**Source Code**

**ConnectionUtil:**

package com.flightbooking.database;

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;

import com.simplelearn.util.StringUtil;

public class ConnectionUtil {

public Connection con=null;

public Statement st=null;

public ConnectionUtil() throws ClassNotFoundException, SQLException{

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

con=DriverManager.getConnection("jdbc:mysql://localhost:3306/flyaway?autoReconnect=true&useSSL=false","root","1432");

System.out.println("connection established with database");

st=con.createStatement();

}

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

List<String[]> flights=new ArrayList<>();

String query="SELECT \* FROM flights where fromf='"+f+"' and tof='"+t+"' and datef='"+d+"'";

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 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("adno")+"')";

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='"+email+"' and password='"+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;

    }

    public boolean insertFlight(HashMap<String, String> flight) throws SQLException {

    //PreparedStatement stm=con.prepareStatement("INSERT INTO 'flyaway.flights' ('name', 'from', 'to', 'date', 'time', 'price') values(?,?,?,?,?,?)");

    //String sql="INSERT INTO flights ('name','from','to','date','time','price') values('"+flight.get("name")+"','"+flight.get("from")+"','"+flight.get("to")+"','"+flight.get("date")+"','"+flight.get("time")+"','"+flight.get("price")+"');";

    String query1 = "INSERT INTO flight (name, fromf, tof, datef, timef, price) VALUES" + " ('" + StringUtil.fixSqlFieldValue(flight.get("name")) + "'," + " '" + StringUtil.fixSqlFieldValue(flight.get("from")) + "'," + " '" + StringUtil.fixSqlFieldValue(flight.get("to")) + "'," + " '" + StringUtil.fixSqlFieldValue(flight.get("date")) + "'," + " '" + StringUtil.fixSqlFieldValue(flight.get("time")) + "'," + " '" + StringUtil.fixSqlFieldValue(flight.get("price")) + "')";

    //String sql="INSERT INTO `flyaway`.`flights` (`name`, `fromf`, `tof`,`datef`, `timef`, `price`) VALUES ('indigo', 'hyd', 'viz', '2021-04-08', '10:00','2000');";

    System.out.println(flight.get("date"));

    System.out.println(flight.get("time"));

    //String query1="INSERT into flyaway.flights (name,from,to,date,time,price) values('indigo','hyd','viz','24-02-2022','10:30','2000')";

    try {

    //stm.execute();

    st.execute(query1);

    return true;

    } catch (SQLException e) {

    System.out.print("error");

    e.printStackTrace();

    }

    return false;

    }

    }

**FilghtInsert:**

package com.flightbooking.servlets;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.HttpServlet;

import java.io.IOException;

import java.sql.SQLException;

import java.util.HashMap;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.http.HttpSession;

import com.flightbooking.database.ConnectionUtil;

@WebServlet("/InsertFlight")

public class FilghtInsert extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doPost(HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException {

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

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

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

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

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

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

HashMap<String,String> flight=new HashMap<>();

flight.put("name", name);

flight.put("from", from);

flight.put("to", to);

flight.put("date", departure);

flight.put("time", time);

flight.put("price", price);

try {

ConnectionUtil dao=new ConnectionUtil();

HttpSession session=request.getSession();

if(dao.insertFlight(flight)) {

session.setAttribute("message", "Flight Added Successfully");

}

else {

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

}

} catch (ClassNotFoundException | SQLException e) {

// TODO Auto-generated catch block

System.out.print("error");

e.printStackTrace();

}

response.sendRedirect("AdminHome.jsp");

}

}

**ForgotPassword:**

package com.flightbooking.servlets;

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.flightbooking.database.ConnectionUtil;

/\*\*

 \* Servlet implementation class ForgotPassword

 \*/

@WebServlet("/ForgotPassword")

public class ForgotPassword extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public ForgotPassword() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

        // TODO Auto-generated method stub

        response.getWriter().append("Served at: ").append(request.getContextPath());

    }

    /\*\*

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

     \*/

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

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

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

        try {

        ConnectionUtil dao=new ConnectionUtil();

        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("AdminPage.jsp");

    }

}

**ListOfFlights:**

package com.flightbooking.servlets;

import java.io.IOException;

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.flightbooking.database.ConnectionUtil;

/\*\*

 \* Servlet implementation class ListOfFlights

 \*/

@WebServlet("/FlightList")

public class ListOfFlights extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public ListOfFlights() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

        // TODO Auto-generated method stub

        response.getWriter().append("Served at: ").append(request.getContextPath());

    }

    /\*\*

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

     \*/

    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 {

        ConnectionUtil dao = new ConnectionUtil();

        List<String[]> flights=dao.getAvailableFlights(from, to,departure);

        HttpSession session=request.getSession();

        session.setAttribute("flights", flights);

        } catch (ClassNotFoundException | SQLException e) {

        // TODO Auto-generated catch block

        e.printStackTrace();

        }

        response.sendRedirect("FlightList.jsp");

    }

}

**LoginOfAdmin:**

package com.flightbooking.servlets;

import java.io.IOException;

import java.sql.SQLException;

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.HttpServletResponse;

import javax.servlet.http.HttpSession;

import com.flightbooking.database.ConnectionUtil;

/\*\*

 \* Servlet implementation class LoginOfAdmin

 \*/

@WebServlet("/AdminLogin")

public class LoginOfAdmin extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public LoginOfAdmin() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

        // TODO Auto-generated method stub

        response.getWriter().append("Served at: ").append(request.getContextPath());

    }

    /\*\*

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

     \*/

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

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

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

        try {

        ConnectionUtil dao=new ConnectionUtil();

        if(dao.checkAdmin(email,password)) {

        response.sendRedirect("AdminHome.jsp");

        }

        else {

        HttpSession session=request.getSession();

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

        response.sendRedirect("AdminPage.jsp");

        }

        } catch (ClassNotFoundException | SQLException e) {

        // TODO Auto-generated catch block

        ((Throwable) e).printStackTrace();

    }

    }

}

**LoginOfUser:**

package com.flightbooking.servlets;

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.flightbooking.database.ConnectionUtil;

/\*\*

 \* Servlet implementation class LoginOfUser

 \*/

@WebServlet("/UserLogin")

public class LoginOfUser extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public LoginOfUser() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

        // TODO Auto-generated method stub

        response.getWriter().append("Served at: ").append(request.getContextPath());

    }

    /\*\*

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

     \*/

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

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

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

        try {

        ConnectionUtil dao=new ConnectionUtil();

        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();

        }

    }

}

**Logout:**

package com.flightbooking.servlets;

import javax.servlet.annotation.WebServlet;

import java.io.IOException;

import javax.servlet.ServletException;

import javax.servlet.http.HttpServlet;

import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

import javax.servlet.http.HttpSession;

/\*\*

 \* Servlet implementation class Logout

 \*/

@WebServlet("/Logout")

public class Logout extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public Logout() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

        HttpSession session=request.getSession();

        session.setAttribute("user", null);

        response.sendRedirect("HomePage.jsp");

    }

    /\*\*

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

     \*/

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

        // TODO Auto-generated method stub

        doGet(request, response);

    }

}

**RegistrationOfUser:**

package com.flightbooking.servlets;

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.flightbooking.database.ConnectionUtil;

/\*\*

 \* Servlet implementation class RegistrationOfUser

 \*/

@WebServlet("/UserRegistration")

public class RegistrationOfUser extends HttpServlet {

    private static final long serialVersionUID = 1L;

    /\*\*

     \* @see HttpServlet#HttpServlet()

     \*/

    public RegistrationOfUser() {

        super();

        // TODO Auto-generated constructor stub

    }

    /\*\*

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

     \*/

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

    }

    /\*\*

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

     \*/

    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 adno=request.getParameter("adno");

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

        user.put("email", email);

        user.put("password", password);

        user.put("name", name);

        user.put("phno", phno);

        user.put("adno", adno);

        try {

        ConnectionUtil dao=new ConnectionUtil();

        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");

    }

}

**StringUtil:**

package com.simplelearn.util;

public class StringUtil {

    public static String fixSqlFieldValue(String value) {

        if (value == null) {

        return null;

        }

        int length = value.length();

        StringBuffer fixedValue = new StringBuffer((int)(length\*1.1));

        for(int i = 0 ; i < length ;i++) {

        char c = value.charAt(i);

        if ( c == '\'') {

        fixedValue.append("''");

        }else {

        fixedValue.append(c);

        }

        }

        return fixedValue.toString();

        }

        public static String encodeHtmlTag(String tag) {

        if (tag==null)

        return null;

        int length = tag.length();

        StringBuffer encodedTag = new StringBuffer(2 \* length);

        for(int i = 0 ; i < length;i++) {

        char c = tag.charAt(i);

        if(c=='<')

        encodedTag.append("<");

        else if(c=='>')

        encodedTag.append(">");

        else if(c=='&')

        encodedTag.append("&amp;");

        else if(c=='"')

        encodedTag.append("&quot;");

        else if(c==' ')

        encodedTag.append("&nbsp;");

        else

        encodedTag.append(c);

        }

        return encodedTag.toString();

    }

}