



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment 8.1

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Branch: BE-CSE

Semester: 6th

Subject Name: Project based learning in Java

UID: 22BCS12962

Section/Group: IoT_642(B)

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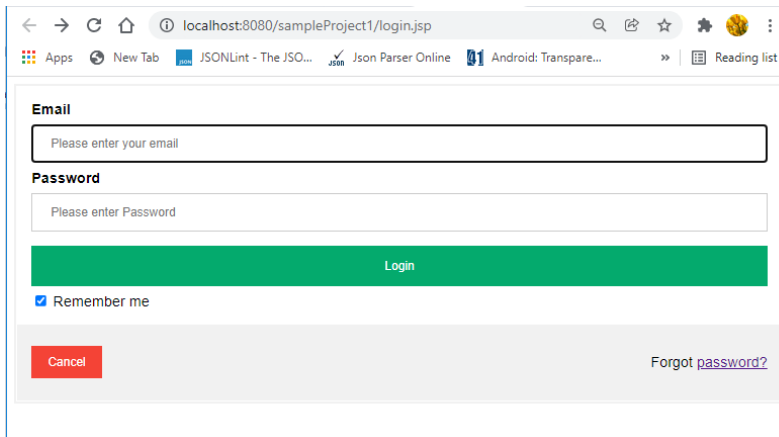
Subject Code: 22CSH-359

- 1. Aim:** Write a servlet to accept user credentials through an HTML form and display a personalized welcome message if the login is successful.
- 2. Objective:** Develop web applications using Servlets and JSP for user input handling, database integration.

3. Implementation/Code:

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
@WebServlet("/LoginServlet")
public class LoginServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;
    private static final String USERNAME = "admin";
    private static final String PASSWORD = "password123";
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        String username = request.getParameter("username");
        String password = request.getParameter("password");
        if (USERNAME.equals(username) && PASSWORD.equals(password)) {
            out.println("<html><body>");
            out.println("<h2>Welcome, " + username + "!</h2>");
            out.println("</body></html>");
        } else {
            out.println("<html><body>");
            out.println("<h2>Invalid credentials. Please try again.</h2>");
            out.println("</body></html>");
        }
    }
}
```

4. Output



The screenshot shows a web browser window with the address bar displaying 'localhost:8080/sampleProject1/login.jsp'. The browser's tab bar shows several open tabs: 'Apps', 'New Tab', 'JSONLint - The JSO...', 'Json Parser Online', and 'Android: Transpare...'. The login form itself is a simple white box with a green border. It contains an 'Email' label above a text input field with placeholder text 'Please enter your email'. Below this is a 'Password' label above another text input field with placeholder text 'Please enter Password'. A large green button labeled 'Login' is positioned below the password field. Under the 'Login' button is a checkbox labeled 'Remember me'. At the bottom left of the form is a red button labeled 'Cancel', and at the bottom right is a link labeled 'Forgot password?'.

5. Learning Outcomes

- Understanding Servlets in Java.
- Handling HTTP Requests and Responses.
- Form Handling and Validation.
- Generating Dynamic HTML Content

Experiment 8.2

1. **Aim:** Create a servlet integrated with JDBC to display a list of employees from a database. Include a search form to fetch employee details by ID.
2. **Objective:** Develop web applications using Servlets and JSP for user input handling, database integration.

3. Code:

```
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;
```

```
@WebServlet("/EmployeeServlet")
```



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```
public class EmployeeServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    // Database connection details
    private static final String JDBC_URL = "jdbc:mysql://localhost:3306/your_database";
    private static final String JDBC_USER = "root";
    private static final String JDBC_PASSWORD = "password";

    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
    ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        String employeeId = request.getParameter("id");

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection conn = DriverManager.getConnection(JDBC_URL, JDBC_USER,
            JDBC_PASSWORD);

            String query = "SELECT * FROM employees";
            if (employeeId != null && !employeeId.isEmpty()) {
                query += " WHERE id = ?";
            }

            PreparedStatement ps = conn.prepareStatement(query);
            if (employeeId != null && !employeeId.isEmpty()) {
                ps.setInt(1, Integer.parseInt(employeeId));
            }

            ResultSet rs = ps.executeQuery();

            out.println("<html><body>");
            out.println("<h2>Employee List</h2>");
            out.println("<table
            border='1'><tr><th>ID</th><th>Name</th><th>Department</th><th>Salary</th></tr>");

            while (rs.next()) {
                out.println("<tr><td>" + rs.getInt("id") + "</td><td>" + rs.getString("name") +
                "</td><td>" + rs.getString("department") + "</td><td>" + rs.getDouble("salary") +
                "</td></tr>");
            }

            out.println("</table>");
            out.println("<br><a href='index.html'>Search Again</a>");
            out.println("</body></html>");
        }
    }
}
```



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```
        conn.close();
    } catch (Exception e) {
        out.println("Error: " + e.getMessage());
    }
}
```

4. Output

ID	Name	Department	Salary
1	John Doe	IT	75000.00
2	Jane Smith	HR	60000.00
3	Robert Brown	Finance	80000.00

ID	Name	Department	Salary
2	Jane Smith	HR	60000.00

No Employee Found

```
| Error: Cannot connect to database. Please try again later. |
```

5. Learning Outcomes:

- Understanding Servlets in Java.
- Handling HTTP Requests and Responses.
- Form Handling and Validation.
- Generating Dynamic HTML Content.



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