10.CalServlet

**CalculatorServlet.java:**

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import java.io.IOException;

import java.io.PrintWriter;

@WebServlet("/CalculatorServlet")

public class CalculatorServlet extends HttpServlet {

private static final long serialVersionUID = 1L;

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

double num1 = Double.parseDouble(request.getParameter("num1"));

double num2 = Double.parseDouble(request.getParameter("num2"));

String operation = request.getParameter("operation");

PrintWriter out = response.getWriter();

response.setContentType("text/html");

out.println("<html><head><title>Result</title></head><body>");

double ans = 0;

boolean valid = true;

String symbol = "";

switch (operation) {

case "add":

ans = num1 + num2;

symbol = "+";

break;

case "sub":

ans = num1 - num2;

symbol = "-";

break;

case "multi":

ans = num1 \* num2;

symbol = "\*";

break;

case "divi":

if (num2 != 0) {

ans = num1 / num2;

symbol = "/";

} else {

valid = false;

out.println("<h4 style='color: red;'>Error: Division by zero not possible</h4>");

}

break;

default:

valid = false;

out.println("<h4 style='color: red;'>Error: Invalid operation</h4>");

}

if (valid) {

out.println("<h2>Result:</h2>");

out.println("<p>" + num1 + " " + symbol + " " + num2 + " = " + ans + "</p>");

}

out.println("</body></html>");

}

}

**Index.html:**

<!DOCTYPE html>

<html>

<head>

<meta charset="ISO-8859-1">

<title>Calculator</title>

<style>

body {

font-family: Arial, sans-serif;

background: #f0f4f8;

display: flex;

justify-content: center;

align-items: center;

height: 100vh;

margin: 0;

}

div {

background: #ffffff;

padding: 30px 40px;

border-radius: 10px;

box-shadow: 0 4px 12px rgba(0, 0, 0, 0.1);

width: 300px;

}

h2 {

text-align: center;

color: #333;

margin-bottom: 20px;

}

form {

display: flex;

flex-direction: column;

}

label {

margin-top: 10px;

font-weight: bold;

color: #555;

}

input[type="number"],

select {

padding: 10px;

margin-top: 5px;

border: 1px solid #ccc;

border-radius: 5px;

font-size: 14px;

}

button {

margin-top: 20px;

padding: 10px;

background-color: #0066cc;

color: white;

border: none;

border-radius: 5px;

font-size: 16px;

cursor: pointer;

}

button:hover {

background-color: #004999;

}

</style>

</head>

<body>

<div>

<h2>Calculator</h2>

<form action="CalculatorServlet" method="post">

<label>Entre the number1:</label>

<input type="number" name="num1" placeholder="Entre the number" required>

<label>Entre the number2:</label>

<input type="number" name="num2" placeholder="Entre the number" required>

<label>select operation:</label>

<select name="operation">

<option value="add">Addition</option>

<option value="sub">subtraction</option>

<option value="multi">Multiplication</option>

<option value="divi">division</option>

</select>

<button type="submit">Calculate</button>

</form>

</div>

</body>

</html>

**Web.xml:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<**web-app** xmlns:xsi=*"http://www.w3.org/2001/XMLSchema-instance"* xmlns=*"https://jakarta.ee/xml/ns/jakartaee"* xsi:schemaLocation=*"https://jakarta.ee/xml/ns/jakartaee https://jakarta.ee/xml/ns/jakartaee/web-app\_5\_0.xsd"* id=*"WebApp\_ID"* version=*"5.0"*>

<**display-name**>Calculator</**display-name**>

<**welcome-file-list**>

<**welcome-file**>index.html</**welcome-file**>

<**welcome-file**>index.jsp</**welcome-file**>

<**welcome-file**>index.htm</**welcome-file**>

<**welcome-file**>default.html</**welcome-file**>

<**welcome-file**>default.jsp</**welcome-file**>

<**welcome-file**>default.htm</**welcome-file**>

</**welcome-file-list**>

<**servlet**>

<**description**></**description**>

<**display-name**>CalculatorServlet</**display-name**>

<**servlet-name**>CalculatorServlet</**servlet-name**>

<**servlet-class**>CalculatorServlet</**servlet-class**>

</**servlet**>

<**servlet-mapping**>

<**servlet-name**>CalculatorServlet</**servlet-name**>

<**url-pattern**>/CalculatorServlet</**url-pattern**>

</**servlet-mapping**>

</**web-app**>