

Experiment No. 2b

Enhance the employeeForm.jsp page to implement robust server-side validation using JSP for managing employee information.

- Ensure that all required fields (such as Employee ID, Name, Age, Department, and Email) are properly validated in employeeResult.jsp upon form submission.
- Implement server-side checks to verify that:
 - Employee ID is a non-empty string.
 - Name contains only letters and spaces.
 - Age is a valid numeric value between 18 and 65.
 - Department is selected from a predefined list of options.
 - Email follows a valid format (e.g., name@example.com).

Display clear and descriptive error messages directly on employeeResult.jsp next to each field if validation criteria are not met, guiding users to correct their input.

employeeForm.jsp

```
<!DOCTYPE html>
<html>
<head>
    <title>Employee Form</title>
</head>
<body>
    <h2>Employee Information Form</h2>
    <form action="employeeResult.jsp" method="POST">
        Employee ID: <input type="text" name="employeeId"
required><br>
        Name: <input type="text" name="name" required><br>
        Age: <input type="number" name="age" required><br>
        Department:
        <select name="department" required>
            <option value="">Select</option>
            <option value="HR">HR</option>
            <option value="Finance">Finance</option>
            <option value="IT">IT</option>
            <option value="Sales">Sales</option>
        </select><br>
        Email: <input type="email" name="email" required><br>
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

employeeResult.jsp

```
<%@ page contentType="text/html; charset=UTF-8" language="java"
%>
```

```

<%@ page import="java.util.regex.*" %>
<!DOCTYPE html>
<html>
<head>
    <title>Employee Information</title>
</head>
<body>
    <h2>Employee Information Result</h2>
    <%
        // Retrieve form data
        String employeeId = request.getParameter("employeeId");
        String name = request.getParameter("name");
        String ageStr = request.getParameter("age");
        String department = request.getParameter("department");
        String email = request.getParameter("email");

        // Initialize error messages
        String employeeIdError = "";
        String nameError = "";
        String ageError = "";
        String departmentError = "";
        String emailError = "";

        // Validation flags
        boolean isValid = true;

        // Validate Employee ID
        if (employeeId == null || employeeId.trim().isEmpty())
        {
            employeeIdError = "Employee ID is required.";
            isValid = false;
        }

        // Validate Name
        if (name == null || !name.matches("^[a-zA-Z\\s]+$")) {
            nameError = "Name must contain only letters and
spaces.";
            isValid = false;
        }

        // Validate Age
        int age = 0;
        try {
            age = Integer.parseInt(ageStr);
            if (age < 18 || age > 65) {
                ageError = "Age must be between 18 and 65.";
                isValid = false;
            }
        } catch (NumberFormatException e) {
            ageError = "Age must be a valid numeric value.";
            isValid = false;
        }
    %>

```

```

    }

    // Validate Department
    if (department == null || department.trim().isEmpty())
    {
        departmentError = "Department is required.";
        isValid = false;
    } else if (!department.matches("HR|Finance|IT|Sales"))
    {
        departmentError = "Invalid department selected.";
        isValid = false;
    }

    // Validate Email
    if (email == null || !email.matches("^([\\w.-]+@[\\w.-]+\\.([a-zA-Z]{2,})$")) {
        emailError = "Email must be in a valid format
(e.g., name@example.com).";
        isValid = false;
    }

    if (isValid) {
        // Process data
        int currentYear =
java.util.Calendar.getInstance().get(java.util.Calendar.YEAR);
        int birthYear = currentYear - age;
        String nameAndDepartment = name + " (" + department
+ ")";

        // Format email
        String formattedEmail = email.toLowerCase();

        %>
        <table border="1">
            <tr>
                <th>Employee ID</th>
                <td><%= employeeId %></td>
            </tr>
            <tr>
                <th>Name and Department</th>
                <td><%= nameAndDepartment %></td>
            </tr>
            <tr>
                <th>Birth Year</th>
                <td><%= birthYear %></td>
            </tr>
            <tr>
                <th>Formatted Email</th>
                <td><%= formattedEmail %></td>
            </tr>
        </table>

        <%

```

```

        } else {
            // Display error messages and guide the user
        %>
        <h3>Validation Errors</h3>
        <ul>
            <% if (!employeeIdError.isEmpty()) { %>
                <li><b>Employee ID:</b> <%= employeeIdError
%></li>

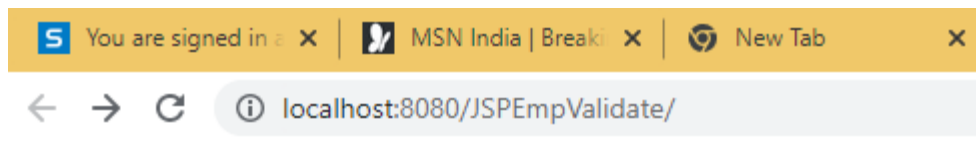
                <% } %>
                <% if (!nameError.isEmpty()) { %>
                    <li><b>Name:</b> <%= nameError %></li>
                <% } %>
                <% if (!ageError.isEmpty()) { %>
                    <li><b>Age:</b> <%= ageError %></li>
                <% } %>
                <% if (!departmentError.isEmpty()) { %>
                    <li><b>Department:</b> <%= departmentError
%></li>

                    <% } %>
                    <% if (!emailError.isEmpty()) { %>
                        <li><b>Email:</b> <%= emailError %></li>
                    <% } %>
                </ul>
                <!--<a href="employeeForm.jsp">Go back to the
form</a>-->
                <a href="index.html">Go back to the form</a>

                <%
                    }
                %>
            </body>
            </html>

```

Expected Output



Employee Information Form

Employee ID:

Name:

Age:

Department:

Email:



Employee Information Result

Employee ID	212
Name and Department	Akhilraj (HR)
Birth Year	1992
Formatted Email	abc@xyz.com



Employee Information Form

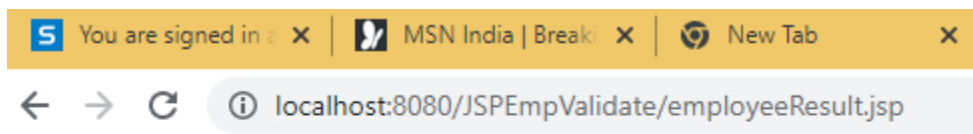
Employee ID:

Name:

Age:

Department:

Email:



Employee Information Result

Validation Errors

- **Name:** Name must contain only letters and spaces.
- **Age:** Age must be between 18 and 65.

[Go back to the form](#)