

FlyAway (An Airline Booking Portal)

A web-based Flight Booking System based on the Model View Controller(MVC) Architecture made using Java Servlets, Java Server Pages(JSPs). Moreover authentication and authorization for users is implemented using Tomcat Roles. Also used MySQL to store and retrieve data.

Technologies Used:

1. **Frontend:** HTML, CSS, JavaScript, Java Server Pages(JSPs)
2. **Backend:** Java Servlets, Java, Collections
3. **Database:** MySQL
4. **Application Server:** Tomcat 9.0

Roles:

1. **Customer**
2. **Guest User**
3. **Administrator**

Workflow:

Book Flight

- User enters details such as (Source, Destination, Date of travel and No of passengers)
- After entering details user will be able to see the available flights according to the details entered
- User is asked to register on the website if user is new or user can login into already existing account
- User is sent to a dummy payment page after confirming booking details for the payment
- After confirming payment user is shown the booked ticket details which user can print if they wish to

Customer Login

- Customer can login into website with the details entered at the time of registration

- If the details provided are correct the user is sent to Customer Details page
- In Customer Details Page User can see list of their previous booking and also can change password if they wish to
- Customer details page also has the option to book flight if they wish to book a new journey

Admin Login

- Admin can login into website with their details
- If the details provided are correct admin is sent to Admin Details Page
- In Admin details page admin can see list of all the available flights
- Admin can also change their password if they wish to
- Admin can see the list of master airlines available
- Admin can also see if there any delays in flights.

Coding:

Home Page - JSP:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<%@ page import="java.util.*" %>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>FlyAway project phase 2 </title>
<link href="css/style.css" rel="stylesheet"/>

</head>
<body>

<h1>FlyAway project by Sharjil Dhanani</h1>

<a href="AdminLogin.jsp">Administrator Login</a>
<br>

<%
    @SuppressWarnings("unchecked")
    HashMap<String,String> user=(HashMap<String,String>)session.getAttribute("user");
    if(user!=null){
```

```

%>
<p>Welcome <%=user.get("name") %></p>
<a href="Logout">Logout</a>
<%
    }else{
%>
<a href=UserPage.jsp>Traveler Login</a>
<%
    }
%>
<br><br>
<center>
<div class="container text-center mt-1 card-body ">
<form action=FlightList method=post>
    <label for=from>From :-</label> <input type=text name=from id=from/><br><br>
    <label for=to>To :-</label> <input type=text name=to id=to/><br><br>
    <label for=departure>Departure :-</label> <input type=date name=departure id=departure/><br><br>
    <label for=travellers>Travellers :-</label> <input type=number name=travellers id=travellers/><br><br>
    <input type=submit value=Search /> <input type=reset />
</form>
</div>
</center>
</body>
</html>

```

CSS:

```

div {
    background: pink;
}
img {
    border: 1px solid #ddd;
    border-radius: 4px;
    padding: 5px;
    width: 150px;
}

```



FlyAway project by Sharjil Dhanani

[Administrator Login](#)

Welcome user

[Logout](#)

From :-

To :-

Departure :-

dd-mm-yyyy

Travellers :-

Search

Reset

Database Connection:

```
package com.DB;
```

```
import java.sql.Connection;
import java.sql.DriverManager;
```

```
import java.sql.ResultSet;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List;
```

```
public class DAO {
    public Connection con=null;
    public Statement st=null;

    public DAO() throws ClassNotFoundException, SQLException{
        Class.forName("com.mysql.jdbc.Driver");
        Connection
con=DriverManager.getConnection("jdbc:mysql://localhost:3306/phase2_project","root","Sanjay@007
");

        System.out.println("connection established with database");
        st=con.createStatement();
    }

    public List<String[]> getAvailableFlights(String f, String t) {

        List<String[]> flights=new ArrayList<String[]>(>());
        String query="SELECT * FROM flights where fromf='"+f+"' and tof='"+t+"' ";
```

```

        try {
            ResultSet rs=st.executeQuery(query);

            if(rs.next()) {
                String[] flight=new String[3];
                flight[0]=rs.getString("name");
                flight[1]=rs.getString("timef");
                flight[2]=rs.getString("price");
                flights.add(flight);
                return flights;
            }
        } catch (SQLException e) {
            e.printStackTrace();
        }
        return null;
    }

    public List<String> masterflightlist() {
        List<String> FlightList=new ArrayList<String>();
        String query="select * from MasterFlightList";
        try {
            ResultSet rs=st.executeQuery(query);
            while(rs.next()) {

                String FlightName=rs.getString("name");
                FlightList.add(FlightName);
            }
            return FlightList;
        } catch (SQLException e) {
            e.printStackTrace();
        }

        return null;
    }
}

```

```

public HashMap<String, String> checkUser(String email, String password) {

    HashMap<String,String> user=null;
    String query="select * from user where email='"+email+"' and password='"+password+"'";
    try {
        ResultSet rs=st.executeQuery(query);
        if(rs.next()) {
            user=new HashMap<>();
            user.put("name", rs.getString("name"));
            user.put("email",rs.getString("email"));
            user.put("phno",rs.getString("phno"));
            user.put("adno",rs.getString("adno"));
        }
        return user;
    } catch (SQLException e) {
        e.printStackTrace();
    }

    return user;
}

public boolean insertUser(HashMap<String, String> user) {

```

```
String query="INSERT INTO user (email, password, name, phno, adno)
values('"+user.get("email")+"','"+user.get("password")+"','"+user.get("name")+"','"+user.get("phno")+"',
 '"+user.get("address")+"')";
```

```
try {
    st.execute(query);
    return true;
} catch (SQLException e) {
    e.printStackTrace();
}
return false;
}
```

```
public boolean checkAdmin(String email, String password) {
```

```
try {
    ResultSet rs=st.executeQuery("select * from admin where Email_admin='"+email+"'
and password_admin='"+password+"'");
    if(rs.next())
        return true;
} catch (SQLException e) {
    e.printStackTrace();
}
return false;
}
```

```
public boolean changeAdminPassword(String email, String password) {
```

```
try {
    ResultSet rs=st.executeQuery("select * from admin where email='"+email+"'");
    if(!rs.next()) {
        return false;
    }
    st.execute("update admin set password='"+password+"' where email='"+email+"'");
    return true;
} catch (SQLException e) {
    e.printStackTrace();
}
return false;
}
```

MySQL Workbench:

```
create database phase2_project;
use phase2_project;
drop table admin;
create table admin
```

```
(Email_admin varchar(100), password_admin varchar(100));
insert into admin values("admin@gmail.com","admin123");
```

```

select * from admin;
drop table flights;
create table flights

(departure varchar(10), arrival varchar(10));
insert into flights values("pune","mumbai");

create table user
(name varchar(100),email varchar(100),password varchar(100),phno varchar(100),adno varchar(100));
insert into user values("user","user@gmail.com","user123","1111","hyd");

select * from user;

drop table flights;
create table flights
(fromf varchar(100),tof varchar(100),name varchar(100),timef varchar(100),price varchar(100));

insert into flights values("hyderabad","pune","Air India","20 Nov 2022","5000");
select * from flights;

create table MasterFlightList
(name varchar(100));
insert into MasterFlightList values("Quantas");
insert into MasterFlightList values("Air India");
insert into MasterFlightList values("Indigo");
insert into MasterFlightList values("Vistara");

```

Admin Login Java Code:

```

package com.entities;

import java.io.IOException;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import java.sql.Statement;
import java.util.List;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

import com.DB.DAO;

@WebServlet("/AdminLogin")
public class AdminLogin extends HttpServlet {
    private static final long serialVersionUID = 1L;

    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

```

```

        String email=request.getParameter("email");
        String password=request.getParameter("password");

        try {

            DAO dao=new DAO();

            if(dao.checkAdmin(email,password)) {
                System.out.println("login success at admin login");
                List<String> MasterFlights=dao.masterflightlist();
                for(String f:MasterFlights)
                {
                    System.out.println(f);
                }
                HttpSession session=request.getSession();
                session.setAttribute("MasterFlights", MasterFlights);
                response.sendRedirect("AdminHome.jsp");
            }
            else {
                HttpSession session=request.getSession();
                session.setAttribute("message", "Invalid Details");
                response.sendRedirect("AdminLogin.jsp");
            }
        } catch (ClassNotFoundException | SQLException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }

    }

}

```

Admin Login JSP:

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Administrator Page</title>
<link href="css/style.css" rel="stylesheet"/>
</head>
<body>
<br>
<a href=HomePage.jsp style="color:green;">FlyAway</a>
<br><br>
<center>

<h2>Administrator Login</h2>
<div style="border:3px solid black;width:25%;border-radius:20px;padding:20px" align="center">
<form action=AdminLogin method=post>

    <label for=email>Email :-</label> <input type="email" name=email id=email /><br><br>
    <label for=pass>Password :-</label> <input type="password" name=password id=pass /><br><br>
    <input type=submit value=submit /> <input type=reset />

```



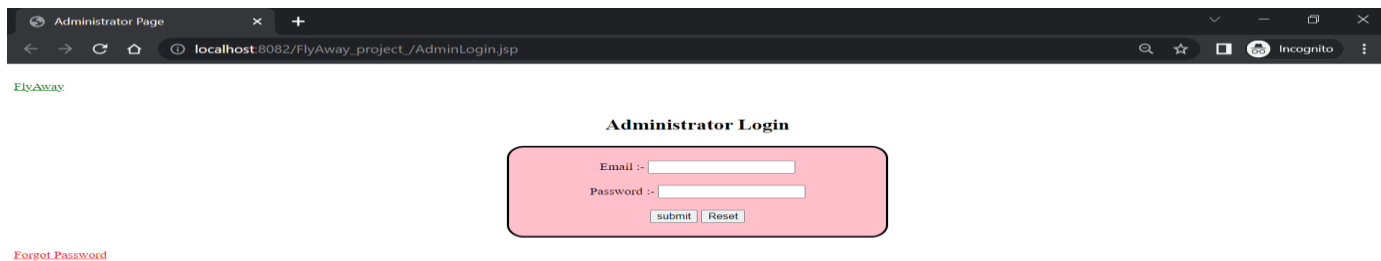
```

</form>
</div>
</center><br>
<a href=ForgotPassword.jsp style="font-size:25;color:red;">Forgot Password</a>

<%
    String message=(String)session.getAttribute("message");
    if(message!=null){
%>
<p style="color:silver;"><%=message %></p>
<%
        session.setAttribute("message", null);
    }
%>
</body>
</html>

```

Admin Login Screenshot:



Forgot Password Java Code:

```

package com.entities;
import javax.servlet.annotation.WebServlet;
import java.io.IOException;
import java.sql.SQLException;

import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

```

```

import com.DB.DAO;
@WebServlet("/ForgotPassword")
public class ForgotPassword extends HttpServlet {
    private static final long serialVersionUID = 1L;
    protected void doPost(HttpServletRequest request,
        HttpServletResponse response) throws ServletException,
        IOException {

        String email=request.getParameter("email");
        String
password=request.getParameter("password");
        System.out.println("inside forgot password");
        try {
            DAO dao=new DAO();
            HttpSession session=request.getSession();

            if(dao.changeAdminPassword(email,password)) {
                session.setAttribute("message",
"Password Changed Successfully");
            }
            else {
                session.setAttribute("message", "Invalid
Details");
            }
        } catch (ClassNotFoundException | SQLException
e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
        response.sendRedirect("AdminHome.jsp");

    }

}

```

Forgot Password JSP:

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>

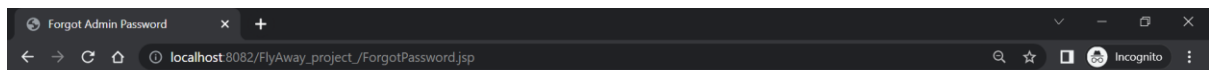
```

```

<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Forgot Admin Password</title>
</head>
<body >
<br>
<a href=HomePage.jsp style="color:black;text-decoration:none ;font-size:35px;font-weight:bold;">FlyAway</a>
<br><br>
<center>
<div style="border:3px solid black;width:25%;border-radius:20px;padding:20px"
align="center">
<form action=ForgotPassword method=post>
<label for=email>Email :-</label> <input type="email" name=email id=email
/><br><br>
<label for=pass>New Password :-</label> <input type="password"
name=password id=pass /><br><br>
<input type=submit value=submit /> <input type=reset />
</form>
</div>
</center>
</body>
</html>

```

Forgot Password Screenshot:



FlyAway

Email :-

New Password :-

User Login Java Code:

```
package com.entities;
```

```

import javax.servlet.annotation.WebServlet;
import java.io.IOException;
import java.sql.SQLException;
import java.util.HashMap;

import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

import com.DB.DAO;
@WebServlet("/UserLogin")
public class UserLogin extends HttpServlet {
    private static final long serialVersionUID = 1L;
    protected void doPost(HttpServletRequest request,
        HttpServletResponse response) throws ServletException,
        IOException {

        String email=request.getParameter("email");
        String
        password=request.getParameter("password");

        try {
            DAO dao=new DAO();
            HashMap<String,String>
            user=dao.checkUser(email,password);

            HttpSession session=request.getSession();
            if(user!=null) {
                session.setAttribute("user", user);

                response.sendRedirect("HomePage.jsp");
            }
            else {

                session.setAttribute("message", "Invalid
                Details");
            }
        }
    }
}

```

```

                response.sendRedirect("UserPage.jsp");
            }
        } catch (ClassNotFoundException | SQLException e) {
            // TODO Auto-generated catch block
            e.printStackTrace();
        }
    }
}

```

User login JSP:

```

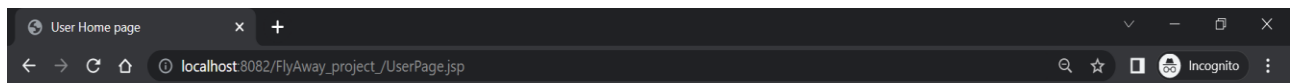
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>User Home page</title>
</head>
<body >
<br>
<a href=HomePage.jsp style="color:blue;text-decoration:none ;font-size:35px;font-
weight:bold;">Click here to Navigate to FlyAway Home Page</a>
<br><br>
<center>
<h2>User Login</h2>
<div style="border:2px solid black;width:25%;border-radius:20px;padding:20px"
align="center">
<form action=UserLogin method=post >
    <table >
        <tr>
            <td><label for=email>Email</label><br></td>
            <td><input type="email" name=email id=email /></td>
        </tr>
        <tr>
            <td><label for=password>Password</label><br></td>
            <td><input type="password" name=password id=password /></td>
        </tr>
        <tr>
            <td><input type=submit value=submit /></td>
            <td><input type=reset /></td>
        </tr>
    </table>
</form>
</div>
</center>
<br><br>
<i>New User-Create account</i>

```

```
<h4><a href=UserRegistration.jsp style="font-size:25;color:red;">Create  
Account</a></h4>
```

```
<%  
    String message=(String)session.getAttribute("message");  
    if(message!=null){  
%>  
<p style="color:silver;"><%=message %></p>  
<%  
        session.setAttribute("message", null);  
    }  
%>  
</body>  
</html>
```

User login Screenshot:



[Click here to Navigate to FlyAway Home Page](#)

User Login

Email	<input type="text"/>
Password	<input type="password"/>
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>

New User-Create account

[Create Account](#)

User SignUp Java Code:

```
package com.entities;
```

```
import javax.servlet.annotation.WebServlet;
```

```
import java.io.IOException;
```

```
import java.sql.SQLException;
```

```
import java.util.HashMap;
```

```
import javax.servlet.ServletException;
```

```
import javax.servlet.http.HttpServlet;
```

```
import javax.servlet.http.HttpServletRequest;
```

```
import javax.servlet.http.HttpServletResponse;
```

```
import javax.servlet.http.HttpSession;
```

```
import com.DB.DAO;
```

```
@WebServlet("/UserRegistration")
```

```
public class UserRegistration extends HttpServlet {
```

```
    private static final long serialVersionUID = 1L;
```

```
    protected void doPost(HttpServletRequest request,  
        HttpServletResponse response) throws ServletException, IOException {
```

```
        String email=request.getParameter("email");
```

```
        String password=request.getParameter("password");
```

```
        String name=request.getParameter("name");
```

```
        String phno=request.getParameter("phno");
```

```
        String address=request.getParameter("address");
```

```
        HashMap<String,String> user=new HashMap<>();
```

```
        user.put("email", email);
```

```
        user.put("password", password);
```

```
        user.put("name", name);
```

```
        user.put("phno", phno);
```

```
        user.put("address", address);
```

```

try {
    DAO dao=new DAO();
    boolean result=dao.insertUser(user);
    HttpSession session=request.getSession();
    if(result) {
        session.setAttribute("message", "User Added
Successfully");
    }
    else {
        session.setAttribute("message","Invalid Details");
    }
} catch (ClassNotFoundException | SQLException e) {
    // TODO Auto-generated catch block
    e.printStackTrace();    }
response.sendRedirect("UserPage.jsp");}
}

```

User SignUp JSP:

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>User Registration Form</title>
</head>
<body >
<br>
<a href=HomePage.jsp style="color:blue;text-decoration:none ;font-size:35px;font-
weight:bold;">Click here to Navigate to FlyAway Home Page</a>
<br><br>
<link href="css/style.css" rel="stylesheet"/>
<center>
<div style="border:3px solid black;width:25%;border-radius:20px;padding:20px"
align="center">
<form action=UserRegistration method=post>

```

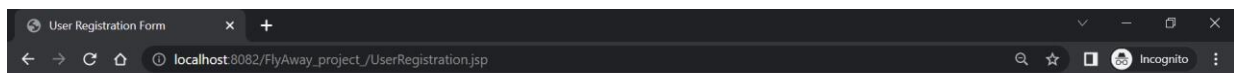


```

<label for=email>Email :-</label> <input type="email" name=email id=email
/><br><br>
<label for=pass>Password :-</label> <input type="password" name=password
id=pass /><br><br>
<label for=name>Name :-</label> <input type="text" name=name id=name
/><br><br>
<label for=phno>Phone No. :-</label> <input type="text" name=phno id=phno
/><br><br>
<label for=adno>Address. :-</label> <input type="text" name=address
id=address /><br><br>
<input type=submit value=submit /> <input type=reset />
</form>
</div>
</center>
</body>
</html>

```

User SignUp Screenshot:



[Click here to Navigate to FlyAway Home Page](#)

FlightList Java Code:

```
package com.entities;
```

```
import java.io.IOException;
```

```
import java.sql.SQLException;
```

```
import java.util.List;
```

```
import javax.servlet.ServletException;
```

```
import javax.servlet.annotation.WebServlet;
```

```
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

import com.DB.DAO;

@WebServlet("/FlightList")
public class FlightList extends HttpServlet {
    private static final long serialVersionUID = 1L;

    protected void doPost(HttpServletRequest request,
        HttpServletResponse response) throws ServletException, IOException {

        String from=request.getParameter("from");
        String to=request.getParameter("to");
        String departure=request.getParameter("departure");

        try {
            DAO dao = new DAO();
            List<String[]> flights=dao.getAvailableFlights(from, to);

            HttpSession session=request.getSession();
            session.setAttribute("flights", flights);

        } catch (ClassNotFoundException | SQLException e) {
            // TODO Auto-generated catch block
```

```

        e.printStackTrace();
    }

    response.sendRedirect("FlightList.jsp");
}
}

```

FlightList JSP:

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<%@ page import="java.util.*" %>
<html>
<head>
<meta charset="ISO-8859-1">

<title>Flight List</title>
</head>
<body >
<link href="css/style.css" rel="stylesheet"/>

<br>
<a href=HomePage.jsp style="color:blue;text-decoration:none ;font-size:35px;font-
weight:bold;">Click here to Navigate to FlyAway Home Page</a>
<br><br>
<%
    @SuppressWarnings("unchecked")
    List<String[]> flights=(List<String[]>)session.getAttribute("flights");
    if(flights!=null){
%>

```

<center>

```

<h1>Available Flights</h1>
<table border="1">
<tr>
    <th>Name</th>
    <th>Time</th>
    <th>Price</th>
</tr>

<%
    for(String[] flight:flights){
%>

<tr>
<td><%=flight[0]%></td>
<td><%=flight[1]%></td>
<td><%=flight[2]%></td>

```

```

</tr>
</table>
</center>
<center><a href=BookFlight.jsp>Book Now</a> </center>
<%
    }
%>

<%
    }
    else{
%>
<h1>There are no available flights</h1>
<%
    }
%>
</body>
</html>

```

FlightList Screenshot:



Available Flights

Name	Time	Price
Air India	20 Nov 2022	5000

[Book Now](#)

Flight Booked Success JSP:

```

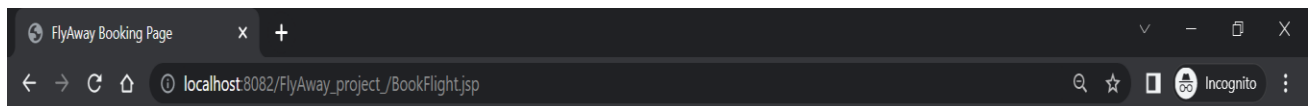
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<%@ page import="java.util.*" %>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>FlyAway Booking Page</title>
</head>

```

```
<body >
<br>
<a href=HomePage.jsp style="color:blue;text-decoration:none ;font-size:35px;font-
weight:bold;">Click here to Navigate to FlyAway Home Page</a>
<br><br>

<%
    @SuppressWarnings("unchecked")
    HashMap<String,String>
user=(HashMap<String,String>)session.getAttribute("user");
    if(user==null){
        response.sendRedirect("UserPage.jsp");
    }
%>
<p align="center" style="color:green;font-size:40px;font-weight:bold">Flight
Booked Successfully</p>
</body>
</html>
```

Flight Booked Success Screenshot:



[Click here to Navigate to FlyAway Home Page](#)

Flight Booked Successfully

Admin Home Page JSP:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
    pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<%@ page import="java.util.*" %>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Admin Home Page</title>
</head>
<body >
<br>

<a href=HomePage.jsp style="color:blue;text-decoration:none ;font-size:35px;font-
weight:bold;">Click here to Navigate to FlyAway Home Page</a>

<p>No flight is delayed today!!</p>
<br><br>
<%
    @SuppressWarnings("unchecked")
    List<String>
    MasterFlights=(List<String>)session.getAttribute("MasterFlights");
    if(MasterFlights!=null){
%>

<h1>Master List of Airlines</h1>

<%

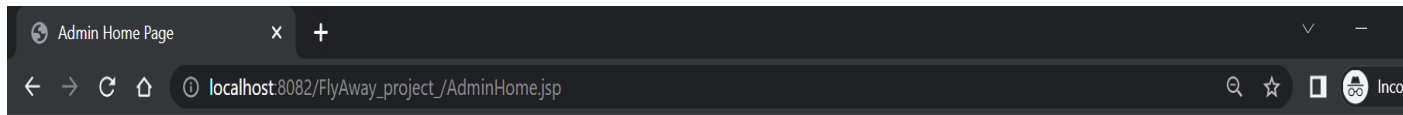
        for(String flight:MasterFlights){
%>

<%=flight%>
<br>

<%
    }
%>
<%
    }
    else{
%>
<h1>There are no available flights</h1>
<%
    }
%>
<br>

</body>
</html>
```

Admin Home Page Screenshot:



[Click here to Navigate to FlyAway Home Page](#)

No flight is delayed today!!

Master List of Airlines

Quantas
Air India
Indigo
Vistara