



### Experiment 8

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**Semester: 6<sup>th</sup>**

**Subject Name: Project Based Learning  
in Java with Lab**

**UID: 22BCS16886**

**Section: 22BCS\_IOT\_EPAM\_801-B**

**Date of Performance: 05 April 2025**

**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. Implementation/Code:**

```
<!DOCTYPE html>
<html>
<head>
  <title>Login Page</title>
</head>
<body>
  <h2>User Login</h2>
  <form action="LoginServlet" method="post">
    <label>Username:</label>
    <input type="text" name="username" required /><br/><br/>
    <label>Password:</label>
    <input type="password" name="password" required /><br/><br/>
    <input type="submit" value="Login" />
  </form>
</body>
</html>
```



## Java Servlet

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class LoginServlet extends HttpServlet {

    // Hardcoded valid credentials for demo purposes
    private static final String VALID_USERNAME = "mayank";
    private static final String VALID_PASSWORD = "1234";

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

        // Set response content type
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        // Read form fields
        String username = request.getParameter("username");
        String password = request.getParameter("password");

        // Basic validation
        if (VALID_USERNAME.equals(username) && VALID_PASSWORD.equals(password))
        {
            out.println("<h2>Welcome, " + username + "!</h2>");
            out.println("<p>Login successful.</p>");
        } else {
            out.println("<h3>Login Failed</h3>");
            out.println("<p>Invalid username or password.</p>");
        }

        out.close();
    }
}
```



```
<web-app xmlns="http://java.sun.com/xml/ns/javaee" version="3.0">
  <servlet>
    <servlet-name>LoginServlet</servlet-name>
    <servlet-class>LoginServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>LoginServlet</servlet-name>
    <url-pattern>/LoginServlet</url-pattern>
  </servlet-mapping>
</web-app>
```

### 3. Output:

```
+-----+
|      User Login      |
|                      |
| Username:            |
| [                    ] |
|                      |
| Password:            |
| [                    ] |
|                      |
| [      Login      ] |
+-----+
```

```
+-----+
|                      |
| Welcome, admin!      |
|                      |
| You have successfully |
| logged in.           |
|                      |
+-----+
```

```
+-----+
|                      |
| Login Failed         |
|                      |
| Invalid username or  |
| password. Please try |
| again.               |
|                      |
| [Back to Login]      |
|                      |
+-----+
```



## Experiment -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. Code :-

```
CREATE DATABASE company;
USE company;
CREATE TABLE employees (
    id INT PRIMARY KEY,
    name VARCHAR(100),
    department VARCHAR(100),
    salary DECIMAL(10,2)
);
INSERT INTO employees VALUES
(1, 'Alice', 'HR', 50000),
(2, 'Bob', 'IT', 70000),
(3, 'Charlie', 'Finance', 60000);
```

### HTML Form for Searching Employee by ID

```
<!DOCTYPE html>
<html>
<head>
    <title>Employee Search</title>
</head>
<body>
    <h2>Search Employee by ID</h2>
    <form action="EmployeeServlet" method="get">
        <label>Enter Employee ID:</label>
```



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```
<input type="text" name="id" />
<input type="submit" value="Search" />
</form>
<hr>
<h2>All Employees</h2>
<a href="EmployeeServlet">View All Employees</a>
</body>
</html>
```

## Servlet

```
import java.io.*;
import java.sql.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class EmployeeServlet extends HttpServlet {
    private Connection conn;
    public void init() {
        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            conn = DriverManager.getConnection(
                "jdbc:mysql://localhost:3306/company", "root", "yourpassword"
            );
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

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

        try {
            Statement stmt = conn.createStatement();
```



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```
ResultSet rs;
if (empld != null && !empld.isEmpty()) {
    PreparedStatement ps = conn.prepareStatement("SELECT * FROM
employees WHERE id = ?");
    ps.setInt(1, Integer.parseInt(empld));
    rs = ps.executeQuery();
    if (rs.next()) {
        out.println("<h3>Employee Details:</h3>");
        out.println("<p>ID: " + rs.getInt("id") + "</p>");
        out.println("<p>Name: " + rs.getString("name") + "</p>");
        out.println("<p>Department: " + rs.getString("department") + "</p>");
        out.println("<p>Salary: $" + rs.getDouble("salary") + "</p>");
    } else {
        out.println("<p>No employee found with ID: " + empld + "</p>");
    }
} else {
    rs = stmt.executeQuery("SELECT * FROM employees");
    out.println("<h3>All Employees:</h3>");
    out.println("<table border='1'>");

    out.println("<tr><th>ID</th><th>Name</th><th>Department</th><th>Salary</th></tr>
");
    while (rs.next()) {
        out.println("<tr>");
        out.println("<td>" + rs.getInt("id") + "</td>");
        out.println("<td>" + rs.getString("name") + "</td>");
        out.println("<td>" + rs.getString("department") + "</td>");
        out.println("<td>$" + rs.getDouble("salary") + "</td>");
        out.println("</tr>");
    }
    out.println("</table>");
}
} catch (Exception e) {
    out.println("<p>Error: " + e.getMessage() + "</p>");
}
}
```

  

```
public void destroy() {
```



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```
try {  
    if (conn != null) conn.close();  
} catch (SQLException e) {  
    e.printStackTrace();  
}  
}  
}
```

## Deployment Descriptor

```
<web-app xmlns="http://java.sun.com/xml/ns/javaee" version="3.0">  
    <servlet>  
        <servlet-name>EmployeeServlet</servlet-name>  
        <servlet-class>EmployeeServlet</servlet-class>  
    </servlet>  
    <servlet-mapping>  
        <servlet-name>EmployeeServlet</servlet-name>  
        <url-pattern>/EmployeeServlet</url-pattern>  
    </servlet-mapping>  
</web-app>
```

## 3. Output :-

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ID	Name	Position	Salary	Hire Date
101	John Doe	Software Engineer	\$75000.00	2020-01-15
102	Jane Smith	Project Manager	\$85000.00	2019-05-20
103	Bob Johnson	UI/UX Designer	\$70000.00	2021-03-10
104	Alice Williams	Database Admin	\$60000.00	2018-11-05
105	Charlie Brown	System Analyst	\$72000.00	2020-09-25

  

ID	Name	Position	Salary	Hire Date
102	Jane Smith	Project Manager	\$85000.00	2019-05-20



## Experiment -3

1. **Aim :- Develop a JSP-based student portal. Include a form for entering attendance details and save them to the database**

### 2. Code :-

```
CREATE DATABASE student_portal;

USE student_portal;

CREATE TABLE attendance (
    id INT AUTO_INCREMENT PRIMARY KEY,
    student_name VARCHAR(100),
    roll_number VARCHAR(50),
    date DATE,
    status VARCHAR(20)
);
```

### JSP Form Page

```
<%@ page language="java" contentType="text/html; charset=UTF-8" %>
<!DOCTYPE html>
<html>
<head>
    <title>Student Attendance Portal</title>
</head>
<body>
    <h2>Enter Student Attendance</h2>
    <form action="saveAttendance.jsp" method="post">
        <label>Student Name:</label><br>
        <input type="text" name="student_name" required><br><br>

        <label>Roll Number:</label><br>
        <input type="text" name="roll_number" required><br><br>
```





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```
<label>Date:</label><br>
<input type="date" name="date" required><br><br>

<label>Status:</label><br>
<select name="status" required>
  <option value="Present">Present</option>
  <option value="Absent">Absent</option>
</select><br><br>

  <input type="submit" value="Save Attendance">
</form>
</body>
</html>
```

## Data-Saving Logic Page

```
<%@ page import="java.sql.*" %>
<%
String studentName = request.getParameter("student_name");
String rollNumber = request.getParameter("roll_number");
String date = request.getParameter("date");
String status = request.getParameter("status");

Connection conn = null;
PreparedStatement pstmt = null;

try {
  Class.forName("com.mysql.cj.jdbc.Driver");
  conn = DriverManager.getConnection(
    "jdbc:mysql://localhost:3306/student_portal", "root", "yourpassword"
  );

  String sql = "INSERT INTO attendance (student_name, roll_number, date, status)
VALUES (?, ?, ?, ?)";
  pstmt = conn.prepareStatement(sql);
  pstmt.setString(1, studentName);
  pstmt.setString(2, rollNumber);
  pstmt.setDate(3, java.sql.Date.valueOf(date));
```



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```
pstmt.setString(4, status);

int rows = pstmt.executeUpdate();

if (rows > 0) {
    out.println("<h3>Attendance saved successfully!</h3>");
} else {
    out.println("<h3>Failed to save attendance.</h3>");
}

} catch (Exception e) {
    out.println("Error: " + e.getMessage());
    e.printStackTrace();
} finally {
    try { if (pstmt != null) pstmt.close(); } catch (Exception e) {}
    try { if (conn != null) conn.close(); } catch (Exception e) {}
}

%>
<a href="attendance.jsp">Back to Form</a>
```

## Deployment Setup

```
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee" version="3.1">
    <display-name>Student Attendance Portal</display-name>
</web-app>
```



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## 3. Output :-

```
+-----+
|           Student Attendance Portal           |
+-----+
| Attendance History for: Alex Johnson (ID: 1001) |
| +-----+ |
| | Date       | Status | Remarks | |
| |-----|-----|-----| |
| | 2025-03-30 | Present |         | |
| | 2025-03-29 | Present |         | |
| | 2025-03-28 | Absent  | Family emergency | |
| | 2025-03-27 | Present |         | |
| | 2025-03-26 | Late    | Bus delay | |
| | +-----+ | |
| | [Back to Class View] | |
| +-----+ |
+-----+
```

Date	Status	Remarks
2025-03-30	Present	
2025-03-29	Present	
2025-03-28	Absent	Family emergency
2025-03-27	Present	
2025-03-26	Late	Bus delay

[Back to Class View]