DBMS PROJECT

TITLE OF THE PROJECT:

BUS BOOKING MANAGEMENT SYSTEM

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Description and Scope of Project:

Online bus booking management system is a project which presents a portal for bus ticket reservation. This application lets in users to book bus tickets from somewhere and anytime. The customer can without difficulty e book their tickets and cancel tickets. The user can additionally view the details of the journey.

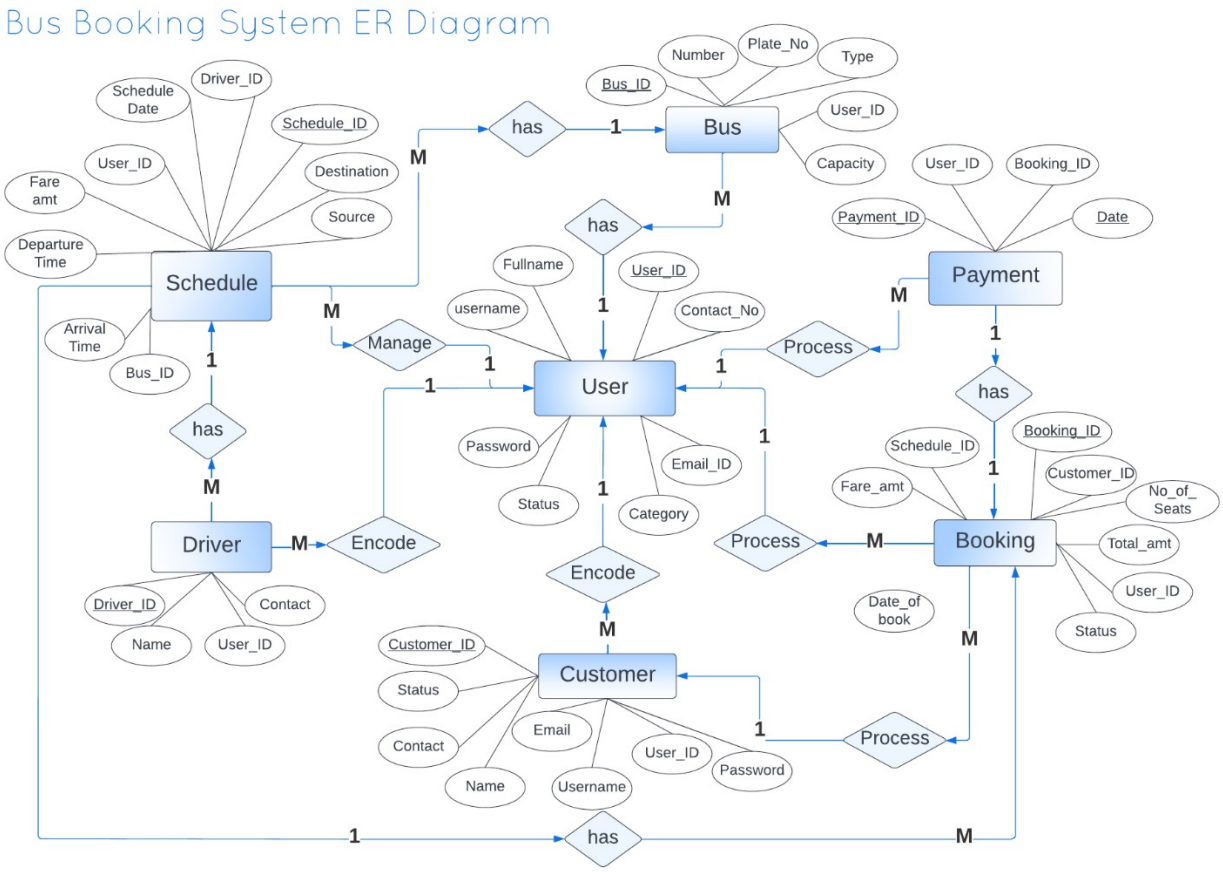
Features We can see in this project,

Thread operations in

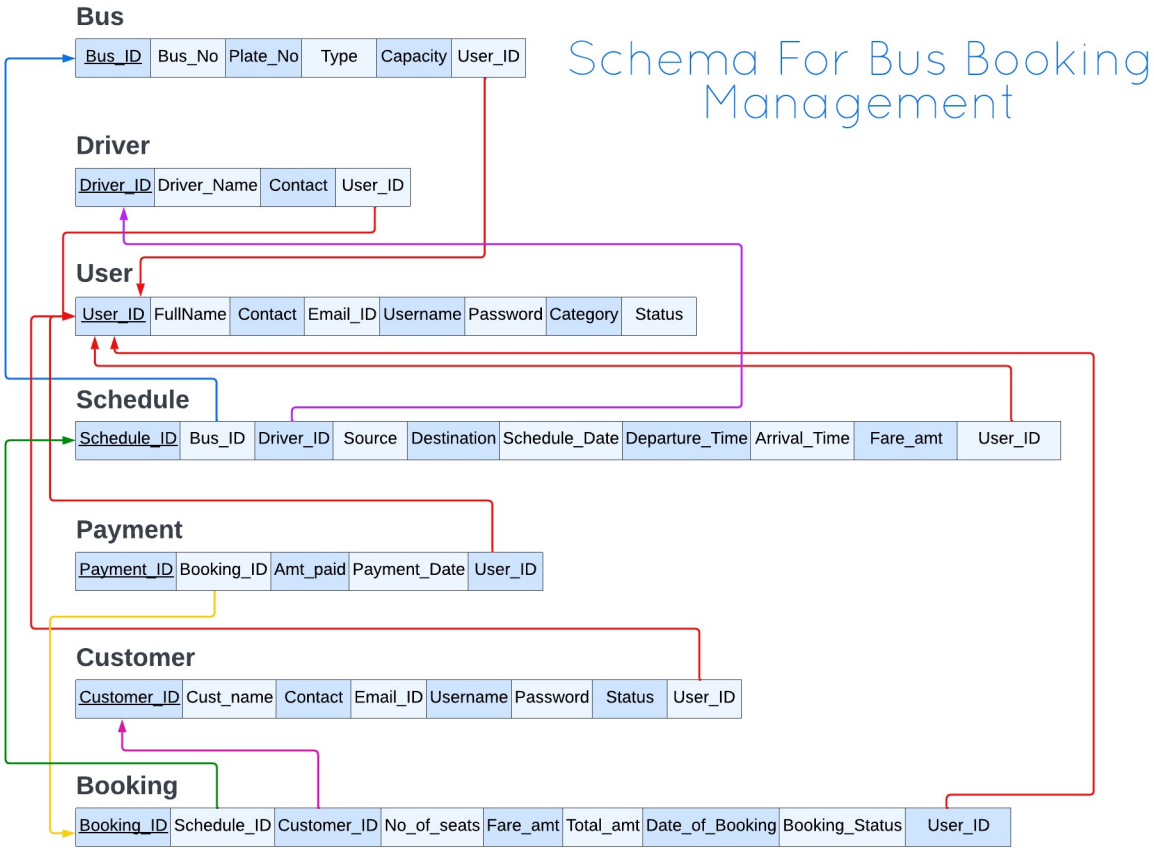
- Users
- Bus
- Driver
- Customer
- Schedule
- Booking
- Payment
- Query Box

The customer to enquire the availability of seats in a particular bus at particular date. To reserve a ticket and he can cancel a reserved ticket. The current bus booking system relies on buying tickets from the conductor for commuting to and from a location through public transportation. The task can be tedious if the number of commuters is large. Also, payment in cash can be difficult if the payable denominations are uneven. Online Bus Booking system allows the computer to either have a specific amount of money on his Android Based mobile, from which the ticket can be charged. Or, the costumer can buy the ticket on the bus.

ER Diagram


Bus Booking System ER Diagram
Schedule
Schedule Date
Driver_ID
Schedule_ID
User_ID
Destination
Fare amt
Source
Departure Time
Arrival Time
Bus_ID
has
Bus
Bus_ID
Number
Plate_No
Type
User_ID
Capacity
Manage
User
Fullname
User_ID
username
Contact_No
Password
Email_ID
Status
Category
Process
Payment
Payment_ID
User_ID
Booking_ID
Date
Driver
Driver_ID
Contact
Name
User_ID
Encode
Booking
Schedule_ID
Booking_ID
Customer_ID
Fare_amt
No_of_ Seats
Total_amt
User_ID
Status
Date_of book
Customer
Customer_ID
Status
Contact
Email
Name
Username
User_ID
Password
1
M

Relational Schema



DDL Statements

Building The Database

1) Create User Table

```
CREATE TABLE `user` (
  `users_id` int(11) NOT NULL,
  `full_name` varchar(50) NOT NULL,
  `contact_no` varchar(15) NOT NULL,
  `email_address` varchar(30) NOT NULL,
  `username` varchar(30) NOT NULL,
  `userpassword` varchar(30) NOT NULL,
  `account_category` varchar(100) NOT NULL,
  `account_status` varchar(100) NOT NULL)

ALTER TABLE `user`
  ADD PRIMARY KEY (`users_id`);
```

2)Create Bus Table

```
CREATE TABLE `bus` (
  `bus_id` int(11) NOT NULL,
  `bus_number` varchar(15) NOT NULL,
  `bus_plate_number` varchar(15) NOT NULL,
  `bus_type` int(1) NOT NULL,
  `capacity` int(3) NOT NULL,
  `users_id` int(11) NOT NULL)
```

```
ALTER TABLE `bus`
  ADD PRIMARY KEY (`bus_id`),
  ADD KEY `user_id` (`users_id`);
```

3) Create Driver Table

```
CREATE TABLE `driver` (
  `driver_id` int(11) NOT NULL,
  `driver_name` varchar(50) NOT NULL,
  `driver_contact` varchar(15) NOT NULL,
  `users_id` int(11) NOT NULL)

ALTER TABLE `driver`
  ADD PRIMARY KEY (`driver_id`),
  ADD KEY `user_id` (`users_id`);
```

4)Create Customer Table

```
CREATE TABLE `customer` (
  `customer_id` int(11) NOT NULL,
  `customer_name` varchar(50) NOT NULL,
  `customer_contact` varchar(15) NOT NULL,
  `customer_email` varchar(30) NOT NULL,
  `username` varchar(30) NOT NULL,
  `cust_password` varchar(30) NOT NULL,
  `account_status` varchar(100) NOT NULL,
  `users_id` int(11) NOT NULL)
```

```
ALTER TABLE `customer`
  ADD PRIMARY KEY (`customer_id`),
  ADD KEY `user_id` (`users_id`);
```

5)Create Schedule Table

```
CREATE TABLE `schedule` (
  `schedule_id` int(11) NOT NULL,
  `bus_id` int(11) NOT NULL,
  `driver_id` int(11) NOT NULL,
  `starting_point` varchar(30) NOT NULL,
  `destination` varchar(30) NOT NULL,
  `schedule_date` date NOT NULL,
  `departure_time` varchar(100) NOT NULL,
  `estimated_arrival_time` varchar(100) NOT NULL,
  `fare_amount` int(11) NOT NULL,
  `remarks` varchar(100) NOT NULL,
  `users_id` int(11) NOT NULL)

ALTER TABLE `schedule`
  ADD PRIMARY KEY (`schedule_id`),
  ADD KEY `bus_id` (`bus_id`,`driver_id`,`users_id`),
  ADD KEY `user_id` (`users_id`),
  ADD KEY `driver_id` (`driver_id`);
```

6) Create Booking Table

```
CREATE TABLE `booking` (
  `booking_id` int(11) NOT NULL,
  `schedule_id` int(11) NOT NULL,
  `customer_id` int(11) NOT NULL,
  `number_of_seats` int(2) NOT NULL,
  `fare_amount` int(11) NOT NULL,
  `total_amount` int(11) NOT NULL,
  `date_of_booking` date NOT NULL,
  `booking_status` varchar(100) NOT NULL,
  `users_id` int(11) NOT NULL)

ALTER TABLE `booking`
  ADD PRIMARY KEY (`booking_id`),
  ADD KEY `schedule_id` (`schedule_id`,`customer_id`,`users_id`),
  ADD KEY `user_id` (`users_id`),
  ADD KEY `customer_id` (`customer_id`);
```

7) Create Payment Table

```
CREATE TABLE `payment` (
  `payment_id` int(11) NOT NULL,
  `booking_id` int(11) NOT NULL,
  `amount_paid` int(11) NOT NULL,
  `payment_date` date NOT NULL,
  `users_id` int(11) NOT NULL)
```

```
ALTER TABLE `payment`
  ADD PRIMARY KEY (`payment_id`),
  ADD KEY `booking_id` (`booking_id`,`users_id`),
  ADD KEY `user_id` (`users_id`);
```

Populating The Database

1) Populating Users

INSERT INTO `user` (`users_id`, `full_name`, `contact_no`, `email_address`, `username`, `userpassword`, `account_category`, `account_status`) VALUES ('1564679', 'Tasmai', '78945013.0', 'Tasmai123@gmail.com', 'Tasmai', 'Tasmai@123', '1', 'Active'), ('4789658', 'Sagar', '798441614.0', 'sagar123@gmail.com', 'Sagar', 'Sagar@123', '1', 'Deactive')

2) Populating Buses

INSERT INTO `bus` (`bus_id`, `bus_number`, `bus_plate_number`, `bus_type`, `capacity`, `users_id`) VALUES ('4561187', '7896254', 'KA124579', 'Non-AC Sleeper', '45', '4789658'), ('7862157', '156467', 'KA214357', 'Non-AC', '57', '1564679')

3) Populating Drivers

INSERT INTO `bus` (`bus_id`, `bus_number`, `bus_plate_number`, `bus_type`, `capacity`, `users_id`) VALUES ('4561187', '7896254', 'KA124579', 'Non-AC Sleeper', '45', '4789658'), ('7862157', '156467', 'KA214357', 'Non-AC', '57', '1564679')

4) Populating Customers

INSERT INTO `customer` (`customer_id`, `customer_name`, `customer_contact`, `customer_email`, `username`, `cust_password`, `account_status`, `users_id`) VALUES ('4547987', 'hari', '79461648', 'hari123@gmail.com', 'Hari', 'Hari@123', 'Not
Done', '1564679'), ('6014064', 'Sharu', '244600747', 'sharu@gmail.com', 'Sharu', 'Sharu@123', 'Done', '4789658')

5) Populating Schedules

INSERT INTO `schedule` (`schedule_id`, `bus_id`, `driver_id`, `starting_point`, `destination`, `schedule_date`, `departure_time`, `estimated_arrival_time`, `fare_amount`, `remarks`, `users_id`) VALUES ('154578', '4561187', '165461', 'Pune', 'Banglore', '2022-12-14', '05:45:00', '06:15:00', '2540', 'via: Bangalore', '4789658'), ('7916548', '7862157', '781647', 'Bangalore', 'Mumbai', '2022-11-29', '01:58:00', '01:58:00', '4578', 'via: Pune', '1564679')

6) Populating Booking

INSERT INTO `booking` (`booking_id`, `schedule_id`, `customer_id`, `number_of_seats`, `fare_amount`, `total_amount`, `date_of_booking`, `booking_status`, `users_id`) VALUES ('4679416', '7916548', '4547987', '15', '1235', '1300', '2022-11-
29', 'Confirmed', '4789658'), ('7841647', '154578', '6014064', '25', '4578', '4600', '2022-12-15', 'Not Confirmed', '1564679')

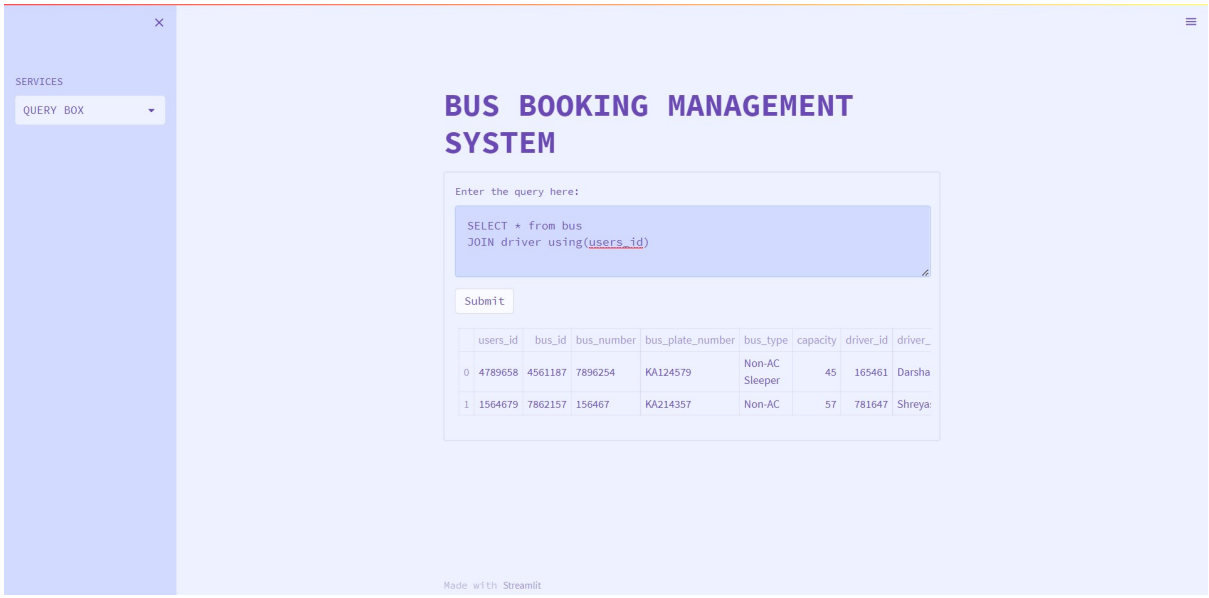
7)Populating Payment

INSERT INTO `payment` (`payment_id`, `booking_id`, `amount_paid`, `payment_date`, `users_id`) VALUES ('164878', '4679416', '4578', '2022-12-
22', '4789658'), ('4679167', '7841647', '1542', '2022-11-29', '1564679')

JOIN QUERIES

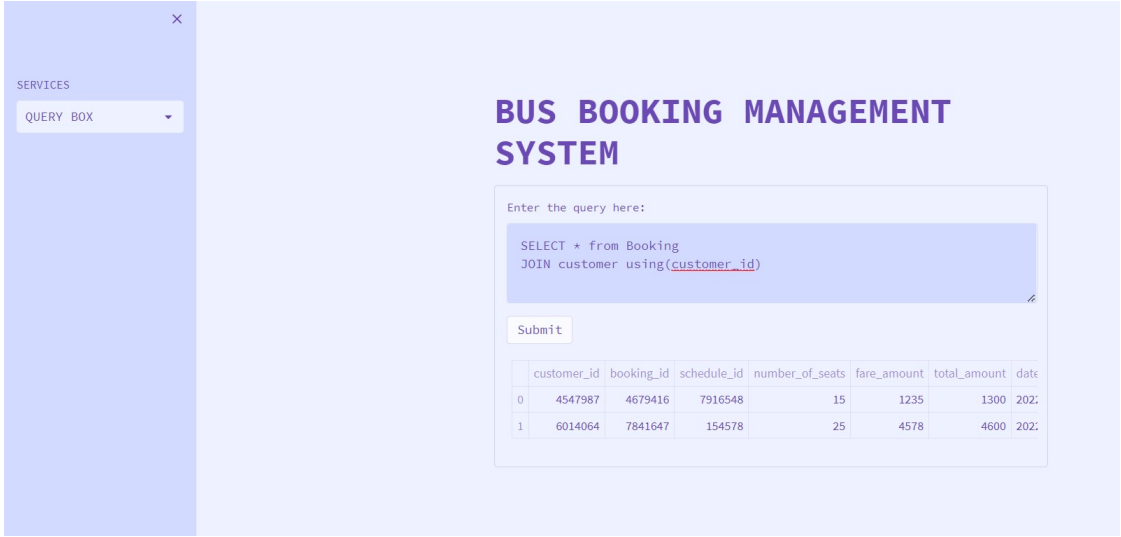
Query 1:

Joining bus and driver table using users_id attribute



Query 2:

Joining Booking table and Customer table using customer_id attribute

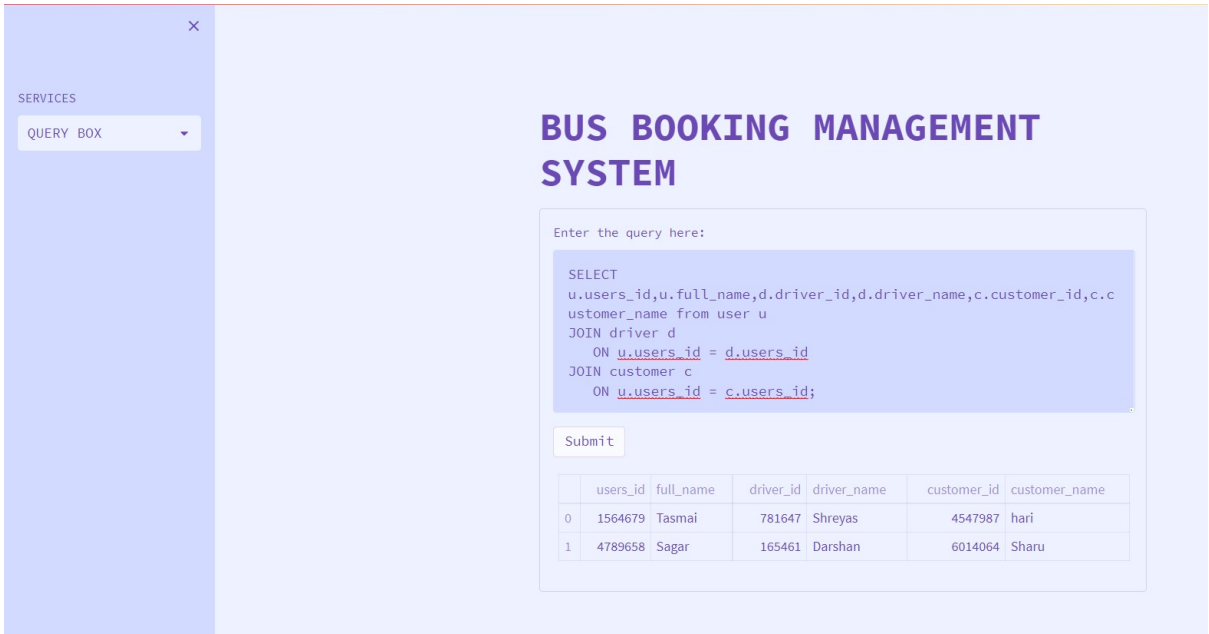


	customer_id	booking_id	schedule_id	number_of_seats	fare_amount	total_amount	date_of_booking	booking_status	users_id	customer_name	customer_contact	customer_email	username	cust_password	account_status
0	4547987	4679416	7916548	15	1235	1300	2022-11-29	Confirmed	1564679	hari	79461648	hari123@gmail.com	Hari	Hari@123	Not Done
1	6014064	7841647	154578	25	4578	4600	2022-12-15	Not Confirmed	4789658	Sharu	244600747	sharu@gmail.com	Sharu	Sharu@123	Done

Query 3:

Joining 3 tables (User table, driver table, Customer table) using common attributes

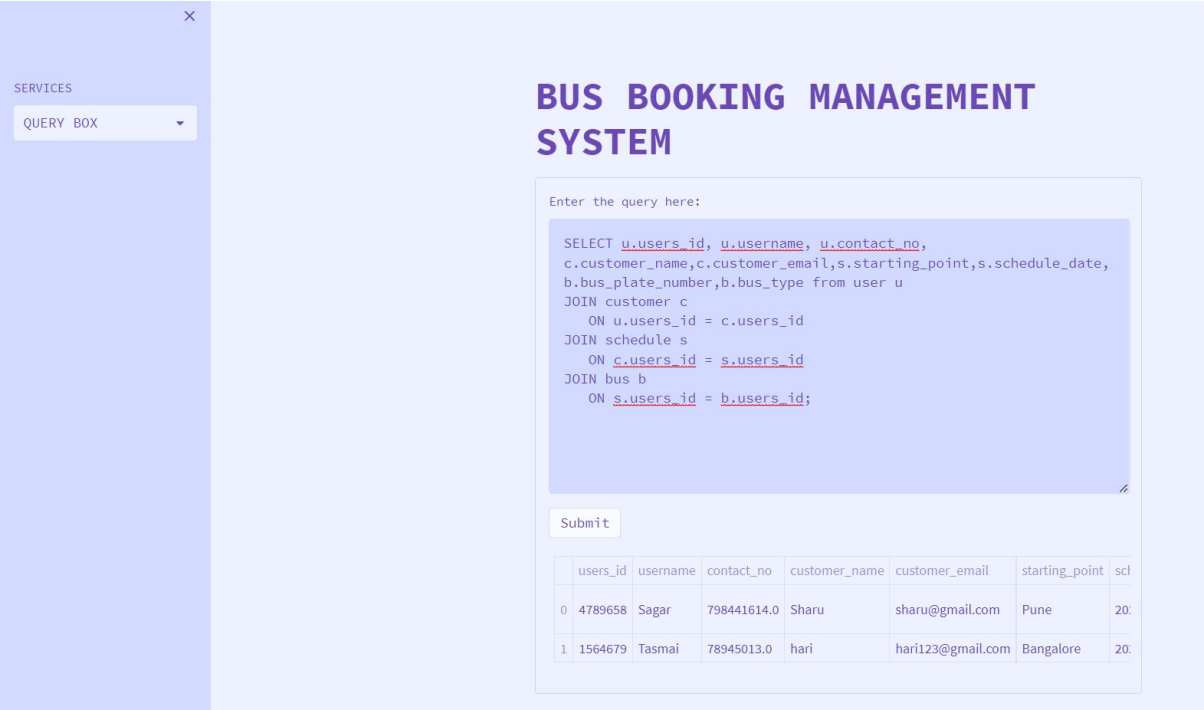
```
SELECT u.users_id,u.full_name,d.driver_id,d.driver_name,
c.customer_id, c.c ustomer_name from user u JOIN driver d
ON u.users id = d.users id JOIN customer c ON u.users id =
c.users id;
```



Query 4:

Joining 4 tables (User table, Customer table, Schedule and bus table) using common attributes

SELECT u.users id, u.username, u.contact no, c.customer_name, c.customer_email,s.starting point,s.schedule_date, b.bus_plate_number,b.bus_type from user u JOIN customer c ON u.users_id = c.users_id JOIN schedule s ON c.users id = s.users id JOIN bus b ON s.users id = b.users id;

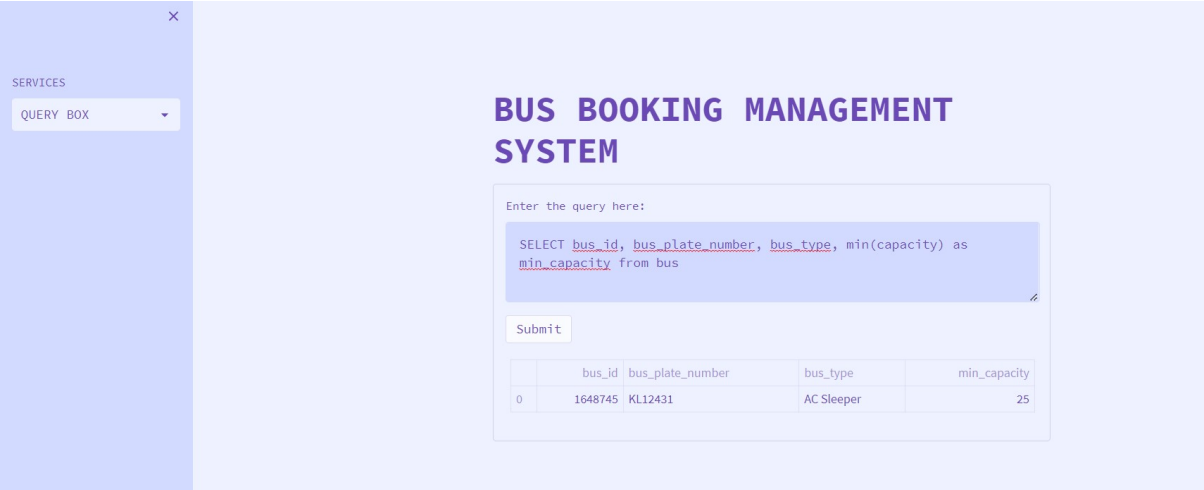


	users_id	username	contact_no	customer_name	customer_email	starting_point	schedule_date	bus_plate_number	bus_type
0	4789658	Sagar	798441614.0	Sharu	sharu@gmail.com	Pune	2022-12-14	KA124579	Non-AC Sleeper
1	1564679	Tasmai	78945013.0	hari	hari123@gmail.com	Bangalore	2022-11-29	KA214357	Non-AC

Aggregate Functions

Query 1:

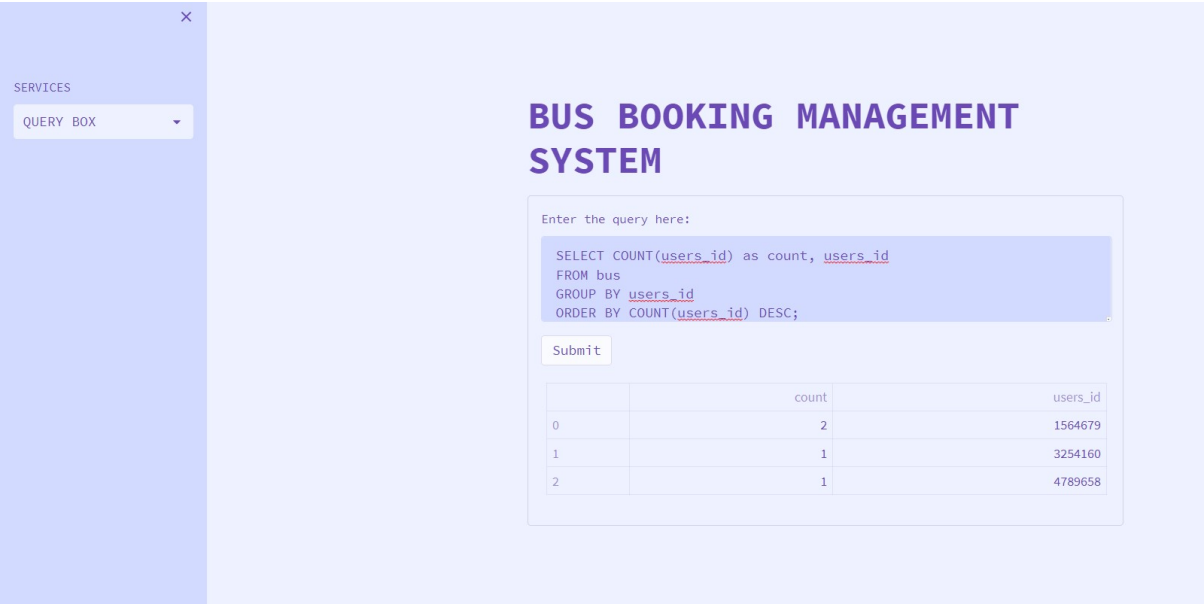
Getting the Details of minimum number of capacities in bus table



Query 2:

Listing Number of Users in Bus table, and sorted low to high according to user id.

```
SELECT COUNT(users id) as count, users id FROM bus GROUP BY users_id ORDER BY COUNT (users_id) DESC;
```



Query 3:

List the number of entries in our bus table having capacity > 46

Query 4:

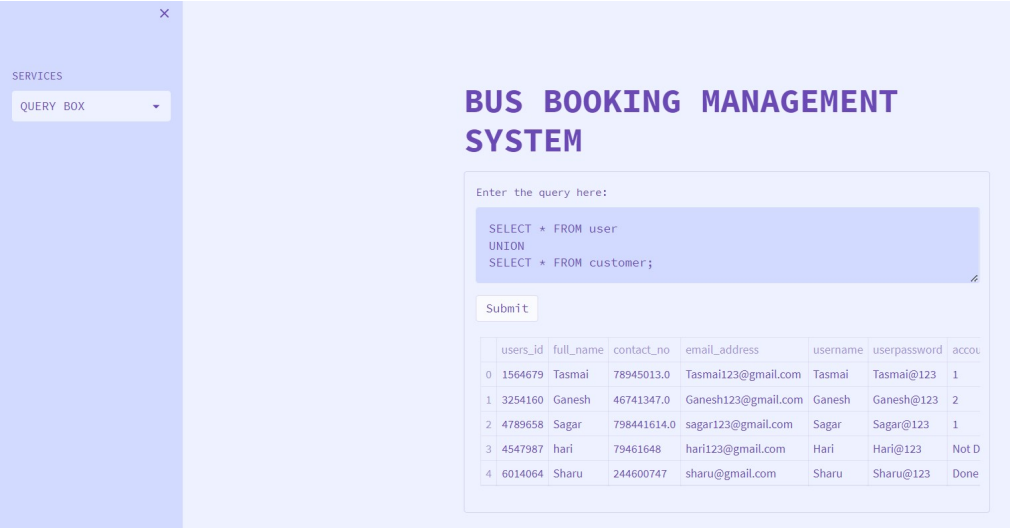
Using min () and max () functions to display max and min no. of Capacity in bus table

```
SELECT MIN(capacity) AS Minimum_Capacity,
       MAX (capacity) AS Maximum_Capacity FROM bus
```

Set Operations

Query 1:

Union operation between user and Customer table of our database

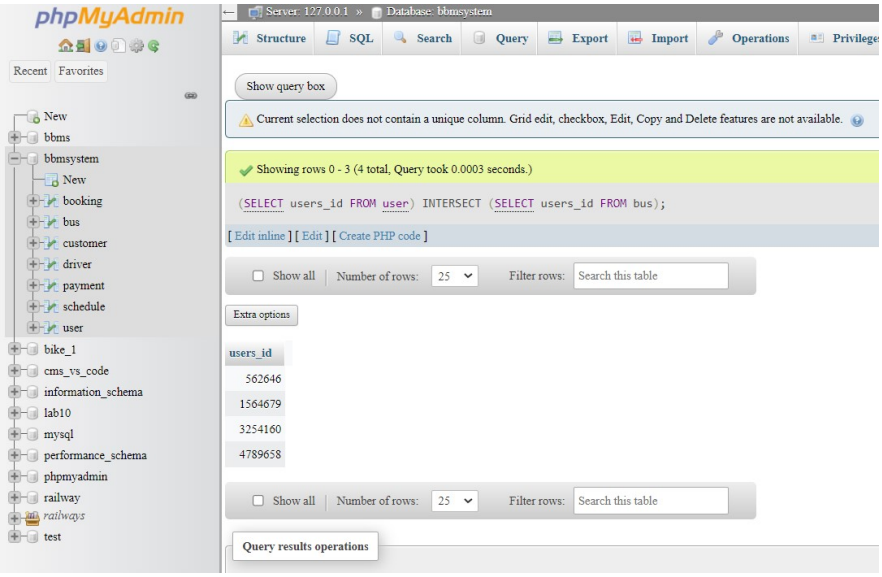


	users_id	full_name	contact_no	email_address	username	userpassword	accou
0	1564679	Tasmai	78945013.0	Tasmai123@gmail.com	Tasmai	Tasmai@123	1
1	3254160	Ganesh	46741347.0	Ganesh123@gmail.com	Ganesh	Ganesh@123	2
2	4789658	Sagar	798441614.0	sagar123@gmail.com	Sagar	Sagar@123	1
3	4547987	hari	79461648	hari123@gmail.com	Hari	Hari@123	Not D
4	6014064	Sharu	244600747	sharu@gmail.com	Sharu	Sharu@123	Done

	users_id	full_name	contact_no	email_address	username	userpassword	account_category	account_status
0	1564679	Tasmai	78945013.0	Tasmai123@gmail.com	Tasmai	Tasmai@123	1	Active
1	3254160	Ganesh	46741347.0	Ganesh123@gmail.com	Ganesh	Ganesh@123	2	Deactive
2	4789658	Sagar	798441614.0	sagar123@gmail.com	Sagar	Sagar@123	1	Deactive
3	4547987	hari	79461648	hari123@gmail.com	Hari	Hari@123	Not Done	1564679
4	6014064	Sharu	244600747	sharu@gmail.com	Sharu	Sharu@123	Done	4789658

Query 2:

Intersection between user and bus table



Query 3:

Using union operation over bus table to differentiate users as availability low or high.

SELECT bus_id,bus_plate_number,bus_type, ‘ low’ as availability

From bus

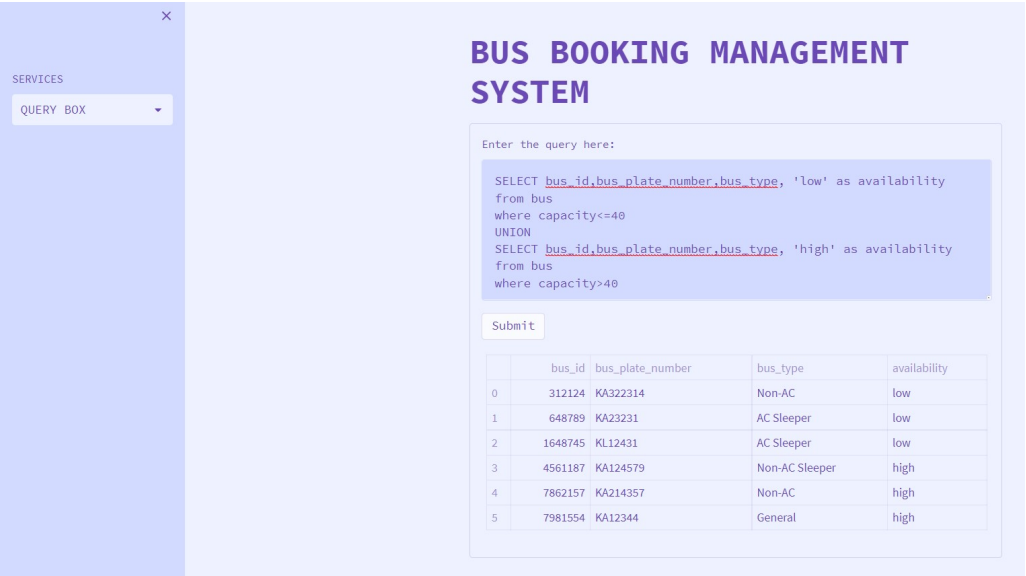
Where capacity<=40

UNION

SELECT bus_id,bus_plate_number,bus_type, ‘high’ as availability

From bus

Where capacity>=40



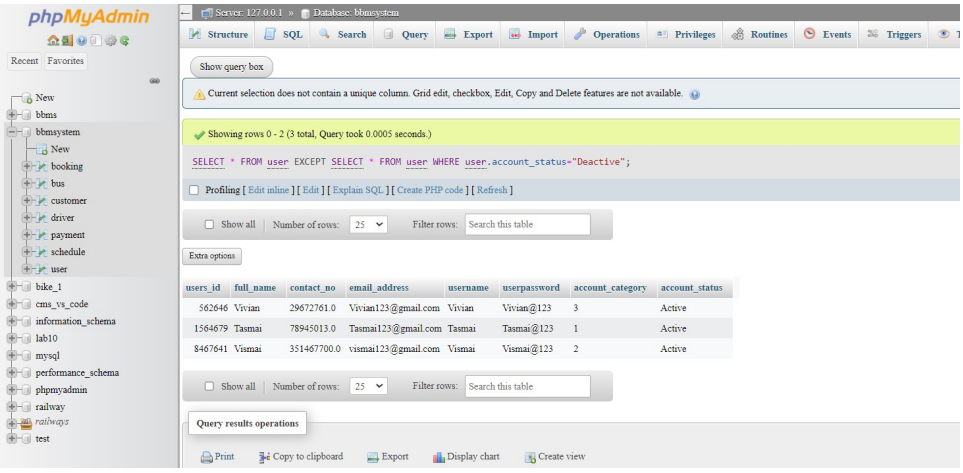
Query 4:

Find all users except account status is deactive.

SELECT * FROM user

EXCEPT;

SELECT * FROM user WHERE user.acoount_status='Deactive';



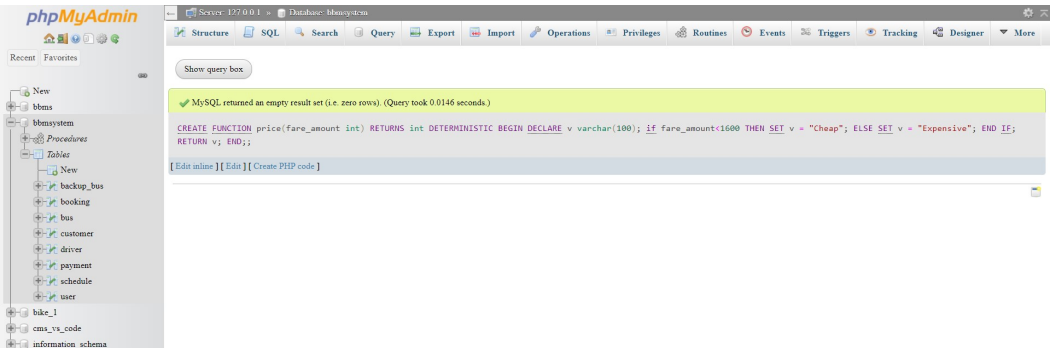
Functions and Procedures

Query 1:

The below query is function to get if the fare amount is less than 1600 then cheap otherwise expensive in schedule table

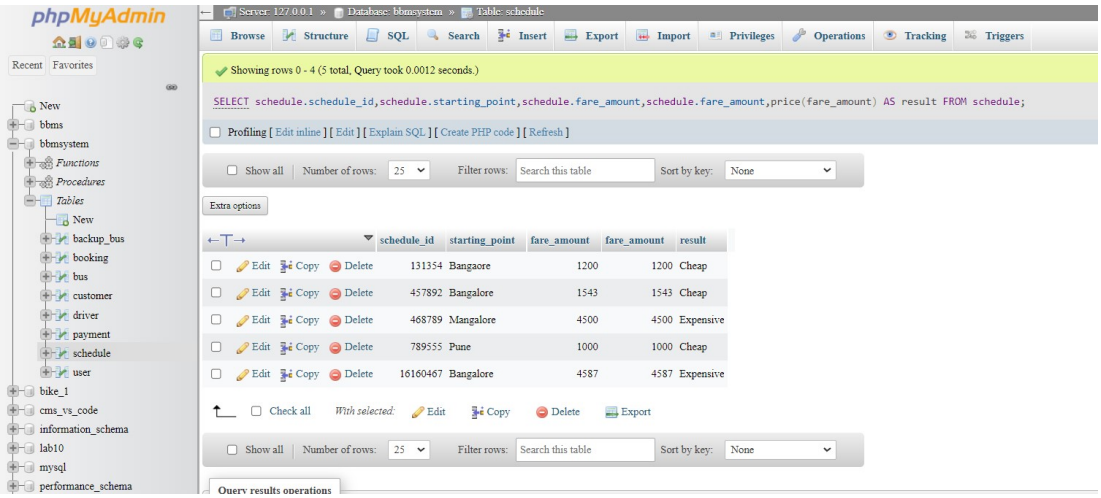
Function:

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION `price`(`fare_amount` INT) RETURNS varchar(20) CHARSET utf8mb4
    DETERMINISTIC
BEGIN
DECLARE v varchar(100);
 if fare_amount<1600 THEN
 SET v = "Cheap";
 ELSE
 SET v = "Expensive";
 END IF;
 RETURN v;
END$$
DELIMITER ;
```



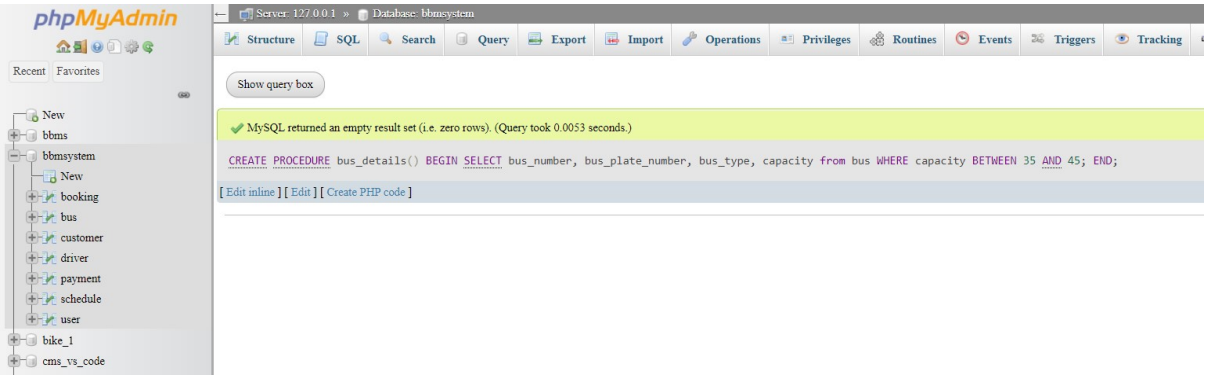
Check Result:

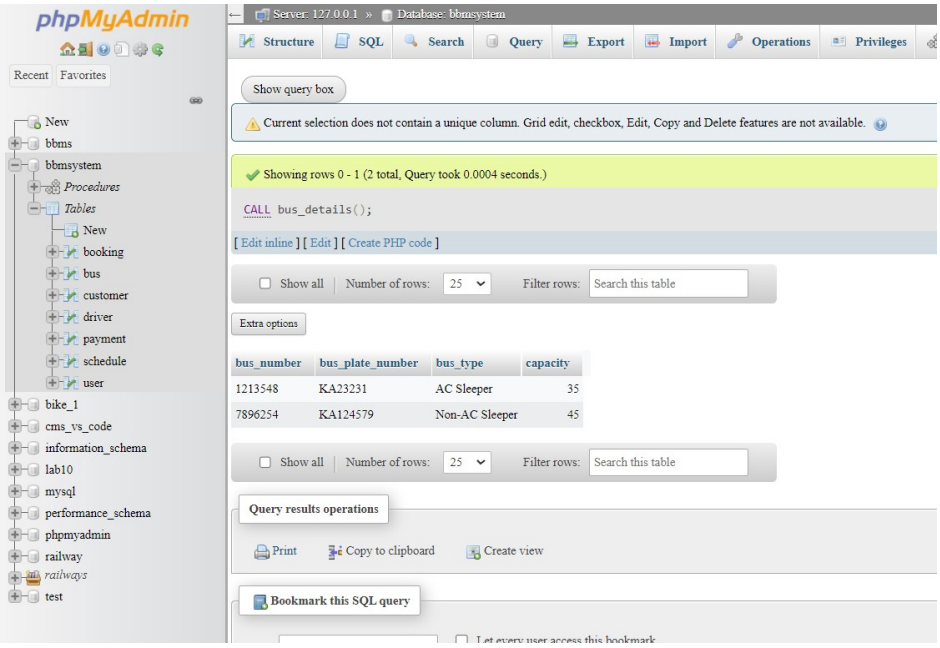
SELECT schedule.schedule_id,schedule.starting point,schedule.fare_amount,price(fare_amount) AS result FROM schedule;



Query 2:

The below query is to write a procedure to get bus number, plate number, bus types from bus table where bus capacity is between 35 and 45

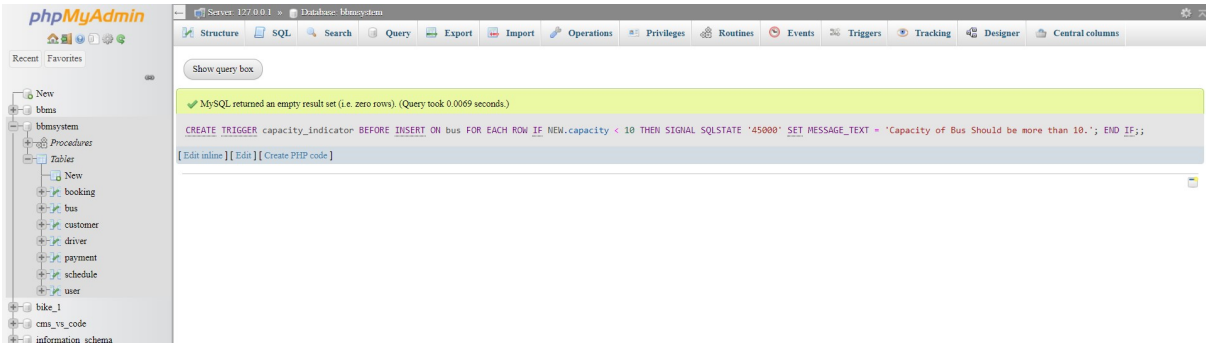



phpMyAdmin
Recent
Favorites
New
bbms
bbmsystem
Procedures
Tables
New
booking
bus
customer
driver
payment
schedule
user
bike_1
cms_vs_code
information_schema
lab10
mysql
performance_schema
phpmyadmin
railway
railways
test
Server: 127.0.0.1 » Database: bbmsystem
Structure
SQL
Search
Query
Export
Import
Operations
Privileges
Show query box
Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.
Showing rows 0 - 1 (2 total, Query took 0.0004 seconds.)
CALL bus_details();
[Edit inline] [Edit] [Create PHP code]
Show all
Number of rows: 25
Filter rows: Search this table
Extra options
bus_number
bus_plate_number
bus_type
capacity
1213548
KA23231
AC Sleeper
35
7896254
KA124579
Non-AC Sleeper
45
Show all
Number of rows: 25
Filter rows: Search this table
Query results operations
Print
Copy to clipboard
Create view
Bookmark this SQL query

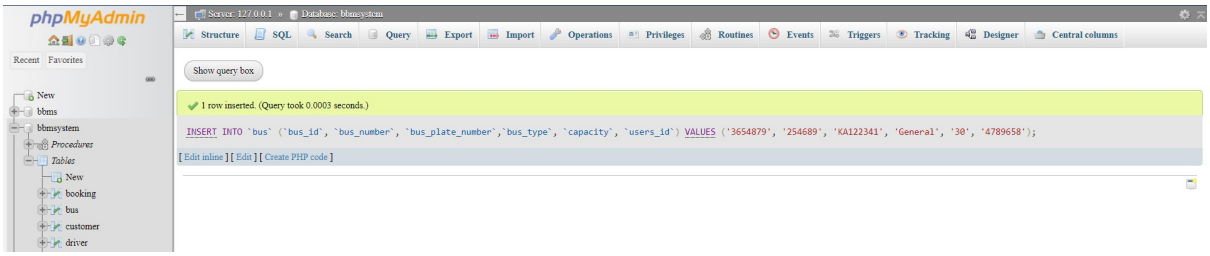
Triggers and Cursors

Trigger:

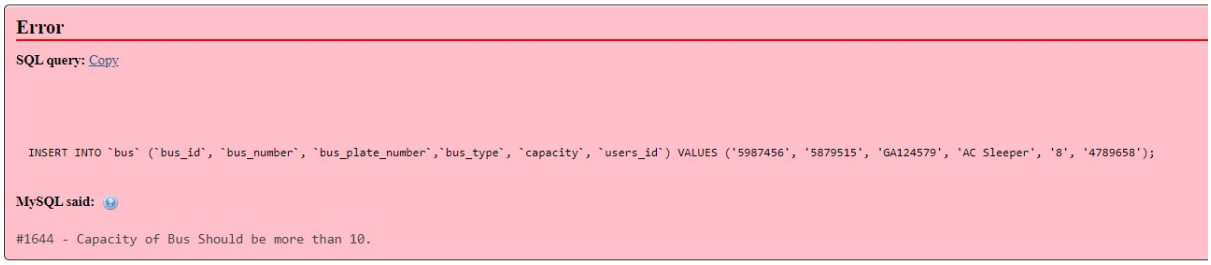
Trigger named capacity_indicator which is created for bus table we won't take bus capacity which are less than 10.



When we insert capacity more than 10.



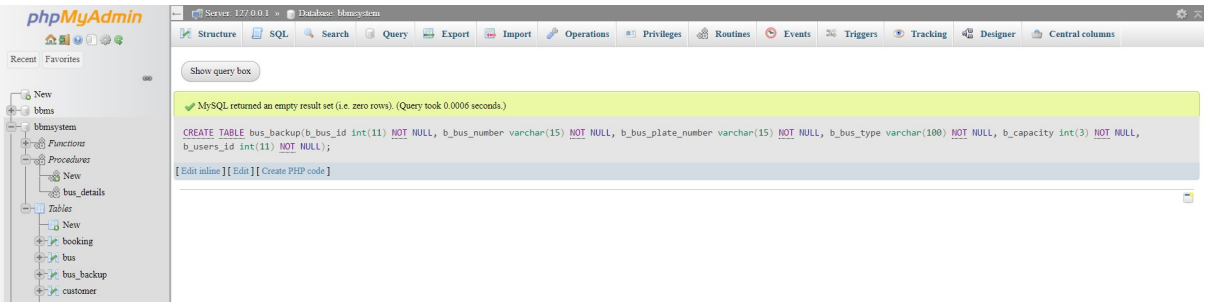
When we insert capacity less than 10.



Cursors:

Create a cursor to make a backup of bus table

Creating cursor table:

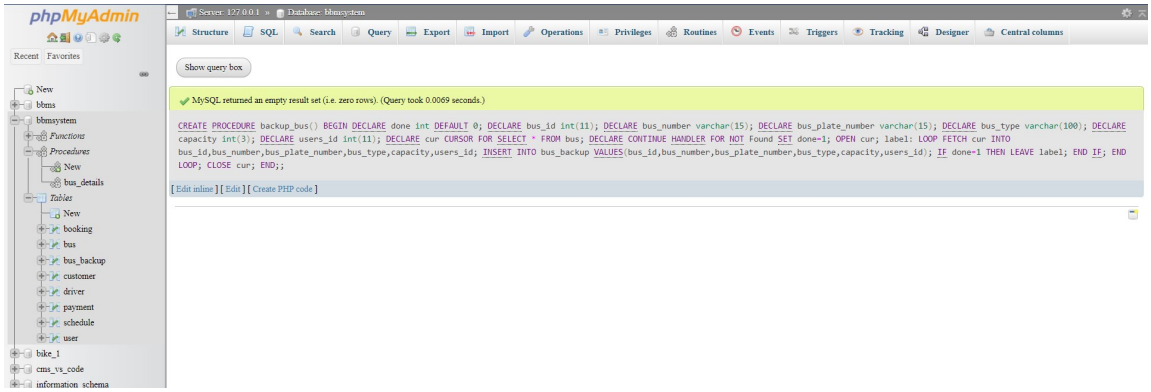


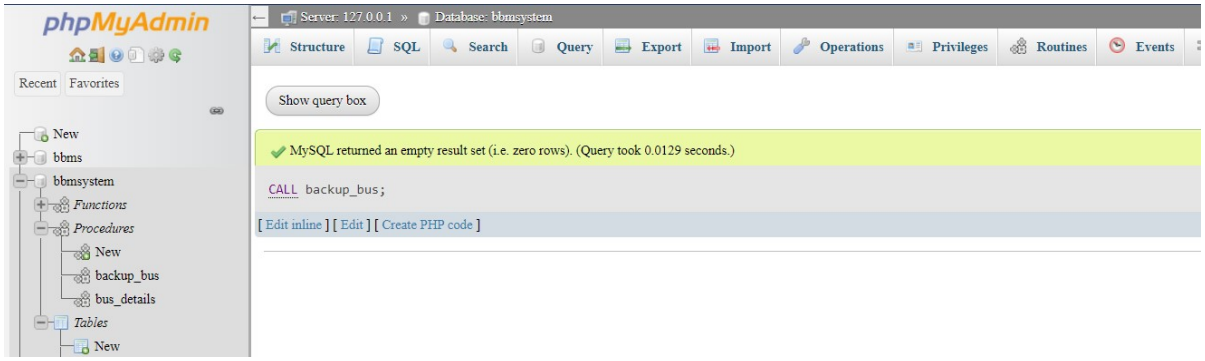
#Procedure with cursor

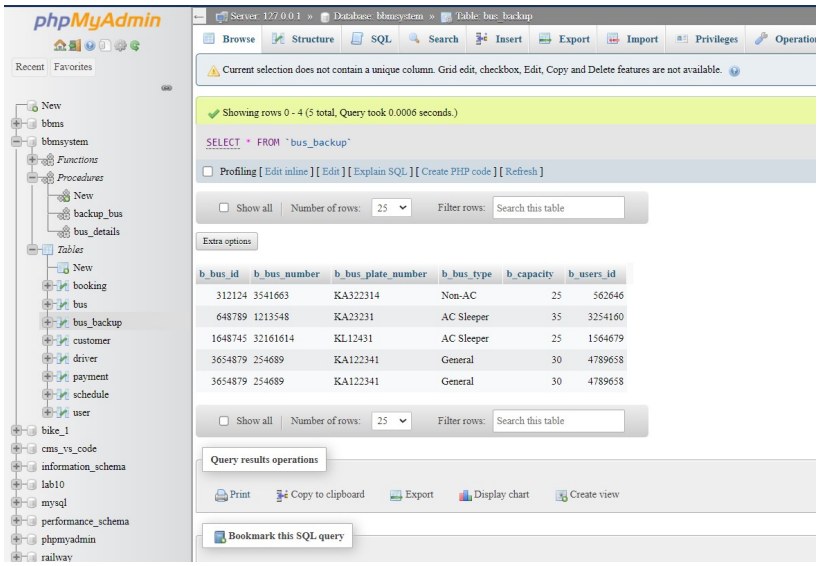
```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE `backup_bus`()
BEGIN
        DECLARE done int DEFAULT 0;
        DECLARE bus_id int(11);
        DECLARE bus_number varchar(15);
        DECLARE bus_plate_number varchar(15);
        DECLARE bus_type varchar(100);
        DECLARE capacity int(3);
        DECLARE users_id int(11);

 DECLARE cur CURSOR FOR SELECT * FROM bus;
 DECLARE CONTINUE HANDLER FOR NOT Found SET done=1;
 OPEN cur;
 label: LOOP
 FETCH cur INTO bus_id,bus_number,bus_plate_number,bus_type,capacity,users_id;
 INSERT INTO bus_backup
VALUES(bus_id,bus_number,bus_plate_number,bus_type,capacity,users_id);
 IF done=1 THEN LEAVE label;
```

```
END IF;
END LOOP;
CLOSE cur;
END$$
DELIMITER ;
```

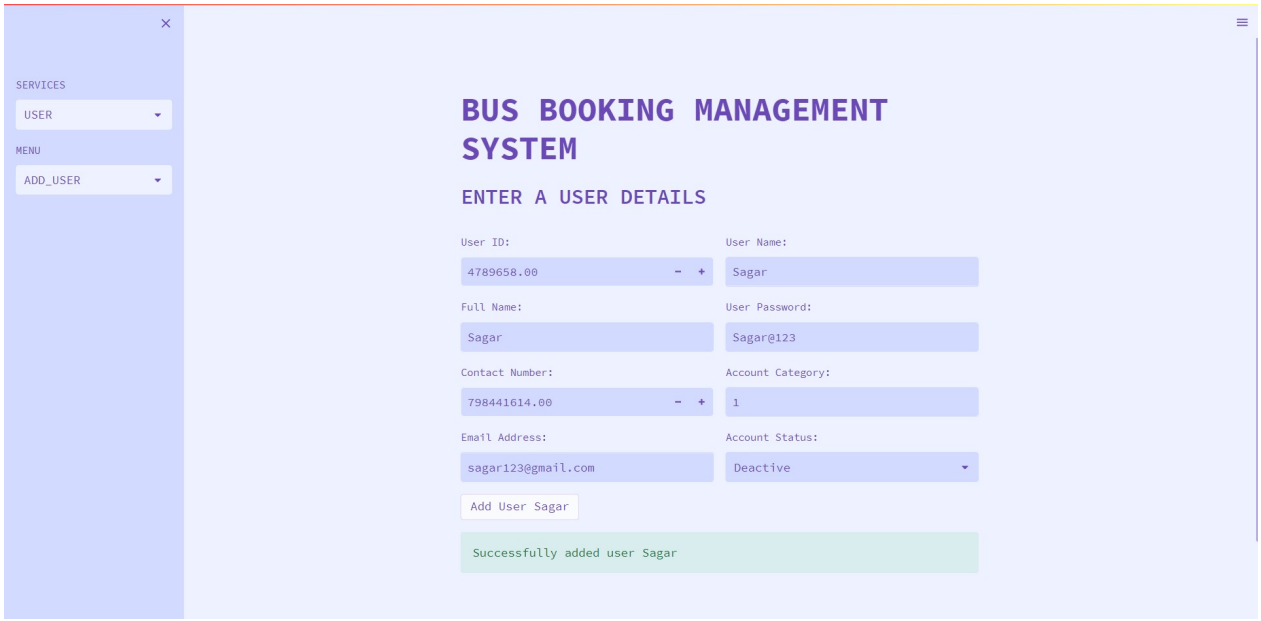




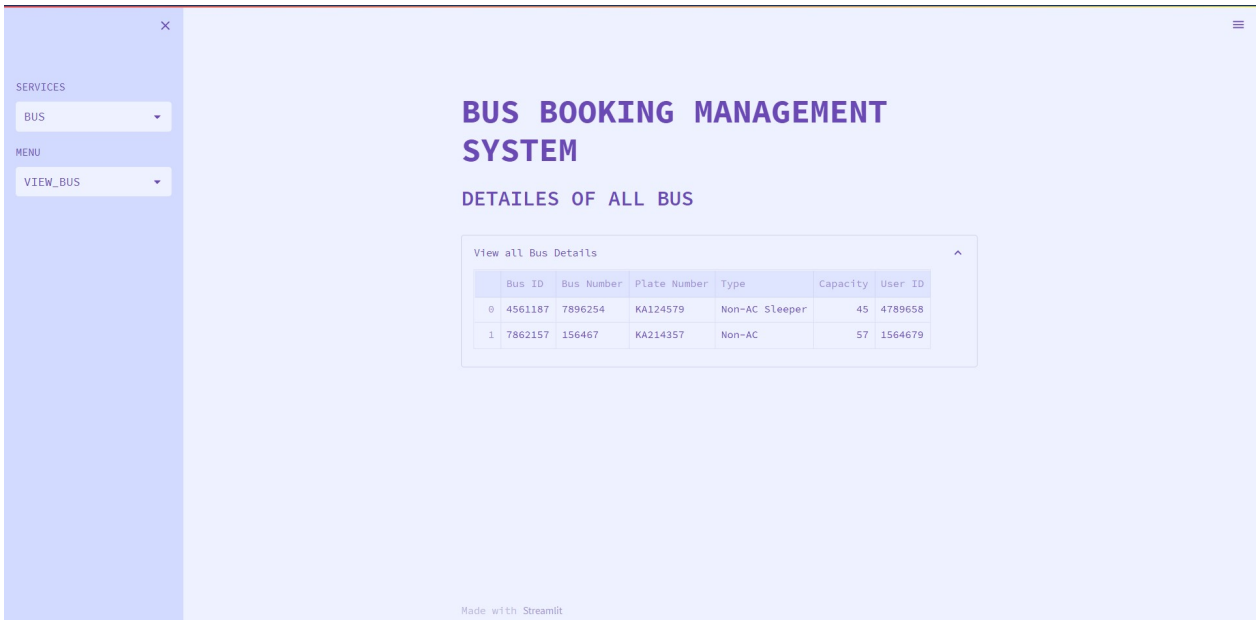


Frontend Using Streamlit

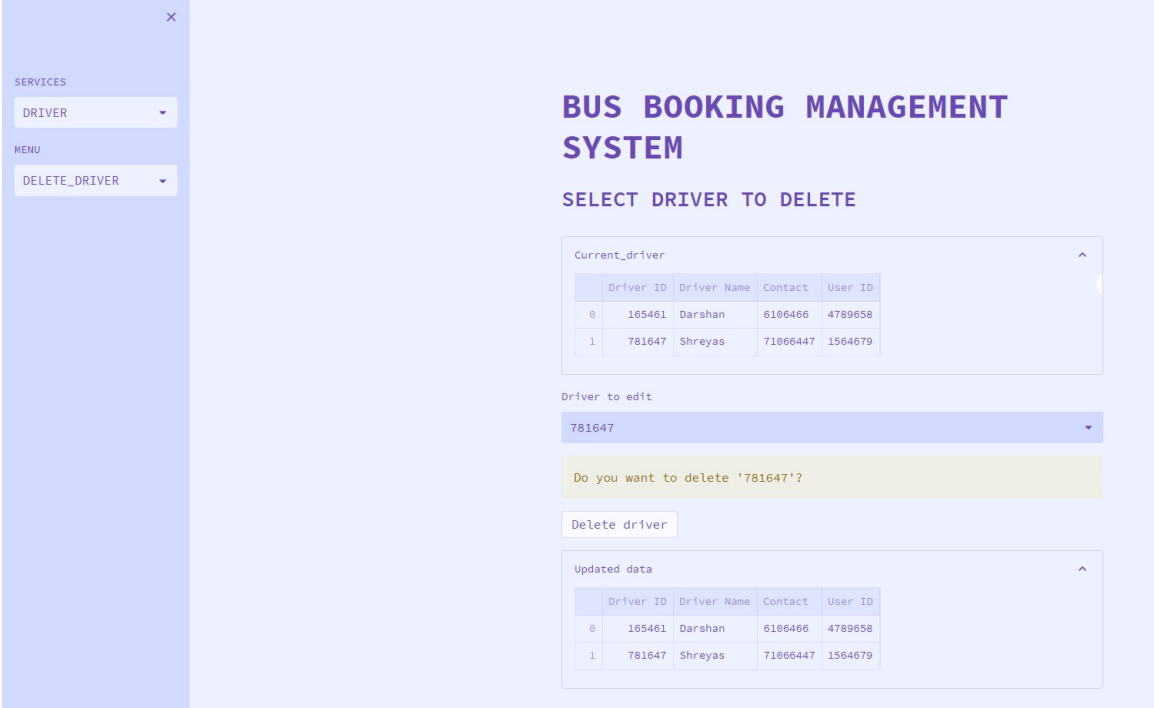
User adding Page



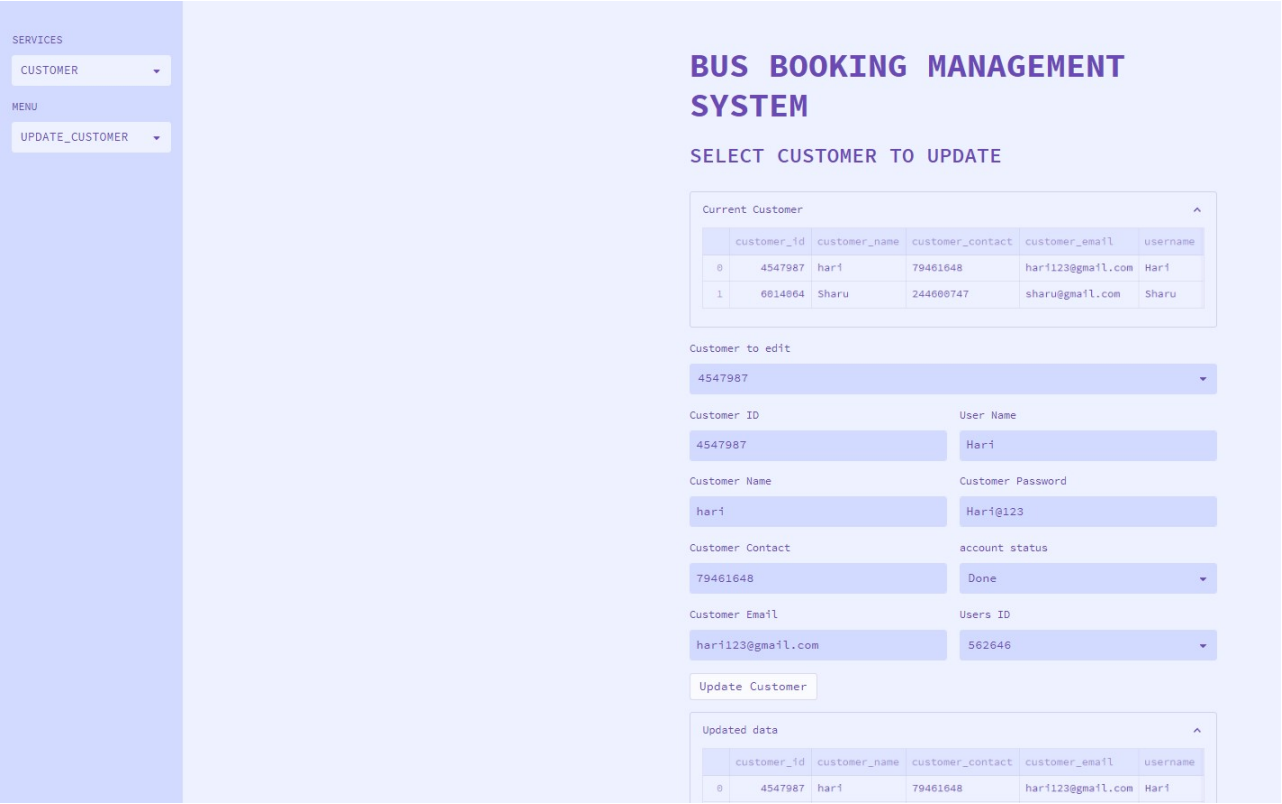
Details of Bus Page



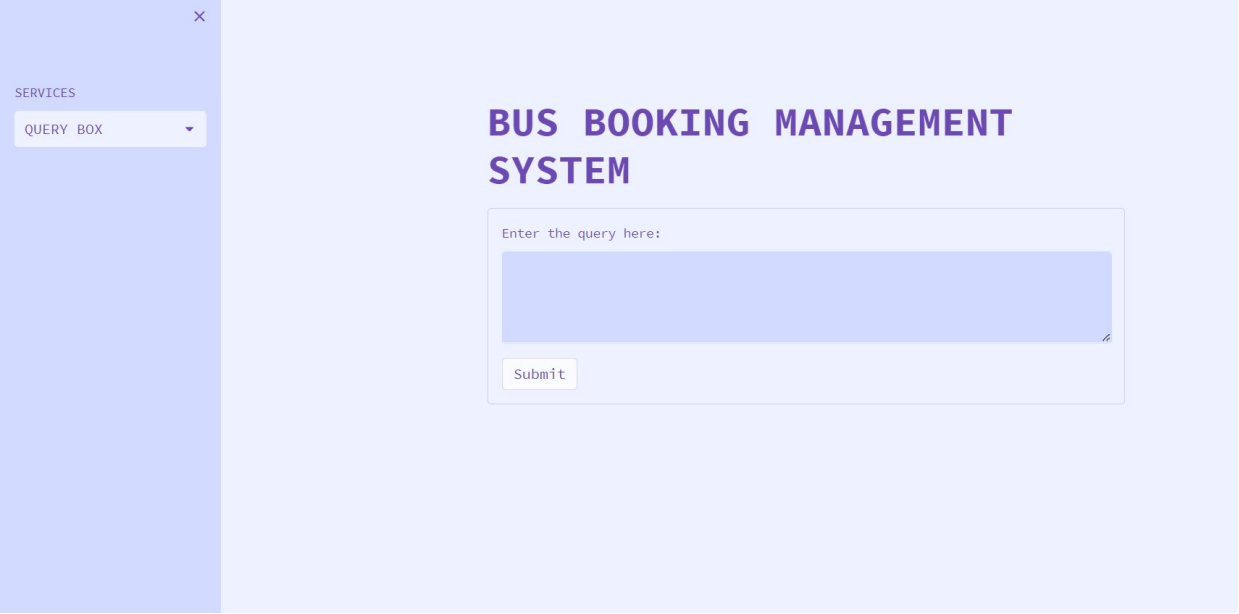
Driver Delete Page



Updating Customer Page



Query Page


SERVICES
QUERY BOX
BUS BOOKING MANAGEMENT SYSTEM
Enter the query here:
Submit