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## **CS207 – Applied Databases Practicum**

# **AIRCRUX**

**Group No. – 13**

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# INDEX

	<b>Page no.</b>
1. Acknowledgement .....	3
2. Abstract .....	4
3. Introduction .....	5
4. Methodology .....	6 - 8
5. Results / Output .....	9 - 14
6. Conclusion / Summary .....	15

# **ACKNOWLEDGEMENT**

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# **ABSTRACT**

We have made a flight ticket booking webpage which is a single page application where a user can register and login with the required information. After login, the user can enter the information such as source airport, destination airport, date, time etc. and check the availability of the seats in the displayed airlines.

The web technologies such as HTML, CSS and JavaScript has been used to make the frontend structure of the webpage. CSS is used for the designing of the webpage. And we have used PHP and SQL in the backend of the webpage for connection with databases and it makes the webpage interactive. PHP is used to collect information from the details filled in the form and response accordingly. PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, and session tracking. The system is fully working, and we have created databases using SQL in which user input information can be stored easily and can be accessed further. We can also fetch all the booking details from the webpage.

Anyone can login into our webpage using a unique username and password. For the first time, they will have to sign up and then after that, they can login easily using the previous credentials. After successfully filling the booking details and payment, booking of the tickets are completed.

# INTRODUCTION

The flight ticket search engine makes it very simple for the user to find and book flights in a very pleasant and comfortable manner. The users can sign up on the website using username and password to the system anytime to search for the flights and seats available and book them accordingly. The users will only need to specify the details of the seat they want to reserve, and the right seat and price will be made available to them. After that, the user can decide whether they want to book the ticket available or not. If they want to book the ticket, they can simply press the submit button to book the selected seats after confirming the filled details.

The ticket search engine includes a sign up and login page that guarantees the user signs up with a unique username and that particular username and password are preserved in the database. So, in order to check the flights, when the user logs into the platform, the login page ensures that the user may enter only if the username and password are right. The signup page checks that the password entered by the user is strong enough. It also checks the validity of the username and password. If the password is not correct with respect to the related username, it throws an error that the filled password is not correct.

The main page of the website consists of different options where users can select which types of flight they want like one-way or round-trip. There is also an option to see all the flights available. The user can fill source city, destination city, date, class, number of passengers and type of route like direct flight or connecting flight. The passengers can also select whether they want to travel in business class, first class or economy class.

The details entered will be passes on to the database which searches for the flights with the required attributes. The user will be redirected to the flights page where if there is any flight available, then that will be shown. All the available flights will be shown, and users can select from the given list. After selecting the seats, the booking will be confirmed.

# METHODOLOGY

We have implemented various features on our website which have used different method. The methods are as follows:

1. First of all, on opening the homepage by going on the URL-localhost/homepage.html, we will be redirected to the home page of our website. This has been implemented using XAMPP web server for database and PHP admin.
2. Now, the user can see a sign up option at the top right corner which asks to register or sign in (Manager sign-in, Customer sign-in). The user details will be collected i.e., username, password and will insert your details in the 'passenger' database. After registering, the user will be directly logged in but when the user will not be registering for the first time then you will get an option for login when it will be asking details like username and password.
3. The filled information will be taken by the 'login.php' file which after validation from the database will make you logged in. After getting logged in we get an option at the bottom which ask for flight search One-Way, Round trip or search all along with the option of Non-stop or 1 Stop these all are implement in 'jump.js' file. Select according to your choice after that, choose the arrival and destination airport along with departure date and class(Economy or Business), then submit the data by clicking the submit button at the bottom.
4. After submitting, all the data will be taken by the JS file, the user will get all the flights available along the same route and date. This is done by PHP files depending on the path you have chosen (i.e. 'Search Result All .php', 'Search Result Roundtrip. php', 'Search ResultOne way.php'). Each row will be containing a flight detail with its flight\_id, Aircraft , Departure , Arrival along with the arrival time and departure time. Also, it will show you the price for the class you have chosen, and it will also be going to show the number of remaining seats in that flight.
5. Now, in front of each flight option the user will get an option of Add to cart which in implemented in 'shoppingcart.php' , on clicking that button, that flight details will go to your shopping cart list and the page will take you to your shopping cart list that is been implemented in 'cartshow.php'. Also, it will show users the option of pay in form of a button that is pay button which will be just below the total fare of the flight tickets. After clicking the pay button, it will show users that the

payment is done along with a smile emoji and now this flight is booked for your username. It has been implemented using the “pay.php” file.

6. Now that the flight is booked, the user can go to the history while being signed in and the user can check the list of all the flights that he/she have booked and because you have booked the flight the number of seats remaining in the that flights will get reduced by 1
7. **Adding New Flight Details** : First, it is being made sure that the user is logged in as admin mode since only admin is allowed to add the new flight details. This is made sure by checking the username and password. Add a new flight, admin is asked to input various details like Flight No., Airplane ID, Departure Airport, Departure Time, Arrival Time, Economic Capacity, Economic Price, Business Capacity, Business Price. When the admin filled these details and click on the submit button, the detail from this form is sent to the adminAdd.php file using a GET request. In adminAdd.php file, after getting the variable the flight details are added for both economic and business classes separately. If there is some error while inserting into the database, the webpage will throw an error regarding this.
8. **Updating New Flight Details** : In this case also, only the admin has this power. In this case, the detail to fill is the flight number. If the flight number matches in the database, then the details of that flight will be fetched and displayed to the admin. Now the admin has the option to modify any value and click on “Update” button to update the details of the flight. These updated details are then sent to AdminUpdate.php file where the tables for flight, Economy flight and business flight are update using SQL command and this process is completed. If there comes any error in the system, the user is presented with corresponding error message.
9. **Delete Flight** : In this option, the admin is asked for the flight number to be deleted. Then he/she will be shown the details of that particular flight after fetching the details from the database using “AdminSearch.php”. After the admin confirms and then finally clicks on the “Delete” button, this data is send to AdminDelete.php file where the row for this flight is deleted using the corresponding SQL command.
10. **Booking Ticket** : We have allowed user to search for two way ticket like “One way ticket” and “Round way ticket”. Suppose user wants to book ticket for “One way ticket” then he will be asked for details of the flight like Departure Airport, Arrival Airport, Date, Class of ticket, No of Passengers and then on clicking submit, user will get the list of all the available flights in a table along with their details which is fetched by the file “SearchResultOneWay.php” after which user can add that ticket

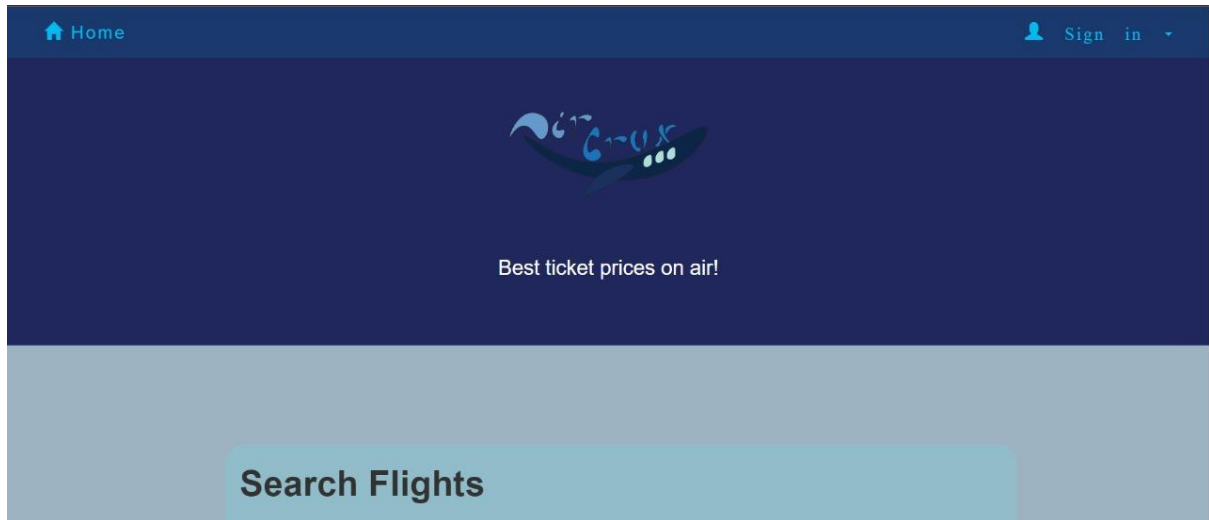
to cart, from where he can pay to finally book the ticket. Clicking on “Add to Cart” will trigger “ShoppingCart.php” which add data to the database and then he is asked whether to pay or not. If he pays then the ticket will be booked otherwise, it will be added to shopping cart. Show all the ticket in the shopping cart, user is provided with a button on the home page “Shopping Cart” which shows the data from table for which the ticket is not booked. If user wishes to book the ticket, the booked option for ticket will be updated in the database using the “pay.php” file. Finally, the user can view all his booked ticket from the “history” tab which on being clicked fetched booked ticket for that user from the database using the showhistory.php which is integrated with HTML to make the whole page for that. Same is the process for “Round way ticket”. This is all the process that happened which is done in the background to book the ticket.

**11. Some minute functionalities :**

- i. **Checking correctness of password :** A new JavaScript file is used which checks the content of password input of current state and matches it predefined condition making sure the type of password created. If the pattern does not match that tab is made red and it will become green only when all conditions are matched.
- ii. **Showing Content :** JavaScript makes sure clicking on which button should show which content.
- iii. **Making Sure correct details are filled in form :** “manda.js” which considers the details filled and indicates to user whether the data input is valid or not.
- iv. **Checking User :** The user is provided with the functionality to check whether the username is available or not which is checked using database and displayed on the front end of the website.

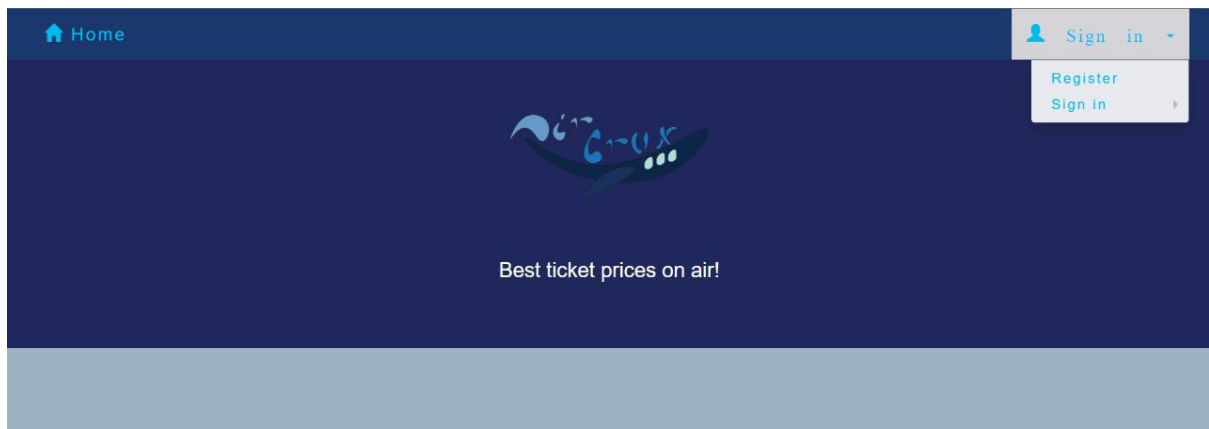


# RESULTS

This is a screenshot of the flight search form on the homepage. The form is titled 'Search Flights' and is set against a light blue background. It includes a section for 'Choose your flight option' with three buttons: 'One-way', 'Round-trip', and 'Search all flights'. Below this are six input fields arranged in two columns. The left column contains 'From:' (City or Code), 'Depart on:' (dd-mm-yyyy with a calendar icon), and 'Number of Passengers:' (1 or more). The right column contains 'Destination:' (City or Code), 'Class:' (Economy), and 'Route:' (Direct). At the bottom of the form are two buttons: 'Submit' and 'Reset'.

## Homepage

Now, in the top right corner, click on sign in and we get two option.



For the first time, we have to sign up and fill the details

Two screenshots of a 'Sign Up' form. The first screenshot shows the top part of the form with fields for Username (filled with 'Ridam'), Password (masked with dots), First Name, Middle Name, and Last Name. There is an 'Avail' button next to the Username field. The second screenshot shows the bottom part of the form with fields for Last Name, Email, Gender (radio buttons for Female and Male), Date Of Birth (with a calendar icon), and Phone. There is a 'Sign Up' button at the bottom.

Now, in the admin mode, they can update and delete any flight details.  
And they can also add new flight.

Home

Sign out

AddUpdateDelete

Flight No.

Airplane ID

Departure Airport

Departure Time

Arrival Airport

Arrival Time

Economy Capacity

Economy Price

Business Capacity

details

details

details

details

Home

Sign out

Flight No.

Airplane ID

Departure Airport

Departure Time

Arrival Airport

Arrival Time

Economy Capacity

Economy Price

Business Capacity

Business Price

details

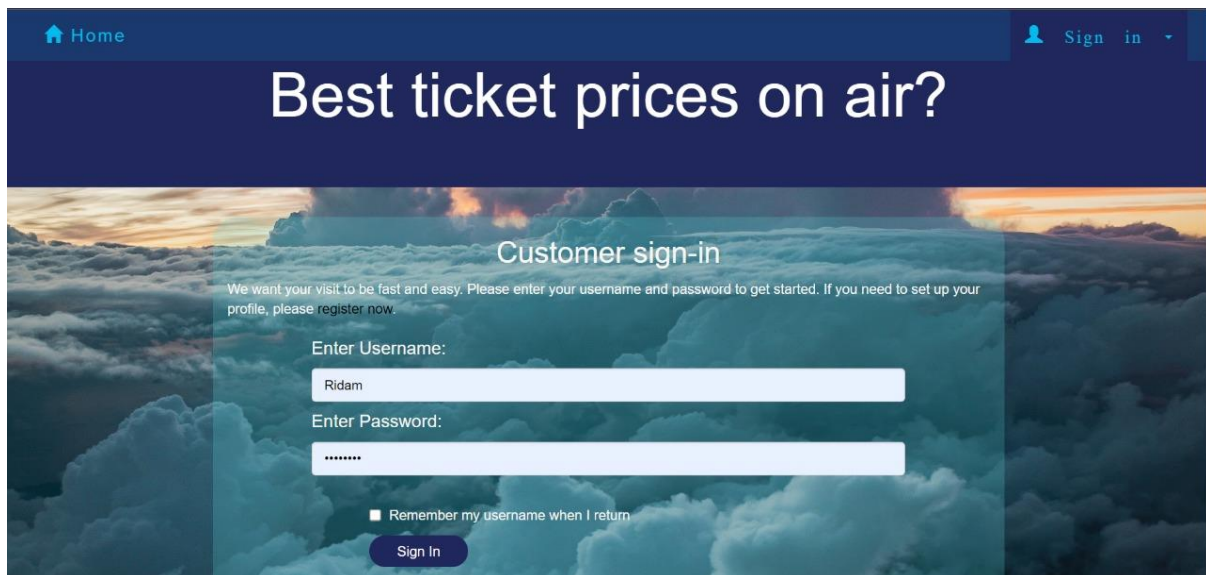
details

details

details

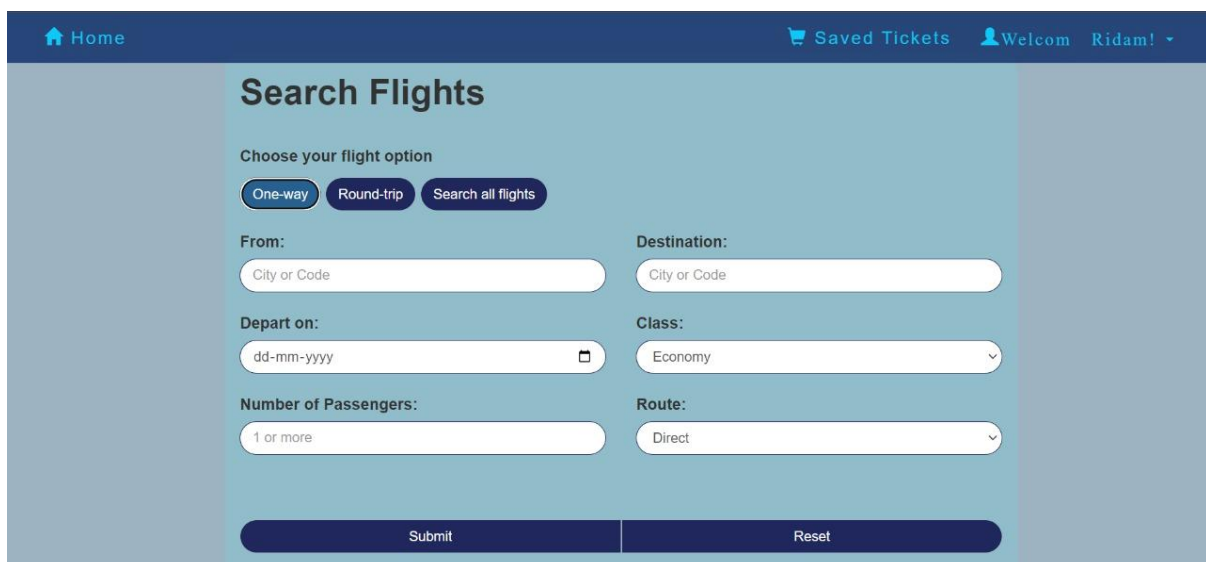
submit

After signup process, Customer can sign in using his/her credentials and login into the account.



The screenshot shows a web application interface for signing in. At the top, there is a dark blue header with a 'Home' link on the left and a 'Sign in' link on the right. Below the header, a large banner with a sunset over clouds contains the text 'Best ticket prices on air?'. In the center, a 'Customer sign-in' form is displayed. The form includes a message: 'We want your visit to be fast and easy. Please enter your username and password to get started. If you need to set up your profile, please register now.' It has two input fields: 'Enter Username:' with the value 'Ridam' and 'Enter Password:' with masked characters. Below these is a checkbox labeled 'Remember my username when I return' and a 'Sign In' button.

After login, they can search flights.



The screenshot shows the 'Search Flights' page after a user has logged in. The header now includes 'Home', 'Saved Tickets', and a welcome message 'Welcom Ridam!'. The main section is titled 'Search Flights' and contains a form to 'Choose your flight option'. The form has three tabs: 'One-way' (selected), 'Round-trip', and 'Search all flights'. The form fields are arranged in two columns: 'From:' (City or Code), 'Destination:' (City or Code), 'Depart on:' (dd-mm-yyyy with a calendar icon), 'Class:' (Economy), 'Number of Passengers:' (1 or more), and 'Route:' (Direct). At the bottom, there are 'Submit' and 'Reset' buttons.

They also have an option to search for all the flights on that particular date.

Home Saved Tickets Welcom Ridam! ▾

## Search Flights

Choose your flight option

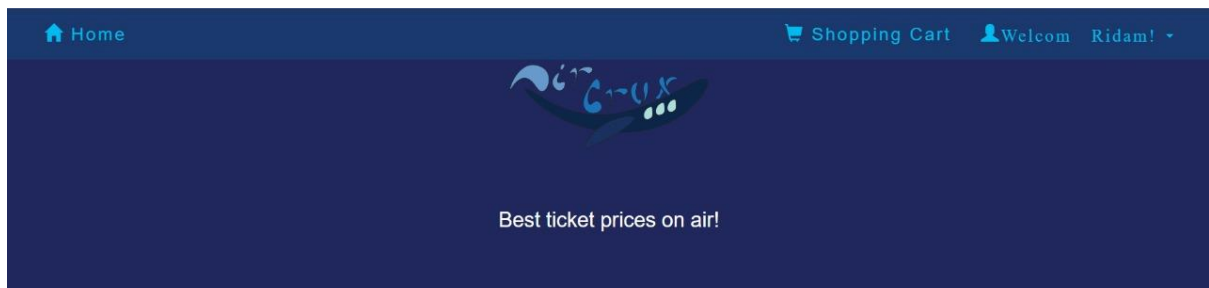
One-way Round-trip Search all flights

Select a date:

dd-mm-yyyy

Show ALL

They also have a button to see the booked flights.



## Show History

History:										
Time	Flight	Aircraft	Date	Departure	Departure Time	Arrival	Arrival Time	Class	Price	Pay
2022-11-20 12:37:44	4822	AirIndia AI320	2022-11-30	DEL	14:00:00	BOM	17:00:00	Economy	9483	YES

These are the flight available.

[Home](#)[Shopping Cart](#)[Welcom](#)[Ridam!](#)

Best ticket prices on air!

## Search Result

Search Result: 3 result(s)

Flight	Aircraft	Date	Departure	Departure Time	Arrival	Arrival Time	Class	Capacity	Price	Remain Seats	Reserve
4822	AirIndia AI320	2022-11-30	DEL	14:00:00	BOM	17:00:00	Economy	164	9483	163	<a href="#">Add to Chart</a>
8734	Vistara VT201	2022-11-30	DEL	19:00:00	BOM	21:00:00	Economy	63	9473	63	<a href="#">Add to Chart</a>
8742	AirAsia AA512	2022-11-30	DEL	09:00:00	BOM	12:00:00	Economy	73	9473	73	<a href="#">Add to Chart</a>

After selecting the flight and ticket.

[Home](#)[Shopping Cart](#)[Welcom](#)[Ridam!](#)

Best ticket prices on air!

## Shopping cart

In the shopping cart:

Time	Flight	Aircraft	Date	Departure	Departure Time	Arrival	Arrival Time	Class	Price	Pay
2022-11-20 01:13:34	4822	AirIndia AI320	2022-11-30	DEL	14:00:00	BOM	17:00:00	Economy	9483	<a href="#">Delete</a>

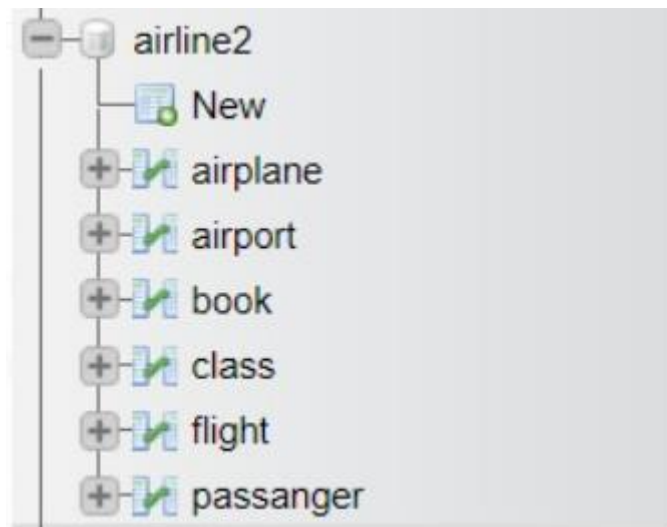
Total: **Rs. 9483**

[Pay](#)

This is the final page for payment with total amount.



## DATABASE



**Table : airplane**

					ID	type	company
<input type="checkbox"/>		Edit		Copy		Delete	1170 IG738 IndiGo
<input type="checkbox"/>		Edit		Copy		Delete	1201 AI320 AirIndia
<input type="checkbox"/>		Edit		Copy		Delete	1211 AA512 AirAsia
<input type="checkbox"/>		Edit		Copy		Delete	2611 VT201 Vistara

**Table : airport**






















<div><div><div>←</div><div>T</div><div>→</div></div></div>					code	name	city	state	country		
<input type="checkbox"/>		Edit		Copy		Delete	BLR	Kempegowda International Airport	Bengaluru	Kernataka	India
<input type="checkbox"/>		Edit		Copy		Delete	BOM	Chharapati shivaji International Airport	Mumbai	Maharastra	India
<input type="checkbox"/>		Edit		Copy		Delete	CCU	Netaji Subash chandarbose International Airport	Kolkata	West Bengal	India
<input type="checkbox"/>		Edit		Copy		Delete	DEL	Indira Gandhi Airport	New Delhi	Delhi	India
<input type="checkbox"/>		Edit		Copy		Delete	HYD	Rajiv Gandhi International Airport	Hyderabad	Telangana	India
<input type="checkbox"/>		Edit		Copy		Delete	MAA	Chennai International Airport	Chennai	Tamil Nadu	India
<input type="checkbox"/>		Edit		Copy		Delete	PNQ	Pune International Airport	Pune	Maharastra	India

Table : book
































































<div><div><div></div><div></div><div></div></div></div>				ID	time	date	flightno	username	classtype	paid
<div><div><div></div></div></div>	<div><div><div></div></div></div> Edit	<div><div><div></div></div></div> Copy	<div><div><div></div></div></div> Delete	69	2022-11-20 12:37:44	2022-11-30	4822	Ridam	Economy	1
<div><div><div></div></div></div>	<div><div><div></div></div></div> Edit	<div><div><div></div></div></div> Copy	<div><div><div></div></div></div> Delete	71	2022-11-20 01:13:34	2022-11-30	4822	Ridam	Economy	1
<div><div><div></div></div></div>	<div><div><div></div></div></div> Edit	<div><div><div></div></div></div> Copy	<div><div><div></div></div></div> Delete	72	2022-11-20 01:21:28	2022-11-30	4822	Ridam	Economy	1

Table : class

<div><div><div></div><div></div><div></div></div></div>				number	name	capacity	price
<input type="checkbox"/>	 Edit	 Copy	 Delete	1234	Business	20	15050
<input type="checkbox"/>	 Edit	 Copy	 Delete	1234	Economy	140	7990
<input type="checkbox"/>	 Edit	 Copy	 Delete	1254	Business	20	18040
<input type="checkbox"/>	 Edit	 Copy	 Delete	1254	Economy	134	8690
<input type="checkbox"/>	 Edit	 Copy	 Delete	1273	Business	0	0
<input type="checkbox"/>	 Edit	 Copy	 Delete	1273	Economy	130	6000
<input type="checkbox"/>	 Edit	 Copy	 Delete	1345	Business	0	0
<input type="checkbox"/>	 Edit	 Copy	 Delete	1345	Economy	34	9348
<input type="checkbox"/>	 Edit	 Copy	 Delete	1381	Business	42	9287
<input type="checkbox"/>	 Edit	 Copy	 Delete	1381	Economy	153	7503
<input type="checkbox"/>	 Edit	 Copy	 Delete	1394	Business	0	0
<input type="checkbox"/>	 Edit	 Copy	 Delete	1394	Economy	120	9374
<input type="checkbox"/>	 Edit	 Copy	 Delete	1435	Business	30	17000
<input type="checkbox"/>	 Edit	 Copy	 Delete	1435	Economy	145	8990
<input type="checkbox"/>	 Edit	 Copy	 Delete	1437	Business	0	0
<input type="checkbox"/>	 Edit	 Copy	 Delete	1437	Economy	64	4387
<input type="checkbox"/>	 Edit	 Copy	 Delete	1463	Business	20	19283
<input type="checkbox"/>	 Edit	 Copy	 Delete	1463	Economy	120	8593
<input type="checkbox"/>	 Edit	 Copy	 Delete	1563	Business	20	17500
<input type="checkbox"/>	 Edit	 Copy	 Delete	1563	Economy	125	5860



Table : flight

<input type="checkbox"/>	 Edit	 Copy	 Delete	1234	1170	BLR	13:00:00	BOM	14:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1254	1211	BLR	09:00:00	BOM	11:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1273	1170	BLR	15:00:00	CCU	18:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1345	1170	CCU	19:00:00	PNQ	22:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1381	2611	BOM	19:00:00	MAA	21:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1394	1201	BOM	08:00:00	CCU	12:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1435	1201	BLR	07:00:00	BOM	09:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1437	2611	DEL	17:00:00	HYD	20:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1463	2611	BLR	18:00:00	CCU	21:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1563	2611	BLR	06:00:00	BOM	08:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1630	1211	BLR	09:00:00	CCU	12:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1633	1201	BLR	05:00:00	HYD	06:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1637	1201	BLR	08:00:00	CCU	11:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1738	1170	BLR	09:00:00	HYD	10:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1746	1201	BLR	17:00:00	DEL	20:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1836	1170	BLR	07:00:00	DEL	10:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1838	1211	BLR	04:00:00	DEL	08:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1932	2611	BOM	17:00:00	DEL	20:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1938	2611	BLR	09:00:00	MAA	11:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	1947	2611	BLR	05:00:00	DEL	08:00:00
<input type="checkbox"/>	 Edit	 Copy	 Delete	2363	1201	DEL	17:00:00	MAA	20:00:00

Navigation

**Table : passenger**

	username	firstname	middlename	lastname	email	cellphone	gender	birthday	password
<input type="checkbox"/> Edit Copy Delete	Ridam	Ridam		Nama	ridam.nama@gmail.com	1234567890	Male	0000-00-00	Ridam123
↑ <input type="checkbox"/> Check all	With selected: Edit Copy Delete Export								

## CONCLUSION

We have successfully implemented our methods using various technologies and learnt a lot in the process of this project. The UI appears very attractive. The database is well connected, and it is working properly.