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**A**

**Mini-Project Report on**  
**“Airline Reservation System”**

In partial fulfillment of the requirements for Award of  
The Degree of  
BACHELOR IN ENGINEERING  
BY

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**Project Guide**  
**Mr. M. D. Shelar**

**T.E Computer. (Sem-V) 2021-2022**

# Certificate

This is to Certify that work on the Mini-Project Report “ **Airline Reservation System** ” Presented by “ **Omkar Rajendra Lokhande** ” in Partial Fulfillment of the Requirement for the Award of *Bachelor of Computer Engineering* to the VPKBIET, Baramati has been carried out under my guidance.

To the best of my knowledge and belief the matter presented in this report has not been submitted earlier or copied from anywhere.

**Mr. M . D . Shelar,**  
**Mini- Project Guide**

## **ACKNOWLEDGEMENT**

In Our Endeavor to achieve the Success in Completing our Mini-Project “ **Airline Reservation System** ” in the Third Year Engineering Course with Specialization in Computer Engineering, we are greatly thankful to those People without whose Assistance, Guidance and Efforts we would not be able to Complete our Mini-Project Successfully.

We express with our Heartfelt Gratitude to our guide ‘**Mr. M. D. Shelar**’ Sir, who through his Experience, Encouragement and constant Guidance helped us to Shape Our Project to the Present Stage, without their Guidance, Our Project would not be Completed.

Finally, we would also like to thank our College’s Teaching and Non-Teaching Staff of our Department for Co-ordinating with us.

**OMKAR R LOKHANDE**

## **ABSTRACT**

As a part of Mini-Project we are going to create the Software using a Three-tier Architecture and Some Block of Codes that helps in Reservation System in Airlines, such as providing some applications like Booking a ticket, Payment Options, cancelling a Ticket, Adding a Flight. In this Mini-Project we are trying to implement the Front-End type Application Software that will help both the Client & the Administrator to get the information about the Airline Reservation data.

This Mini-Project is basically Created to Reduce the Work of Administrator . In this Mini-Project we are also providing an option of creating a New User Login Account and a Forgot Password Option if the user doesn't recognize his Login Credentials. Also, we have taken help of Database System in order to store the Data of the Customers Which are been provided with the Services.

This all things will help the Administrator, and completely all the system will be user friendly. It will be Very Easy to Handle. This Project will also hide Details about the Records. So, Data Security is Maintained.

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# **1-Introduction**

## **Need of Computerization :**

We live in a Computer Age. Most of our day-to-day activities are beginning influenced by the use of computer. It has become necessary for every one to have Basic knowledge of Computer. The computer field as a whole continues to experience tremendous growth of Personal Computer, which were introduced in early 1980's, now have become Popular and being Widely Used in Offices and Homes. The Usefulness of Computer has growth steadily with the Introduction of Powerful and versatile Computer Software Programs, while in areas like Science and Technology Improvements are Unimaginative.

Some people enormously believed that Computers can only work on arithmetic operations. The use can work on any kind of data – text, numeric, images, sound and video clipping etc.

Generally, the Computer is Characterized by Incredible Speed, Great Accuracy, High Consistency and High amount of Storage Capacity.

A crucial difference between manual and computerized systems is the ease of backup of a computerized system. All transactions can be saved and backed up, in case of fire or other Mishap. Also, in case of a mishap, Computerized systems allow for quicker recovery from data loss.

## **Need Of Database Management :**

Basically, Database Management is a System of inter-related data and set of certain Programs which helps us to Store and Access those stored Data in a very easy and Efficient Way. Such Systems are generally developed for large amount of Data. So, when dealing with such large amount of Data, we should consider two things which will definitely require optimization, which are “Efficient way of Storage of Data” and the other one being “Fast and Easy Retrieval of data”.

Database Management System generally decreases the effect of “Data Redundancy”. As, Data Redundancy leads to higher storage costs and poor Access Time. One of the problems in storing data on a machine is “Lack of Data Security”. Because, while using a Proxy Server, there are possibilities of the Data Leakage. But Database Management System has an Advance facility of Providing “Data Security”, So that the data remains secured.

Also, Database systems provides Encapsulations, Data Abstraction Methods, and Proper Functionalities to Handle Large Data.

Some Applications of the Database System Include Telecom, Industry, Banking System, Sales, **Airlines**, Education Sector, Online Shopping, and many more.

## 2 - Introduction to the Mini-Project

We have designed the Mini-Project “**AIRLINE RESERVATION SYSTEM**”. The Mini-Project is made to be used by Respective Airport Authorities which will make their Airline reservations and respective transaction work easy. At starting, it contains a basic Login page which will re-direct the user to the Home-page if correct matching Login Credentials Used. By this Mini-Project we can create New User Logins, Adding a New Flight Details, Booking a Ticket for a respective flight, Payment option for Particular Flight, Cancelling the Booked Ticket of any Customer, etc.

One of the functionalities of this Mini-Project is that it is more user friendly. In this Mini-Project we keep the records of all the Customer details and all their transactions required while booking as well as Cancelling a Ticket.

This Mini-Project provides vast facilities to the Airport Authorities as they are very busy in their work; it is time consuming work for them to keep the things in manual registers. So, from that Point of View, our Mini-Project saves a lot of time, which has important to that of money. And is Efficient too.

In this Mini-Project, “My-SQL” is used as back-end that is for “Storing data” in Database. My-SQL is a powerful Database Management Package/System, in order to which we can efficiently Provide Security to the Customer Data as well as take Backup as and when Necessary.



## **Connecting to Java Interface :**

**Importing the Packages** – We need to include all the packages that contain the JDBC classes needed for “Database Programming”. Most often, using “import java.sql”.

**Registering the JDBC driver** – Here we have to initialize a driver so that we can open a communication channel with the database.

**Opening a Connection** – Here, we can use getConnection() method to create a Connection object, which represents a physical connection with the database.

**Executing a Query** – This actually requires to use an object of type Statement for building and submitting an SQL statement to the database.

**Extracting data from Result Set** – It is Suggested that we use the appropriate getXXX() method to retrieve the data from the result set.

**Cleaning the Environment** – Here, it is essential to explicitly close all database resources versus relying on the JVM’s garbage collection.

### 3- Database Design

**Table 1**

This table gives the detail information of “ *Adding Flight* ”

Field	Type	Size	Description
Flight_Id	Number	10	It acts like a primary key, which has a unique value for every Corresponding Flight.
Flight_Name	Text	20 Characters	It defines the name of the flight in the current session.
Source	Text	20 Characters	It stores the Starting Address/ location of the respective flight.
Destination	Text	20 Characters	It stores the Ending Address/ location of the respective flight.
Date	Date	10	It stores the Travelling Date of the Flight
Arrival_Time	Time	15	It has the arrival time of the flight with respect to the Locations
Departure_Time	Time	15	It has the Departure time of the flight with respect to the Locations
Flight_Price	Number	20	It is an derived attribute which will calculate and show the total price needed to travel through the respective flight

**Table 2**

This Table gives the detail information about “ *Booking Ticket* ”

Field	Type	Size	Description
Ticket_No	Number	10	Is a Primary attribute which will contain a unique id of a Customer with reference to a flight
Flight_Id	Number	10	Is a Primary Attribute which will store the Unique id of the respective flight on a particular route
Flight_Name	Text	20 Characters	Will Store the Name of the Flight the customer wants to travel
Source	Text	20 Characters	It stores the starting address/location of the respective flight
Destination	Text	20 Characters	It stores the Ending address/location of the respective flight
Date	Date	10	It will contain the date at which the flight is scheduled
Arrival_Time	Time	15	It has the arrival time of the flight in particular route
Departure_Time	Time	15	It has the departure time of the flight in particular route
Total_Price	Number	20	It is the derived Quantity which will depend on number of co-passengers travelling in the flight
Seats	Number	10	It will store the number of passengers travelling together
C_Name	Text	25 Characters	It will store the name of the customer who is going to travel in the flight

**Table 3**

This table gives the information about “ *Cancelling a Booked Ticket* ”

Field	Type	Size	Description
Ticket_No	Number	10	Is a Primary attribute which will contain a unique id of a Customer with reference to a flight
Flight_Id	Number	10	Is a Primary Attribute which will store the Unique id of the respective flight on a particular route
Flight_Name	Text	20 Characters	Will Store the Name of the Flight the customer wants to Cancel the ticket
Source	Text	20 Characters	It stores the starting address/location of the respective flight
Destination	Text	20 Characters	It stores the Ending address/location of the respective flight
Booking_Date	Date	10	It will contain the date at which the flight is scheduled
Arrival_Time	Time	15	It has the arrival time of the flight in particular route
Departure_Time	Time	15	It has the departure time of the flight in particular route
Price	Number	20	It is the derived Quantity which will depend on number of co-passengers which were travelling in the flight
Seats	Number	10	It will store the number of passengers travelling together
C_Name	Text	25 Characters	It will store the name of the customer who is going to Cancel the previously booked ticket
Return_Date	Date	10	It will contain the date at which the flight was supposed to be returned

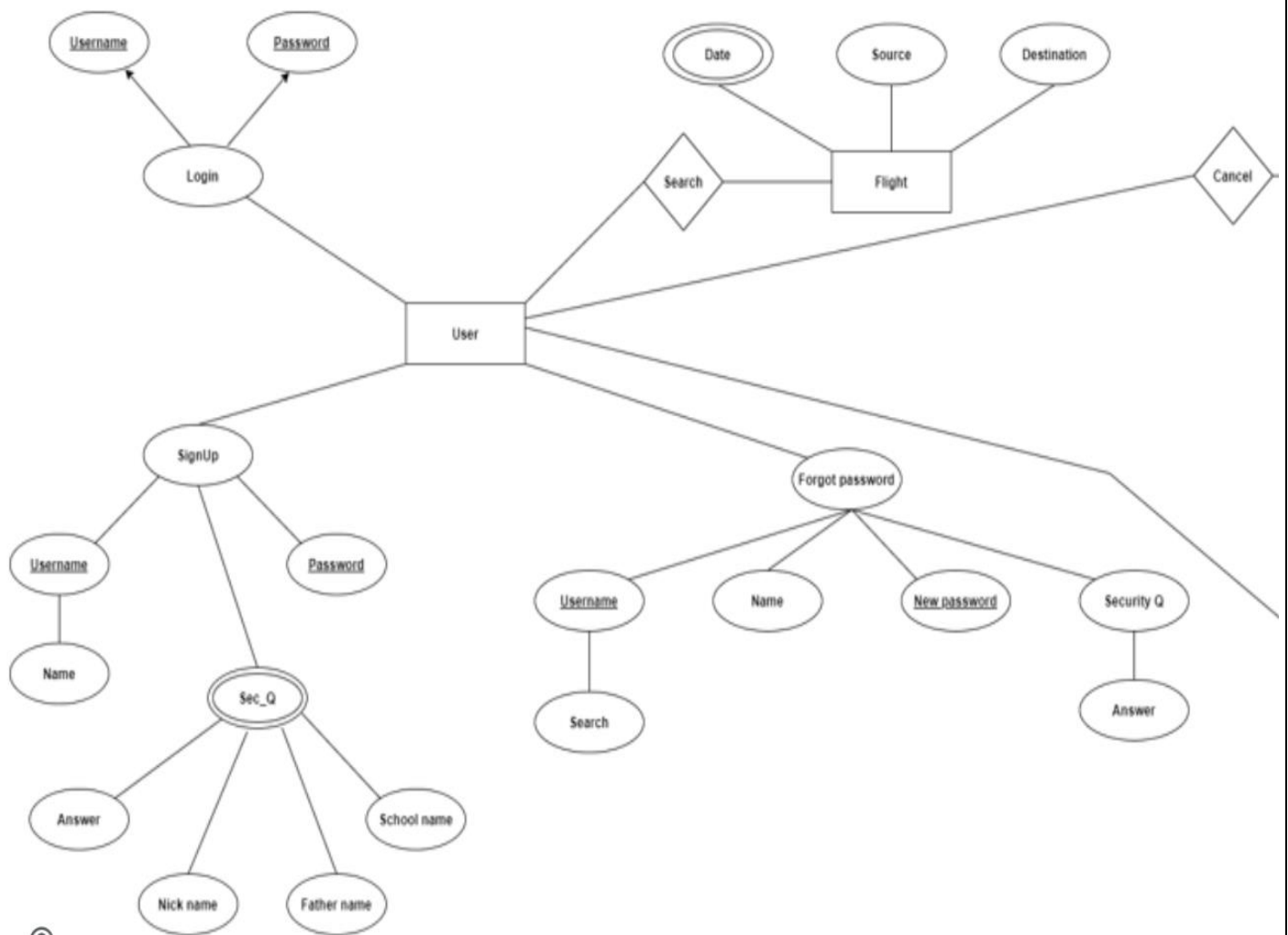
**Table 4 (Transaction Table)**

This table will give information about the Payment Done

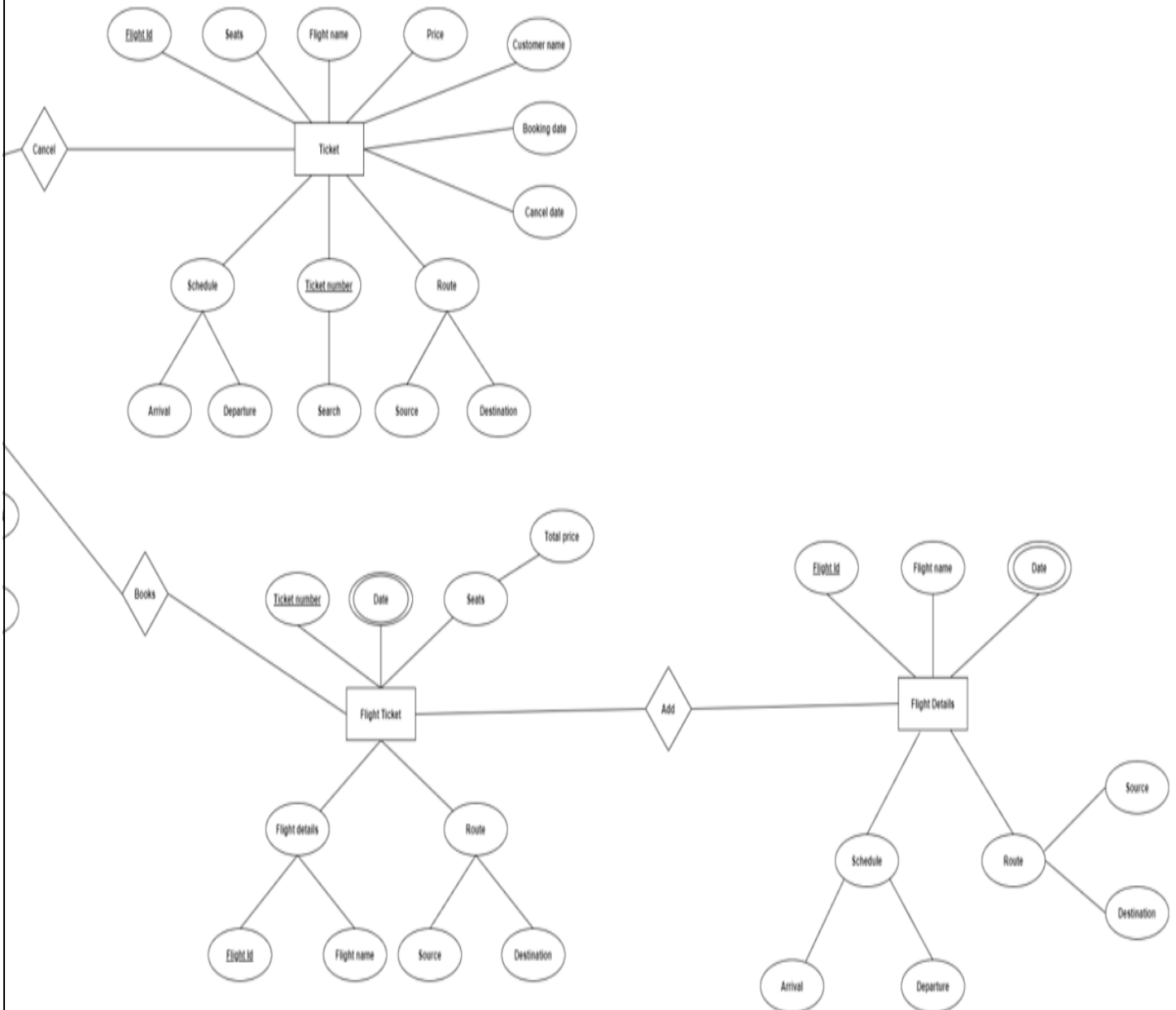
Field	Type	Size	Description
Card_Name	Text	20 Characters	It will contain the Name written on the Card
Expiry	Date	10	It will contain the date of expiry of the credit card which is to be used by the customer
CVV	Number	5	It will contain unique three digit Number to identify the Credit Card

## 4 - ER Diagram

-( Part A )-



## -( Part B )-



## **5 - TECHNICAL SPECIFICATION:**

### **HARDWARE REQUIRED:-**

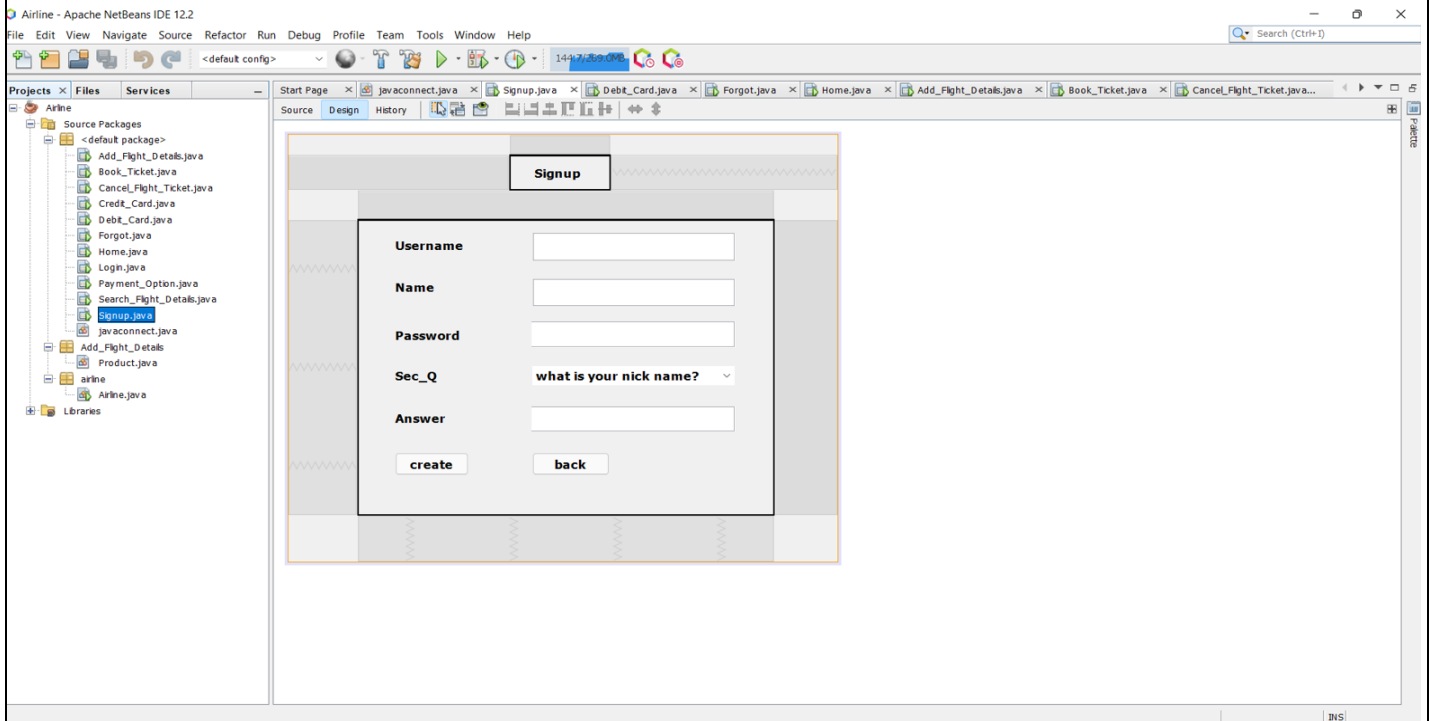
- CPU processor :-i5, 8th Generation
- RAM – Preferred 128 MB and above (Used 256 MB)
- Hard Disk – Preferred 40 GB and above (Used 1 TB)
- Output device:- Monitor, Printer.

### **SOFTWARE REQUIREMENTS :-**

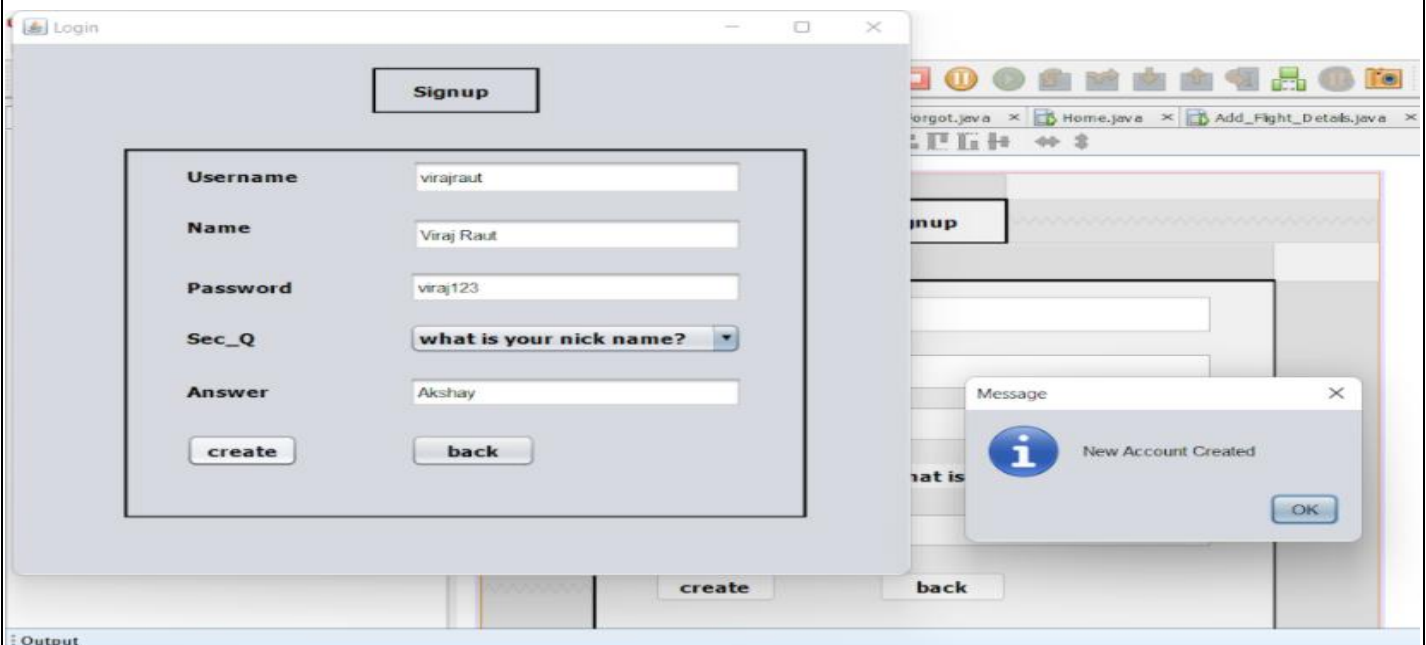
- Operating system:-Preferred Windows XP and above (Used Windows X64)
- Front end :- JAVA (Apache NetBeans IDE)
- Back end:- My-SQL (Structured Query Language to handle Database).
- JDBC Driver - My-Sql-connector-Java-8.0.23

## 6- Output Screen

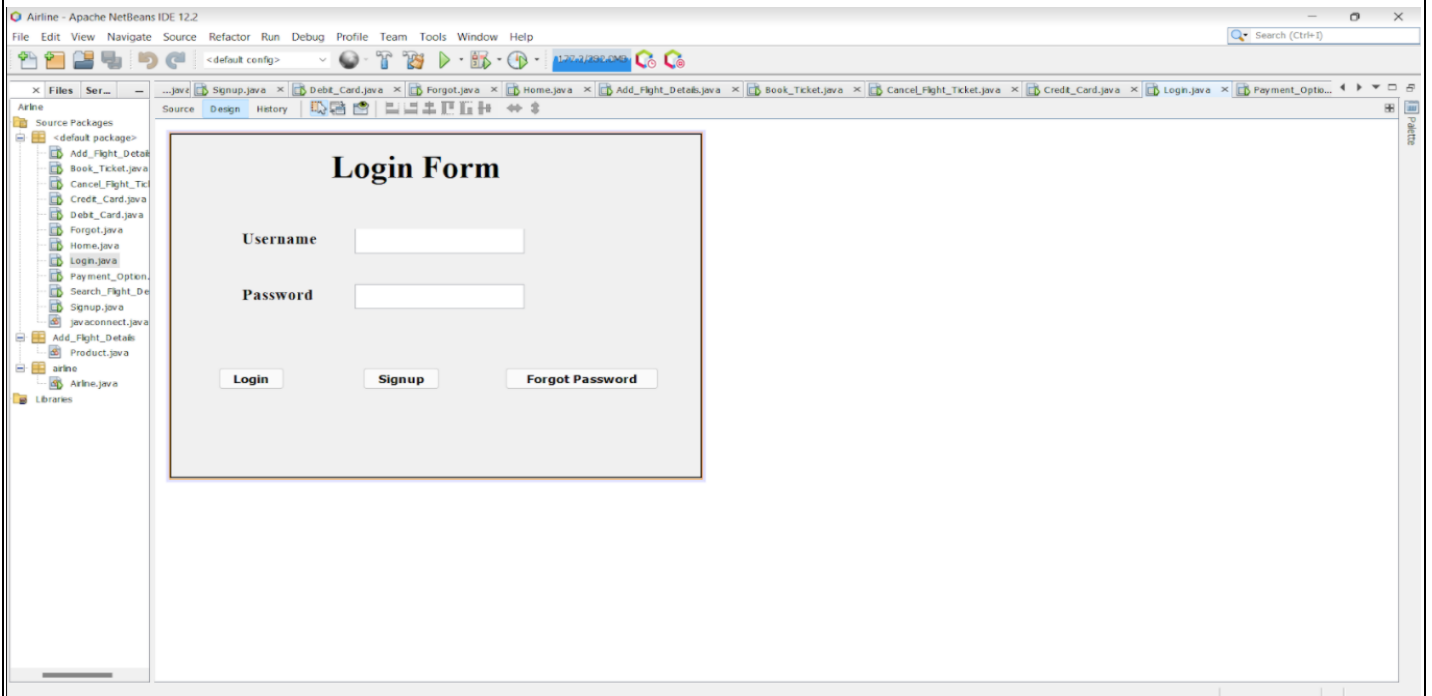
### Creating New Account :



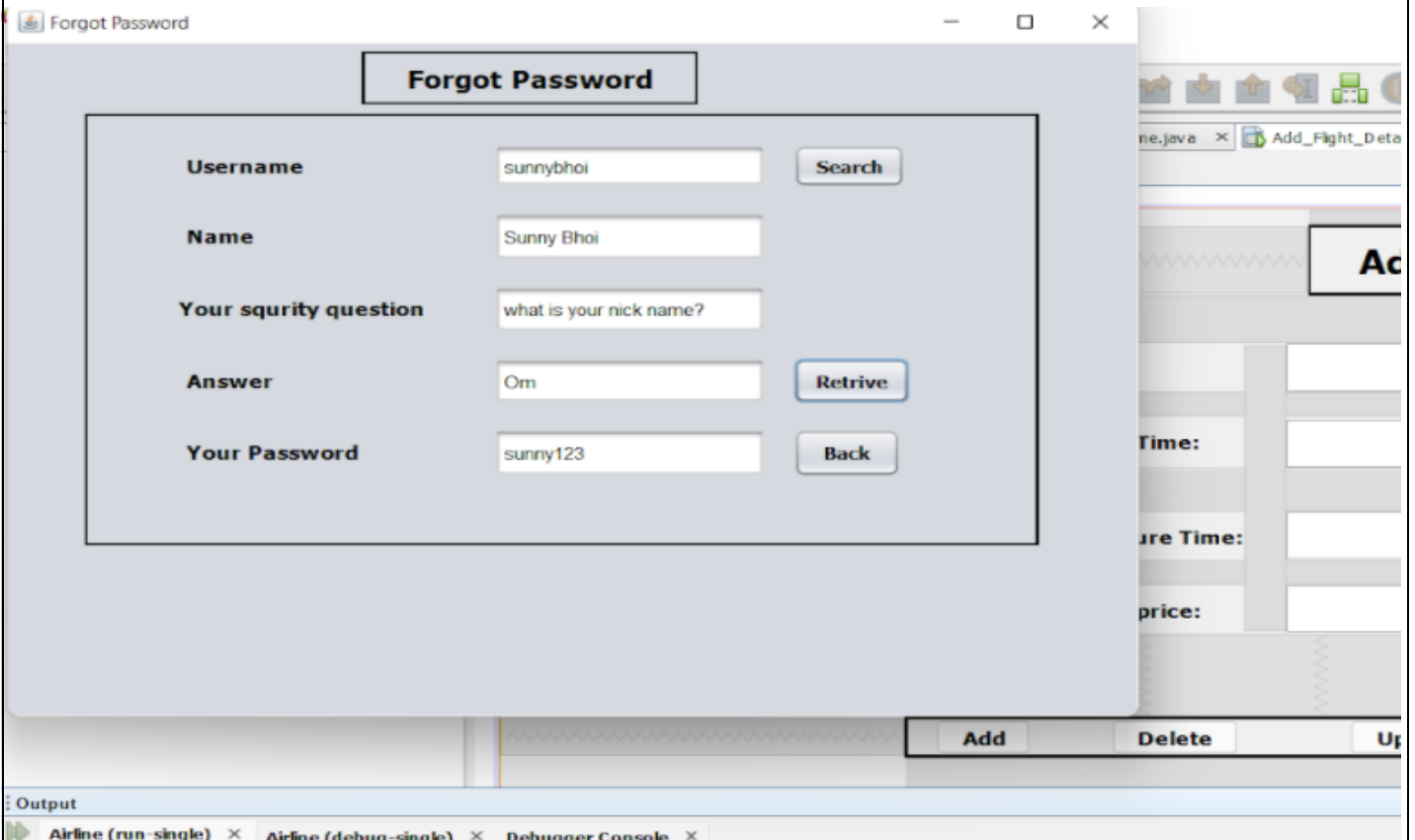
### New Registration (Sign-Up):



## Login Page :

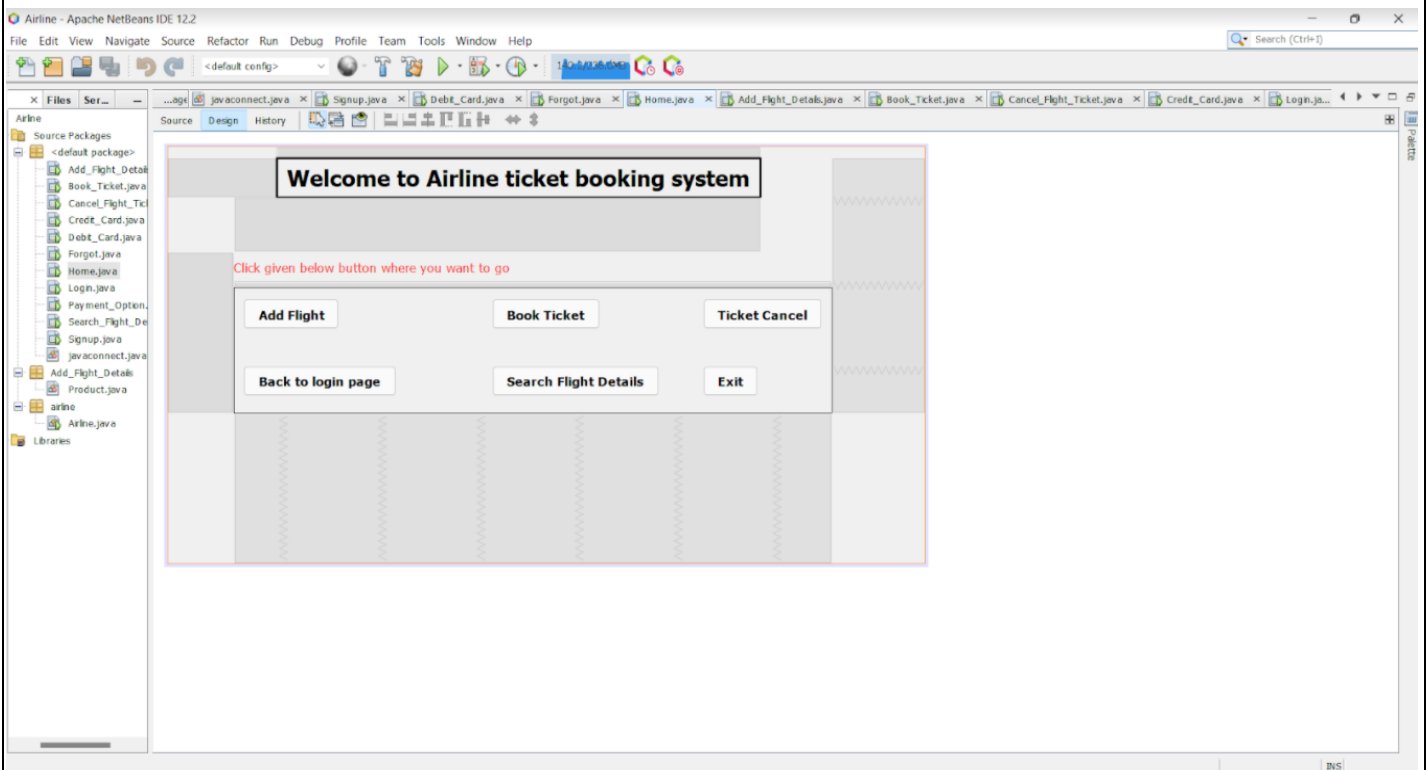


## Forgot Password ( If Needed ) :

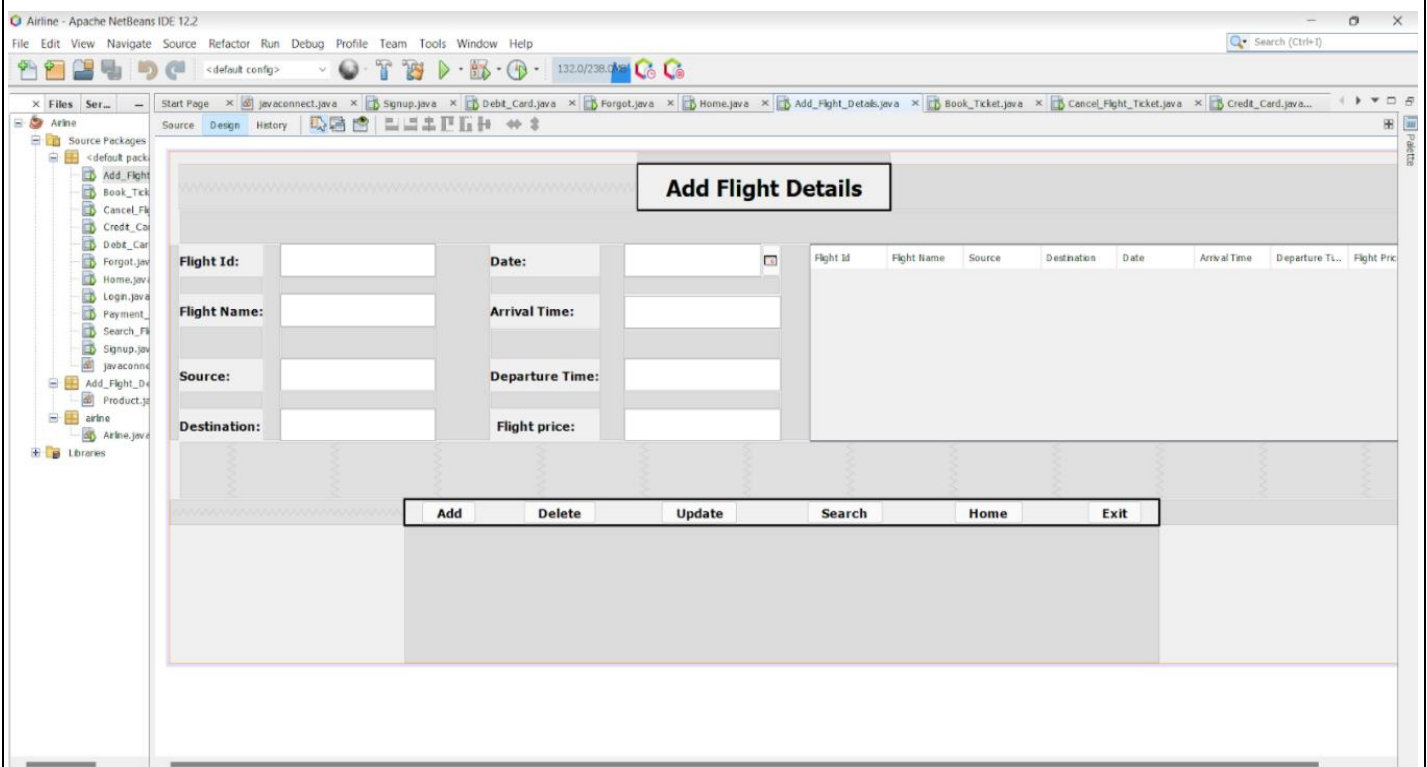




## Entering To Home-Page After Login :



## Adding A New Flight :



## Verification that the Flight is Added :

The 'Add Flight Details' window contains the following fields and controls:

- Flight Id:** 177
- Date:** 23-Dec-2021
- Flight Name:** IndiGo
- Arrival Time:** 2:30
- Source:** Australia
- Departure Time:** 13:17
- Destination:** Brazil
- Flight price:** 25000

A table displays existing flight data:

Flight_Id	Flight_Name	Source	Destination	Date	Arrival_Time	Departure_T	Flight_Price
71	KLM	Mumbai	Amsterdam	2021-11-24	11:30	14:15	30000
177	IndiGo	Australia	Brazil	2021-12-23	2:30	13:17	25000
346	Air India	Mumbai	Dubai	2021-11-19	12:15	21:45	10000

Buttons: Add, Delete, Update, Home, Exit.

A 'Message' dialog box is displayed with the text: 'registered'.

## Booking Ticket for a Flight :

The 'Search Flight Details' window contains the following fields and controls:

- Source:** Dubai
- Destination:** Delhi
- Date:** 24-Dec-2021
- Search** button

A table displays search results:

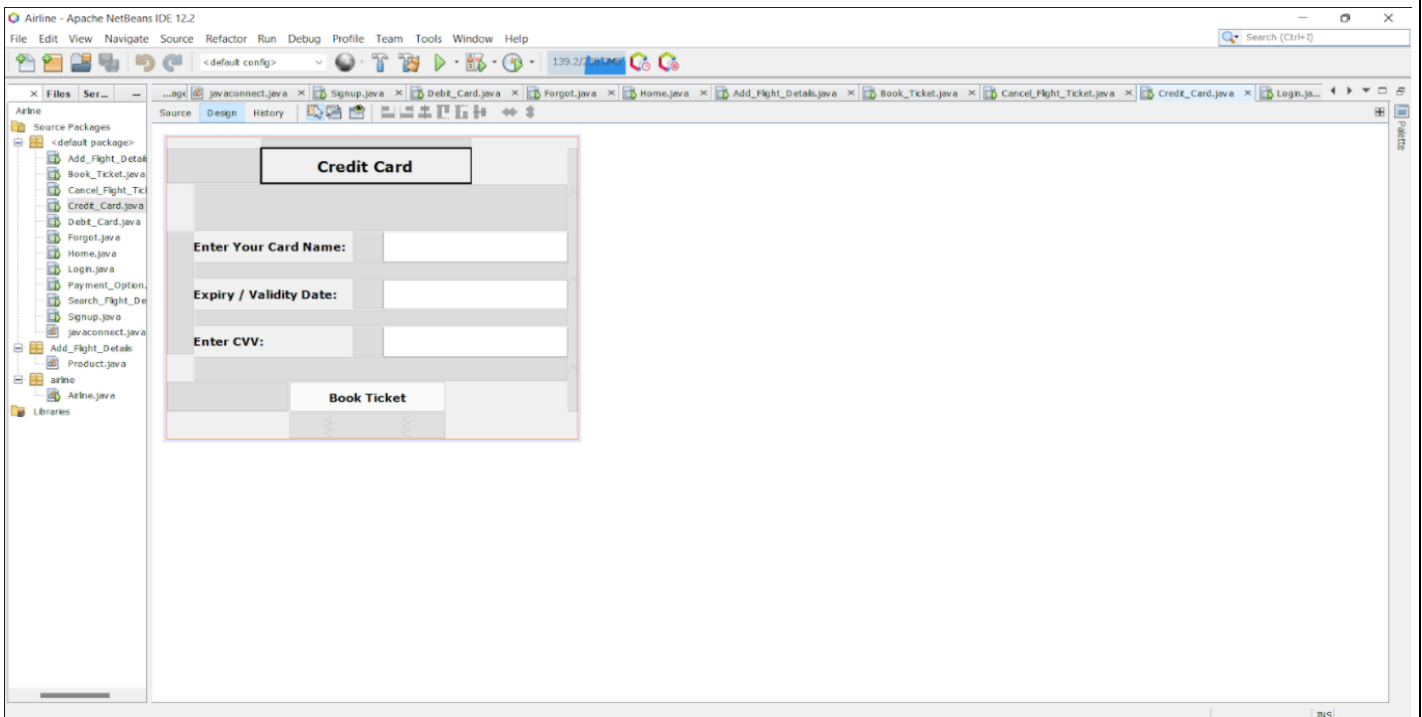
Flight_Id	Flight_Name	Source	Destination	Date	Arrival_Time	Departure_Time	Flight_Price
226	Air Arabia	Dubai	Delhi	2021-12-24	5:30	8:23	10000

Buttons: Home, Exit, Book Ticket.

The 'Ticket Booking Form' window contains the following fields and controls:

- Ticket No:** 66
- Flight Id:** 226
- Flight Name:** Air Arabia
- Source:** Dubai
- Destination:** Delhi
- Date:** 24-Dec-2021
- Arrival Time:** 5:30
- Departure Time:** 8:23
- Price:** 10000
- Total Price:** 30000
- Seats:** 3
- Customer Name:** Prathamesh More

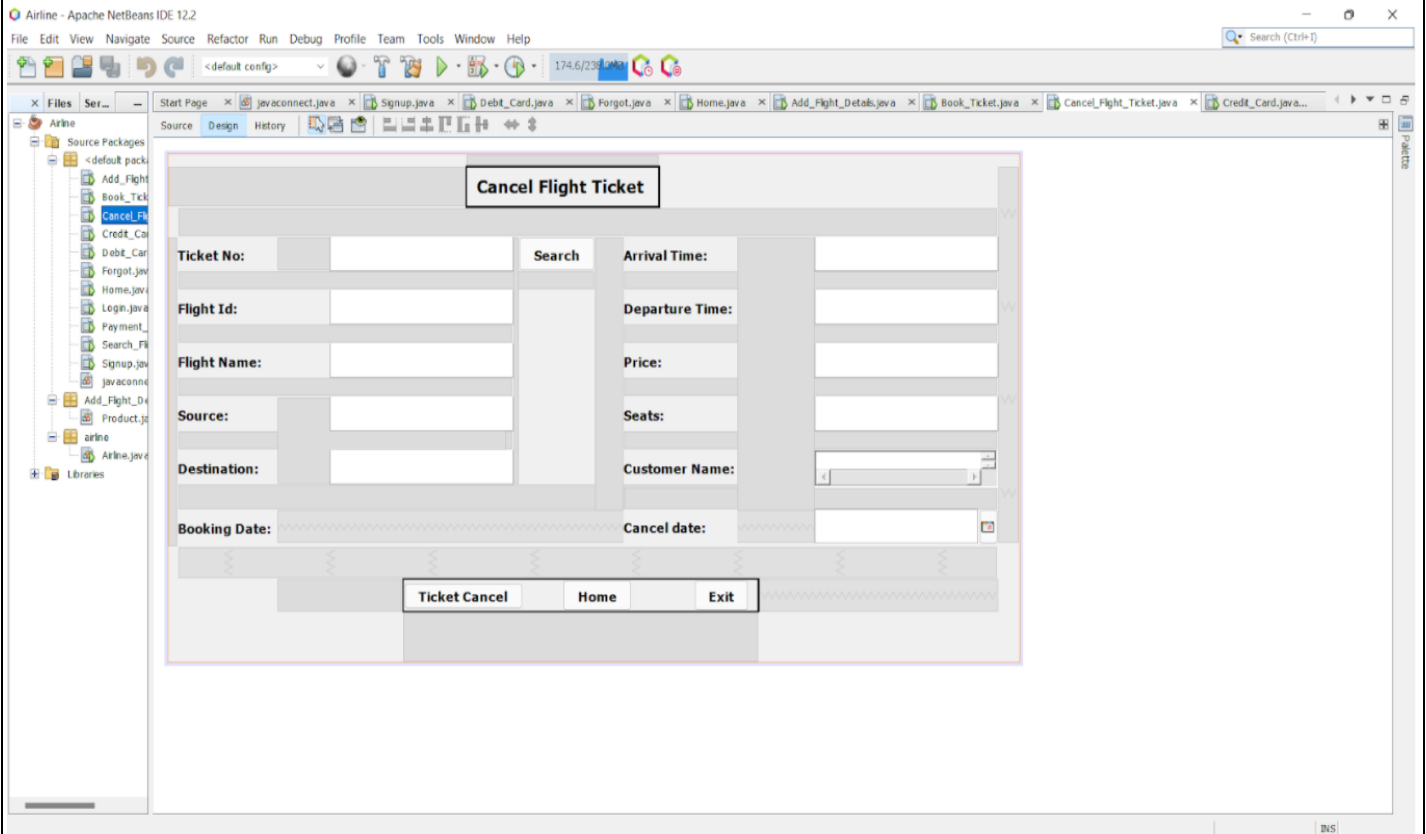
## Making Payment Using Credit Card :



## Making Payment Using Debit Card :



## Cancelling a Booked Ticket :



## Ticket Cancelling Window :



## Database Used –

```
mysql> select*from book_ticket;
```

Ticket_No	Flight_Id	Flight_Name	Source	Destination	Date	Arrival_Time	Departure_Time	Total_Price	Seats	C_Name
66	226	Air Arabia	Dubai	Delhi	2021-12-24	5:30	8:23	30000	3	Prathamesh More
712	346	Air India	Mumbai	Dubai	2021-11-19	12:15	21:45	10000	1	Omkar Lokhande
50	177	IndiGo	Australia	Brazil	2021-12-23	2:30	13:17	50000	2	Mridul Upadhy

3 rows in set (0.00 sec)

```
mysql> select*from flight;
```

Flight_Id	Flight_Name	Source	Destination	Date	Arrival_Time	Departure_Time	Flight_Price
71	KLM	Mumbai	Amsterdam	2021-11-24	11:30	14:15	30000
134	Qatar Airways	Goa	Chennai	2021-12-25	3:12	9:23	8000
177	IndiGo	Australia	Brazil	2021-12-23	2:30	13:17	25000
226	Air Arabia	Dubai	Delhi	2021-12-24	5:30	8:23	10000
346	Air India	Mumbai	Dubai	2021-11-19	12:15	21:45	10000

5 rows in set (0.00 sec)

```
mysql> select*from cancel_ticket;
```

Ticket_No	Flight_Id	Flight_Name	Source	Destination	Booking_Date	Arrival_Time	Departure_Time	Price	Seats	C_Name	Return_Date
712	346	Air India	Mumbai	Dubai	2021-11-19	12:15	21:45	10000	1	Omkar Lokhande	2021-12-23

1 row in set (0.00 sec)

## 7 - USER MANUAL

The Application Software “**AIRLINE RESERVATION SYSTEM**” is developed in Java as a Front-End and My-Sql as Back-End.

This chapter introduces you to interact the user with Our Mini-Project. User’s Understanding and Satisfaction is the most important issue in the Airline Reservation System Mini-Project.

The Main Menu contains the tabs: -

- Creating a New Account Page
- Login Page
- Adding a New Flight
- Booking Ticket for a Flight
- Payment Option Page for Confirmation of Ticket
- Cancelling the Previously Booked Ticket

### 1) **Creating a New Account Page : -**

This is the form through which the Authorities can add a new account to get login into the system. This option is provided in order if the handling in-charge is changed.

### 2) **Login Page -**

This is the form through which the user can enter into the System if the user provides correct credentials. After Successfully getting login, the user would see the home page of the system with multiple options available for the customer.

**3) Adding a New Flight : -**

This is the form through which the user can add a new flight to a day. Its like scheduling a flight to a particular day. All this Changes will be accessible to Higher Officials only.

**4) Booking Ticket for a Flight : -**

This is the form through which the user can Book a ticket for the customer as per the availability of the flight in the current duration. Also, as per customer schedules and flight availability, the ticket will be booked.

**5) Payment Option Page : -**

This form will involve the confirmation of the Ticket for a customer. In this, the user would be asked for Card details (Credit/Debit) of the Customer, and after successful transaction, the ticket for a customer will be booked.

**6) Cancelling the Previously Booked Ticket: -**

Using this Menu, the user will be provided with the option for cancelling the previously booked ticket. It would ask for information of the customer used while booking a ticket, and match for the entries in the customer dataset; if matched, it will delete the entry.

## 8 - Conclusion

We designed this Mini-Project to the Best of our Ability.

After the development of “ **AIRLINE RESERVATION SYSTEM** ”

Working of the System showed that it dealt with

Following aspects:

1. Creating a New Users Account for Login into the System.
2. Login Page Section, i.e., System would ask for Login Credentials, if the credentials match with the dataset, user would be redirected to the Home-Page of the System.
3. Adding a New Flight or in Simple Words, Scheduling a flight to Corresponding Date.
4. Booking the Ticket of the Flight while checking the availability of the flight.
5. Providing Payment Option to confirm the Ticket for a Customer of a particular Flight.
6. Cancelling the Previously Booked Ticket by a Customer, as per his requirement.



## 9 - BIBLIOGRAPHY

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