Assignment-8-PBLJ

Easy Level: Login System Implementation

1. Login Form (HTML)

```
<form action="LoginServlet" method="post">
  Username: <input type="text" name="username"><br>
  Password: <input type="password" name="password"><br>
  <input type="submit" value="Login">
</form>
```

2. Servlet Validation

```java
// LoginServlet.java
@WebServlet("/LoginServlet")
public class LoginServlet extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse response)
      throws ServletException, IOException {

      String hardcodedUser = "admin";
      String hardcodedPass = "password123";

      if(request.getParameter("username").equals(hardcodedUser) &&
         request.getParameter("password").equals(hardcodedPass)) {
          response.getWriter().println("Welcome " + hardcodedUser);
      } else {
          response.sendRedirect("index.html");
      }
   }
}
```

Medium Level: Employee Directory

1. JDBC Configuration

```java
// DBUtil.java
public class DBUtil {
   static final String DB_URL = "jdbc:mysql://localhost/company";
   static final String USER = "root";
   static final String PASS = "root";
```

```
}
```

2. Employee Servlet

```java
// EmployeeServlet.java
@WebServlet("/employees")
public class EmployeeServlet extends HttpServlet {
  protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {

    try(Connection conn = DriverManager.getConnection(DBUtil.DB_URL, DBUtil.USER, DBUtil.PASS)) {
      String sql = request.getParameter("id") == null ?
        "SELECT * FROM employee" :
        "SELECT * FROM employee WHERE id = ?";

      PreparedStatement pstmt = conn.prepareStatement(sql);
      if(request.getParameter("id") != null) {
        pstmt.setInt(1, Integer.parseInt(request.getParameter("id")));
      }

      ResultSet rs = pstmt.executeQuery();
      // Process result set and generate HTML table
    } catch (SQLException e) {
      e.printStackTrace();
    }
  }
}
```

Hard Level: Student Attendance Portal

1. JSP Attendance Form

```html
<form action="SaveAttendanceServlet" method="post">
 Student ID: <input type="number" name="studentId" required><br>
 Date: <input type="date" name="date" required><br>
 Status:
 <select name="status">
  <option value="Present">Present</option>
  <option value="Absent">Absent</option>
 </select><br>
 <input type="submit" value="Submit">
```

</form>

2. Attendance Servlet

```java
// SaveAttendanceServlet.java
@WebServlet("/SaveAttendanceServlet")
public class SaveAttendanceServlet extends HttpServlet {
  protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {

    try(Connection conn = DriverManager.getConnection(DBUtil.DB_URL, DBUtil.USER, DBUtil.PASS)) {
      String sql = "INSERT INTO attendance(student_id, date, status) VALUES(?,?,?)";
      PreparedStatement pstmt = conn.prepareStatement(sql);

      pstmt.setInt(1, Integer.parseInt(request.getParameter("studentId")));
      pstmt.setDate(2, Date.valueOf(request.getParameter("date")));
      pstmt.setString(3, request.getParameter("status"));

      pstmt.executeUpdate();
      response.sendRedirect("attendanceSuccess.jsp");
    } catch (SQLException e) {
      e.printStackTrace();
    }
  }
}
```