Experiment-8

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Section/Group: 618-B
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Subject Name: Project Based Learning in Java
Subject Code: 22CSH-359

EASY:

Aim: Write a servlet to accept user credentials through an HTML form and display a personalized welcome message if the login is successful.

Objective: To develop a servlet that accepts user credentials through an HTML form. It displays a personalized welcome message if the login is successful.

Implementation/Code:

HTML FORM

```
<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>
```

SERVLET

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

public class LoginServlet extends HttpServlet {
```

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

        String user = request.getParameter("username");
        String pass = request.getParameter("password");

        if(user.equals("admin") && pass.equals("admin")) {
            out.println("<h1>Welcome " + user + "</h1>");
        } else {
            out.println("<h1>Invalid username or password</h1>");
        }
    }
}
```

Output

```
User Input:
Username: admin
Password: admin

Output:
Welcome admin
```

MEDIUM:

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.

Objective: To create a servlet integrated with JDBC to fetch employee details from the database. It displays either all employees or a specific employee based on the entered ID.

Code/Implementation:

HTML

```
<form action="EmployeeServlet" method="get">
    Enter Employee ID to Search: <input type="text" name="id"><br>
    <input type="submit" value="Search">
</form>
```

SERVLET

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

public class EmployeeServlet extends HttpServlet {
    protected void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
        response.setContentType("text/html");
```

```
        PrintWriter out = response.getWriter();
        String id = request.getParameter("id");

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/testdb", "root", "");

            Statement stmt = con.createStatement();
            ResultSet rs;

            if(id != null && !id.isEmpty()) {
                rs = stmt.executeQuery("SELECT * FROM employee WHERE id=" +
id);
            } else {
                rs = stmt.executeQuery("SELECT * FROM employee");
            }

            out.println("<table border='1'>");
            out.println("<tr><th>ID</th><th>Name</th><th>Position</th></tr>");

            while(rs.next()) {
                out.println("<tr><td>" + rs.getInt(1) + "</td><td>" + rs.getString(2) +
"</td><td>" + rs.getString(3) + "</td></tr>");
            }
```

```
            out.println("</table>");
            con.close();
        } catch(Exception e) {
            out.println("Error: " + e);
        }
    }
}
```

Output:

```
Enter Employee ID to Search: 2

Output:
ID      Name       Position
------------------------------
2       John Doe   Manager
```

HARD:

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

Objective: To design a JSP-based student portal for attendance entry.
It collects attendance details and stores them into the database using a servlet.

Code/Implementation:

JSP

```
<form action="AttendanceServlet" method="post">
    Student Name: <input type="text" name="name"><br>
    Date: <input type="date" name="date"><br>
```

```
    Attendance (Present/Absent): <input type="text" name="status"><br>
    <input type="submit" value="Submit Attendance">
</form>
```

SERVLET

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

public class AttendanceServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

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

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/testdb", "root", "");
```

```
        PreparedStatement ps = con.prepareStatement("INSERT INTO
attendance(name, date, status) VALUES (?, ?, ?)");
            ps.setString(1, name);
            ps.setString(2, date);
            ps.setString(3, status);

            int i = ps.executeUpdate();
            if(i > 0) {
               out.println("<h1>Attendance Saved Successfully</h1>");
            } else {
               out.println("<h1>Attendance Not Saved</h1>");
            }
            con.close();
        } catch(Exception e) {
            out.println("Error: " + e);
        }
    }
}
```

Output:

```
Student Name: Ramesh
Date: 2025-03-28
Attendance (Present/Absent): Present

Output:
Attendance Saved Successfully
```

Learning Outcome:

1. We will be able to develop Java Servlets and JSP applications with form handling and database connectivity.
2. We will learn to implement dynamic web applications for real-time data processing and display.