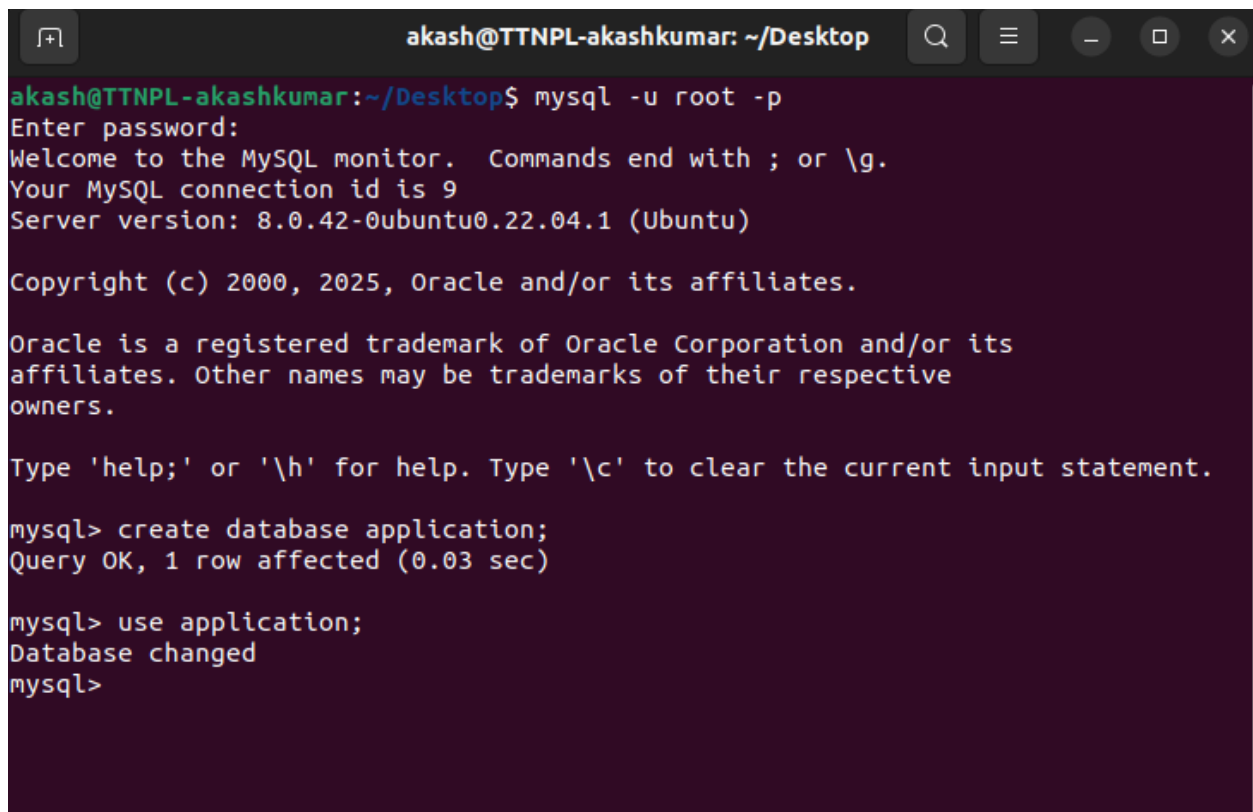


Assignment - Introduction to Databases

Q1) 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 Create Database

Ans -

A screenshot of a terminal window with a dark background. The window title is 'akash@TTNPL-akashkumar: ~/Desktop'. The terminal shows the following text:

```
akash@TTNPL-akashkumar:~/Desktop$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.42-0ubuntu0.22.04.1 (Ubuntu)

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owners.

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

mysql> create database application;
Query OK, 1 row affected (0.03 sec)

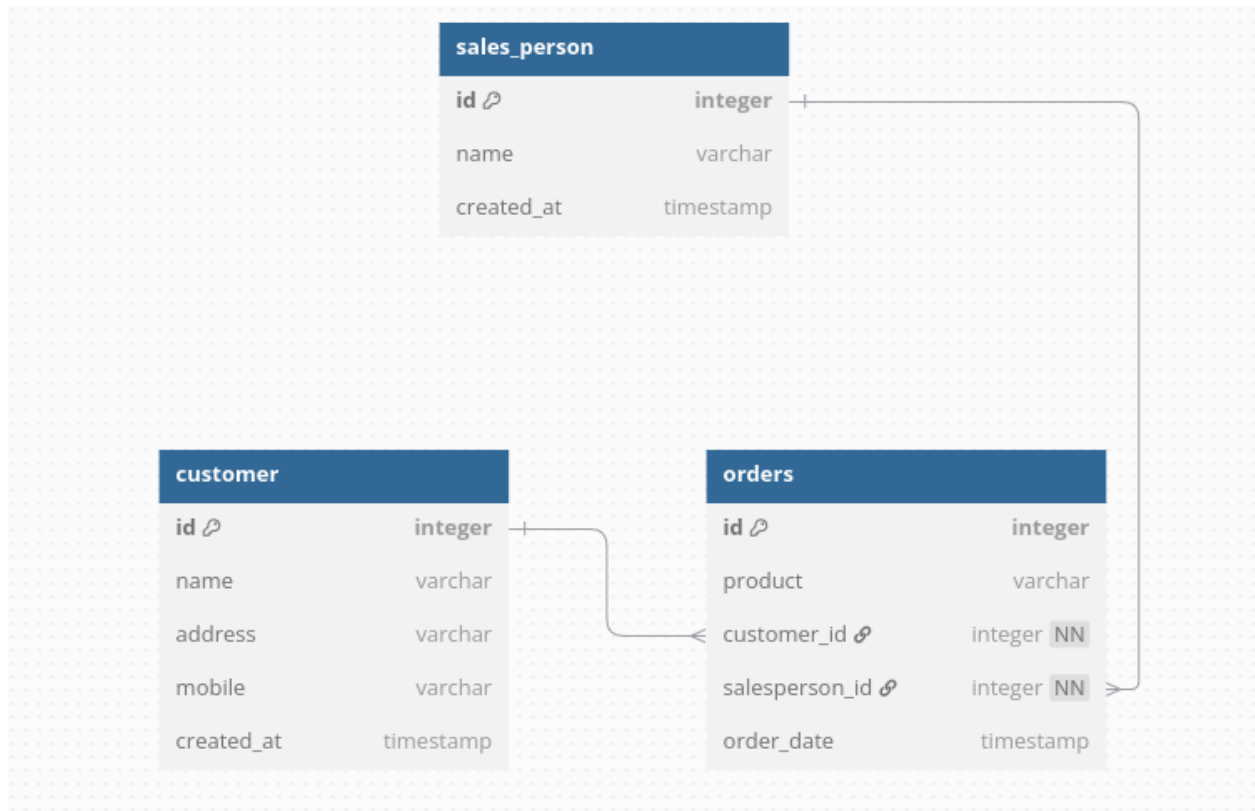
mysql> use application;
Database changed
mysql>
```

Following are the steps -

- Use command create database <Name>
- Then use this database by using command use <Name>

Q2)Design Schema

Ans -



Following are the steps -

- I have created 3 tables namely customer , sales_person , orders and add the required attributes like name id etc.
- Now reference the required primary keys with foreign keys of other tables.

Q3)Create tables

Ans - A)Creating Tables

```
mysql> use application
Database changed
mysql> create table customer(
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> name VARCHAR(255) NOT NULL,
-> address VARCHAR(255),
-> mobile VARCHAR(20),
-> created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
-> );
Query OK, 0 rows affected (0.09 sec)

mysql> CREATE TABLE sales_person (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> name VARCHAR(255) NOT NULL,
-> created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
-> );
Query OK, 0 rows affected (0.06 sec)

mysql> CREATE TABLE orders (
-> id INT AUTO_INCREMENT PRIMARY KEY,
-> product VARCHAR(255) NOT NULL,
-> customer_id INT NOT NULL,
-> salesperson_id INT NOT NULL,
-> order_date TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
-> FOREIGN KEY (customer_id) REFERENCES customer(id),
-> FOREIGN KEY (salesperson_id) REFERENCES sales_person(id)
-> );
Query OK, 0 rows affected (0.04 sec)
```

B)Describing Tables

```
mysql> show tables
-> ;
+-----+
| Tables_in_application |
+-----+
| customer              |
| orders                |
| sales_person           |
+-----+
3 rows in set (0.01 sec)

mysql> describe customer
-> ;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default          | Extra          |
+-----+-----+-----+-----+-----+-----+
| id         | int           | NO   | PRI | NULL             | auto_increment |
| name       | varchar(255)  | NO   |     | NULL             |                |
| address    | varchar(255)  | YES  |     | NULL             |                |
| mobile     | varchar(20)   | YES  |     | NULL             |                |
| created_at | timestamp     | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.01 sec)

mysql> describe orders;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default          | Extra          |
+-----+-----+-----+-----+-----+-----+
| id         | int           | NO   | PRI | NULL             | auto_increment |
| product    | varchar(255)  | NO   |     | NULL             |                |
| customer_id | int           | NO   | MUL | NULL             |                |
| salesperson_id | int         | NO   | MUL | NULL             |                |
| order_date | timestamp     | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> describe sales_person;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default          | Extra          |
+-----+-----+-----+-----+-----+-----+
| id         | int           | NO   | PRI | NULL             | auto_increment |
| name       | varchar(255)  | NO   |     | NULL             |                |
| created_at | timestamp     | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> 
```

Q4)Insert sample data

Ans -

```
mysql> INSERT INTO customer (name, address, mobile) VALUES
-> ('Ramesh', 'Lucknow', '9876500000'),
-> ('Suresh', 'Delhi', '9123400000'),
-> ('Chandni', 'Ghaziabad', '9988700000'),
-> ('Geeta', 'Pune', '9001100000');
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> INSERT INTO sales_person (name) VALUES
-> ('Anil'),
-> ('Sunita'),
-> ('Vikram');
Query OK, 3 rows affected (0.02 sec)
Records: 3  Duplicates: 0  Warnings: 0

mysql> INSERT INTO orders (product, customer_id, salesperson_id) VALUES
-> ('Laptop', 1, 1),
-> ('Smartphone', 2, 2),
-> ('Tablet', 3, 1),
-> ('Printer', 4, 3),
-> ('Monitor', 1, 2);
Query OK, 5 rows affected (0.02 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Q5)Find the sales person have multiple orders.

Ans -

```
mysql> select o.salesperson_id,s.name, count(*) as total_orders
-> from orders o join sales_person s
-> on o.salesperson_id = s.id
-> group by o.salesperson_id
-> having count(*)>1;
+-----+-----+-----+
| salesperson_id | name   | total_orders |
+-----+-----+-----+
| 1              | Anil   | 2            |
| 2              | Sunita | 2            |
+-----+-----+-----+
2 rows in set (0.01 sec)

mysql> █
```

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

Ans -

```
mysql> select s.id,s.name,o.product
-> from sales_person s left join orders o on s.id = o.salesperson_id
-> group by s.id,s.name,o.product
-> ;
```

id	name	product
1	Anil	Laptop
1	Anil	Tablet
2	Sunita	Smartphone
2	Sunita	Monitor
3	Vikram	Printer

5 rows in set (0.00 sec)

```
mysql>
```

Q7)Create index

Ans -

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

mysql>
```

Q8)How to show index on a table

Ans -

```
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	Visible	Expression
customer	0	PRIMARY	1	id	A	4	NULL	NULL		BTREE			YES	NULL
customer	1	idx	1	created_at	A	1	NULL	NULL	YES	BTREE			YES	NULL

2 rows in set (0.02 sec)

```
mysql>
```

Q9) Find the order number, sale person name, along with the customer to whom that order belongs to

Ans -

```
mysql> select o.id as Order_id,s.name as Delivery_Partner,c.name as Customer
-> from orders o
-> join sales_person s on o.salesperson_id = s.id
-> join customer c on o.customer_id = c.id
-> order by Order_id;
```

Order_id	Delivery_Partner	Customer
1	Anil	Ramesh
2	Sunita	Suresh
3	Anil	Chandni
4	Vikram	Geeta
5	Sunita	Ramesh

5 rows in set (0.00 sec)

mysql> □