Note-I have mentioned comments in between with red color which is not part of code. Please install TomCat version 9 to avoid any discrepancies in the process

Note:Please add your username and password of sql in each servlet code to avoid errors

Step 1:Open Eclipse IDE and follow below steps:

* Right click on com.admin-> New->Servlet->Give name as Book.java->Paste the below code in Book.java

//////////////////////////////////////////////////////////////////////////////

package com.admin;

import java.io.IOException;

import java.sql.SQLException;

import java.util.List;

import javax.servlet.RequestDispatcher;

import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

/\*\*

\* Servlet implementation class Book

\*/

@WebServlet("/Book")

public class Book extends HttpServlet {

private static final long serialVersionUID = 1L;

/\*\*

\* @see HttpServlet#HttpServlet()

\*/

public Book() {

super();

// TODO Auto-generated constructor stub

}

/\*\*

\* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

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

try {

List<Flights> flightlist=FlightsDB.getFlightsList();

request.setAttribute("flightlist", flightlist);

} catch (ClassNotFoundException | SQLException e) {

// TODO Auto-generated catch block

e.printStackTrace();

}

RequestDispatcher dispatcher=request.getRequestDispatcher("booking.jsp");

dispatcher.forward(request, response);

}

}

Note:Above code will collect all details from database about flights and forward it to booking.jsp

//////////////////////////////////////////////////////////////////////////////

* Right click on webapp->New->JSP file->give name as booking.jsp->Paste the below code in booking.jsp

/////////////////////////////////////////////////////////////////////////////////////

<%@**taglib** prefix=*"c"* uri=*"http://java.sun.com/jsp/jstl/core"* %>

<%@ **page** language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!**DOCTYPE** html>

<**html**>

<**head**>

<**meta** charset=*"UTF-8"*>

<**title**>Flights List</**title**>

</**head**>

<**body**>

<**h3** align=*"right"*><**a** href=*"index.html"*>Back</**a**></**h3**>

<**h1** align=*"center"*>Available Flights</**h1**>

<**table** border=*"1"* cellpadding=*"30%"* align=*"center"* bgcolor=*"skyblue"*>

<**tr**>

<**th**>FlightNumber</**th**>

<**th**>Source</**th**>

<**th**>Destination</**th**>

<**th**>Time</**th**>

<**th**>Duration</**th**>

<**th**>Price</**th**>

</**tr**>

<**c:forEach** var=*"items"* items=*"*${flightlist}*"*>

<**tr**>

<**td**>${items.flightNumber}</**td**>

<**td**>${items.source}</**td**>

<**td**>${items.destination}</**td**>

<**td**>${items.time}</**td**>

<**td**>${items.duration}</**td**>

<**td**>${items.price}</**td**>

</**tr**>

</**c:forEach**>

</**table**>

<**form** action=*"Payment"* method=*"post"* align=*"center"*>

Name:<**input** type=*"text"* name=*"name"*><**br**><**br**>

Phone:<**input** type=*"number"* name=*"phone"*><**br**><**br**>

Flight Number:<**input** type=*"number"* name=*"flight"*><**br**><**br**>

<**h3**>Please Provide Correct Flight Number to avoid further Discrepancies</**h3**>

<**input** type=*"submit"* value=*"Proceed to Payment"*>

</**form**>

</**body**>

</**html**>

Note:The above code will show you below screen when you click on Booking of index.html



Note:If it is showing blank details in flights section the you need to add flights using admin login.

////////////////////////////////////////////////////////////////////////////////////

* Now we need to create dummy payment portal
* Right click on com.admin ->New->Servlet->give name as Payment.java->Paste the below code in Payment.java

/////////////////////////////////////////////////////////////////////////////////////

package com.admin;

import java.io.IOException;

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;

/\*\*

\* Servlet implementation class Payment

\*/

@WebServlet("/Payment")

public class Payment extends HttpServlet {

private static final long serialVersionUID = 1L;

/\*\*

\* @see HttpServlet#HttpServlet()

\*/

public Payment() {

super();

// TODO Auto-generated constructor stub

}

/\*\*

\* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

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

Customer c=new Customer();

HttpSession session=request.getSession();

c.setFlightno(Integer.parseInt(request.getParameter("flight")));

c.setName(request.getParameter("name"));

c.setPhone(Long.parseLong(request.getParameter("phone")));

session.setAttribute("customer", c);

response.sendRedirect("payment.html");

}

}

Note:Above code will give error on Customer class. Ignore it and follow next steps.

/////////////////////////////////////////////////////////////////////////////////////////

* Right click on com.admin->New->Class->give name as Customer.java->Paste the below code in Customer.java

/////////////////////////////////////////////////////////////////////////////

package com.admin;

public class Customer {

private String name;

private long phone;

private int flightno;

private long cardno;

private String cardname;

public String getName() {

return name;

}

public void setName(String name) {

this.name = name;

}

public long getPhone() {

return phone;

}

public void setPhone(long phone) {

this.phone = phone;

}

public int getFlightno() {

return flightno;

}

public void setFlightno(int flightno) {

this.flightno = flightno;

}

public long getCardno() {

return cardno;

}

public void setCardno(long cardno) {

this.cardno = cardno;

}

public String getCardname() {

return cardname;

}

public void setCardname(String cardname) {

this.cardname = cardname;

}

*@Override*

public String toString() {

return "Customer [name=" + name + ", phone=" + phone + ", flightno=" + flightno + ", cardno=" + cardno

+ ", cardname=" + cardname + "]";

}

}

Note-Now the error will disappear

///////////////////////////////////////////////////////////////

* Right click on webapp->New->HTML file->give name as payment.html->Paste the below code in payment.html

//////////////////////////////////////////////////////////////////////////////////////

<!**DOCTYPE** html>

<**html**>

<**head**>

<**meta** charset=*"UTF-8"*>

<**title**>Payment</**title**>

</**head**>

<**body**>

<**h3** align=*"right"*><**a** href=*"booking.html"*>Back</**a**></**h3**>

<**br**><**br**><**br**><**br**><**br**>

<**h1** align=*"center"*>Payment Gateway</**h1**><**br**>

<**form** align=*"center"* action=*"PaySuccess"* method=*"post"*>

Card Number(12 Digits):<**input** type=*"number"* name=*"cardno"*><**br**>

Expiry Month:<**input** type=*"number"* name=*"month"*><**br**>

Expiry Year:<**input** type=*"number"* name=*"year"*><**br**>

CVV(3 Digits):<**input** type=*"number"* name=*"cvv"*><**br**>

Card Holder Name:<**input** type=*"text"* name=*"name1"*><**br**>

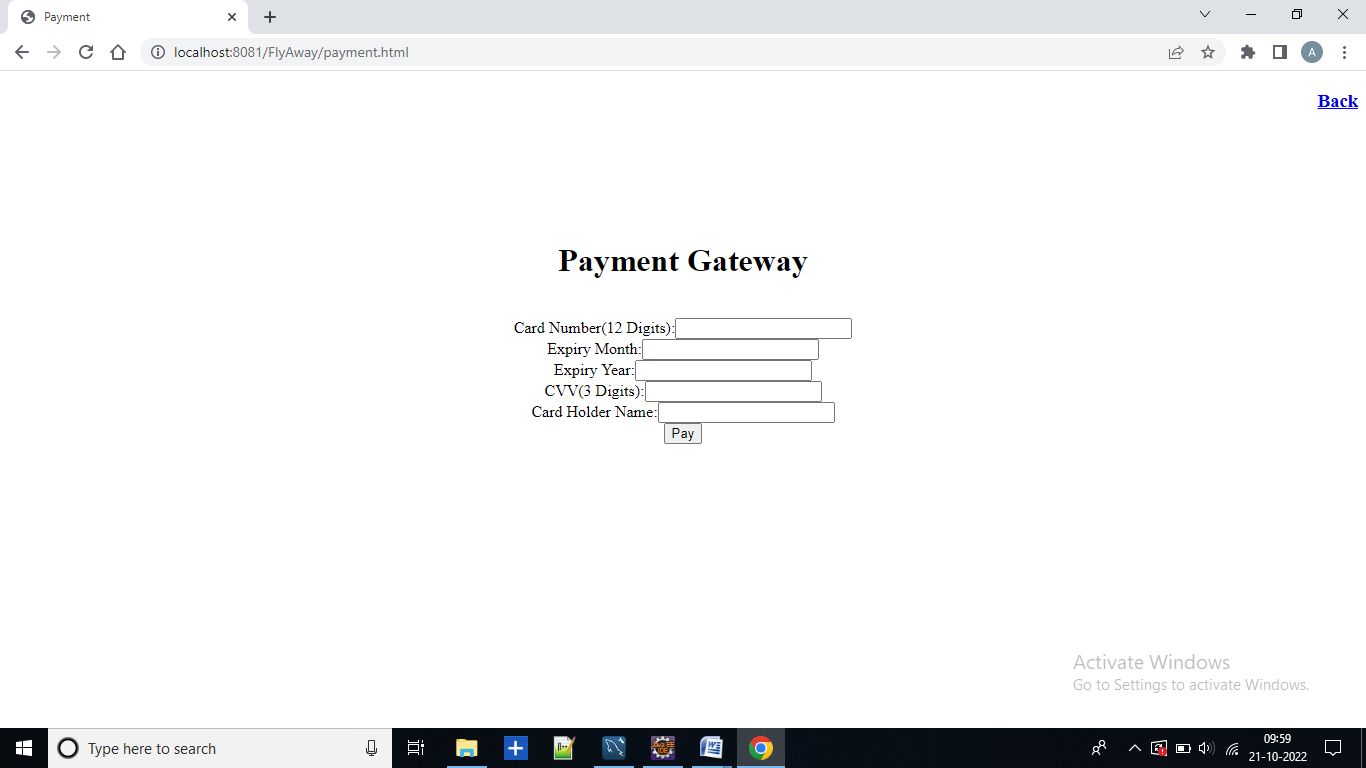
<**input** type=*"submit"* value=*"Pay"*>

</**form**>

</**body**>

</**html**>

Note:Above code will give you following screen when you click on Proceed to Payment of booking.jsp



/////////////////////////////////////////////////////////////////////////////////////////////

Now we will create a filter to verify details entered in the Payment portal

* Right click on com.admin->New->Filter->give name as Validation.java->Paste the below code in Validation.java

///////////////////////////////////////////////////////////////////////////////

package com.admin;

import java.io.IOException;

import java.io.PrintWriter;

import javax.servlet.Filter;

import javax.servlet.FilterChain;

import javax.servlet.FilterConfig;

import javax.servlet.ServletException;

import javax.servlet.ServletRequest;

import javax.servlet.ServletResponse;

import javax.servlet.annotation.WebFilter;

import javax.servlet.http.HttpFilter;

import javax.servlet.http.HttpSession;

/\*\*

\* Servlet Filter implementation class Validation

\*/

*@WebFilter*("/Validation")

public class Validation extends HttpFilter implements Filter {

/\*\*

\* **@see** HttpFilter#HttpFilter()

\*/

public Validation() {

super();

// **TODO** Auto-generated constructor stub

}

/\*\*

\* **@see** Filter#destroy()

\*/

public void destroy() {

// **TODO** Auto-generated method stub

}

/\*\*

\* **@see** Filter#doFilter(ServletRequest, ServletResponse, FilterChain)

\*/

public void doFilter(ServletRequest request, ServletResponse response, FilterChain chain) throws IOException, ServletException {

String cardno=request.getParameter("cardno");

if(cardno==null||!cardno.matches("[0-9]{12}")||!request.getParameter("cvv").matches("[0-9]{3}")){

PrintWriter pw=response.getWriter();

request.getRequestDispatcher("payment.html").include(request, response);

pw.println("<center><SPAN style='color:red'>Invalid Credentials</SPAN></center>");

}

else {

Customer c=new Customer();

c.setCardname(request.getParameter("name1"));

c.setCardno(Long.*parseLong*(request.getParameter("cardno")));

request.setAttribute("customer", c);

chain.doFilter(request, response);

}

}

/\*\*

\* **@see** Filter#init(FilterConfig)

\*/

public void init(FilterConfig fConfig) throws ServletException {

// **TODO** Auto-generated method stub

}

}

///////////////////////////////////////////////////////////////////////////

* Now we need to configure our web.xml file so that our filter will work
* Click on webapp->WEB-INF->Open web.xml file->Paste the below code in web.xml

////////////////////////////////////////////////////////////////////////////////////

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<**web-app** xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"http://xmlns.jcp.org/xml/ns/javaee"* xsi:schemaLocation=*"http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app\_4\_0.xsd"* id=*"WebApp\_ID"* version=*"4.0"*>

<**display-name**>FlyAway</**display-name**>

<**welcome-file-list**>

<**welcome-file**>index.html</**welcome-file**>

<**welcome-file**>index.jsp</**welcome-file**>

<**welcome-file**>index.htm</**welcome-file**>

<**welcome-file**>default.html</**welcome-file**>

<**welcome-file**>default.jsp</**welcome-file**>

<**welcome-file**>default.htm</**welcome-file**>

</**welcome-file-list**>

<**filter**>

<**filter-name**>Validation</**filter-name**>

<**filter-class**>com.admin.Validation</**filter-class**>

</**filter**>

<**filter-mapping**>

<**filter-name**>Validation</**filter-name**>

<**url-pattern**>/PaySuccess</**url-pattern**>

</**filter-mapping**>

</**web-app**>

//////////////////////////////////////////////////////////////////

* Right click on com.admin->New->Servlet->give name as PaySuccess.java->paste the below code in PaySuccess.java

/////////////////////////////////////////////////////////////////////////////////

package com.admin;

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

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;

/\*\*

\* Servlet implementation class PaySuccess

\*/

@WebServlet("/PaySuccess")

public class PaySuccess extends HttpServlet {

private static final long serialVersionUID = 1L;

/\*\*

\* @see HttpServlet#HttpServlet()

\*/

public PaySuccess() {

super();

// TODO Auto-generated constructor stub

}

/\*\*

\* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)

\*/

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

Flights f;

PrintWriter pw=response.getWriter();

HttpSession session =request.getSession(false);

Customer u=(Customer) session.getAttribute("customer");

Customer u2=(Customer) request.getAttribute("customer");

u.setCardname(u2.getCardname());

u.setCardno(u2.getCardno());

try{

Class.forName("com.mysql.cj.jdbc.Driver");

String user="root";

String password="Atharv1812";

String url="jdbc:mysql://localhost:3306/flyaway";

Connection con=DriverManager.getConnection(url,user,password);

PreparedStatement ps=con.prepareStatement("select \* from flights where flightnumber=?");

ps.setInt(1, u.getFlightno());

ResultSet rs=ps.executeQuery();

if(rs.next()) {

f=new Flights(rs.getInt(1),rs.getString(2),rs.getString(3),rs.getString(4),rs.getInt(5),rs.getInt(6));

pw.print("<button><a href='index.html'>Home</a></button>");

pw.print("<h1 align='center'>Congratualtions you have Successfully booked your Ticket</h1><br>");

pw.print("<h2 align='center'>Details are as below</h2><br>");

pw.print("<center> Name:"+u.getName()+"</center>");

pw.print("<center> Flight Number:"+u.getFlightno()+"</center>");

pw.print("<center> Source:"+f.getSource()+"</center>");

pw.print("<center> Destination:"+f.getDestination()+"</center>");

pw.print("<center> Time:"+f.getTime()+"</center>");

pw.print("<center>Payment Details are as Follows:</center>");

pw.print("<center> Price:"+f.getPrice()+"</center>");

pw.print("<center> CardNumber:"+u.getCardno()+"</center>");

pw.print("<center> Name of CardHolder:"+u.getCardname()+"</center><br>");

pw.print("<center>Payment Status:<span style='color:green'>Successful</span></center>");

}

}

catch (Exception e) {

pw.print(e);

}

}}

////////////////////////////////////////////////////////////////////////////////////

Note:This will be the final receipt generated for you

