Airline Ticket Reservation System

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Contents

Introduction and Description of the System

Introduction:

The Airline Ticket Reservation in PHP is a simple reservation system for flights. The project contains the admin side and the user side. The admin can view and manage the users, add/modify the flight schedule, view the booked ticket, and manage the flight details.

The users are the clients who want to search and reserve the flights suitable for them. A user has to login first to make the reservation. If he/she has not registered, they can register first and then login. A user can search for available flights for a particular city-pair and book tickets in the class of their choice.

Description:

This Airline Ticket Reservation is in PHP, CSS, and JavaScript. Talking about the features of the Airline Ticket Reservation, it just contains both the admin section and the user section. The user can log in to book flights, while the admins can view all users' bookings and manage the flight schedules. The design of this project is simple so that the user will not find any difficulties while working on it.

Entities:

This system consists of following entities:

1. **Admin:** There is specified person who can manage and logged into the system and can change details about flights. Admin can also see all the booked ticket and all the details about customer.

   Constraint: admin_id → Primary key

2. **Customer:** Customer can log in to the system and can book the flight. Customer can also see booked flight and cancel the booked flight. If customer is new, they have to create new account first. After that they can log in to the system. Customer registration is necessary for flight booking.

   Constraint: customer_id →Primary key

3. **Flight_details:** In flight details customer can see all the available flights for booking. Admin can add more flights and can delete specific flight information. In flight details we can see route of flights, date of flights, time of flights and more information about flights.

   Constraint: flight_no →Primary key

4. **Frequent_flier_details:** In this field we can see who frequent traveler is. We can also see the distance travelled by the customer.

   Constraint: frequent_flier_no → Primary key
   Customer_if → Foreign Key

5. **Jet details:** In jet details we can see all the available jet information, capacity of jet. From this we can see which flight belongs to which jet airlines.

   Constraint: jet_id → Primary key

6. **Passenger:** In passenger table we can see all the details of passenger who wants to book the flight. When customer try to book the flight, we must add passenger details in it.

   Constraint: passenger_id, pnr → Primary key

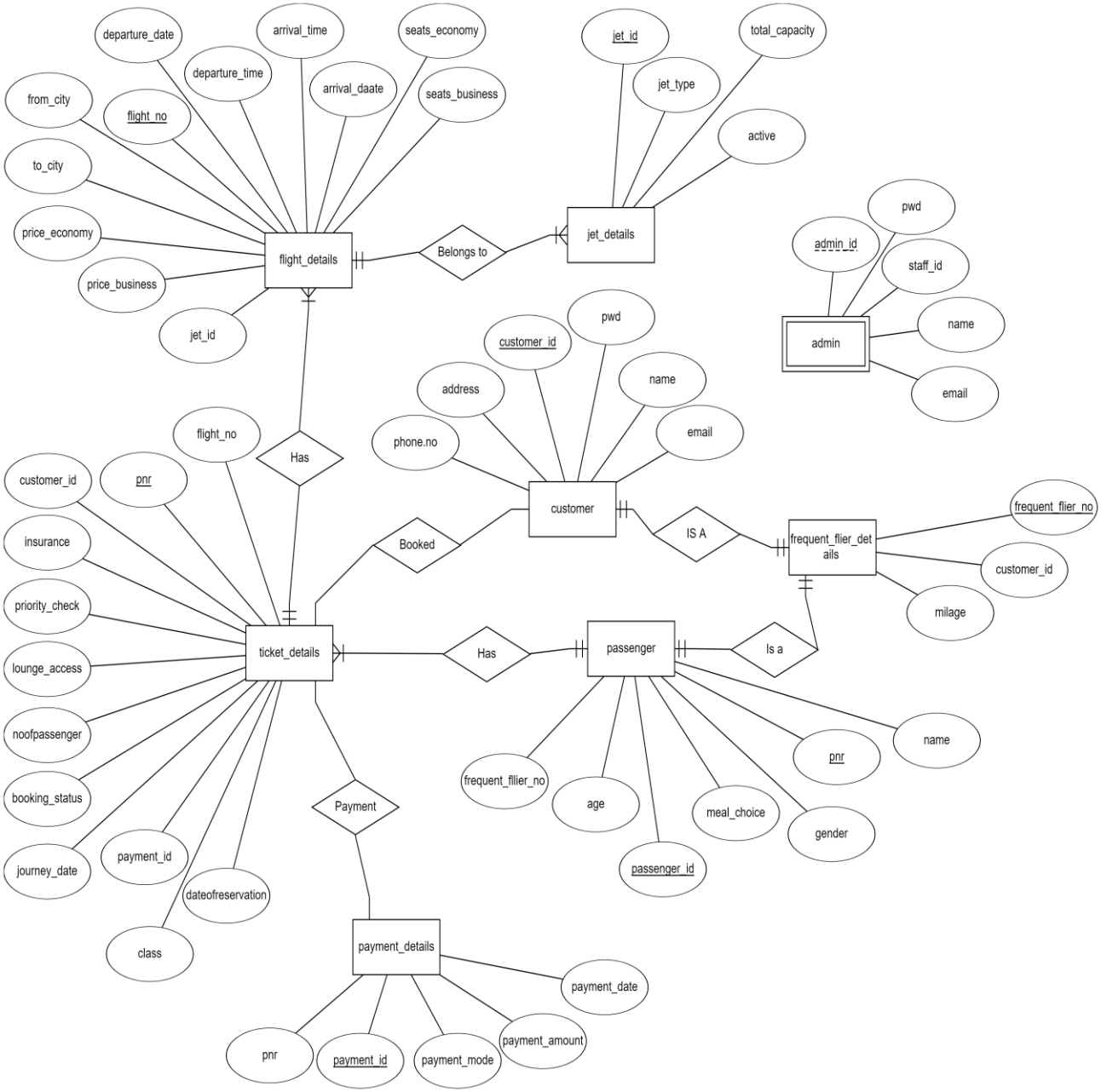
7. **Payment_details:** It will show all the payment details of flights booked by customer.

   Constraint: payment_id ⟶ Primary key

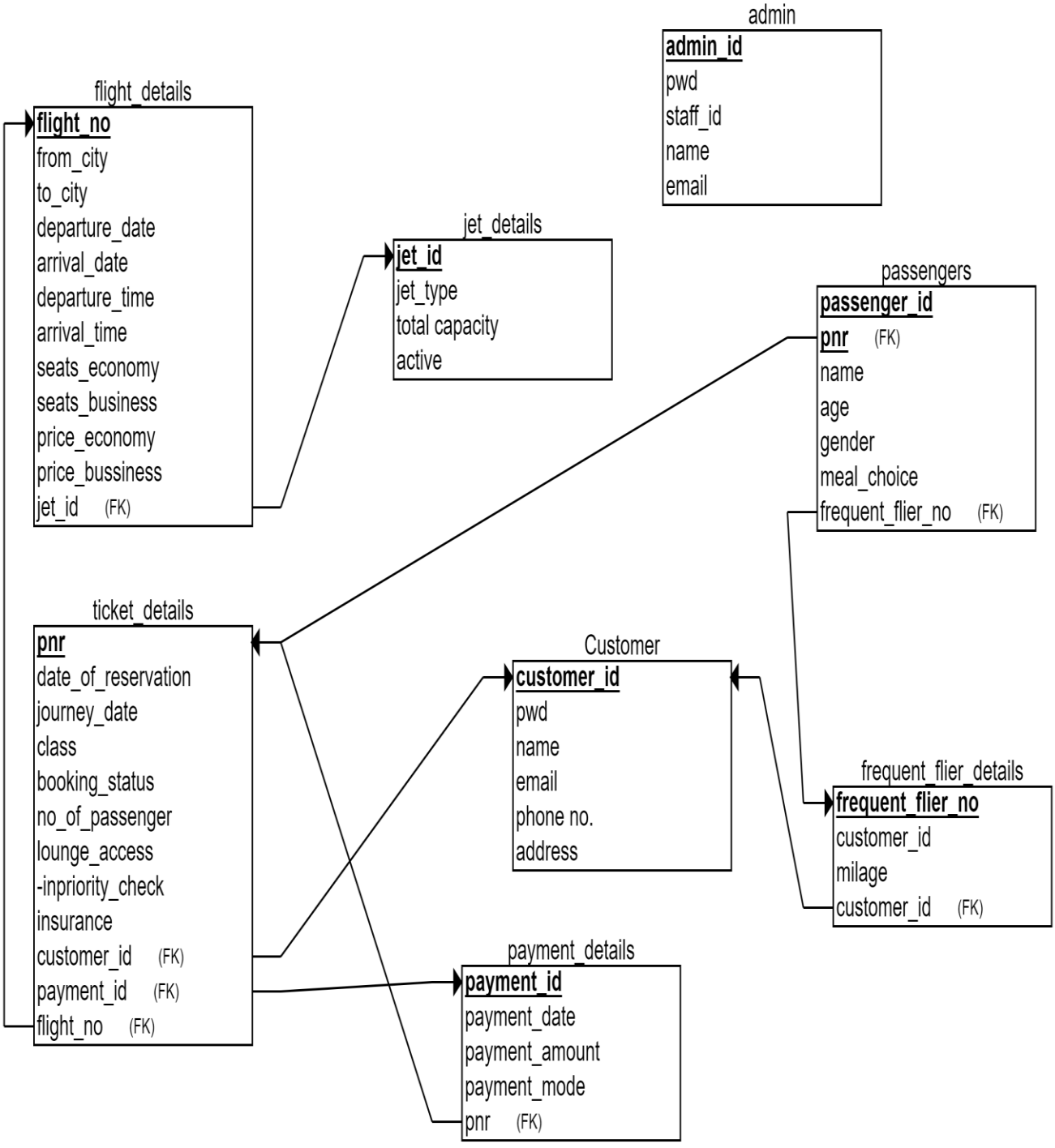
8. **Ticket_details:** It will show which customer booked which flights. Date of journey, payment id of customer, and all the other details of booked flights.

   Constraint: pnr ⟶Primary key

ENTITY RELATIONSHIP DIAGRM (ERD)



RELATIONAL SCHEMA



NORMALIZATION

First Normal Form:

• In the above relational schema, every attribute has atomic values and there are no multiple values.

• There are no repeating groups in any table of the relation schema.

Hence, every table in the relational schema satisfies first normal form.

Second Normal Form:

• To satisfy 2NF, relation schema must be in first normal form.

• And, it should not have partial dependency means every non-key attribute must be full dependent on the entire primary key.

Hence, every table in the relation schema above satisfies second normal form also.

Third Normal Form:

• To satisfy 3NF, Relational schema must be in second normal form.

• And, it does not have transitive dependency. Hence Relation schema satisfies all three normal forms.

Therefore, system satisfied all three normal forms, and all the tables are in Normalized state.

DATA DESCRIPTION

1. Admin

Attributes	Type	Length	Constraint
admin_id	Varchar	20	PK NN
Pwd	Varchar	30	NN
Staff_id	Varchar	20	NN
Name	Varchar	20	NN
Email	Varchar	35	NN

2. Customer

Attributes	Type	Length	Constraint
Customer_id	Varchar	20	PK NN
Pwd	Varchar	20	NN
Name	Varchar	20	NN
Email	Varchar	35	NN
Phone_no	Varchar	15	
Address	Varchar	35	

3. Flight_details

Attributes	Type	Length	Constraint
Flight_no	Varchar	20	PK NN
From_city	Varchar	20	NN
To_city	Varchar	20	NN
Departure_date	Date		NN
Arrival_date	Date		NN
Departure_time	Varchar	20	NN
Arrival_time	Varchar	20	NN
Seats_economy	INT	5	NN
Seats_Business	INT	5	NN
Price_economy	INT	5	NN
Price_business	INT	5	NN
Jet_id	Varchar	10	FK NN

4. Frequent_flier_details

Attributes	Type	Length	Constraint
Frequent_flier_no	Varchar	20	PK NN
Customer_idd	Varchar	20	FK NN
Milage	INT	10	

5. Jet_details

Attributes	Type	Length	Constraint
Jet_id	Varchar	10	PK NN
Jet_type	Varchar	20	NN
Capacity	INT	5	
Active	Varchar	10	

6. Passenger

Attributes	Type	Length	Constraint
Passenger_id	INT	10	PK NN
Pnr	Varchar	15	PK FK NN
Name	Varchar	20	NN
Age	INT	5	
Gender	Varchar	10	
Meal_choice	Varchar	5	
Frequent_flier_no	Varchar	20	FK NN

7. Payment_details

Attributes	Type	Length	Condtraint
Payment_id	Varchar	20	PK NN
Pnr	Varchar	15	FK NN
Payment_date	Date		NN
Payment_amount	INT	6	NN
Payment_mode	Varchar	15	NN

8.Ticket_details

Attributes	Type	Length	Constraint
Pnr	Varchar	20	PK NN
Date_of_reservation	Date		
Flight_no	Varchar	20	FK NN
Journey_date	Date		NN
Class	Varchar	20	
Booking_status	Varchar	20	
No_of_passenger	INT	5	
Lounge_access	Varchar	5	
Priority_checkin	Varchar	5	
Insurance	Varchar	5	
Payment_id	Varchar	20	FK NN
Customer_id	Varchar	20	FK NN

Creating Tables Using SQL Statements

Table structure for table 'admin':

```
CREATE TABLE admin (
  admin_id varchar (20) NOT NULL,
  pwd varchar (30) DEFAULT NULL,
  staff_id varchar (20) DEFAULT NULL,
  name varchar (20) DEFAULT NULL,
  email varchar (35) DEFAULT NULL,
    PRIMARY KEY (admin_id)
);
```

Table structure for table `customer`:

```
CREATE TABLE customer (
  customer_id varchar (20) NOT NULL,
  pwd varchar (20) DEFAULT NULL,
  name varchar (20) DEFAULT NULL,
  email varchar (35) DEFAULT NULL,
```

```
  phone_no varchar (15) DEFAULT NULL,
  address varchar (35) DEFAULT NULL,
    PRIMARY KEY (customer_id)
);
```

Table structure for table `flight_details`:

```
CREATE TABLE  flight_details (
  flight_no varchar (10) NOT NULL,
  from_city varchar (20) DEFAULT NULL,
  to_city varchar (20) DEFAULT NULL,
  departure_date date NOT NULL,
  arrival_date date DEFAULT NULL,
  departure_time time DEFAULT NULL,
  arrival_time time DEFAULT NULL,
  seats_economy int (5) DEFAULT NULL,
  seats_business int (5) DEFAULT NULL,
  price_economy int (10) DEFAULT NULL,
  price_business int (10) DEFAULT NULL,
```

```
  jet_id varchar (10) DEFAULT NULL,
    PRIMARY KEY (flight_no),
    FOREIGN KEY (jet_id) REFERENCES jet_details(jet_id)
);
```

Table structure for table `frequent_flier_details`:

```
CREATE TABLE  frequent_flier_details (
  frequent_flier_no varchar (20) NOT NULL,
  customer_id varchar (20) DEFAULT NULL,
  mileage int (10) DEFAULT NULL,
    PRIMARY KEY (frequent_flier_no),
    FOREIGN KEY (customer_id) REFERENCES customer(customer_id)
);
```

Table structure for table `jet_details`:

```
CREATE TABLE jet_details (
  jet_id varchar (10) NOT NULL,
  jet_type varchar (20) DEFAULT NULL,
  total_capacity int (5) DEFAULT NULL,
```

```
  active varchar (5) DEFAULT NULL,
    PRIMARY KEY (jet_id)
);
```

Table structure for table `passengers`:

```
CREATE TABLE  passengers (
  passenger_id int (10) NOT NULL,
  pnr varchar (15) NOT NULL,
  name varchar (20) DEFAULT NULL,
  age int (3) DEFAULT NULL,
  gender varchar (8) DEFAULT NULL,
  meal_choice varchar (5) DEFAULT NULL,
  requent_flier_no varchar (20) DEFAULT NULL,
    PRIMARY KEY (passenger_id, pnr),
    FOREIGN KEY (frequent_flier_no) REFERENCES
          frequent_flier_details(frequent_flier_no)
);
```

Table structure for table `payment_details`:

```
CREATE TABLE  payment_details (
  payment_id varchar (20) NOT NULL,
  pnr varchar (15) DEFAULT NULL,
  payment_date date DEFAULT NULL,
  payment_amount int (6) DEFAULT NULL,
  payment_mode varchar (15) DEFAULT NULL,
    PRIMARY KEY (payment_id)
) ;
```

Table structure for table `ticket_details`:

```
CREATE TABLE ticket_details (
  pnr varchar (15) NOT NULL,
  date_of_reservation date DEFAULT NULL,
  flight_no varchar (10) DEFAULT NULL,
  journey_date date DEFAULT NULL,
  class varchar (10) DEFAULT NULL,
  booking_status varchar (20) DEFAULT NULL,
```

```
no_of_passengers int (5) DEFAULT NULL,
lounge_access varchar (5) DEFAULT NULL,
priority_checkin varchar (5) DEFAULT NULL,
insurance varchar (5) DEFAULT NULL,
payment_id varchar (20) DEFAULT NULL,
customer_id varchar (20) DEFAULT NULL,
 PRIMARY KEY (pnr),
  FOREIGN KEY (flight_no) REFERENCES flight_details(flight_no),
FOREIGN KEY (payment_id) REFERENCES payment_details(payment_id)
FOREIGN KEY (customer_id) REFERENCES customer(customer_id)
);
```

CRUD Operations

Passengers table creation:

```
CREATE TABLE passengers (
  passenger_id int (10) NOT NULL,
  pnr varchar (15) NOT NULL,
  name varchar (20) DEFAULT NULL,
  age int (3) DEFAULT NULL,
  gender varchar (8) DEFAULT NULL,
  meal_choice varchar (5) DEFAULT NULL,
  frequent_flier_no varchar (20) DEFAULT NULL,
   PRIMARY KEY (passenger _id),
   FOREIGN KEY (frequent_flier_no) REFERENCES
        frequent_flier_details(frequent_flier_no)
);
```

Insert operation:

INSERT INTO passengers (`passenger_id`, `pnr`, `name`, `age`, `gender`, `meal_choice`, `frequent_flier_no`) VALUES

(1, '1669050', 'Harry Roshan', 20, 'male', 'yes', '20002000'),

(1, '2033264', 'RAKHI', 25, 'female', 'yes', NULL),

(1, '2179656', 'KIMI', 11, 'male', 'yes', NULL),

(1, '2369143', 'blah', 20, 'male', 'yes', NULL),

(1, '3027167', 'aadith_name', 10, 'male', 'yes', NULL),

(1, '3773951', 'harry', 51, 'male', 'yes', NULL),

(1, '3817993', 'SANCHIT KUMAR', 23, 'male', 'yes', NULL),

(1, '4797983', 'pass1', 34, 'male', 'yes', NULL),

(1, '4807312', 'SANCHIT', 22, 'male', 'yes', NULL),

(1, '5272308', 'SHUBHANGI SINGH', 1, 'female', 'yes', NULL),

(1, '5421865', 'pass1', 10, 'male', 'yes', NULL),

(1, '6980157', 'roshan', 20, 'male', 'yes', NULL),

(1, '8503285', 'aadith_name', 10, 'male', 'yes', '10001000'),

(1, '9288360', 'SANCHIT KUMAR', 23, 'male', 'yes', NULL),

(2, '1669050', 'berti harry', 45, 'female', 'yes', NULL),

(2, '2369143', 'blah', 51, 'male', 'yes', NULL),

(2, '3027167', 'roshan', 20, 'male', 'yes', NULL),

(2, '3773951', 'berti', 42, 'female', 'yes', NULL),

(2, '3817993', 'RANJIT KUMAR', 26, 'male', 'yes', NULL),

(2, '4797983', 'Harry Roshan', 20, 'male', 'yes', '20002000'),

(2, '4807312', 'RANJIT', 66, 'male', 'yes', NULL),

(2, '5421865', 'pass2', 20, 'female', 'yes', NULL),

(2, '6980157', 'aadith', 9, 'male', 'yes', NULL),

(2, '8503285', 'roshan_name', 20, 'male', 'yes', NULL),

(2, '9288360', 'SHUBHAM KUMAR', 24, 'male', 'yes', NULL),

(3, '1669050', 'aadith_name', 10, 'male', 'yes', NULL),

(3, '2369143', 'blah', 10, 'male', 'yes', NULL),

(3, '3773951', 'aadith', 11, 'male', 'yes', '10001000'),

(3, '4797983', 'aadith_name', 10, 'male', 'yes', '10001000'),

(3, '4807312', 'SURESH', 22, 'male', 'yes', NULL),

(3, '5421865', 'pass3', 30, 'male', 'yes', NULL),

(4, '2369143', 'blah', 42, 'female', 'yes', NULL),

(4, '4807312', 'RAMESH', 65, 'male', 'yes', NULL),

(5, '4807312', 'SHYAMA', 22, 'female', 'yes', NULL);

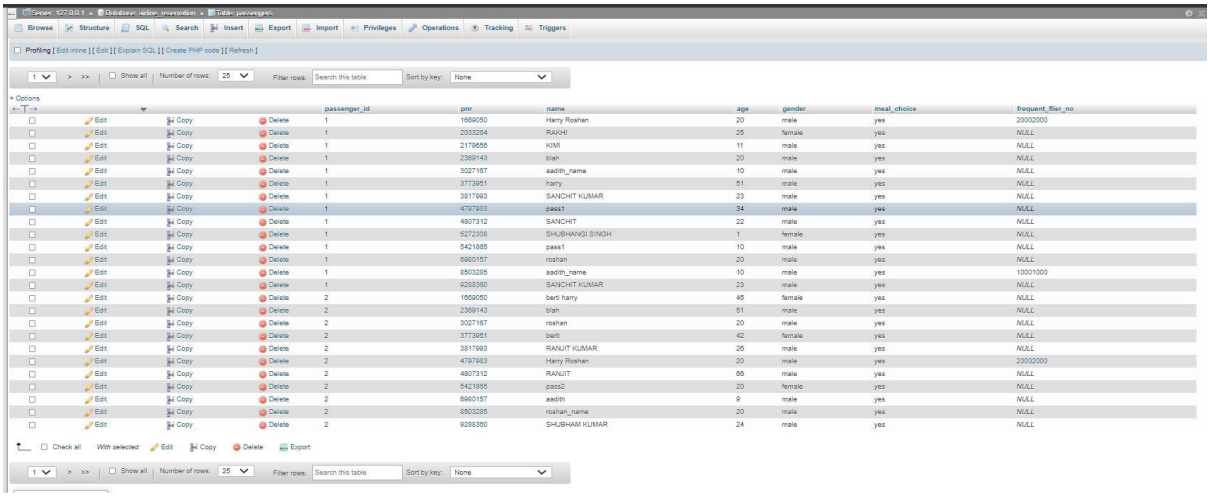
```
CREATE TABLE passengers (
  passenger_id int (10) NOT NULL,
  pnr varchar (15) NOT NULL,
  name varchar (20) DEFAULT NULL,
  age int (3) DEFAULT NULL,
  gender varchar (8) DEFAULT NULL,
  meal_choice varchar (5) DEFAULT NULL,
  frequent_flier_no varchar (20) DEFAULT NULL
);

--
-- Dumping data for table `passengers`
--

INSERT INTO passengers(`passenger_id`, `pnr`, `name`, `age`, `gender`, `meal_choice`, `freque
nt_flier_no`) VALUES
(1, '1669050', 'Harry Roshan', 20, 'male', 'yes', '20002000'),
(1, '2033264', 'RAKHI', 25, 'female', 'yes', NULL),
(1, '2179656', 'KIMI', 11, 'male', 'yes', NULL),
(1, '2369143', 'blah', 20, 'male', 'yes', NULL),
(1, '3027167', 'aadith_name', 10, 'male', 'yes', NULL),
(1, '3773951', 'harry', 51, 'male', 'yes', NULL),
(1, '3817993', 'SANCHIT KUMAR', 23, 'male', 'yes', NULL),
(1, '4797983', 'pass1', 34, 'male', 'yes', NULL),
(1, '4807312', 'SANCHIT', 22, 'male', 'yes', NULL),
(1, '5272308', 'SHUBHANGI SINGH', 1, 'female', 'yes', NULL),
(1, '5421865', 'pass1', 10, 'male', 'yes', NULL),
(1, '6980157', 'roshan', 20, 'male', 'yes', NULL),
(1, '8503285', 'aadith_name', 10, 'male', 'yes', '10001000'),
(1, '9288360', 'SANCHIT KUMAR', 23, 'male', 'yes', NULL),
(2, '1669050', 'berti harry', 45, 'female', 'yes', NULL),
(2, '2369143', 'blah', 51, 'male', 'yes', NULL),
(2, '3027167', 'roshan', 20, 'male', 'yes', NULL),
(2, '3773951', 'berti', 42, 'female', 'yes', NULL),
(2, '3817993', 'RANJIT KUMAR', 26, 'male', 'yes', NULL),
(2, '4797983', 'Harry Roshan', 20, 'male', 'yes', '20002000'),
(2, '4807312', 'RANJIT', 66, 'male', 'yes', NULL),
(2, '5421865', 'pass2', 20, 'female', 'yes', NULL),
(2, '6980157', 'aadith', 9, 'male', 'yes', NULL),
(2, '8503285', 'roshan_name', 20, 'male', 'yes', NULL),
```

```
(2, '9288360', 'SHUBHAM KUMAR', 24, 'male', 'yes', NULL),
(3, '1669050', 'aadith_name', 10, 'male', 'yes', NULL),
(3, '2369143', 'blah', 10, 'male', 'yes', NULL),
(3, '3773951', 'aadith', 11, 'male', 'yes', '10001000'),
(3, '4797983', 'aadith_name', 10, 'male', 'yes', '10001000'),
(3, '4807312', 'SURESH', 22, 'male', 'yes', NULL),
(3, '5421865', 'pass3', 30, 'male', 'yes', NULL),
(4, '2369143', 'blah', 42, 'female', 'yes', NULL),
(4, '4807312', 'RAMESH', 65, 'male', 'yes', NULL),
(5, '4807312', 'SHYAMA', 22, 'female', 'yes', NULL);
```

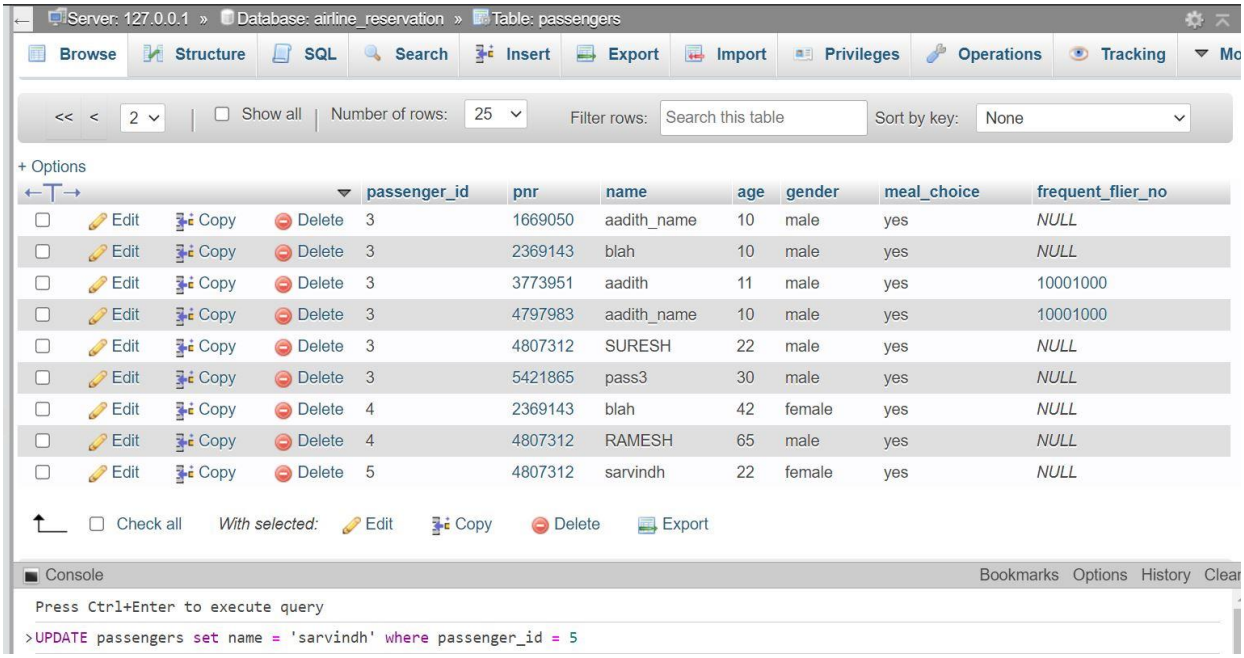
Output:



Update operation:

update passengers set name = "Sarvindh" where passenger_Id = 5;

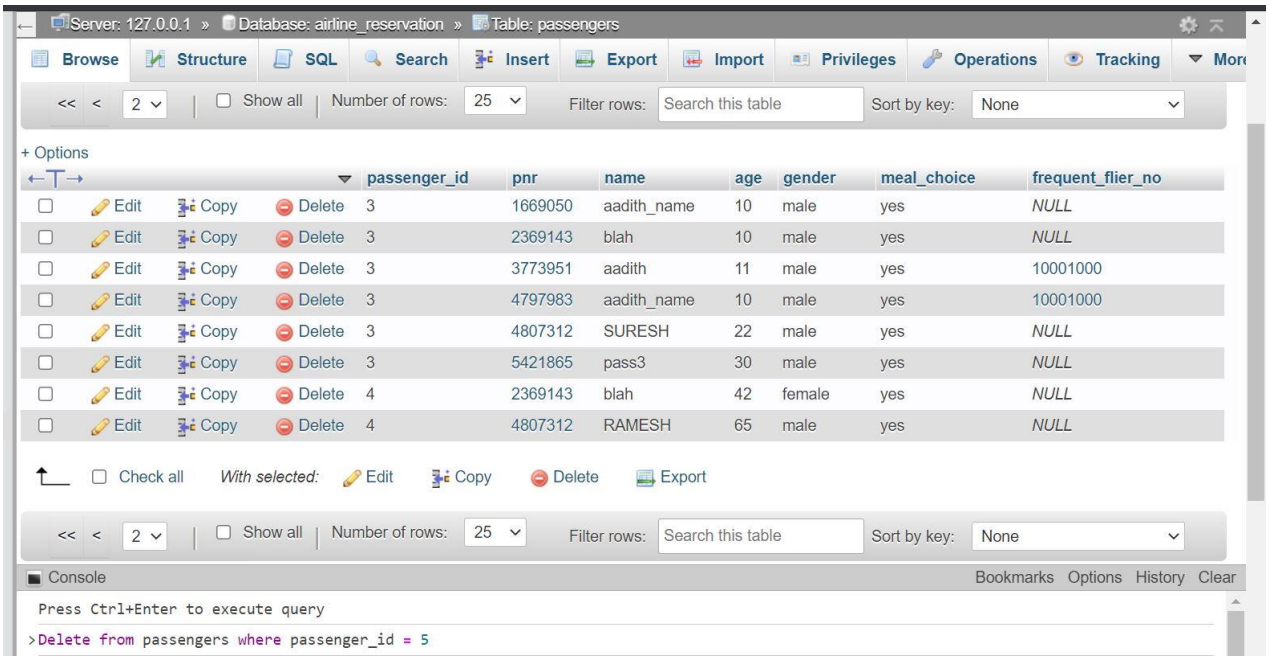
output:



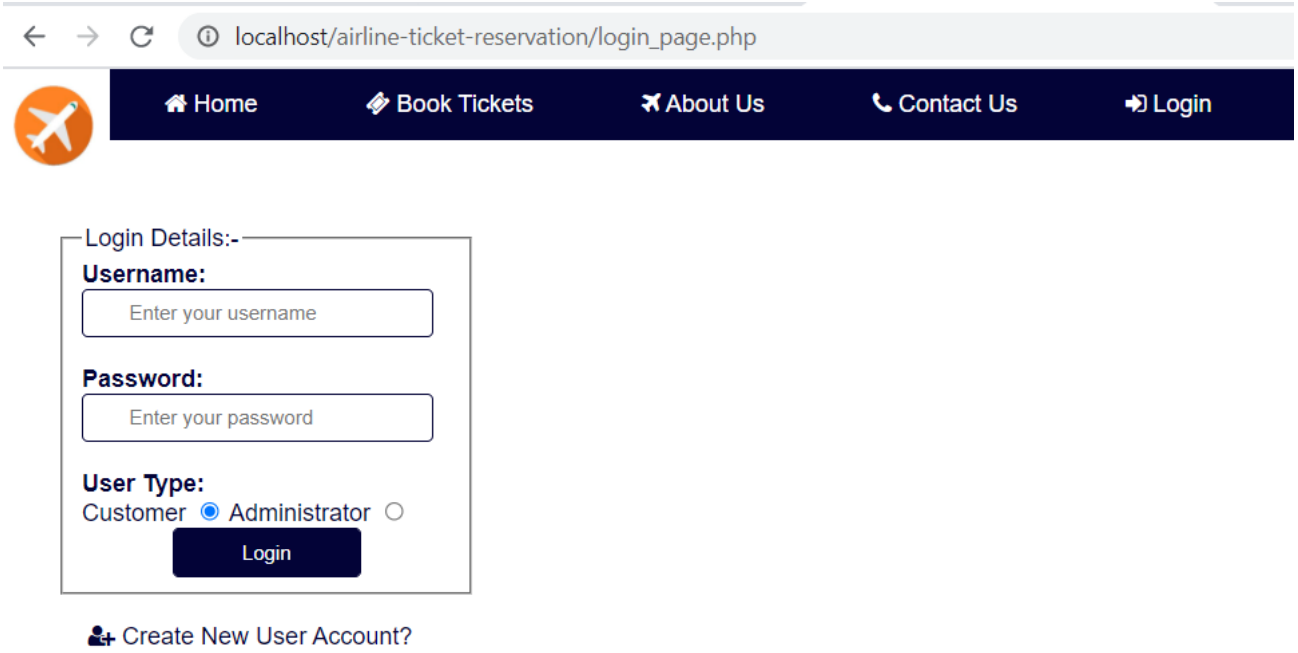
Delete operation:

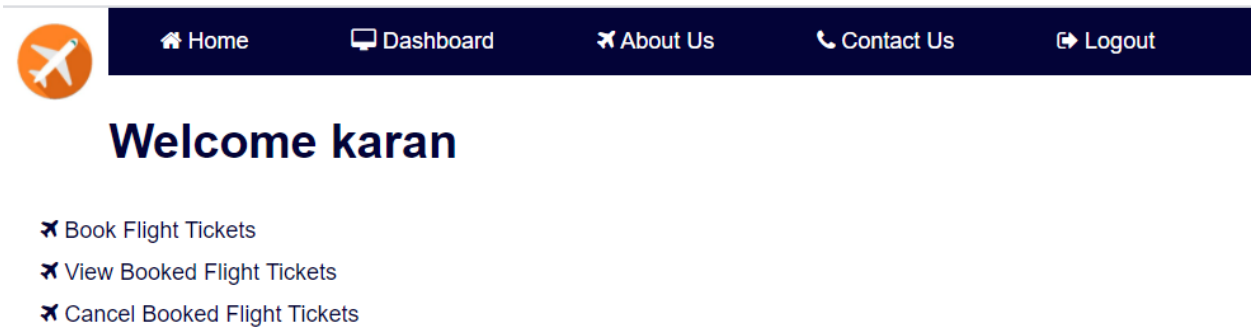
Delete from passengers where passenger_id = 5;

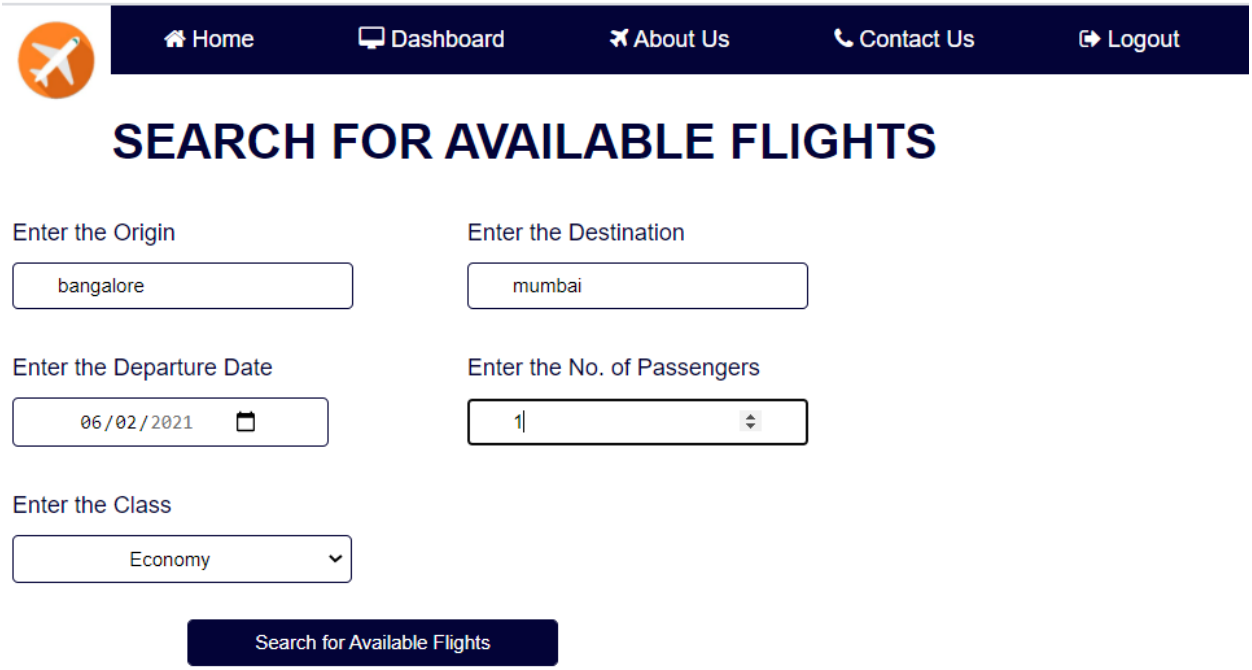
Output:



FRONTEND


localhost/airline-ticket-reservation/login_page.php
Home
Book Tickets
About Us
Contact Us
Login
Login Details:-
Username:
Enter your username
Password:
Enter your password
User Type:
Customer
Administrator
Login
Create New User Account?


Home
Dashboard
About Us
Contact Us
Logout
Welcome karan
Book Flight Tickets
View Booked Flight Tickets
Cancel Booked Flight Tickets


Home
Dashboard
About Us
Contact Us
Logout
SEARCH FOR AVAILABLE FLIGHTS
Enter the Origin
bangalore
Enter the Destination
mumbai
Enter the Departure Date
06/02/2021
Enter the No. of Passengers
1
Enter the Class
Economy
Search for Available Flights

AVAILABLE FLIGHTS

Flight No.	Origin	Destination	Departure Date	Departure Time	Arrival Date	Arrival Time	Price(Economy)	Select
AA101	bangalore	mumbai	2021-06-02	21:00:00	2021-06-03	01:00:00	₹ 5000	○

Select Flight

ADD PASSENGERS DETAILS

PASSENGER 1

Passenger's Name	Passenger's Age	Passenger's Gender	Passenger's Inflight Meal	Passenger's Frequent Flier ID (if applicable)
Harsha	20	Male	Yes	

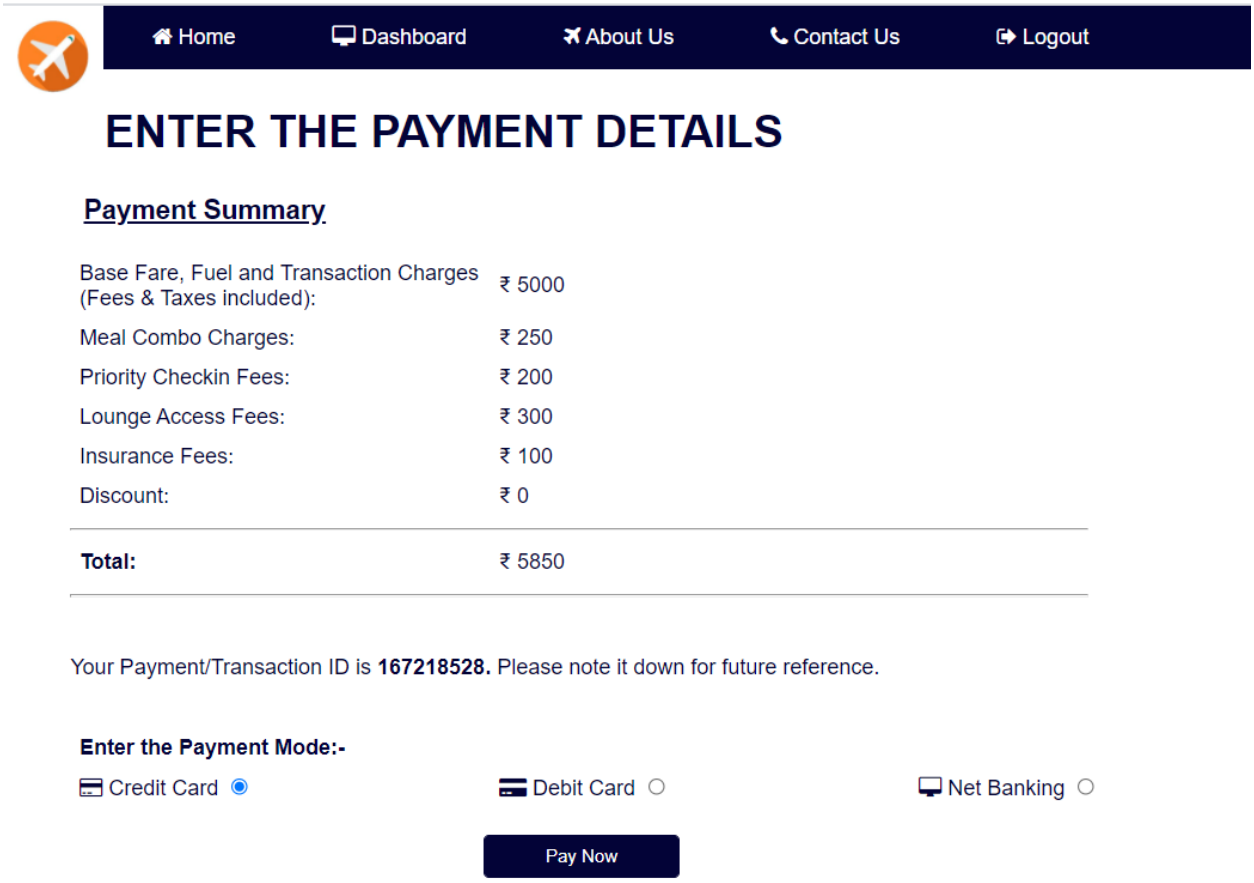
ENTER TRAVEL DETAILS

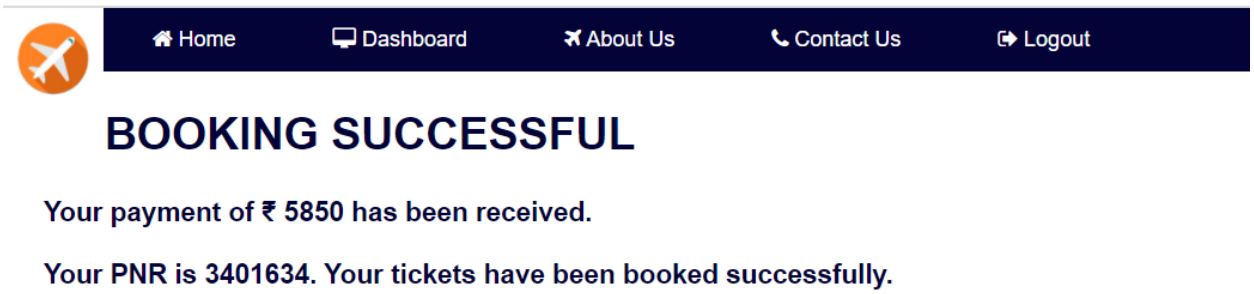
Do you want access to our Premium Lounge? Yes ◉ No ○

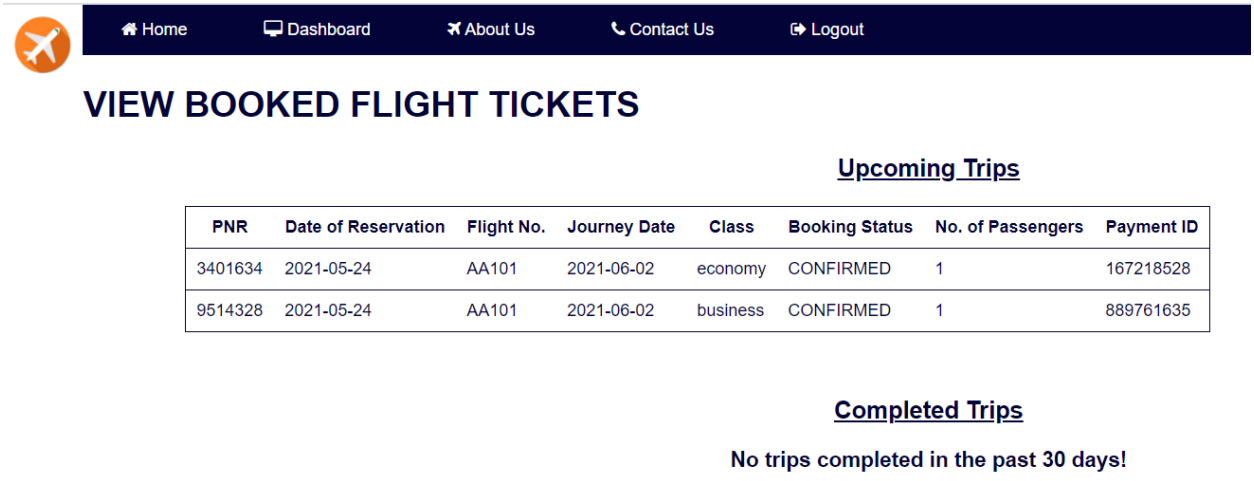
Do you want to opt for Priority Checkin? Yes ◉ No ○

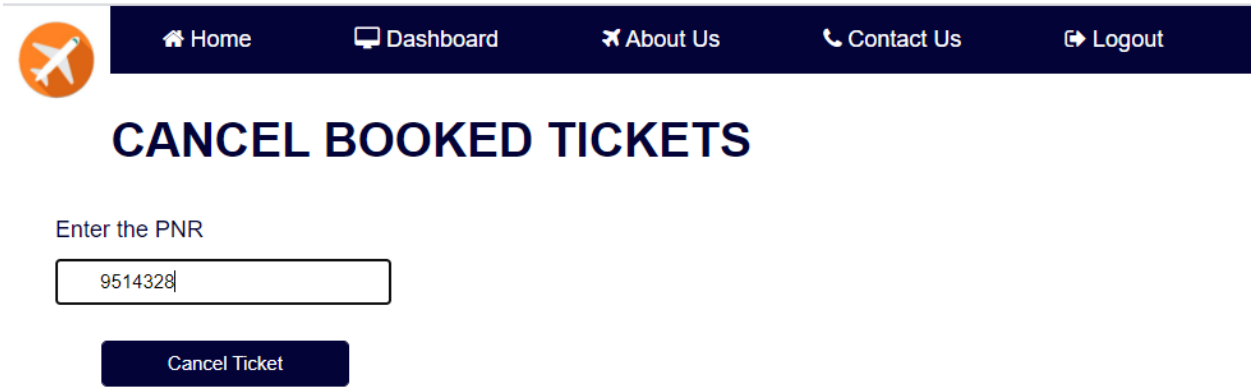
Do you want to purchase Travel Insurance? Yes ◉ No ○

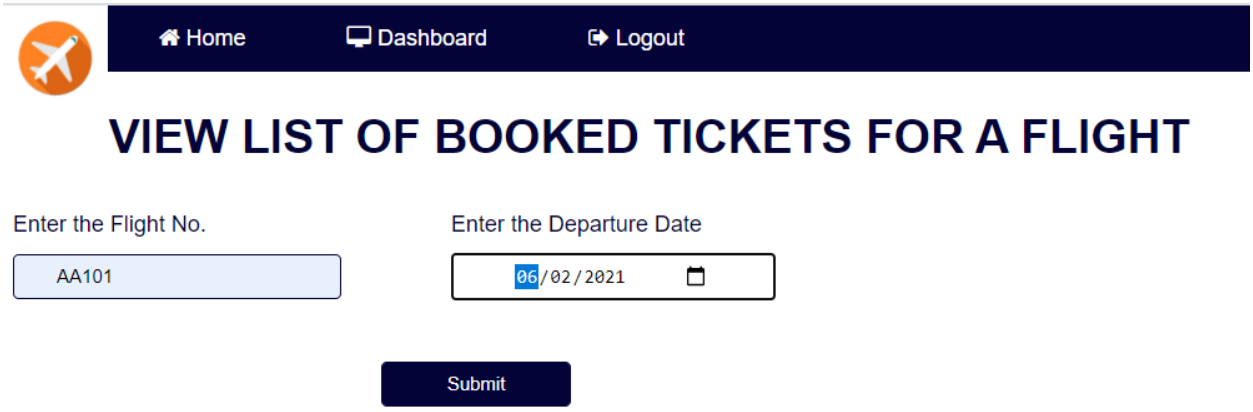
Submit Travel/Ticket Details

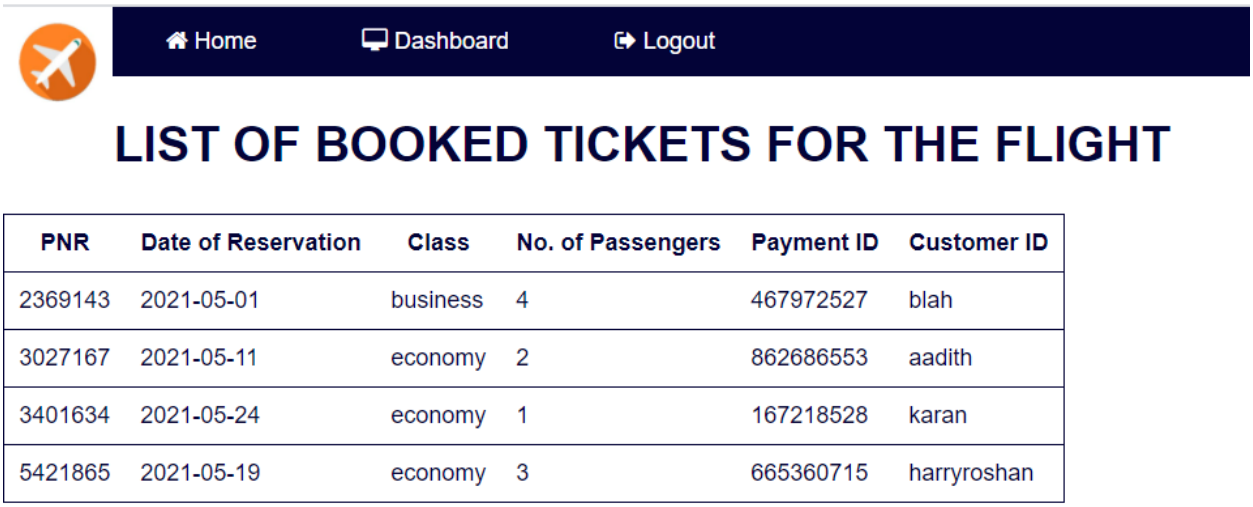

Home
Dashboard
About Us
Contact Us
Logout
ENTER THE PAYMENT DETAILS
Payment Summary
Base Fare, Fuel and Transaction Charges (Fees & Taxes included): ₹ 5000
Meal Combo Charges: ₹ 250
Priority Checkin Fees: ₹ 200
Lounge Access Fees: ₹ 300
Insurance Fees: ₹ 100
Discount: ₹ 0
Total: ₹ 5850
Your Payment/Transaction ID is 167218528. Please note it down for future reference.
Enter the Payment Mode:-
Credit Card
Debit Card
Net Banking
Pay Now


Home
Dashboard
About Us
Contact Us
Logout
BOOKING SUCCESSFUL
Your payment of ₹ 5850 has been received.
Your PNR is 3401634. Your tickets have been booked successfully.


Home
Dashboard
About Us
Contact Us
Logout
VIEW BOOKED FLIGHT TICKETS
Upcoming Trips
PNR Date of Reservation Flight No. Journey Date Class Booking Status No. of Passengers Payment ID
3401634 2021-05-24 AA101 2021-06-02 economy CONFIRMED 1 167218528
9514328 2021-05-24 AA101 2021-06-02 business CONFIRMED 1 889761635
Completed Trips
No trips completed in the past 30 days!


Home
Dashboard
About Us
Contact Us
Logout
CANCEL BOOKED TICKETS
Enter the PNR
9514328
Cancel Ticket





PNR	Date of Reservation	Class	No. of Passengers	Payment ID	Customer ID
2369143	2021-05-01	business	4	467972527	blah
3027167	2021-05-11	economy	2	862686553	aadith
3401634	2021-05-24	economy	1	167218528	karan
5421865	2021-05-19	economy	3	665360715	harryroshan

Flight Number

AA105

Origin

Surat

Destination

Delhi

Departure Date

06/15/2021

Arrival Date

06/16/2021

Departure Time

11:40 PM

Arrival Time

01:40 AM

Number of Seats in Economy Class

5

Number of Seats in Business Class

5

Ticket Price(Economy Class)

500

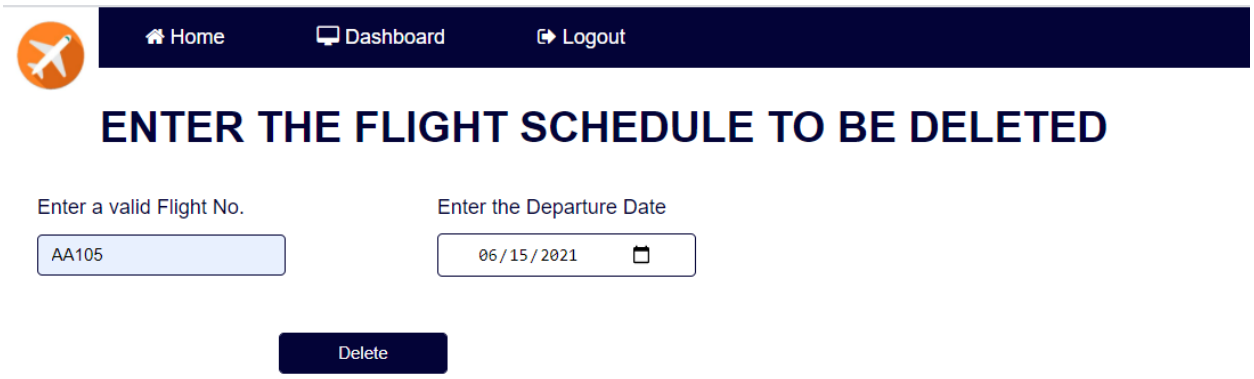
Ticket Price(Business Class)

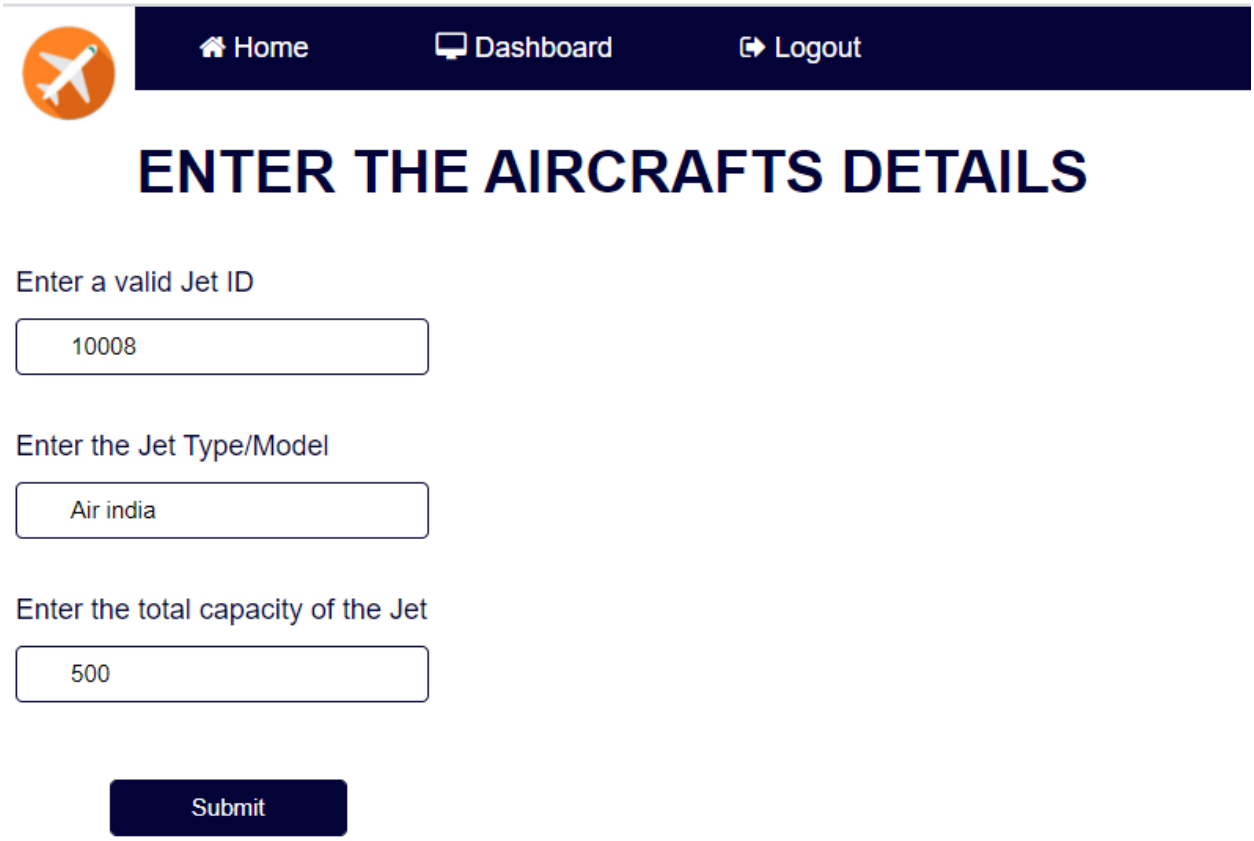
800

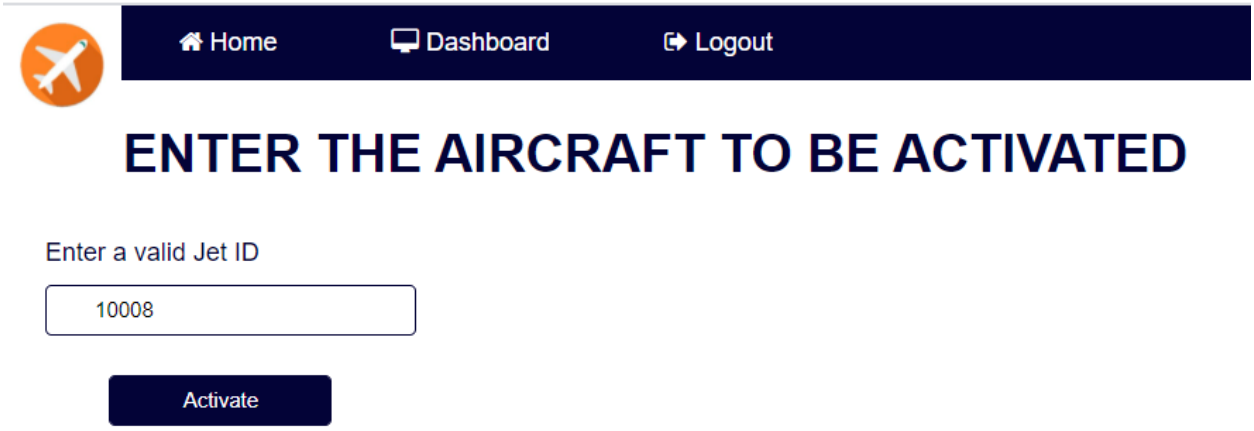
Jet ID

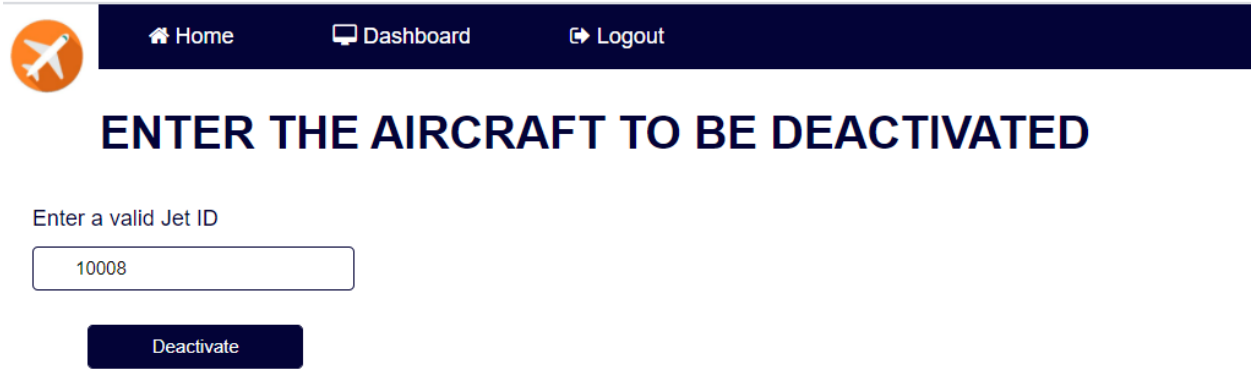
10008

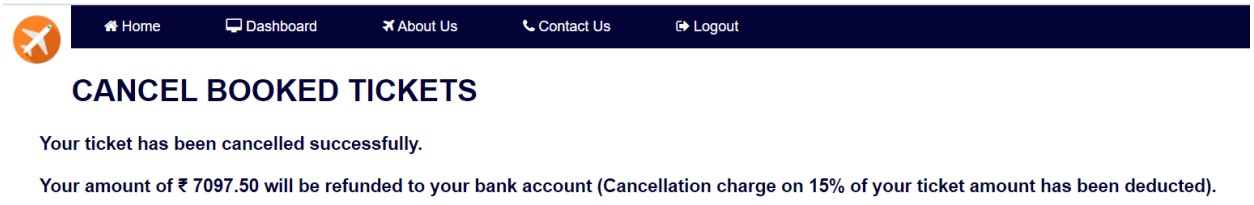
Submit


Home
Dashboard
Logout
ENTER THE FLIGHT SCHEDULE TO BE DELETED
Enter a valid Flight No.
AA105
Enter the Departure Date
06/15/2021
Delete


Home
Dashboard
Logout
ENTER THE AIRCRAFTS DETAILS
Enter a valid Jet ID
10008
Enter the Jet Type/Model
Air india
Enter the total capacity of the Jet
500
Submit


Home
Dashboard
Logout
ENTER THE AIRCRAFT TO BE ACTIVATED
Enter a valid Jet ID
10008
Activate


Home
Dashboard
Logout
ENTER THE AIRCRAFT TO BE DEACTIVATED
Enter a valid Jet ID
10008
Deactivate


Home
Dashboard
About Us
Contact Us
Logout
CANCEL BOOKED TICKETS
Your ticket has been cancelled successfully.
Your amount of ₹ 7097.50 will be refunded to your bank account (Cancellation charge on 15% of your ticket amount has been deducted).

Source Code URL

https://github.com/karanraj24/AIR-RESERVATION/tree/master - Application Source Code URL (GtHub).

CONCLUSION

The “airline reservation system” was successfully designed and is tested for accuracy and quality. During this project we have accomplished all the objectives and this project meets the needs of the organization. The developed will be used in searching, retrieving, and generating information for the concerned requests. The advantages that are with this proposed system are Reduced entry work, Easy retrieval of information, Reduced errors due to human intervention, User friendly screens to enter the data, Portable and flexible for further enhancement, Web enabled, and Fast finding of information requested.

We have collected the information from the idea and created an Entity Relationship Diagram. Relational Schema was mapped from the ERD and Normalisation check was done, and we found all the tables are already normalised. We have created data description tables and wrote SQL statements for the tables.

REFERENCES

For Database – Xampp Server - https://www.apachefriends.org/download.html

Phpmyadmin - http://localhost/phpmyadmin/index.php

For sql related queries - https://www.w3schools.com/

For drawing E R diagram and Relational schema - https://erdplus.com/

For Github - https://www.youtube.com/watch?v=ibNqauPoicg

For javascript - https://www.w3schools.com/js/

American Psychological Association (APA) format is used to prepare this documentation - Paper format (apa.org)

FUTURE ENHANCEMENT

- This system can be updated as online system.
- Multi-user Interface can be added to this system.
- As an Aviaries prepared for future growth it determine, it would replace open skies airline reservation system.