

# Data Science Data210

## Homework 2

### Learning objectives:

- Practice MySQL DDL and DML statements
- Practice import/dump database

### Instructions:

1. For the activities, choose one of the following MySQL servers which you installed successfully.
  - a. mysqltest which you recently created in class.
  - b. mysql210 which you created before. If you want to import database to mysql210, you need first `ALTER USER root@localhost IDENTIFIED BY 'newpassword';` to change the password if your old password is empty string.
  - c. XAMPP MySQL server

### Activities:

#### 1. Import database

- a. Download company database [company.sql](#)
- b. Import it to MySQLserver, post screenshot of the all databases and all tables of company database here.

```
docker exec -it mysqltest mysql -u root -pa
```

```
shefaliemmanuel@Shefali-Emmanuel-MacBook-Pro-2018 DATA210DatasetOrganizationAndManagement % docker exec -i mysqltest mysql -u root -pa < company.sql  
mysql: [Warning] Using a password on the command line interface can be insecure.
```

```
[mysql> SHOW DATABASES;  
+-----+  
| Database |  
+-----+  
| classicmodels |  
| company |  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
+-----+  
6 rows in set (0.01 sec)
```

#### 2. Create database and tables

Please write SQL statements and post screenshot for each step.

- a. Create database **cart**.

```
mysql> CREATE DATABASE cart;
Query OK, 1 row affected (0.02 sec)

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

i.

- b. In cart, create the tables **items**, **customers**, **carts** and **cartitems** whose table structure are shown as follows:

```
mysql> DESC items;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int       | NO   | PRI | NULL    |       |
| name  | varchar(21) | NO   |     | NULL    |       |
| type  | varchar(7) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

```
mysql> CREATE TABLE items(id INT PRIMARY KEY, name VARCHAR(21), type VARCHAR(7));
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> ALTER TABLE items MODIFY name VARCHAR(21) NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE items MODIFY type VARCHAR(7) NOT NULL;
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE items MODIFY price DECIMAL(5,2) NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> DESC items;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int           | NO   | PRI | NULL    |       |
| name  | varchar(21)   | NO   |     | NULL    |       |
| type  | varchar(7)    | NO   |     | NULL    |       |
| price | decimal(5,2)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

```
mysql> DESC customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int           | NO   | PRI | NULL    |       |
| name  | varchar(99)   | NO   |     | NULL    |       |
| billaddr | varchar(255) | NO   |     | NULL    |       |
| shipaddr | varchar(255) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE customers(id INT PRIMARY KEY, name VARCHAR(99), billaddr VARCHAR(255), shipaddr VARCHAR(255));
Query OK, 0 rows affected (0.03 sec)
```

```
[mysql> ALTER TABLE customers MODIFY name VARCHAR(99) NOT NULL;
Query OK, 0 rows affected (0.17 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE customers MODIFY billaddr VARCHAR(255) NOT NULL;
Query OK, 0 rows affected (0.17 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE customers MODIFY shipaddr VARCHAR(255) NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> DESC customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    |       |
| name  | varchar(99) | NO   |     | NULL    |       |
| billaddr | varchar(255) | NO   |     | NULL    |       |
| shipaddr | varchar(255) | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> DESC carts;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    |       |
| customer_id | int  | NO   |     | NULL    |       |
| cartdate | timestamp | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)
```

```
mysql> CREATE TABLE carts(id INT PRIMARY KEY, customer_id INT, cartdate TIMESTAMP);
Query OK, 0 rows affected (0.02 sec)
```

```
[mysql> ALTER TABLE carts MODIFY id INT NOT NULL;
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE carts MODIFY customer_id INT NOT NULL;
Query OK, 0 rows affected (0.19 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE carts MODIFY cartdate TIMESTAMP NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> DESC carts;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    |       |
| customer_id | int  | NO   |     | NULL    |       |
| cartdate | timestamp | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> DESC cartitems;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
```



```

+-----+-----+-----+-----+-----+
| cart_id | int | NO | NULL | |
| item_id | int | NO | NULL | |
| qty | smallint | NO | 1 | |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

```
mysql> CREATE TABLE cartitems(cart_id INT, item_id INT, qty SMALLINT DEFAULT '1');
```

```

[mysql> ALTER TABLE cartitems MODIFY cart_id INT NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE cartitems MODIFY item_id INT NOT NULL;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> ALTER TABLE cartitems MODIFY qty SMALL INT NOT NULL;
ERROR 1064 (42000): You have an error in your SQL syntax; c
[mysql> ALTER TABLE cartitems MODIFY qty SMALLINT NOT NULL;
Query OK, 0 rows affected (0.16 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> DESC cartitems;
+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| cart_id | int | NO | | NULL | |
| item_id | int | NO | | NULL | |
| qty | smallint | NO | | NULL | |
+-----+-----+-----+-----+-----+
3 rows in set (0.01 sec)

```

c. Insert some records to the tables as follows:

```

mysql> SELECT * FROM items;
+-----+-----+-----+
| id | name | type |
+-----+-----+-----+
| 5913 | thingum | gizmos |
| 5937 | whatsis | gizmos |
+-----+-----+-----+
2 rows in set (0.00 sec)

```

```

[mysql> INSERT INTO items VALUES(5913, 'thingum', 'gizmos')
-> ;
Query OK, 1 row affected (0.01 sec)

[mysql> INSERT INTO items VALUES(5937,'whatsis','gizmos');
Query OK, 1 row affected (0.01 sec)

```

```
[mysql> SELECT * FROM items;
+-----+-----+-----+
| id    | name    | type    |
+-----+-----+-----+
| 5913  | thingum | gizmos  |
| 5937  | whatsis | gizmos  |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM customers;
+-----+-----+-----+
| id | name   | billaddr          | shipaddr          |
+-----+-----+-----+
| 880 | H. Clark | 937 Sesame St., Eureka, KS | P.O. Box 9, Toledo, OH |
+-----+-----+-----+
1 row in set (0.00 sec)
```

```
[mysql> INSERT INTO customers VALUES (880, 'H. Clark', '937 Sesame St., Eureka, KS,', 'P.O. Box 9, Toledo, OH');
Query OK, 1 row affected (0.01 sec)
```

```
[mysql> SELECT * FROM customers;
+-----+-----+-----+-----+
| id | name   | billaddr          | shipaddr          |
+-----+-----+-----+-----+
| 880 | H. Clark | 937 Sesame St., Eureka, KS, | P.O. Box 9, Toledo, OH |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT * FROM carts;
+-----+-----+-----+
| id | customer_id | cartdate          |
+-----+-----+-----+
| 3081 | 880 | 2008-10-13 00:00:00 |
+-----+-----+-----+
1 row in set (0.00 sec)
```

```
[mysql> INSERT INTO carts VALUES( 3081, 880, '2008-10-13 00:00:00');
Query OK, 1 row affected (0.02 sec)
```

```
[mysql> SELECT * FROM carts;
+-----+-----+-----+
| id | customer_id | cartdate          |
+-----+-----+-----+
| 3081 | 880 | 2008-10-13 00:00:00 |
+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT * FROM cartitems;
+-----+-----+-----+
| cart_id | item_id | qty |
+-----+-----+-----+
| 3197 | 5932 | 1 |
| 3081 | 5023 | 3 |
| 3081 | 5913 | 2 |
```

```
+-----+-----+-----+
mysql> INSERT INTO cartitems VALUES (3197,5932,1);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO cartitems VALUES (3081,5023,3);
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO cartitems VALUES (3081,5913,2);
Query OK, 1 row affected (0.01 sec)
```

```
[mysql> SELECT * FROM cartitems;
+-----+-----+-----+
| cart_id | item_id | qty |
+-----+-----+-----+
| 3197 | 5932 | 1 |
| 3081 | 5023 | 3 |
| 3081 | 5913 | 2 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

Show the contents of your tables.

- d. Modify table **items** add a column price with datatype DECIMAL(5,2) .

```
[mysql> ALTER TABLE items ADD COLUMN price DECIMAL(5,2);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

- e. Add two more records to table **items** so that it has 4 rows as following:

```
mysql> SELECT * FROM items;
+-----+-----+-----+
| id | name | type | price |
+-----+-----+-----+
| 5023 | dingus | gizmos | 29.37 |
| 5061 | bric-a-brac | widgets | 2.00 |
| 5913 | thingum | gizmos | NULL |
| 5937 | whatsis | gizmos | NULL |
+-----+-----+-----+
```

Show the content of your **items** table.

```
[mysql> INSERT INTO items VALUES (5061,'bric-a-brac','widgets', '2.00');
Query OK, 1 row affected (0.02 sec)

mysql> INSERT INTO items VALUES ( 5023,'dingus','gizmos', '29.37');
Query OK, 1 row affected (0.02 sec)
```



```
[mysql> SELECT * FROM items;
+-----+-----+-----+-----+
| id    | name          | type    | price |
+-----+-----+-----+-----+
| 5023  | dingus        | gizmos  | 29.37 |
| 5061  | bric-a-brac   | widgets | 2.00  |
| 5913  | thingum       | gizmos  | NULL  |
| 5937  | whatsis       | gizmos  | NULL  |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

- f. Delete item whatsis from **items** table . Show the content of items table.

```
[mysql> DELETE FROM items WHERE name='whatsis';
Query OK, 1 row affected (0.01 sec)

[mysql> SELECT * FROM items;
+-----+-----+-----+-----+
| id    | name          | type    | price |
+-----+-----+-----+-----+
| 5023  | dingus        | gizmos  | 29.37 |
| 5061  | bric-a-brac   | widgets | 2.00  |
| 5913  | thingum       | gizmos  | NULL  |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

- g. Modify the column shipaddr in **customers** table , add default value “See billing address.”

```
[mysql> ALTER TABLE customers MODIFY shipaddr VARCHAR(255) DEFAULT 'See billing address';
Query OK, 0 rows affected (0.15 sec)
Records: 0 Duplicates: 0 Warnings: 0

[mysql> DESC customers;
+-----+-----+-----+-----+-----+-----+
| Field    | Type          | Null | Key | Default          | Extra |
+-----+-----+-----+-----+-----+-----+
| id       | int           | NO   | PRI | NULL             |       |
| name     | varchar(99)   | NO   |     | NULL             |       |
| billaddr | varchar(255)  | NO   |     | NULL             |       |
| shipaddr | varchar(255)  | YES  |     | See billing address |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

- h. Add a new customer whose id is 750, name is 'C. Brown' and billaddr is '789 Sesame St., Eureka, KS'. Show the content of **customers**.

```
[mysql> INSERT INTO customers(id, name, billaddr) VALUES (70, 'C. Brown', '789 Sesame St., Eureka, KS');
Query OK, 1 row affected (0.01 sec)

[mysql> SELECT * FROM customers;
+-----+-----+-----+-----+
| id | name | billaddr | shipaddr |
+-----+-----+-----+-----+
| 70 | C. Brown | 789 Sesame St., Eureka, KS | See billing address |
| 880 | H. Clark | 937 Sesame St., Eureka, KS, | P.O. Box 9, Toledo, OH |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

- i. Change the thingum's price to 5.00.

```
[mysql> UPDATE items SET price='5.00' WHERE name = 'thingum';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

[mysql> SELECT * FROM items;
+-----+-----+-----+-----+
| id | name | type | price |
+-----+-----+-----+-----+
| 5023 | dingus | gizmos | 29.37 |
| 5061 | bric-a-brac | widgets | 2.00 |
| 5913 | thingum | gizmos | 5.00 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

- j. For customer H. Clark, change the quantity of dingus in his cart to 4.

```
[mysql> UPDATE cartitems SET qty = 4 WHERE item_id= 5023;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

[mysql> SELECT * FROM cartitems;
+-----+-----+-----+
| cart_id | item_id | qty |
+-----+-----+-----+
| 3197 | 5932 | 1 |
| 3081 | 5023 | 4 |
| 3081 | 5913 | 2 |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

### 3. Dump your cart database to `yourname_cart.sql`

```
docker exec mysqltest sh -c 'exec mysqldump --databases cart -u root -p"a" > shefaliemmanuel_cart.sql'
```

**Submission:**



1. Submit shefaliemmanuel\_Data210HW2.docx and yourname\_cart.sql to the dropbox of OAKS.