE cat_id=age;
+-----+-----+-----+-----+
| cat_id | name | breed | age |
+-----+-----+-----+-----+
| 7 | Jack | Sphynx | 7 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> DELETE FROM cats WHERE cat_id=age;
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM cats WHERE cat_id=age;
Empty set (0.00 sec)

mysql> SELECT * FROM cats;
```

```
mysql> SELECT * FROM cats;
+-----+-----+-----+-----+
| cat_id | name | breed | age |
+-----+-----+-----+-----+
| 2 | Cindy | Maine Coon | 12 |
| 3 | Dumbledore | Maine Coon | 12 |
| 5 | Misty | Shorthair | 14 |
| 6 | George Michael | Ragdoll | 9 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> DELETE FROM cats;
Query OK, 4 rows affected (0.00 sec)

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