

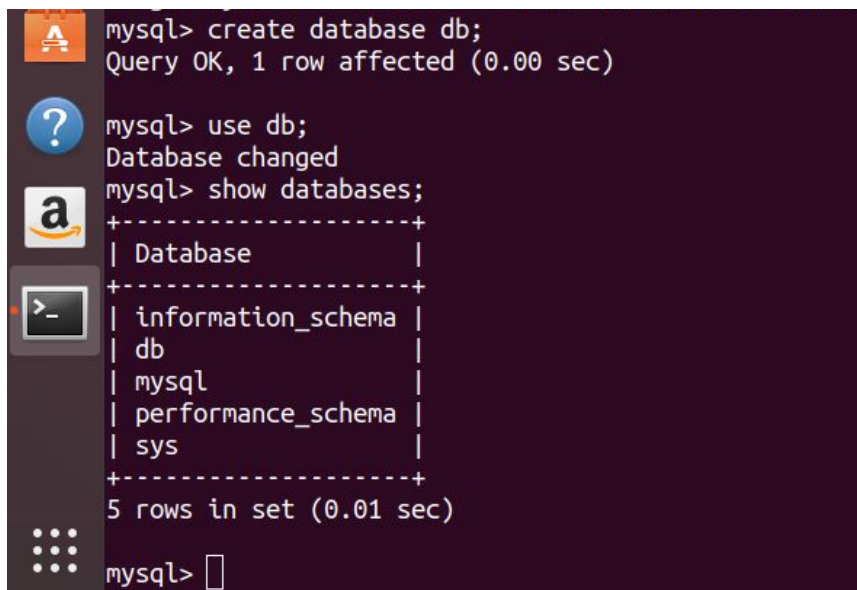
## ASSIGNMENT 3 (DATABASE)

**Problem Statement:** There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assigned to one salesperson only). So a sales person can have multiple orders of multiple customers

### 1. Create Database

Answer: create database db;

show databases;



```
mysql> create database db;
Query OK, 1 row affected (0.00 sec)

mysql> use db;
Database changed

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| db          |
| mysql       |
| performance_schema |
| sys        |
+-----+
5 rows in set (0.01 sec)

mysql> 
```

### 2. Design Schema

Answer: show tables:

desc customer;

desc orders\_;

desc sales\_man;

```
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mysql> desc customer;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| id     | int(10)   | NO   | PRI | NULL    |       |
| name   | varchar(32) | YES  | MUL | NULL    |       |
| email  | varchar(32) | YES  |     | NULL    |       |
| contact | bigint(10) | YES  |     | NULL    |       |
| enabled | bit(1)    | YES  |     | b'1'    |       |
+-----+
5 rows in set (0.01 sec)

mysql> desc orders_;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| oid    | int(11)   | NO   | PRI | NULL    |       |
| cust_id | int(11)  | YES  | MUL | NULL    |       |
| saleid | int(11)  | YES  | MUL | NULL    |       |
+-----+
3 rows in set (0.00 sec)

mysql> desc sales_man;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| sale_id | int(10)   | NO   | PRI | NULL    |       |
| sale_name | varchar(10) | YES  |     | NULL    |       |
+-----+
2 rows in set (0.00 sec)
```

```
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mysql> show tables;
+-----+
| Tables_in_db |
+-----+
| customer      |
| orders        |
| orders_       |
| sales_man     |
+-----+
4 rows in set (0.00 sec)

mysql> desc customer;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| id     | int(10)   | NO   | PRI | NULL    |       |
| name   | varchar(32) | YES  | MUL | NULL    |       |
| email  | varchar(32) | YES  |     | NULL    |       |
| contact | bigint(10) | YES  |     | NULL    |       |
| enabled | bit(1)    | YES  |     | b'1'    |       |
+-----+
5 rows in set (0.01 sec)

mysql> desc orders_;
+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+
| oid    | int(11)   | NO   | PRI | NULL    |       |
| cust_id | int(11)  | YES  | MUL | NULL    |       |
| saleid | int(11)  | YES  | MUL | NULL    |       |
+-----+
```

### 3. Create tables

Answer: create table customer (id int(10),name varchar(32),email varchar(32),mobile int(10));

```
mysql> create table customer (id int(10),name varchar(32),email varchar(32),mobile int(10));
Query OK, 0 rows affected (0.04 sec)

mysql> show tables;
+-----+
| Tables_in_db |
+-----+
| customer      |
+-----+
1 row in set (0.01 sec)

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int(10)   | YES  |     | NULL    |       |
| name   | varchar(32) | YES  |     | NULL    |       |
| email  | varchar(32) | YES  |     | NULL    |       |
| mobile | int(10)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.02 sec)

mysql>
```

### 4. Insert sample data

Answer: insert into customer values(002,'austin','austin@sql.com',8285749919);

```
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rachita@rachita: ~

mysql> insert into customer values(002,'austin','austin.002@sql.com',8285749919);
Query OK, 1 row affected (0.00 sec)

mysql> select* from customer;
+-----+-----+-----+-----+
| id | name  | email                | mobile  |
+-----+-----+-----+-----+
| 1  | john  | john.001@sql.com     | 678     |
| 2  | austin | austin.002@sql.com   | 8285749919 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

**5. Find the sales person have multiple orders.**

Answer: select\* from customer;

select \* from salesman;

SELECT \* FROM salesman WHERE sale\_id IN (SELECT DISTINCT  
sale\_id FROM customer a WHERE EXISTS (SELECT \* FROM customer b  
WHERE b.sale\_id=a.sale\_id AND b.cust\_name<>a.cust\_name));

```
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mysql> select * from customer;
+-----+-----+-----+
| cust_id | cust_name | sales_id |
+-----+-----+-----+
| 10 | vageesha | 102 |
| 15 | divya | 100 |
| 20 | jasleen | 100 |
| 25 | riya | 103 |
| 30 | rachi | 104 |
| 35 | mansi | 100 |
| 40 | shreya | 103 |
| 45 | shruti | 100 |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from salesman;
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM salesman WHERE sales_id IN (SELECT DISTINCT sales_id FROM customer a WHERE EXISTS (SELECT * FROM customer b
WHERE b.sales_id=a.sales_id AND b.cust_name<>a.cust_name));
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
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| 25 | riya | 103 |
| 30 | rachi | 104 |
| 35 | mansi | 100 |
| 40 | shreya | 103 |
| 45 | shruti | 100 |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from salesman;
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT * FROM salesman WHERE sales_id IN (SELECT DISTINCT sales_id FROM customer a WHERE EXISTS (SELECT * FROM customer b
WHERE b.sales_id=a.sales_id AND b.cust_name<>a.cust_name));
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 103 | ajeet | ajeet@mysql |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql>
```

**6. Find the all sales person details along with order details**

Answer: select \* from orders;

select \* from salesman;

select \* from salesman s left join orders o on s.sale\_id = o.salesman\_id;

```
Activities Terminal Wed 21:38 rachita@rachita: ~
File Edit View Search Terminal Help

mysql> select * from orders;
+-----+-----+-----+
| oid | sales_id | product |
+-----+-----+-----+
| 1 | 100 | books |
| 2 | 104 | laptop |
| 3 | 100 | laptop |
| 4 | 102 | dress |
| 5 | 103 | printer |
| 6 | 100 | laptop |
| 7 | 101 | shirt |
+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> select * from salesman;
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select * from salesman s left join orders o on s.sales_id = o.sales_id;
+-----+-----+-----+-----+-----+-----+
| sales_id | sales_name | sales_mail | oid | sales_id | product |
+-----+-----+-----+-----+-----+-----+
| 100 | raj | raj@mysql | 1 | 100 | books |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)
```

```
Activities Terminal Wed 21:38 rachita@rachita: ~
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| 7 | 101 | shirt |
+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> select * from salesman;
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select * from salesman s left join orders o on s.sales_id = o.sales_id;
+-----+-----+-----+-----+-----+-----+
| sales_id | sales_name | sales_mail | oid | sales_id | product |
+-----+-----+-----+-----+-----+-----+
| 100 | raj | raj@mysql | 1 | 100 | books |
| 104 | ashu | ashu@mysql | 2 | 104 | laptop |
| 100 | raj | raj@mysql | 3 | 100 | laptop |
| 102 | mohan | mohan@mysql | 4 | 102 | dress |
| 103 | ajeet | ajeet@mysql | 5 | 103 | printer |
| 100 | raj | raj@mysql | 6 | 100 | laptop |
| 101 | suraj | suraj@mysql | 7 | 101 | shirt |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql>
```



## 7. Create index

Answer: create index cindex1 on customer(name);

```
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File Edit View Search Terminal Help
+-----+
| customer | 0 | PRIMARY | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex | 1 | id | A | 10 | NULL | NULL | | BTREE
+-----+
2 rows in set (0.00 sec)

mysql> create index cindex1 on customer (name);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

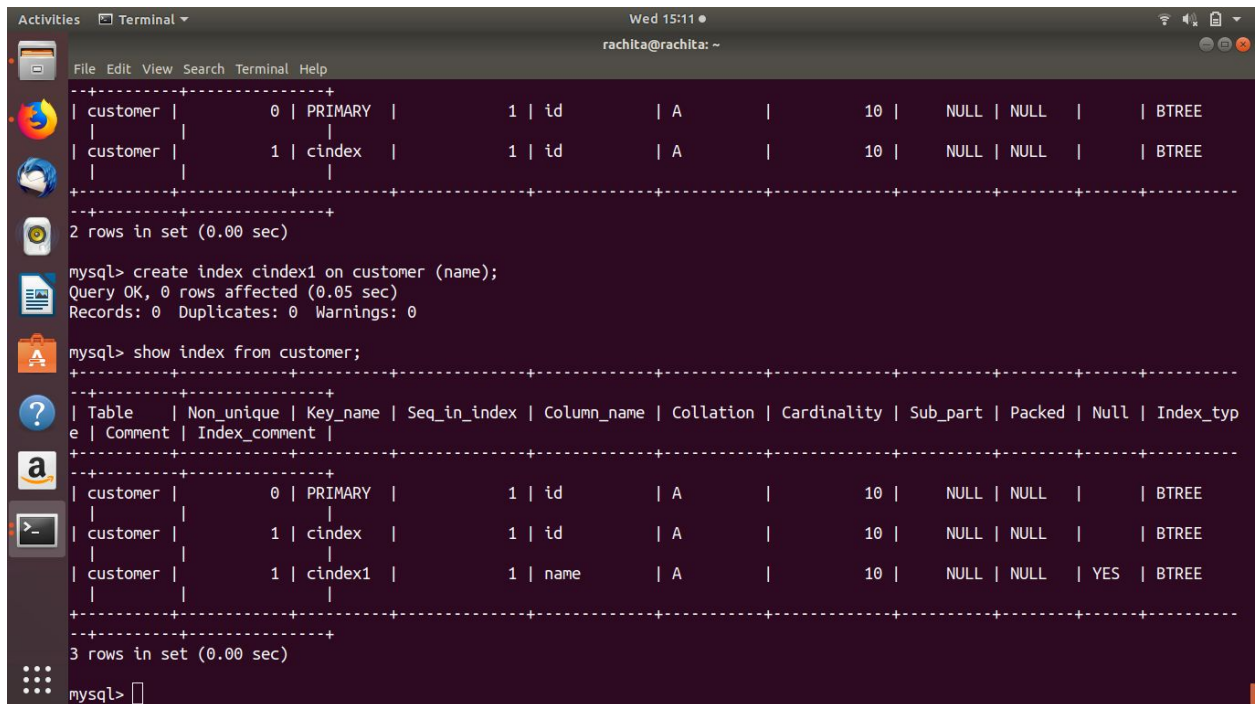
mysql> show index from customer;
+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type
| Comment | Index_comment |
+-----+
| customer | 0 | PRIMARY | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex1 | 1 | name | A | 10 | NULL | NULL | YES | BTREE
+-----+
3 rows in set (0.00 sec)

mysql>
```



## 8. How to show index on a table

Answer: show index from customer;



```
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+-----+
| customer | 0 | PRIMARY | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex | 1 | id | A | 10 | NULL | NULL | | BTREE
+-----+
2 rows in set (0.00 sec)

mysql> create index cindex1 on customer (name);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index from customer;
+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type
+-----+
| customer | 0 | PRIMARY | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex | 1 | id | A | 10 | NULL | NULL | | BTREE
| customer | 1 | cindex1 | 1 | name | A | 10 | NULL | NULL | YES | BTREE
+-----+
3 rows in set (0.00 sec)

mysql>
```

## 9. Find the order number, sale person name, along with the customer to whom that order belongs to

Answer: select \* from customer;  
select \* from orders;  
select \* from salesman;  
select oid,sales\_name,cust\_name from orders o inner join salesman s on  
o.sales\_id=s.sales\_id inner join customer c on c.sales\_id=s.sales\_id;

```
Terminal
File Edit View Search Terminal Help
mysql> select * from orders;
+-----+-----+-----+
| oid | sales_id | product |
+-----+-----+-----+
| 1 | 100 | books |
| 2 | 104 | laptop |
| 3 | 100 | laptop |
| 4 | 102 | dress |
| 5 | 103 | printer |
| 6 | 100 | laptop |
| 7 | 101 | shirt |
+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> select * from customer;
+-----+-----+-----+
| cust_id | cust_name | sales_id |
+-----+-----+-----+
| 10 | vageesha | 102 |
| 15 | divya | 100 |
| 20 | jasleen | 100 |
| 25 | riya | 103 |
| 30 | rachi | 104 |
| 35 | mansi | 100 |
+-----+-----+-----+
```

```
Terminal
File Edit View Search Terminal Help
+-----+-----+-----+
| cust_id | cust_name | sales_id |
+-----+-----+-----+
| 10 | vageesha | 102 |
| 15 | divya | 100 |
| 20 | jasleen | 100 |
| 25 | riya | 103 |
| 30 | rachi | 104 |
| 35 | mansi | 100 |
| 40 | shreya | 103 |
| 45 | shruti | 100 |
+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from salesman;
+-----+-----+-----+
| sales_id | sales_name | sales_mail |
+-----+-----+-----+
| 100 | raj | raj@mysql |
| 101 | suraj | suraj@mysql |
| 102 | mohan | mohan@mysql |
| 103 | ajeet | ajeet@mysql |
| 104 | ashu | ashu@mysql |
+-----+-----+-----+
```

```
Terminal
File Edit View Search Terminal Help
mysql> select oid,sales_name,cust_name from orders o inner join salesman s on o.
sales_id=s.sales_id inner join customer c on c.sales_id=s.sales_id;
+-----+-----+-----+
| oid | sales_name | cust_name |
+-----+-----+-----+
| 4 | mohan | vageesha |
| 1 | raj | divya |
| 3 | raj | divya |
| 6 | raj | divya |
| 1 | raj | jasleen |
| 3 | raj | jasleen |
| 6 | raj | jasleen |
| 5 | ajeet | riya |
| 2 | ashu | rachi |
| 1 | raj | mansi |
| 3 | raj | mansi |
| 6 | raj | mansi |
| 5 | ajeet | shreya |
| 1 | raj | shruti |
| 3 | raj | shruti |
| 6 | raj | shruti |
+-----+-----+-----+
16 rows in set (0.01 sec)
```