

PMSC DATA SCIENCE & AI

L026

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PRACTICAL 01 : DDL operations on relational schema.

Enter password: \*\*\*\*

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 3

Server version: 5.5.16 MySQL Community Server (GPL)

```
mysql> show databases;
```

Database
information_schema
mysql
performance_schema
test

4 rows in set (0.04 sec)

```
mysql> create database Afrin;
```

Query OK, 1 row affected (0.00 sec)

```
mysql> use Afrin;
```

Database changed

```
mysql> CREATE TABLE salesman(salesman_id INTEGER PRIMARY KEY,name TEXT,city  
TEXT,commission float);
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> INSERT INTO salesman VALUES (5001, 'James Hoog', 'New York', 0.15);
```

Query OK, 1 row affected (0.02 sec)

```
mysql> INSERT INTO salesman VALUES (5002, 'Nail Knite', 'Paris' ,0.13);
```

Query OK, 1 row affected (0.04 sec)

```
mysql> INSERT INTO salesman VALUES (5005, 'Pit Alex','London', 0.11);
```

Query OK, 1 row affected (0.00 sec)

```
mysql> INSERT INTO salesman VALUES (5006, 'Mc Lyon', 'Paris' ,0.14);
```

Query OK, 1 row affected (0.04 sec)

```
mysql> INSERT INTO salesman VALUES (5003, 'Lauson Hen', '' ,0.12);
```

Query OK, 1 row affected (0.00 sec)

```
mysql> delete from salesman where salesman_id=5003;
```

Query OK, 1 row affected (0.04 sec)

```
mysql> INSERT INTO salesman VALUES (5003, 'Lauson Hen', null ,0.12);
```

Query OK, 1 row affected (0.04 sec)

```
mysql> INSERT INTO salesman VALUES (5007, 'Paul Adam', 'Rome' , 0.13);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> select * from salesman;
```

salesman_id	name	city	comission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5003	Lauson Hen	NULL	0.12
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14
5007	Paul Adam	Rome	0.13

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

```
mysql> CREATE TABLE customer(customer_id int primary key,customer_name text,city
text,grade int,salesman_id int,foreign key(salesman_id)
referencessalesman(salesman_id));
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> INSERT INTO customer VALUES ( 3002, 'Nick Rimando' , 'New York', 100 ,5001);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO customer VALUES (3005, 'Graham Zusi', 'California' ,200 ,5002);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO customer VALUES (3001, 'Brad Guzan', 'London',null,null);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO customer VALUES (3004, 'Fabian Johnson' , 'Paris' , 300, 5006);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO customer VALUES (3007, 'Brad Davis', 'New York' , 200, 5001);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO customer VALUES (3009, 'Geoff Cameron', 'Berlin', 100, null);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO customer VALUES (3008 , 'Julian Green', 'London' , 300, 5002);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO customer VALUES (3003 , 'Jozy Altidor', 'Moscow', 200, 5007);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> select * from customer;
```

customer_id	customer_name	city	grade	salesman_id
3001	Brad Guzan	London	null	null
3002	Nick Rimando	New York	100	5001
3003	Jozy Altidor	Moscow	200	5007
3004	Fabian Johnson	Paris	300	5006
3005	Graham Zusi	California	200	5002
3007	Brad Davis	New York	200	5001
3008	Julian Green	London	300	5002
3009	Geoff Cameron	Berlin	100	null

3001	Brad Guzan	London	NULL	NULL
3002	Nick Rimando	New York	100	5001
3003	Jozy Altidor	Moscow	200	5007
3004	Fabian Johnson	Paris	300	5006
3005	Graham Zusi	California	200	5002
3007	Brad Davis	New York	200	5001
3008	Julian Green	London	300	5002
3009	Geoff Cameron	Berlin	100	NULL

8 rows in set (0.00 sec)

```
mysql> CREATE TABLE orders (ord_no INTEGER PRIMARY KEY,purch_amt float,ord_date
date,customer_id INTEGER,foreign key(customer_id) references
customer(customer_id),salesman_id INTEGER,foreign key(salesman_id) references
salesman(salesman_id));
Query OK, 0 rows affected (0.06 sec)
```

```
mysql> INTO orders VALUES (70001, 150.5, '2012-10-05', 3005, 5002);
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 'INTO
orders VALUES (70001, 150.5, '2012-10-05', 3005, 5002)' at line 1
mysql> insert INTO orders VALUES (70001, 150.5, '2012-10-05', 3005, 5002);
Query OK, 1 row affected (0.03 sec)
```

```
mysql> INSERT INTO orders VALUES (70009, 270.65, '2012-09-10', 3001, null);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO orders VALUES (70002, 65.26 , '2012-10-05' ,3002, 5001);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO orders VALUES (70004, 110.5, '2012-08-17', 3009, null);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO orders VALUES (70007, 948.5, '2012-09-10', 3005, 5002);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO orders VALUES (70005, 2400.6, '2012-07-27', 3007, 5001)
-> ;
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO orders VALUES (70008, 5760, '2012-09-10', 3002, 5001);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO orders VALUES (70010, 1983.43, '2012-10-10', 3004, 5006);
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO orders VALUES (70003, 2480.4, '2012-10-10', 3009, null);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> INSERT INTO orders VALUES (70012, 250.45, '2012-06-27', 3008, 5002);
```

Query OK, 1 row affected (0.04 sec)

```
mysql> INSERT INTO orders VALUES (70011, 75.29, '2012-08-17', 3003, 5007);
```

Query OK, 1 row affected (0.05 sec)

```
mysql> select * from orders;
```

ord_no	purch_amt	ord_date	customer_id	salesman_id
70001	150.5	2012-10-05	3005	5002
70002	65.26	2012-10-05	3002	5001
70003	2480.4	2012-10-10	3009	NULL
70004	110.5	2012-08-17	3009	NULL
70005	2400.6	2012-07-27	3007	5001
70007	948.5	2012-09-10	3005	5002
70008	5760	2012-09-10	3002	5001
70009	270.65	2012-09-10	3001	NULL
70010	1983.43	2012-10-10	3004	5006
70011	75.29	2012-08-17	3003	5007
70012	250.45	2012-06-27	3008	5002

11 rows in set (0.02 sec)

1 )Display name and commission for all the salesmen

```
mysql> select name,comission from salesman;
```

name	comission
James Hoog	0.15
Nail Knite	0.13
Lauson Hen	0.12
Pit Alex	0.11
Mc Lyon	0.14
Paul Adam	0.13

6 rows in set (0.00 sec)

2)Retrieve salesman id of all salesmen from orders table without any repeats

```
mysql> select distinct salesman_id from salesman;
```

salesman_id
5001
5002
5003
5005
5006
5007

```
+-----+
6 rows in set (0.04 sec)
```

3) Display names and city of salesman, who belongs to the city of Paris.

```
mysql> select name,city from salesman where city='paris';
```

```
+-----+-----+
| name      | city  |
+-----+-----+
| Nail Knite | Paris |
| Mc Lyon   | Paris |
+-----+-----+
2 rows in set (0.04 sec)
```

4) Display all the information for those customers with a grade of 200

```
mysql> select * from customer where grade=200;
```

```
+-----+-----+-----+-----+-----+
| customer_id | customer_name | city      | grade | salesman_id |
+-----+-----+-----+-----+-----+
|          3003 | Jozy Altidor  | Moscow   | 200   |          5007 |
|          3005 | Graham Zusi   | California | 200   |          5002 |
|          3007 | Brad Davis    | New York  | 200   |          5001 |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

5) Display the order number, order date and the purchase amount for order(s) which will be delivered by the salesman with ID 5001

```
mysql> select ord_no,ord_date,purch_amt from orders where salesman_id=5001;
```

```
+-----+-----+-----+
| ord_no | ord_date  | purch_amt |
+-----+-----+-----+
| 70002  | 2012-10-05 | 65.26     |
| 70005  | 2012-07-27 | 2400.6    |
| 70008  | 2012-09-10 | 5760      |
+-----+-----+-----+
3 rows in set (0.04 sec)
```

6) Display all the customers, who are either belongs to the city New York or not had a grade above 100.

```
mysql> select * from customer where city='New York' or not grade >100;
```

```
+-----+-----+-----+-----+-----+
| customer_id | customer_name | city      | grade | salesman_id |
+-----+-----+-----+-----+-----+
|          3002 | Nick Rimando  | New York  | 100   |          5001 |
|          3007 | Brad Davis    | New York  | 200   |          5001 |
|          3009 | Geoff Cameron | Berlin    | 100   |          NULL |
+-----+-----+-----+-----+-----+
```

3 rows in set (0.04 sec)

7)Find those salesmen with all information who gets the commission within a range of 0.12 and 0.14.

```
mysql> select salesman_id,name,city,comission from salesman where comission between 0.12 AND 0.14;
```

salesman_id	name	city	comission
5002	Nail Knite	Paris	0.13
5007	Paul Adam	Rome	0.13

2 rows in set (0.00 sec)

8)Find all those customers with all information whose names are ending with the letter 'n'.

```
mysql> select * from customer where customer_name like '%n';
```

customer_id	customer_name	city	grade	salesman_id
3001	Brad Guzan	London	NULL	NULL
3004	Fabian Johnson	Paris	300	5006
3008	Julian Green	London	300	5002
3009	Geoff Cameron	Berlin	100	NULL

4 rows in set (0.00 sec)

9)Find those salesmen with all information whose name containing the 1st character is 'N' and the 4th character is 'l' and rests may be any character.

```
mysql> select * from salesman where name like 'N__l%';
```

salesman_id	name	city	comission
5002	Nail Knite	Paris	0.13

1 row in set (0.00 sec)

10)Find that customer with all information who does not get any grade except NULL.

```
mysql> select * from customer where grade is null;
```

customer_id	customer_name	city	grade	salesman_id
3001	Brad Guzan	London	NULL	NULL

1 row in set (0.00 sec)

11)Find the total purchase amount of all orders

```
mysql> select sum(purch_amt) from orders;
```

```
+-----+
| sum(purch_amt) |
+-----+
| 14495.580047607422 |
+-----+
1 row in set (0.04 sec)
```

12)Find the number of salesman currently listing for all of their customers

```
mysql> select count(Distinct salesman_id) from orders;
```

```
+-----+
| count(salesman_id) |
+-----+
| 4 |
+-----+
1 row in set (0.00 sec)
```

13)Find the highest grade for each of the cities of the customers.

```
mysql> select city,max(grade) from customer Group by city;
```

```
+-----+-----+
| city | max(grade) |
+-----+-----+
| Berlin | 100 |
| California | 200 |
| London | 300 |
| Moscow | 200 |
| New York | 200 |
| Paris | 300 |
+-----+-----+
6 rows in set (0.05 sec)
```

14)Find the highest purchase amount ordered by each customer with their ID and highest purchase amount.

```
mysql> select customer_id,max(purch_amt) from orders group by customer_id;
```

```
+-----+-----+
| customer_id | max(purch_amt) |
+-----+-----+
| 3001 | 270.6499938964844 |
| 3002 | 5760 |
| 3003 | 75.29000091552734 |
| 3004 | 1983.4300537109375 |
| 3005 | 948.5 |
| 3007 | 2400.60009765625 |
| 3008 | 250.4499969482422 |
| 3009 | 2480.39990234375 |
+-----+-----+
```

```
+-----+
8 rows in set (0.04 sec)
```

15) Find the highest purchase amount ordered by each customer on a particular date with their ID, order date and highest purchase amount.

```
mysql> select customer_id,ord_date,max(purch_amt) from orders group by
customer_id,ord_date;
```

customer_id	ord_date	max(purch_amt)
3001	2012-09-10	270.65
3002	2012-09-10	5760
3002	2012-10-05	65.26
3003	2012-08-17	75.29
3004	2012-10-10	1983.43
3005	2012-09-10	948.5
3005	2012-10-05	150.5
3007	2012-07-27	2400.6
3008	2012-06-27	250.45
3009	2012-08-17	110.5
3009	2012-10-10	2480.4

```
+-----+
11 rows in set (0.01 sec)
```

16) Find the highest purchase amount on a date '2012-08-17' for each salesman with their ID.

```
mysql> select salesman_id,max(purch_amt) from orders where ord_date='2012-08-17'
group by salesman_id;
```

salesman_id	max(purch_amt)
NULL	110.5
5007	75.29000091552734

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

17) Find the highest purchase amount with their customer ID and order date, for only those customers who have the highest purchase amount in a day is more than 2000

```
mysql> select customer_id,ord_date,max(purch_amt) from orders group by
customer_id,ord_date having max(purch_amt)>2000;
```

customer_id	ord_date	max(purch_amt)
3002	2012-09-10	5760
3007	2012-07-27	2400.6
3009	2012-10-10	2480.4



3 rows in set (0.00 sec)

18) Write a SQL statement that counts all orders for a date August 17th, 2012.

```
mysql> select count(*) from orders where ord_date='2012-08-17';
```

```
+-----+  
| count(*) |  
+-----+  
|          2 |  
+-----+
```

1 row in set (0.00 sec)

```
mysql>
```