Fullstack task

Login.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<form action="login" method="post">
    <input type="email" name="email" placeholder="Email" required />
    <input type="password" name="password" placeholder="Password" required />
    <button type="submit">Login</button>
</form>

</body>
</html>
```

MarkAttendance.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<form action="markAttendance" method="post" enctype="multipart/form-data">
    <label for="selfie">Upload Selfie:</label>
    <input type="file" name="selfie" required />
    <button type="submit">Mark Attendance</button>
</form>

</body>
</html>
```

attendanceHistory.jsp

```jsp
<%@ page import="java.util.List" %>
<%@ page import="com.vidya.studentsattendances.dao.AttendanceDAO" %>
<%@ page import="com.vidya.studentsattendances.entity.Attendance" %>
<%@ page import="com.vidya.studentsattendances.entity.User" %>
<%
```

```
    AttendanceDAO dao = new AttendanceDAO();
    int userId = ((User) session.getAttribute("user")).getId();
    List<Attendance> records = dao.getAttendanceByUserId(userId);
%>
<table>
    <tr>
        <th>Date</th>
        <th>Time</th>
        <th>Selfie</th>
    </tr>
    <%
        for (Attendance record : records) {
    %>
        <tr>
            <td><%= record.getDate() %></td>
            <td><%= record.getTime() %></td>
            <td><img src="<%= record.getSelfiePath() %>" width="100" /></td>
        </tr>
    <%
        }
    %>
</table>
```

Servlet classes:

LoginServlet.java

package com.vidya.studentsattendances.main;

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;

import com.vidya.studentsattendances.dao.UserDAO;

```
import com.vidya.studentsattendances.entity.User;


@SuppressWarnings("serial")
@WebServlet("/login")
public class LoginServlet extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
       String email = request.getParameter("email");
       String password = request.getParameter("password");


       UserDAO userDAO = new UserDAO();
       User user = userDAO.getUserByEmail(email);


       if (user != null && user.getPassword().equals(password)) {
           HttpSession session = request.getSession();
           session.setAttribute("user", user);
           response.sendRedirect("dashboard.jsp");
       } else {
           response.sendRedirect("login.jsp?error=Invalid credentials");
       }
   }
}
```

markAttendanceServlet.java

```
package com.vidya.studentsattendances.main;
```

```
import java.io.IOException;

import javax.servlet.ServletException;
import javax.servlet.annotation.MultipartConfig;
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 javax.servlet.http.Part;

import com.vidya.studentsattendances.dao.AttendanceDAO;
import com.vidya.studentsattendances.entity.Attendance;
import com.vidya.studentsattendances.entity.User;

@WebServlet("/markAttendance")
@MultipartConfig
public class MarkAttendanceServlet extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
      Part filePart = request.getPart("selfie");
      String fileName = filePart.getSubmittedFileName();
      String uploadPath = "C:/uploads/" + fileName;
      filePart.write(uploadPath);

      HttpSession session = request.getSession();
```

```
        User user = (User) session.getAttribute("user");

        Attendance attendance = new Attendance();
        attendance.setUserId(user.getId());
        attendance.setDate(new java.sql.Date(System.currentTimeMillis()));
        attendance.setTime(new java.sql.Time(System.currentTimeMillis()));
        attendance.setSelfiePath(uploadPath);

        AttendanceDAO attendanceDAO = new AttendanceDAO();
        attendanceDAO.saveAttendance(attendance);

        response.sendRedirect("attendanceHistory.jsp");
    }
}
```

UserServices.java

```
package com.vidya.studentsattendances.main;

import java.io.IOException;

import javax.servlet.ServletException;
import javax.servlet.annotation.MultipartConfig;
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 javax.servlet.http.Part;

import com.vidya.studentsattendances.dao.AttendanceDAO;
import com.vidya.studentsattendances.entity.Attendance;
import com.vidya.studentsattendances.entity.User;

@WebServlet("/markAttendance")
@MultipartConfig
public class MarkAttendanceServlet extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
      Part filePart = request.getPart("selfie");
      String fileName = filePart.getSubmittedFileName();
      String uploadPath = "C:/uploads/" + fileName;
      filePart.write(uploadPath);

      HttpSession session = request.getSession();
      User user = (User) session.getAttribute("user");

      Attendance attendance = new Attendance();
      attendance.setUserId(user.getId());
      attendance.setDate(new java.sql.Date(System.currentTimeMillis()));
      attendance.setTime(new java.sql.Time(System.currentTimeMillis()));
      attendance.setSelfiePath(uploadPath);
```

```
        AttendanceDAO attendanceDAO = new AttendanceDAO();
        attendanceDAO.saveAttendance(attendance);

        response.sendRedirect("attendanceHistory.jsp");
    }
}
```

HibernateUtil.java

```
package com.vidya.studentsattendances.util;

import org.hibernate.SessionFactory;
import org.hibernate.cfg.Configuration;

public class HibernateUtil {
    private static SessionFactory sessionFactory;

    static {
        try {
            // Initialize the sessionFactory from hibernate.cfg.xml
            sessionFactory = new
Configuration().configure().buildSessionFactory();
        } catch (Throwable ex) {
            // Log and rethrow the error during the initialization phase
            System.err.println("Initial SessionFactory creation failed: " + ex);
            throw new ExceptionInInitializerError(ex);
        }
    }
```

```
    public static SessionFactory getSessionFactory() {
        return sessionFactory;
    }

    public static void shutdown() {
        // Close the session factory and release resources
        getSessionFactory().close();
    }
}
```

AttendanceDAO.java

```
package com.vidya.studentsattendances.dao;

import java.io.IOException;
import java.util.List;

import javax.persistence.Query;
import javax.websocket.Session;

import org.hibernate.SharedSessionContract;
import org.hibernate.Transaction;

import com.vidya.studentsattendances.entity.Attendance;
import com.vidya.studentsattendances.util.HibernateUtil;
```

```
public class AttendanceDAO {

   public void saveAttendance(Attendance attendance) {

      org.hibernate.Session session =
HibernateUtil.getSessionFactory().openSession();

      Transaction transaction = ((SharedSessionContract)
session).beginTransaction();

      session.save(attendance);

      transaction.commit();

      session.close();

   }


   public List<Attendance> getAttendanceByUserId(int userId) throws
IOException {

      Session session = (Session)
HibernateUtil.getSessionFactory().openSession();

      Query query = (Query) ((SharedSessionContract)
session).createQuery("FROM Attendance WHERE userId = :userId");

      query.setParameter("userId", userId);

      List<Attendance> attendanceList = ((org.hibernate.Query) query).list();

      session.close();

      return attendanceList;

   }

}
```

UserDAO.java

```java
package com.vidya.studentsattendances.dao;

import org.hibernate.Session;
import org.hibernate.Transaction;
import org.hibernate.Query;
```

```java
import com.vidya.studentsattendances.entity.User;
import com.vidya.studentsattendances.util.HibernateUtil;

public class UserDAO {
    // Save user to the database
    public void saveUser(User user) {
        Transaction transaction = null;
        try (Session session = HibernateUtil.getSessionFactory().openSession()) {
            // Start a transaction
            transaction = session.beginTransaction();
            // Save the user object
            session.save(user);
            // Commit transaction
            transaction.commit();
        } catch (Exception e) {
            if (transaction != null) {
                transaction.rollback();
            }
            e.printStackTrace();
        }
    }

    // Fetch a user by email
    public User getUserByEmail(String email) {
        User user = null;
        try (Session session = HibernateUtil.getSessionFactory().openSession()) {
            // HQL query to fetch user by email
             Query query = session.createQuery("FROM User WHERE email = :email");
             query.setParameter("email", email);
             User user1 = (User) query.uniqueResult();

            query.setParameter("email", email);
            user1 = (User) query.uniqueResult(); // Fetch the unique result
        } catch (Exception e) {
            e.printStackTrace();
        }
        return user;
    }
}
```

AttendanaceDOA.java

package com.vidya.studentsattendances.dao;

import java.io.IOException;

import java.util.List;

```
import javax.persistence.Query;
import javax.websocket.Session;

import org.hibernate.SharedSessionContract;
import org.hibernate.Transaction;

import com.vidya.studentsattendances.entity.Attendance;
import com.vidya.studentsattendances.util.HibernateUtil;

public class AttendanceDAO {
   public void saveAttendance(Attendance attendance) {
       org.hibernate.Session session =
HibernateUtil.getSessionFactory().openSession();
       Transaction transaction = ((SharedSessionContract)
session).beginTransaction();
       session.save(attendance);
       transaction.commit();
       session.close();
   }

   public List<Attendance> getAttendanceByUserId(int userId) throws
IOException {
       Session session = (Session) HibernateUtil.getSessionFactory().openSession();
       Query query = (Query) ((SharedSessionContract)
session).createQuery("FROM Attendance WHERE userId = :userId");
       query.setParameter("userId", userId);
       List<Attendance> attendanceList = ((org.hibernate.Query) query).list();
```

```
        session.close();
        return attendanceList;
    }
}
```

Attendance.java

```
package com.vidya.studentsattendances.entity;

import java.util.Date;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;

import org.apache.tomcat.jni.Time;

@SuppressWarnings("deprecation")
@Entity
@Table(name = "Attendance")
public class Attendance {
    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private int id;
```

```
private int userId;
private Date date;
private java.sql.Time time;
private String selfiePath;
                public int getId() {
                   return id;
                }
                public void setId(int id) {
                   this.id = id;
                }
                public int getUserId() {
                   return userId;
                }
                public void setUserId(int userId) {
                   this.userId = userId;
                }
                public Date getDate() {
                   return date;
                }
                public void setDate(Date date) {
                   this.date = date;
                }
                public java.sql.Time getTime() {
                   return time;
                }
```

```
    public void setTime(java.sql.Time time2) {
        this.time = time2;
    }
    public String getSelfiePath() {
        return selfiePath;
    }
    public void setSelfiePath(String selfiePath) {
        this.selfiePath = selfiePath;
    }

    // Getters and Setters
}
```

User.java

```
package com.vidya.studentsattendances.entity;

import javax.persistence.Entity;
import javax.persistence.GeneratedValue;
import javax.persistence.GenerationType;
import javax.persistence.Id;
import javax.persistence.Table;

@Entity
@Table(name = "Users") // Links this entity to the Users table in the database
public class User {
    @Id // Marks this field as the primary key
```

```
    @GeneratedValue(strategy = GenerationType.IDENTITY) // Auto-incrementing
primary key
    private int id;

    private String name; // Name of the user
    private String email; // User's email
    private String password; // Encrypted password
    private String role; // Role (student, teacher, admin)
    private String status; // Account status (active, inactive)

    // Getters and Setters
    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }
```

```
public String getEmail() {
    return email;
}

public void setEmail(String email) {
    this.email = email;
}

public String getPassword() {
    return password;
}

public void setPassword(String password) {
    this.password = password;
}

public String getRole() {
    return role;
}

public void setRole(String role) {
    this.role = role;
}
```

```
    public String getStatus() {
        return status;
    }

    public void setStatus(String status) {
        this.status = status;
    }
}
```