

Documentation of flow of the project Aerospace flight booking:

Document and project specification-

Project name- AeroSpace

Developer name- Rahul Rana

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Github repository link- <https://github.com/Rahulpersie66/Project-2-SimpliLearn-Aeroplane-Flight-Booking.git>

IDE- Eclipse IDE used for creation of this dynamic web project alongside with Maven tool to convert that into maven project

Tool – Maven used for download dependency

Plug-in – Maven compiler plugin and maven war (webapp archive) plugin

Dependency – MySQL connector 8, Hibernate, Javax servlet jsp-api, Javax servlet-api

Programming language- JAVA is used

Error page name- error.jsp created using jsp page

Database name- exercise

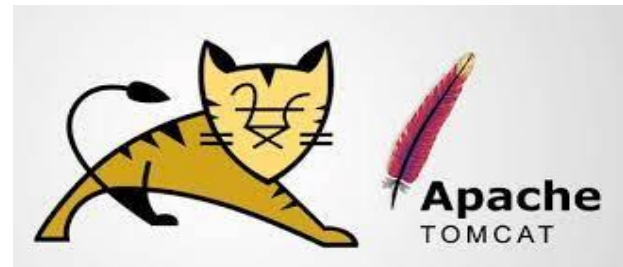
Table names- user_registered, travel_details_aerospace, seat_booked_flight

Searching/Updating/Inserting – used Hibernate query language to add, update and search data in database

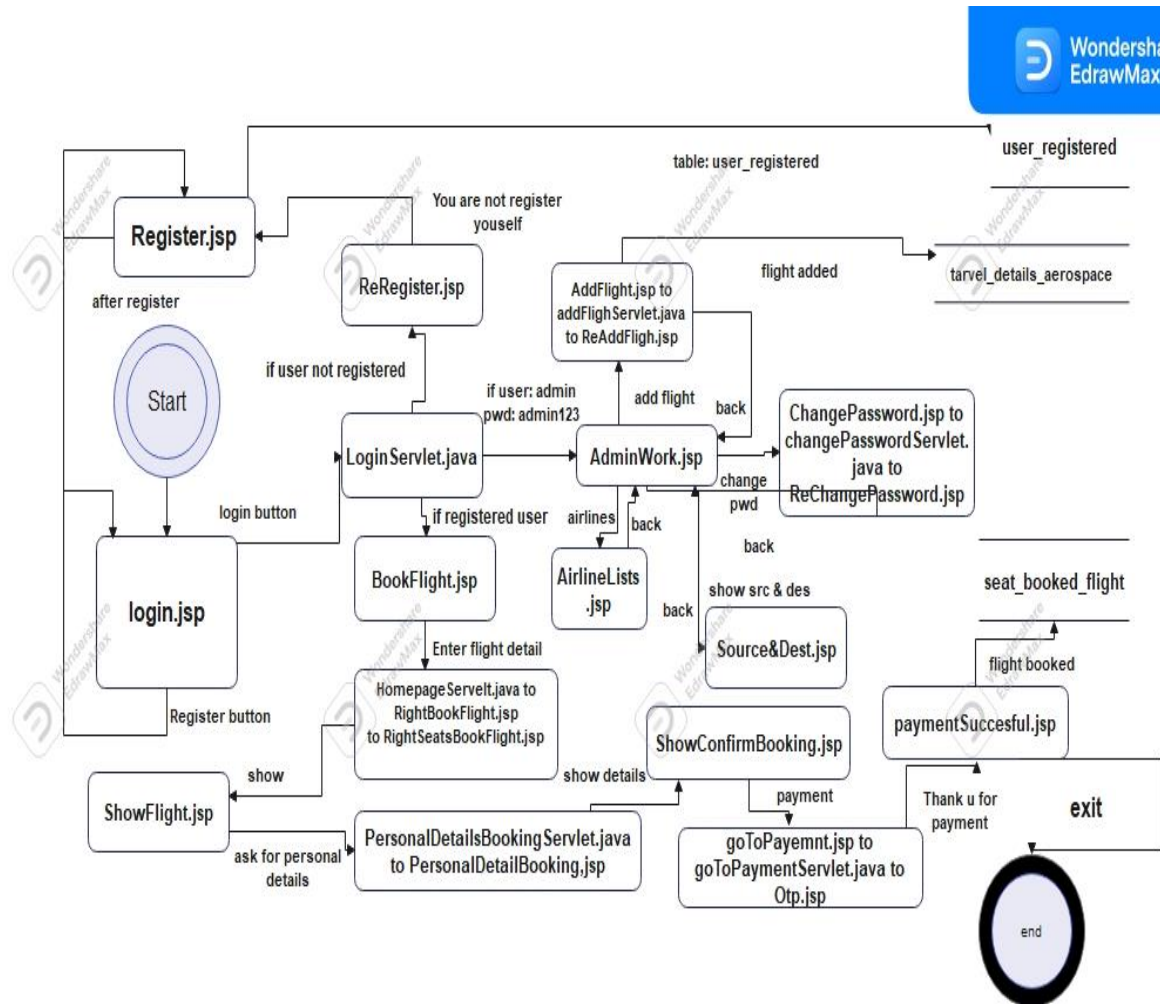
Session used- Http Session

Server- tomcat 8(minimum)

For dependency file- pom.xml for downloading the dependency



Data flow diagram according to algorithm-



Algorithm -

Step -1 Develop a login page form and develop logic behind in a servlet and store the data for registered user in the table.

Step -2 To store the registered user use **RegisterUser.java** class constructor alongside HQL used in **AeroplaneDaoImpl.java** class and store them in table **user_registered**.

Step -2 Construct a admin function page to display admin various function and provide 4 different form for each process.

Step -3 For add flight option provide a form to add flight as input such as date of travel, source, destination, airlines, ticket price nad number of seats.

Step -4 Upload all the add flight data by admin into database table **Travel_details_aerospace** using Hibernate query language for **TravelData.java** class using **AeroplaneDaoImpl.java** class.

Step -5 For change password use another jsp representing enter username and change password and change button. Here data from database is fetched of username and password which is displayed on the screen add admin can change the password depending on him using change button which use the HQL update command behind the scene.

Step -6 Display the all airlines in third option and display all the sources and destination in the fourth option by fetching the data from database table **Tarvel_details_aerospace** using HQL command (From TravelData and then save the data into set type and display them using for each loop).

Step -7 On login of simple user it should display a page to enter flight details and the page should ask for enter date of travel, source, destination and then reflect the resulted output on the screen.

Step -8 On the basis on that output you can book the flight using book link corresponding to each resulted output.

Step -9 After clicking on the link for book flight, web site will ask for enter the personal details and then on very next page will reflect the details of flight.

Step -10 After showing the details it should ask for payment method debit/credit card and then ask for otp.

Step -11 After successfully enter the otp, the servlet behind should save the data of seat booked user into table **seat_booked_flight** alongside with the personal details and total ticket price and airline details.

Step -12 At last it should display a message thank for using aerospace and have a safe journey!!

Step by Step process from sprint planning to product release-

Sprint 1-

Sprint Planning –In this Sprint, I planned to develop a web page for login and storing the registered user to database table **User_Registered** and check if username taken for user or not and both password entered match, so user can be added to **User_registered**.

Objective of sprint 1-

- to construct a table in MySql using Annotation way and hibernate Util class
- construct web page using .jsp file type for login and enter details for registration
- construct servlet for back processing if user name is taken and both password entered match and also add them to Database table
- create **AeroplaneDaoImpl** which include various function to add data in class constructor of **RegisterUser.java**

Process & development work-

First construct the **login.jsp** which include form to enter username and password and then this username and password are requested by servlet named **LoginServlet.java** which check if username with this exist in database.

- if username –**admin** and password-**admin123** then it will flow control to **AdminWork.jsp**
- In **AdminWork.jsp** various function of admin are mentioned.
- if username exist in database then it check if password entered correctly, if YES then go to page where booking of flight can we done
- if username exist but password entered is wrong then control goes to **PasswordMismatch.jsp** where it will reflect message the password entered is wrong
- if NO such username exist in DB it will say register the user and you can go to register page by clicking Register button in login.jsp
- In **Register.jsp** the page will ask to enter the basic details in the form to register user and if user entered the taken username it will reflect message to take another username and if user register successfully then it will send data via **LoginServlet.java** to **RegisterUser.java** Class constructor and using that class **AeroplaneDaoImpl.java** will add the details in Database – **exercise** and in table- **User_registered** using Hibernate query language.

Sprint retrospective-

That the admin various function are still need to implement and what logic to build for them inside **AdminWork.jsp** and what method to add for their building logic in **AeroplaneDaoImpl.java** class. And also how to take input for **BookFlight.jsp** and how to show the results of respective flight on the web page.

Sprint 2-

Sprint planning- In this phase of sprint 2, I decided to build all function for admin function such as –add flight, change password for user and show flights, sources and destination. And also take input from user for flight booking like – Date of travel, source, destination, number of seats and check for them in the database.

Sprint Objective-

- to add **AddFlight.jsp** for action of form on add flight button
- for change password **ChangePassword.jsp** alongside with **ChangePasswordServlet.java** to change password of the user and shows the name of user registered along with password
- for display all flights, construct the **Airlineslist.jsp** which show all the flight that are used by Aerospace
- for display all sources and destination construct the **Source&Dest.jsp** which will fetch all the sources and destination from **TravelData.java** class used to store all the flight added by the admin in table **travel_details_aerospace**.
- to construct a web page named as **BookFlight.jsp** for search the flight which met the required criteria (i.e this web page will contain information date of travel, source, destination, seats required as input) and then display the flight which met the criteria on web page named as **ShowFlight.jsp** and then basis of the output on **ShowFlight.jsp** you can book a flight.

Sprint Retrospective-

In this sprint 2, the project on this stage missing the requirement suppose if user entered the flight is not available in the database table for flight **travel_details_aerospace** then it should reflect that on the web page. So for this another web page using jsp is formed named as **RightDetailBookFlight.jsp** which represent the that flight is not available for this source or

destination. And also have to construct the page if required seats are greater than seats left in the flight, so for this construct a **BookFlightSeatsCorrect.jsp**.

The dummy method for payment of flight is pending.

Process and development work-

In **AddFlight.jsp** admin entered the necessary details for flight to add in the database such as date of travel, source, destination, number of seats in flight, cost per seat/person. Then it is passed to constructor of class **TravelData.java** to store all the add flight and its corresponding table in MySQL **travel_details_aerospace** using Annotation way. For this to happen construct function using HQL in **AerplaneDaoImpl.java** class for addition of data into **travel_details_aerospace**.

To change password of user first fetch the username and password from the class **RegisterUser.java** class corresponding table **User_registered** in MySQL and paste it on **ChangePassword.jsp** and update the password of the username entered to the password entered by admin using **changePasswordServlet.java** which using HQL update query to update the row of the table **User_registered**.

Construct a **Airlineslist.jsp** and fetch all the airlines name from the **travel_details_aerospace** table and display the airline names on **Airlineslist.jsp**.

Do the similar things for source and destination and fetch them from **travel_details_aerospace** table and display them on the **Source&Dest.jsp**.

Sprint 3

Sprint Objective-

- during booking of ticket, on very next page named as **PersonalDetailsBooking.jsp** asked for personal detail to register the flight

- after filling of personal details display the total amount of ticket on the jsp page named as **ShowConfirmBooking.jsp**

- after that develop a dummy payment setup using jsp pages

- after successful payment display a message your ticket is conformed thank you for using the aerospace website for booking flight

Sprint Retrospective-

In this sprint 3, if any error came during display data then for that there should be **error.jsp** page that should be included and display a message server down or data could not load from database.

And develop a another class **SeatBooked.java** and its corresponding table **seat_booked_flight** in database exercise and upload the personal details alongside with ticket price and number of seats.

And during dummy payment after filling card details ask for otp to confirm the payment and reach to final page **paymentSuccessful.jsp**.

Process and development work-

In **PersonalDetailsBooking.jsp** should include text field input and ask for personal details and save them using HTTP session for later save them together alongside with number of seats and ticket price and flight booked in the table **seat_booked_flight**.

In **ShowConfirmBooking.jsp** use table and reflect the details of flight alongside with total ticket price and print them using expression (i.e `<%= %>`) in jsp page and save them in session for further use or to save the entity in database.

For dummy payment develop a web page and ask for credit/debit card details and named this page as **goToPayment.jsp** and then ask for otp after card detail filling, so for that also make page enter the otp on page named as **Otp.jsp**. After entering the otp there should be message displayed on the screen that your ticket is confirmed. Have a Safe journey!!

Conclusion-

This Web based project using maven called Aerospace used for booking flight by user and add flight , change password and display airlines ,sources and destination by admin is created an is working efficiently and can we further develop to convert into real time booking flight websites such as spicejet booking flight.

Can enhance project by-

- Making it more interactive by using CSS (cascade styling sheet) for user.
- Provide more option such as cancellation of flight.
- Providing a real payment or transaction method for ticket price deduction.
- Enlarge the database for add flight.
- can include other option such as extra luggage carry charges.

Unique selling points-

- You can book ticket easily just by login to Aerospace account and can select flight of your choice.
- For admin it is easy to use as it reflects database data on the screen so like for password change the admin don't have to open the database table to check user password.
- Until very last page otp is received and payment done successfully, the ticket is not confirmed and flight seats is not reduced until then.