**Program:-**

**Project Structure:**

**PersonalFinanceSystem/**

**│**

**|── src/main/java/com/example/personalfinance/**

**│ |── controller/**

**│ │ |── LoginServlet.java**

**│ │ |── AddIncomeServlet.java**

**│ │ |── AddExpenseServlet.java**

**│ │ |── DashboardServlet.java**

**│ |── model/**

**│ │ |─ User.java**

**│ │ |── Income.java**

**│ │ |── Expense.java**

**│ |── repository/**

**│ │ |── DBUtil.java**

**│ |── PersonalFinanceApplication.java**

**│**

**|── src/main/resources/**

**│ |── application.properties**

**│**

**|── src/main/webapp/**

**│ |── WEB-INF/**

**│ │ |── web.xml**

**│ │ |── views/**

**│ │ |── login.jsp**

**│ │ |── dashboard.jsp**

**│ │ |── addIncome.jsp**

**│ │ |── addExpense.jsp**

**│ |── css/**

**│ |── styles.css**

**│**

**|── pom.xml**

**|── README.md**

**Database Schema:**

**CREATE DATABASE finance\_db;**

**USE finance\_db;**

**CREATE TABLE users (**

**id INT PRIMARY KEY AUTO\_INCREMENT,**

**username VARCHAR(50) UNIQUE NOT NULL,**

**password VARCHAR(100) NOT NULL**

**);**

**CREATE TABLE incomes (**

**id INT PRIMARY KEY AUTO\_INCREMENT,**

**user\_id INT,**

**amount DECIMAL(10,2),**

**source VARCHAR(100),**

**date DATE,**

**FOREIGN KEY (user\_id) REFERENCES users(id)**

**);**

**CREATE TABLE expenses (**

**id INT PRIMARY KEY AUTO\_INCREMENT,**

**user\_id INT,**

**amount DECIMAL(10,2),**

**category VARCHAR(100),**

**date DATE,**

**FOREIGN KEY (user\_id) REFERENCES users(id)**

**);**

**Code Files:**

LoginServlet.java:

package com.example.personalfinance.controller;

import jakarta.servlet.\*;

import jakarta.servlet.http.\*;

import jakarta.servlet.annotation.\*;

import java.io.IOException;

import java.sql.\*;

@WebServlet("/login")

public class LoginServlet extends HttpServlet {

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

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

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

try {

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

Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/finance\_db", "root", "your\_password");

PreparedStatement ps = conn.prepareStatement("SELECT id FROM users WHERE username=? AND password=?");

ps.setString(1, username);

ps.setString(2, password);

ResultSet rs = ps.executeQuery();

if(rs.next()) {

int userId = rs.getInt("id");

HttpSession session = request.getSession();

session.setAttribute("userId", userId);

response.sendRedirect("dashboard.jsp");

} else {

request.setAttribute("error", "Invalid username or password");

request.getRequestDispatcher("login.jsp").forward(request, response);

}

conn.close();

} catch(Exception e) {

e.printStackTrace();

}

}

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

response.sendRedirect("login.jsp");

}

}

Dashboard.jsp:

<%@ page import="java.sql.\*, javax.servlet.http.\*" %>

<%@ page session="true" %>

<%

HttpSession session = request.getSession(false);

if(session == null || session.getAttribute("userId") == null) {

response.sendRedirect("login.jsp");

return;

}

int userId = (int) session.getAttribute("userId");

double totalIncome = 0, totalExpense = 0;

try {

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

Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/finance\_db", "root", "your\_password");

PreparedStatement psIncome = conn.prepareStatement("SELECT SUM(amount) FROM incomes WHERE user\_id=?");

psIncome.setInt(1, userId);

ResultSet rsIncome = psIncome.executeQuery();

if(rsIncome.next()) totalIncome = rsIncome.getDouble(1);

PreparedStatement psExpense = conn.prepareStatement("SELECT SUM(amount) FROM expenses WHERE user\_id=?");

psExpense.setInt(1, userId);

ResultSet rsExpense = psExpense.executeQuery();

if(rsExpense.next()) totalExpense = rsExpense.getDouble(1);

conn.close();

} catch(Exception e) {

e.printStackTrace();

}

double savings = totalIncome - totalExpense;

%>

<!DOCTYPE html>

<html>

<head>

<title>Dashboard</title>

<link rel="stylesheet" href="css/styles.css" />

</head>

<body>

<h2>Welcome to Your Personal Finance Dashboard</h2>

<p>Total Income: ₹<%= totalIncome %></p>

<p>Total Expense: ₹<%= totalExpense %></p>

<p><strong>Savings: ₹<%= savings %></strong></p>

<a href="addIncome.jsp">Add Income</a> |

<a href="addExpense.jsp">Add Expense</a> |

<a href="logout.jsp">Logout</a>

</body>

</html>

addIncome.jsp:

<%@ page session="true" %>

<%

if(session == null || session.getAttribute("userId") == null) {

response.sendRedirect("login.jsp");

return;

}

%>

<!DOCTYPE html>

<html>

<head>

<title>Add Income</title>

<link rel="stylesheet" href="css/styles.css" />

</head>

<body>

<h2>Add Income</h2>

<form action="addIncome" method="post">

<label>Amount: </label>

<input type="number" name="amount" step="0.01" required/><br/><br/>

<label>Source: </label>

<input type="text" name="source" required/><br/><br/>

<label>Date: </label>

<input type="date" name="date" required/><br/><br/>

<button type="submit">Add</button>

</form>

<br/>

<a href="dashboard.jsp">Back to Dashboard</a>

</body>

</html>

addIncome Servlet:

@WebServlet("/addIncome")

public class AddIncomeServlet extends HttpServlet {

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

HttpSession session = request.getSession(false);

if(session == null || session.getAttribute("userId") == null) {

response.sendRedirect("login.jsp");

return;

}

int userId = (int) session.getAttribute("userId");

double amount = Double.parseDouble(request.getParameter("amount"));

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

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

try {

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

Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/finance\_db", "root", "your\_password");

PreparedStatement ps = conn.prepareStatement("INSERT INTO incomes (user\_id, amount, source, date) VALUES (?, ?, ?, ?)");

ps.setInt(1, userId);

ps.setDouble(2, amount);

ps.setString(3, source);

ps.setDate(4, Date.valueOf(date));

ps.executeUpdate();

conn.close();

response.sendRedirect("dashboard.jsp");

} catch(Exception e) {

e.printStackTrace();

}

}

}

CSS (styles.css):

body {

font-family: Arial, sans-serif;

margin: 40px;

background-color: #f4f6f7;

color: #333;

}

h2 {

color: #2c3e50;

}

a {

text-decoration: none;

color: #2980b9;

margin-right: 15px;

}

a:hover {

text-decoration: underline;

}

form label {

display: inline-block;

width: 100px;

font-weight: bold;

}

input, button {

padding: 8px;

margin: 5px 0;

}

button {

background-color: #2980b9;

color: white;

border: none;

cursor: pointer;

}

button:hover {

background-color: #3498db;

}