HOP08

1 Creating and Deleting a Database

Open your terminal / command prompt and type the following:
mysql -h 127.0.0.1 -P 3307 -p -u root
When prompted for password: passwd

```sql
USE DATABASE classicmodels;
CREATE SCHEMA test;
SHOW DATABASES;
DROP SCHEMA test;
SHOW DATABASES;
```

Task_1 Create a schema named zoo

```sql
USE DATABASE classicmodels;
CREATE SCHEMA zoo;
```

2 Creating and Deleting a Table

```sql
CREATE TABLE pet (name    VARCHAR(20),
                  owner   VARCHAR(20),
                  species VARCHAR(20),
                  sex     CHAR(1),
                  birth   DATE,
                  death   DATE);
SHOW TABLES;
DESCRIBE pet;
DROP TABLE pet;
```

2. Questions you can answer for submission:

1. Knowledge: What does the number in `varchar` do? Why choose number 20?

```
    Determines how many characters are allowed per cell. 20 is the default
```

2. Knowledge: What does `Null YES` and `Default NULL` do?

    ○ `NULL YES`
    ○ `DEFAULT NULL`

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3 Inserting Data Into a Table

3.1 Syntax: INSERT INTO table_name VALUES(value_attribute1, value_attribute2 ...);

```
INSERT INTO pet VALUES(Papito, Clark, Chihuahua, m, '2007-09-30', NULL);

INSERT INTO pet VALUES ('Papito', 'Clark', 'Chihuahua', 'm', '2007-09-30', NULL);
```

3.2 Verify the Inserted Data using SELECT command

```
mysql> SELECT * FROM pet;
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.01 sec)
```

3.3 Verify the specific Inserted Data using WHERE command

```
mysql> SELECT * FROM pet WHERE name = 'Papito';
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.00 sec)
```

3.4 Questions you can answer for submission:

- Technical: What is the command for? Why would you use the command?
    ○ I guess I shouldnt be ~~surprised~~ but what command? Is it the ghost command and it works faster
      than [TRUNCATE] to destroy a table? If its INSERT INTO I imagine its adding something!
- Knowledge: Can you insert blank values? Why?

- Yes it will just show up as NULL. Unless the column has a not null constraint
- Best practice: Why is SELECT * not a good practice for queries?
    - When you return everything from the database every query It will slow the network and slow the servers on the front end
    - additionally It can cause the data to become corrupted from constantly taxing the memory

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▶ Repeated Section

4_Inserting Data into a Table

4.1 Syntax: INSERT INTO table_name VALUES(value_attribute1, value_attribute2 ...);

```
INSERT INTO pet (Papito, Clark, Chihuahua, m, '2007-09-30', NULL);
mysql> INSERT INTO pet VALUES ('Papito', 'Clark', 'Chihuahua', 'm', '2007-09-30',
NULL);mysql> INSERT INTO pet
Query OK, 1 row affected (0.00 sec)
```

4.2 Verify the Inserted Data using SELECT command

```
mysql> SELECT * FROM pet;
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.01 sec)
```

4.3 Verify the specific Inserted Data using WHERE command

```
mysql> SELECT * FROM pet WHERE name = 'Papito';
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.00 sec)
```

1. **Note for submission**: insert `5 pets` in the database and capture that.

4.4 Questions you can answer for submission:

Technical: What is the command for? Why would you use the command?
Best practice: Why is SELECT * not a good practice for queries?

5. Updating Data

5.1 Syntax: UPDATE table_name SET column_name1 = value WHERE condition;

```
UPDATE pet SET species = 'dog' WHERE name = 'Papito';
mysql> UPDATE pet SET species = 'dog' WHERE name = 'Papito';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

5.2 Verify the Inserted Data using SELECT command

```
mysql> SELECT * FROM pet;
+--------+-------+---------+------+------------+-------+
| name   | owner | species | sex  | birth      | death |
+--------+-------+---------+------+------------+-------+
| Papito | Clark | dog     | m    | 2007-09-30 | NULL  |
+--------+-------+---------+------+------------+-------+
1 row in set (0.00 sec)
```

5.3 Questions you can answer for submission:

Technical: What is the command for? Why would you use the command?
Knowledge: What happens when you use UPDATE while using a WHERE that satisfies multiple rows?
Knowledge: What happens when you use UPDATE without a WHERE clause?

6. Deleting Data

6.1 Syntax: DELETE FROM table_name WHERE condition;

```
DELETE FROM pet WHERE name = 'Meowser';
```

6.2 Before deleting

```
mysql> SELECT * FROM pet;
+---------+-------+---------+------+------------+-------+
| name    | owner | species | sex  | birth      | death |
+---------+-------+---------+------+------------+-------+
| Papito  | Clark | dog     | m    | 2007-09-30 | NULL  |
| Meowser | Jason | cat     | f    | 2001-01-22 | NULL  |
| Dolly   | Jake  | sheep   | f    | 1990-04-15 | NULL  |
+---------+-------+---------+------+------------+-------+
3 rows in set (0.01 sec)
```

6.3 Executing the delete operations

```
mysql> DELETE FROM pet WHERE sex = 'm';
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SELECT * FROM pet;
+---------+-------+---------+------+------------+-------+
| name    | owner | species | sex  | birth      | death |
+---------+-------+---------+------+------------+-------+
| Meowser | Jason | cat     | f    | 2001-01-22 | NULL  |
| Dolly   | Jake  | sheep   | f    | 1990-04-15 | NULL  |
+---------+-------+---------+------+------------+-------+
2 rows in set (0.00 sec)
```

6.4 Questions you can answer for submission:

Technical: What is the command for? Why would you use the command?

- When your cat dies you delete him
  Knowledge: What happens when you use DELETE while using a WHERE that satisfies multiple rows?
- It DELs the rows back to the stone age!
  Knowledge: What happens when you use DELETE without a WHERE clause?
- It DELETES everything that satisfies the Query

7 Build a new Database and Tables with Primary and Foreign Keys

1. Create a schema called donut_shop

2. Use the donut_shop database

```
CREATE TABLE Customer
(
CustomerID INT NOT NULL AUTO_INCREMENT,
FirstName varchar(20) NOT NULL,
LastName varchar(20) NOT NULL,
StreetAddress varchar(20) NOT NULL,
Apartment varchar(20) NOT NULL,
City varchar(20) NOT NULL,
State varchar(20) NOT NULL,
Zip varchar(7) NOT NULL,
HomePhone varchar(14) NOT NULL,
MobilePhone varchar(14),
OtherPhone varchar(14),
PRIMARY KEY (CustomerID)
);

CREATE TABLE Invoice
(
```

```
DonutOrderID INT NOT NULL AUTO_INCREMENT,
CustomerID INT NOT NULL,
OrderDate Date NOT NULL,
Notes varchar(255),
PRIMARY KEY (DonutOrderID),
FOREIGN KEY (CustomerID) REFERENCES Customer (CustomerID )
);

CREATE TABLE Donut
(
DonutID INT NOT NULL AUTO_INCREMENT,
DonutName varchar(20) NOT NULL,
Description varchar(30) NOT NULL,
UnitPrice decimal(5,2) NOT NULL,
PRIMARY KEY (DonutID)
);

CREATE TABLE InvoiceLineItem
(
DonutOrderID INT NOT NULL,
DonutID INT NOT NULL,
Qty INT NOT NULL,
PRIMARY KEY (DonutOrderID,DonutID),
FOREIGN KEY (DonutOrderID) REFERENCES Invoice (DonutOrderID) ,
FOREIGN KEY (DonutID) REFERENCES Donut (DonutID )
);
```

1. Show the tables of the database

Questions you can answer for submission:

Technical: What is the command for? Why would you use the command?

- So you can thoroughly map out all of the data in your database
  Knowledge: What's the use of REFERENCES? Why do you need it?
- If you want any of your Foreign keys to work you have to reference the table they came from

HOP08 – Screenshots Only

1 CREATING AND DELETING A DATABASE

```
mysql> USE DATABASE classicmodels;
ERROR 1049 (42000): Unknown database 'DATABASE'
mysql> USE classicmodels;
Database changed
mysql> ^C
mysql> CREATE SCHEMA test;
Query OK, 1 row affected (0.00 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| classicmodels      |
| mysql              |
| performance_schema |
| sys                |
| test               |
+--------------------+
6 rows in set (0.00 sec)
```

Figure 1

```
mysql> DROP SCHEMA test;
Query OK, 0 rows affected (0.00 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| classicmodels      |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)
```

Figure 2

```
mysql> CREATE SCHEMA zoo;
Query OK, 1 row affected (0.00 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| classicmodels      |
| mysql              |
| performance_schema |
| sys                |
| zoo                |
+--------------------+
6 rows in set (0.00 sec)
```

Figure 3

2   CREATING AND DELETING A TABLE

```
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 (0.06 sec)

mysql> SHOW TABLES;
+-----------------------+
| Tables_in_classicmodels |
+-----------------------+
| customers             |
| employees             |
| offices               |
| orderdetails          |
| orders                |
| payments              |
| pet                   |
| productlines          |
| products              |
+-----------------------+
9 rows in set (0.00 sec)

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)

mysql> DROP TABLE pet;
Query OK, 0 rows affected (0.02 sec)
```

Figure 4

3   INSERTING DATA INTO A TABLE

```
ERROR 1054 (42S22): Unknown column '2007' in 'field list'
mysql> INSERT INTO pet VALUES('Papito', 'Clark', 'Chihuahua', 'm', '2007-09-30', NULL);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM pet;
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.00 sec)

mysql> SELECT * FROM pet WHERE name = 'Papito';
+--------+-------+-----------+------+------------+-------+
| name   | owner | species   | sex  | birth      | death |
+--------+-------+-----------+------+------------+-------+
| Papito | Clark | Chihuahua | m    | 2007-09-30 | NULL  |
+--------+-------+-----------+------+------------+-------+
1 row in set (0.00 sec)
```

Figure 5

4 UPDATING DATA

```
mysql> UPDATE pet SET species = 'dog' WHERE name = 'Papito';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM pet;
+--------+-------+---------+------+------------+-------+
| name   | owner | species | sex  | birth      | death |
+--------+-------+---------+------+------------+-------+
| Papito | Clark | dog     | m    | 2007-09-30 | NULL  |
+--------+-------+---------+------+------------+-------+
1 row in set (0.00 sec)
```

Figure 6

5 DELETING DATA

```
mysql> SELECT * FROM pet;
+--------+-------+---------+------+------------+-------+
| name   | owner | species | sex  | birth      | death |
+--------+-------+---------+------+------------+-------+
| Papito | Clark | dog     | m    | 2007-09-30 | NULL  |
+--------+-------+---------+------+------------+-------+
1 row in set (0.00 sec)

mysql> INSERT INTO pet VALUES('Meowser','Jason','cat','f','2001-01-22',NULL);
Query OK, 1 row affected (0.03 sec)

mysql>  INSERT INTO pet VALUES('Dolly','Jake','sheep','f','1990-04-15',NULL);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM pet;
+---------+-------+---------+------+------------+-------+
| name    | owner | species | sex  | birth      | death |
+---------+-------+---------+------+------------+-------+
| Papito  | Clark | dog     | m    | 2007-09-30 | NULL  |
| Meowser | Jason | cat     | f    | 2001-01-22 | NULL  |
| Dolly   | Jake  | sheep   | f    | 1990-04-15 | NULL  |
+---------+-------+---------+------+------------+-------+
3 rows in set (0.00 sec)

mysql> INSERT INTO pet VALUES('Meowser','Jason','cat','f','2001-01-22',NULL);
Query OK, 1 row affected (0.02 sec)

mysql> DELETE FROM pet WHERE name = 'Meowser';
ERROR 1054 (42S22): Unknown column ''Meowser'' in 'where clause'
mysql> DELETE FROM pet WHERE name = 'Meowser';
Query OK, 2 rows affected (0.01 sec)
```

Figure 7

```
mysql> SELECT * FROM pet;
+--------+-------+---------+------+------------+-------+
| name   | owner | species | sex  | birth      | death |
+--------+-------+---------+------+------------+-------+
| Papito | Clark | dog     | m    | 2007-09-30 | NULL  |
| Dolly  | Jake  | sheep   | f    | 1990-04-15 | NULL  |
+--------+-------+---------+------+------------+-------+
2 rows in set (0.01 sec)
```

Figure 8

6   BUILD A NEW DATABASE AND TABLES WITH PRIMARY AND FOREIGN KEYS

```
mysql> CREATE SCHEMA donut_shop
    -> ;
Query OK, 1 row affected (0.00 sec)

mysql> USE donut_shop;
Database changed
mysql>
```

Figure 9

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| classicmodels      |
| donut_shop         |
| mysql              |
| performance_schema |
| sys                |
| zoo                |
+--------------------+
7 rows in set (0.01 sec)
```

Figure 10

```
ERROR 1146 (42S02): Table 'donut_sho
mysql> SHOW TABLES;
+--------------------+
| Tables_in_donut_shop |
+--------------------+
| Customer           |
| Donut              |
| Invoice            |
| InvoiceLineItem    |
+--------------------+
4 rows in set (0.00 sec)
```

Figure 11