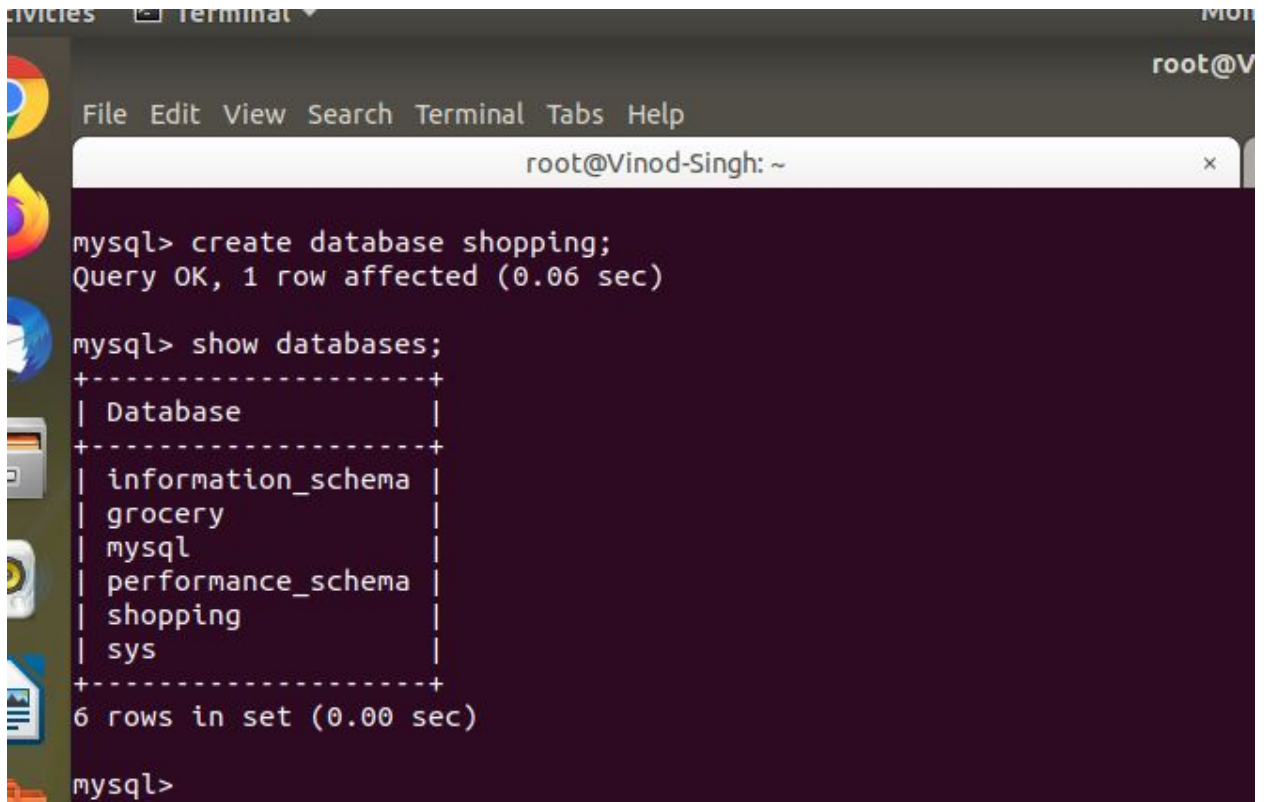


Problem Statement: There can be multiple customers, who can place multiple orders on the site. Now a sales person can handle these orders will distribute into multiple sales persons (One order will be assign to one salesperson only). So a sales person can have multiple orders of multiple customers

1. Create Database

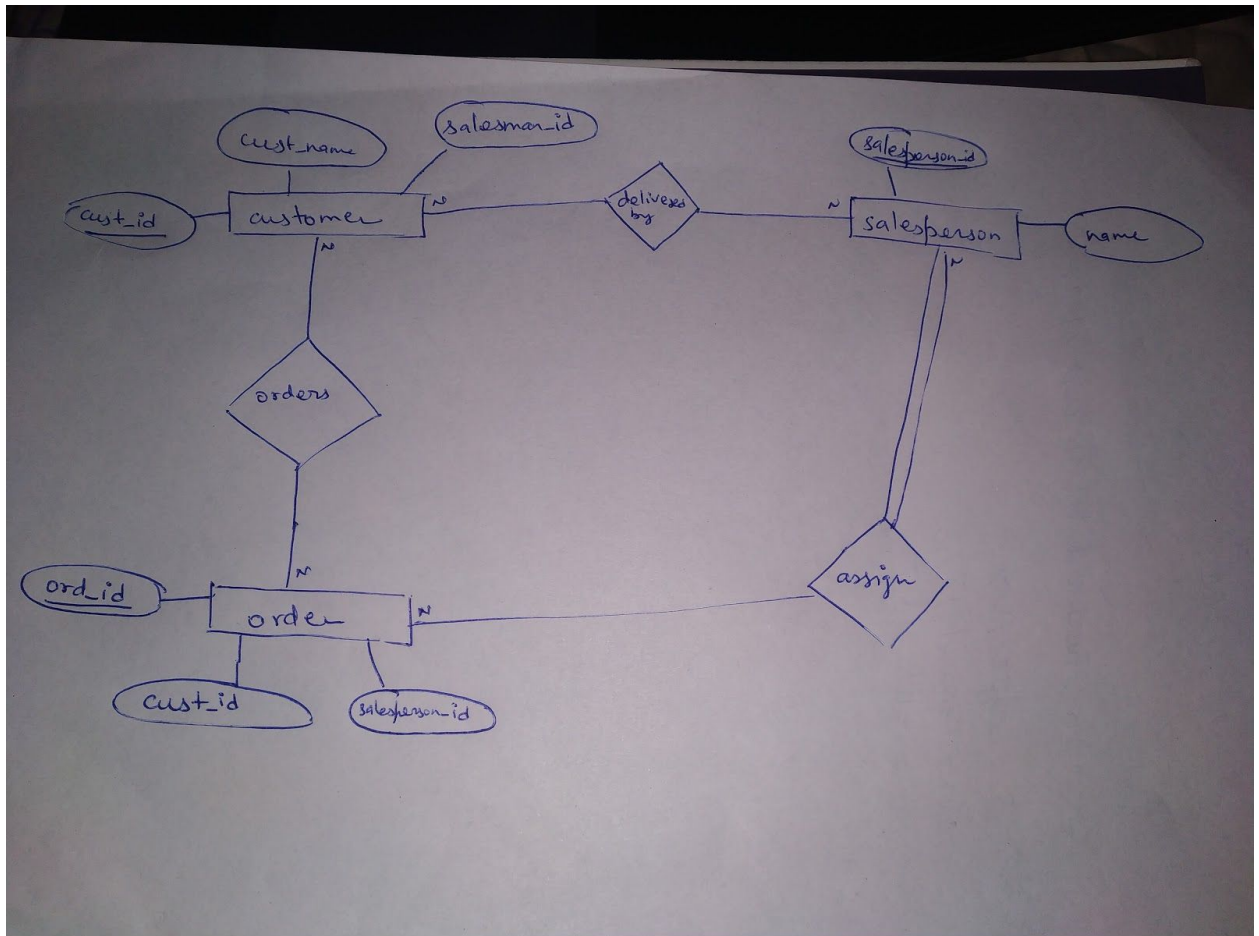
A screenshot of a Linux terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Tabs, Help) and a window title bar (root@Vinod-Singh: ~). The terminal shows a MySQL prompt where the user creates a database named 'shopping'. The output shows 'Query OK, 1 row affected (0.06 sec)'. Then, the user runs 'show databases;', which returns a table of existing databases: information_schema, grocery, mysql, performance_schema, shopping, and sys. The output indicates '6 rows in set (0.00 sec)'. The prompt returns to 'mysql>'.

```
mysql> create database shopping;
Query OK, 1 row affected (0.06 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| grocery          |
| mysql            |
| performance_schema |
| shopping         |
| sys              |
+-----+
6 rows in set (0.00 sec)

mysql>
```

2.Design Schema



In order table cust_id is foreign key which is related to the primary key of customer table.

Similarly the salesperson_id in order table is foreign key which is related to primary key of salesperson table

And salesperson_id in customer table is foreign key which is again references to primary key of salesperson table.

Also the salesperson entity shows total participation since it is willing to take multiple order.

3.Create tables

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql> create table customer (cust_id int, cust_name varchar(20), salesman_id int);
Query OK, 0 rows affected (0.66 sec)

mysql> create table salesperson (salesperson_id int PRIMARY KEY, salesper_name varchar(20));
Query OK, 0 rows affected (0.58 sec)
```

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql> create table orders (ord_id int PRIMARY KEY, cust_id int, salesperson_id int);
Query OK, 0 rows affected (0.60 sec)
```

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~

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

mysql> desc customer;
+-----+-----+-----+-----+-----+-----+
| Field          | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| cust_id        | int(11)   | NO   | PRI | NULL    |       |
| cust_name      | varchar(20) | YES  |     | NULL    |       |
| salesman_id    | int(11)   | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

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

4.Insert sample data

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql> insert into customer values(1,'vinod',2);
Query OK, 1 row affected (0.11 sec)

mysql> insert into customer values(2,'rahul',1);
Query OK, 1 row affected (0.10 sec)

mysql> insert into customer values(3,'rajat',2);
Query OK, 1 row affected (0.10 sec)

mysql> insert into customer values(4,'yaman',3);
Query OK, 1 row affected (0.09 sec)

mysql> insert into customer values(5,'shinghal',1);
Query OK, 1 row affected (0.06 sec)

mysql> insert into customer values(6,'aman',4);
Query OK, 1 row affected (0.10 sec)

mysql> select * from customer;
+-----+-----+-----+
| cust_id | cust_name | salesman_id |
+-----+-----+-----+
| 1 | vinod | 2 |
| 2 | rahul | 1 |
| 3 | rajat | 2 |
| 4 | yaman | 3 |
| 5 | shinghal | 1 |
| 6 | aman | 4 |
+-----+-----+-----+
6 rows in set (0.00 sec)
```



```
vities  Terminal ▾  
File Edit View Search Terminal Tabs Help  
root@Vinod-Singh: ~  
mysql>  
mysql> insert into customer values(1,'vinod',2);  
Query OK, 1 row affected (0.11 sec)  
  
mysql> insert into customer values(2,'rahul',1);  
Query OK, 1 row affected (0.10 sec)  
  
mysql> insert into customer values(3,'rajat',2);  
Query OK, 1 row affected (0.10 sec)  
  
mysql> insert into customer values(4,'yaman',3);  
Query OK, 1 row affected (0.09 sec)  
  
mysql> insert into customer values(5,'shinghal',1);  
Query OK, 1 row affected (0.06 sec)  
  
mysql> insert into customer values(6,'aman',4);  
Query OK, 1 row affected (0.10 sec)  
  
mysql> select * from customer;  
+-----+-----+-----+  
| cust_id | cust_name | salesman_id |  
+-----+-----+-----+  
|      1 | vinod    |           2 |  
|      2 | rahul    |           1 |  
|      3 | rajat    |           2 |  
|      4 | yaman    |           3 |  
|      5 | shinghal |           1 |  
|      6 | aman     |           4 |  
+-----+-----+-----+  
6 rows in set (0.00 sec)
```

```
mysql> insert into orders values(1,2,1);  
Query OK, 1 row affected (0.09 sec)
```

```
mysql> insert into orders values(2,1,2);  
Query OK, 1 row affected (0.09 sec)
```

```
mysql> insert into orders values(3,6,4);  
Query OK, 1 row affected (0.05 sec)
```

```
mysql> insert into orders values(3,4,3);  
ERROR 1062 (23000): Duplicate entry '3' for key 'PRIMARY'  
mysql> insert into orders values(4,4,3);  
Query OK, 1 row affected (0.05 sec)
```

```
mysql> insert into orders values(5,3,2);  
Query OK, 1 row affected (0.10 sec)
```

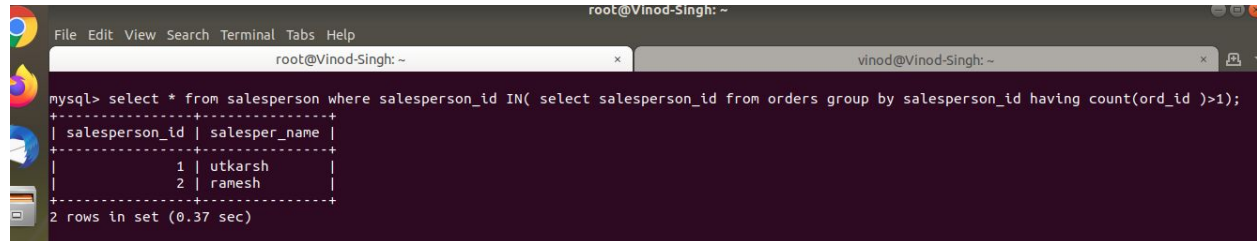
```
mysql> insert into orders values(6,5,1);  
Query OK, 1 row affected (0.09 sec)
```

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

ord_id	cust_id	salesperson_id
1	2	1
2	1	2
3	6	4
4	4	3
5	3	2
6	5	1

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

5. Find the sales person have multiple orders.



The screenshot shows a terminal window with a MySQL prompt. The query executed is: `mysql> select * from salesperson where salesperson_id IN(select salesperson_id from orders group by salesperson_id having count(ord_id)>1);` The output is a table with two columns: `salesperson_id` and `salesper_name`. The results are: `1 | utkarsh` and `2 | ramesh`. The terminal also shows `2 rows in set (0.37 sec)`.

```
mysql> select * from salesperson where salesperson_id IN( select salesperson_id from orders group by salesperson_id having count(ord_id )>1);
+-----+-----+
| salesperson_id | salesper_name |
+-----+-----+
| 1              | utkarsh       |
| 2              | ramesh       |
+-----+-----+
2 rows in set (0.37 sec)
```

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

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql>
mysql>
mysql> select salesperson.salesperson_id, salesperson.salesper_name, orders.ord_id from salesperson right join orders on salesperson.salespers
on_id=orders.salesperson_id;
+-----+-----+-----+
| salesperson_id | salesper_name | ord_id |
+-----+-----+-----+
| 1 | utkarsh | 1 |
| 1 | utkarsh | 6 |
| 2 | ramesh | 2 |
| 2 | ramesh | 5 |
| 3 | bhim | 4 |
| 4 | param | 3 |
+-----+-----+-----+
6 rows in set (0.05 sec)
```


7. Create index

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql> create index myIndex on customer(cust_id, salesman_id);
Query OK, 0 rows affected (0.41 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

8.How to show index on a table

```
File Edit View Search Terminal Tabs Help
```

root@Vinod-Singh: ~

vinod@Vinod-Singh: ~

```
mysql> show index from customer;
```

Table	Non-unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub_part	Packed	Null	Index_type	Comment
customer	0	PRIMARY	1	cust_id	A	6		NULL	NULL	BTREE	
customer	1	salesman_id	1	salesman_id	A	4		NULL	NULL	BTREE	
customer	1	myIndex	1	cust_id	A	6		NULL	NULL	BTREE	
customer	1	myIndex	2	salesman_id	A	6		NULL	NULL	BTREE	

```
4 rows in set (0.07 sec)
```

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

```
File Edit View Search Terminal Tabs Help
root@Vinod-Singh: ~
mysql> select orders.ord_id, salesperson.salesper_name, customer.cust_name from orders join salesperson on orders.salesperson_id=salesperson.s
salesperson_id join customer where order.cust_id=customer.cust_id;
ERROR 1054 (42S22): Unknown column 'order.cust_id' in 'where clause'
mysql> select orders.ord_id, salesperson.salesper_name, customer.cust_name from orders join salesperson on orders.salesperson_id=salesperson.s
salesperson_id join customer where orders.cust_id=customer.cust_id;
+-----+-----+
| ord_id | salesper_name | cust_name |
+-----+-----+
| 1 | utkarsh | rahul |
| 2 | ramesh | vinod |
| 3 | param | aman |
| 4 | bhim | yaman |
| 5 | ramesh | rajat |
| 6 | utkarsh | shinghal |
+-----+-----+
6 rows in set (0.09 sec)
```