## Q1. Create Database

```
ttn@ttn:sql1 $ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 5.7.25-0ubuntu0.18.04.2 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.00 sec)
```
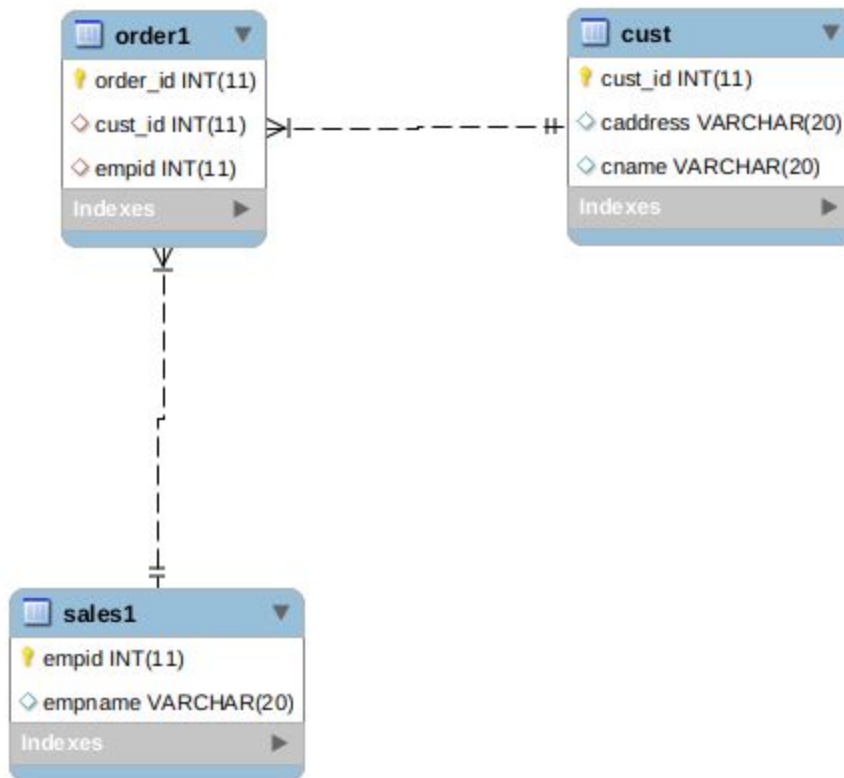
```
mysql> create database customer1;
Query OK, 1 row affected (0.00 sec)
```

```
mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| customer1          |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
5 rows in set (0.00 sec)

mysql> use customer1;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql>
```

Q2.Design Schema

**order1**
- 🔑 order_id INT(11)
- ◇ cust_id INT(11)
- ◇ empid INT(11)
- Indexes ▶

**cust**
- 🔑 cust_id INT(11)
- ◇ caddress VARCHAR(20)
- ◇ cname VARCHAR(20)
- Indexes ▶

**sales1**
- 🔑 empid INT(11)
- ◇ empname VARCHAR(20)
- Indexes ▶

## Q3. Create tables

```
mysql> create table cust( cust_id int not null PRIMARY KEY, caddress varchar(20), cname varchar(20));
Query OK, 0 rows affected (0.30 sec)

mysql> desc cust;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| cust_id  | int(11)     | NO   | PRI | NULL    |       |
| caddress | varchar(20) | YES  |     | NULL    |       |
| cname    | varchar(20) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> create table sales1(empid int, empname varchar(20), PRIMARY KEY(empid) );
Query OK, 0 rows affected (0.28 sec)

mysql> desc sales1;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| empid   | int(11)     | NO   | PRI | NULL    |       |
| empname | varchar(20) | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

```
mysql> create table order1(order_id int,  cust_id int, empid int, primary key(order_id), foreign key(cust_id) references cust(cust_id), forei
gn key(empid) references sales1(empid));
Query OK, 0 rows affected (0.39 sec)
```

```
mysql> desc order1;
+----------+---------+------+-----+---------+-------+
| Field    | Type    | Null | Key | Default | Extra |
+----------+---------+------+-----+---------+-------+
| order_id | int(11) | YES  |     | NULL    |       |
| cust_id  | int(11) | YES  | MUL | NULL    |       |
| empid    | int(11) | YES  | MUL | NULL    |       |
+----------+---------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> show tables
    -> ;
+---------------------+
| Tables_in_customer1 |
+---------------------+
| cust                |
| order1              |
| sales1              |
+---------------------+
```

Q4. Insert sample data

```
mysql> insert into cust values(100, "RZ-1", "ct1");
Query OK, 1 row affected (0.05 sec)

mysql> insert into cust values(101, "RZ-2", "ct1");
Query OK, 1 row affected (0.05 sec)

mysql> insert into cust values(102, "RZ-3", "ct2");
Query OK, 1 row affected (0.05 sec)

mysql> insert into cust values(103, "RZ-1", "ct2");
Query OK, 1 row affected (0.05 sec)

mysql> select * from cust;
+---------+----------+--------+
| cust_id | caddress | cname  |
+---------+----------+--------+
|     100 | RZ-1     | ct1    |
|     101 | RZ-2     | ct1    |
|     102 | RZ-3     | ct2    |
|     103 | RZ-1     | ct2    |
+---------+----------+--------+
4 rows in set (0.00 sec)
```

```
mysql> insert into sales1 values
    -> (1001, "Ram"),
    -> (1002, "John"),
    -> (1003, "James"),
    -> (1004, "Lucky");
Query OK, 4 rows affected (0.05 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from sales1;
+-------+---------+
| empid | empname |
+-------+---------+
|  1001 | Ram     |
|  1002 | John    |
|  1003 | James   |
|  1004 | Lucky   |
+-------+---------+
4 rows in set (0.00 sec)
```

```
mysql> insert into order1 values (1,100,1002), (2,100,1004), (3,101,1004), (4,102,1003), (5,103,1001);
Query OK, 5 rows affected (0.17 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> select * from order1;
+----------+---------+-------+
| order_id | cust_id | empid |
+----------+---------+-------+
|        1 |     100 |  1002 |
|        2 |     100 |  1004 |
|        3 |     101 |  1004 |
|        4 |     102 |  1003 |
|        5 |     103 |  1001 |
+----------+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

Q5. Find the sales person have multiple orders.

```
mysql> select sp.*, count(o.empid) as num_of_orders
    -> from sales1 sp
    -> join order1 o
    -> on sp.empid=o.empid
    -> group by o.empid
    -> having count(o.empid)>1;
+--------+----------+---------------+
| empid  | empname  | num_of_orders |
+--------+----------+---------------+
|   1004 | Lucky    |             2 |
+--------+----------+---------------+
1 row in set (0.00 sec)
```

Q6. Find the all sales person details along with order details

```
mysql> select sp.*, o.order_id, o.cust_id
    -> from sales1 sp
    -> join order1 o
    -> on sp.empid=o.empid;
+--------+----------+----------+---------+
| empid  | empname  | order_id | cust_id |
+--------+----------+----------+---------+
|   1001 | Ram      |        5 |     103 |
|   1002 | John     |        1 |     100 |
|   1003 | James    |        4 |     102 |
|   1004 | Lucky    |        2 |     100 |
|   1004 | Lucky    |        3 |     101 |
+--------+----------+----------+---------+
5 rows in set (0.00 sec)
```

Q7. Create index

```
mysql> create index ind1 on cust(caddress);
Query OK, 0 rows affected (0.36 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Q8. How to show index on a table

```
mysql> show index from cust;
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
| cust  |          0 | PRIMARY  |            1 | cust_id     | A         |           4 |     NULL | NULL   |      | BTREE      |         |               |
| cust  |          1 | ind1     |            1 | caddress    | A         |           3 |     NULL | NULL   | YES  | BTREE      |         |               |
+-------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+
2 rows in set (0.00 sec)
```

Q9.Find the order number, sales person name, along with the customer to whom that order belongs to

```
mysql> select o.order_id, sp.empname, c.cname, c.cust_id
    -> from order1 o
    -> join sales1 sp
    -> join cust c
    -> on o.empid=sp.empid
    -> and o.cust_id=c.cust_id;
+----------+---------+-------+---------+
| order_id | empname | cname | cust_id |
+----------+---------+-------+---------+
|        1 | John    | ct1   |     100 |
|        2 | Lucky   | ct1   |     100 |
|        3 | Lucky   | ct1   |     101 |
|        4 | James   | ct2   |     102 |
|        5 | Ram     | ct2   |     103 |
+----------+---------+-------+---------+
5 rows in set (0.00 sec)
```