



Experiment 1

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Aim/Overview of the practical: To create a simple client-server communication application using an HTML form to submit First Name and Last Name to a servlet, and to retrieve and display the form data. The experiment will demonstrate client-server communication using both the GET method for form submission.

Task to be done:

- **Create the HTML form with GET and POST method:**
 - Design an HTML form that includes two input fields: First Name and Last Name.
 - Set the form method to GET and POST, meaning the form data will be appended to the URL for submission.
 - Add a submit button to submit the data.
- **Create a servlet to handle form submission:**
 - Write a Java servlet to handle both GET and POST requests.
 - Retrieve the form data using `request.getParameter()` for both methods.
 - Display the retrieved data as part of the response.
- **Run the application on a server (e.g., Apache Tomcat):**
 - Deploy the HTML page and servlet to a web server.
 - Test the application by submitting the form with both GET and POST methods, ensuring the data is correctly retrieved and displayed.
- **View results in the browser:**
 - Submit data through the GET form and verify that the data appears in the URL.
 - Submit data through the POST form and verify that the data is visible in web page.

Code for experiment/practical:

Index.html

```
<!DOCTYPE html>
<html>
<head>
<title>Form</title>
<link rel="stylesheet" href="style.css">
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
<form method="GET" action="index">
<label for="FName">First Name </label>
<input
type="text"
name="FName"
id="FName"
placeholder="First Name"
/>
```



```
<label for="LName">Last Name</label>
<input
type="text"
name="LName"
id="LName"
placeholder="Last Name"
/>
<button class="get" type="submit" formmethod="GET">Submit via GET</button>
<button class="post" type="submit" formmethod="POST">Submit via POST</button></form>
</body>
</html>
```

NewServlet.java

```
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("/index")
public class NewServlet extends HttpServlet {
    protected void processRequest(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException {
        // Set response type
        response.setContentType("text/html;charset=UTF-8");
        // Retrieve parameters
        String firstName1 = request.getParameter("FName");
        String lastName1 = request.getParameter("LName");
        // Logging for debugging
        System.out.println("First Name: " + firstName1);
        System.out.println("Last Name: " + lastName1);
        try (PrintWriter out = response.getWriter()) {
            out.println("<!DOCTYPE html>");
            out.println("<html>");
            out.println("<head>");
            out.println("<style>");
            out.println("body { font-family: Arial, sans-serif; background-color: #f4f4f9; color: #333; "
                + "margin: 0; padding: 0; text-align: center; display: flex; justify-content: center; "
                + "align-items: center; flex-direction: column; height: 100vh; }");
            out.println("h1 { color: #5c6bc0; font-size: 2em; margin: 20px 0; }");
            out.println(".container { width: 80%; margin: 0 auto; padding: 20px; background-color: #fff; "
                + "border-radius: 8px; box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1); }");
            out.println(".details { font-size: 1.2em; margin-bottom: 15px; }");
            out.println("</style>");
            out.println("<title>User Details</title>");
            out.println("</head>");
            out.println("<body>");
            out.println("<div class='container'>");
            out.println("<h1>Here are the user details</h1>");
            out.println("<div class='details'>First Name: " + firstName1 + "</div>");
            out.println("<div class='details'>Last Name: " + lastName1 + "</div>");
            out.println("</div>");
            out.println("</body>");
            out.println("</html>");
        }
    }
}
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
```

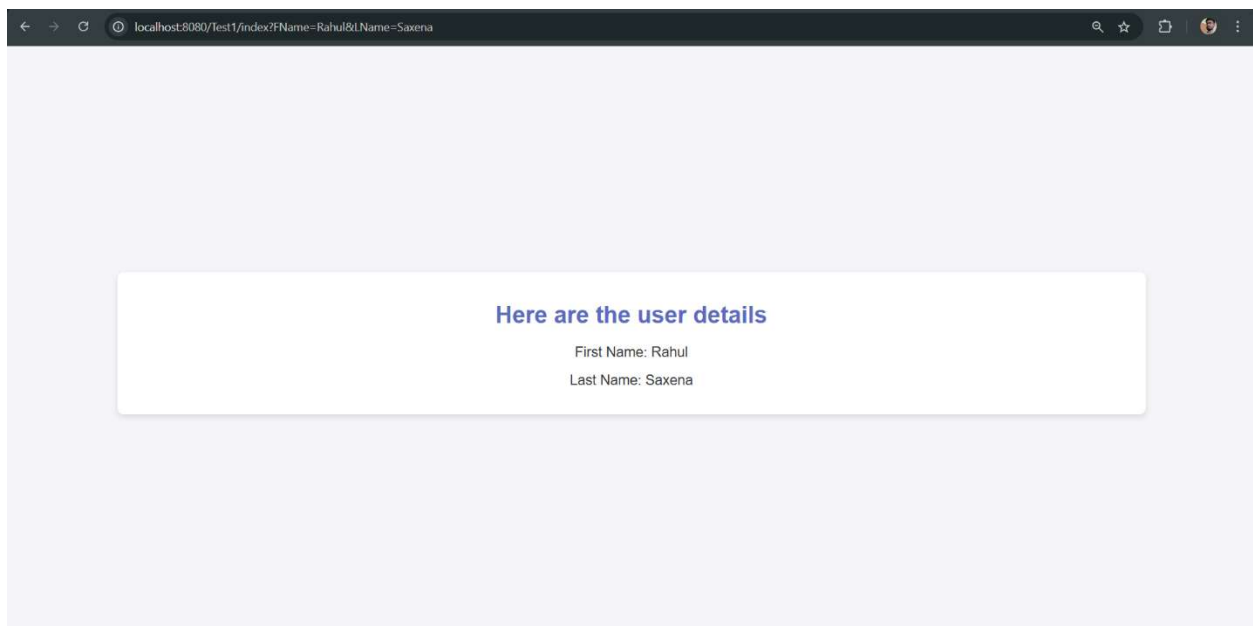
```
        throws ServletException, IOException {  
        processRequest(request, response);  
    }  
    @Override  
    protected void doPost(HttpServletRequest request, HttpServletResponse response)  
        throws ServletException, IOException {  
        processRequest(request, response);  
    }  
    @Override  
    public String getServletInfo() {  
        return "Servlet handling GET and POST methods";  
    }  
}
```

Output:

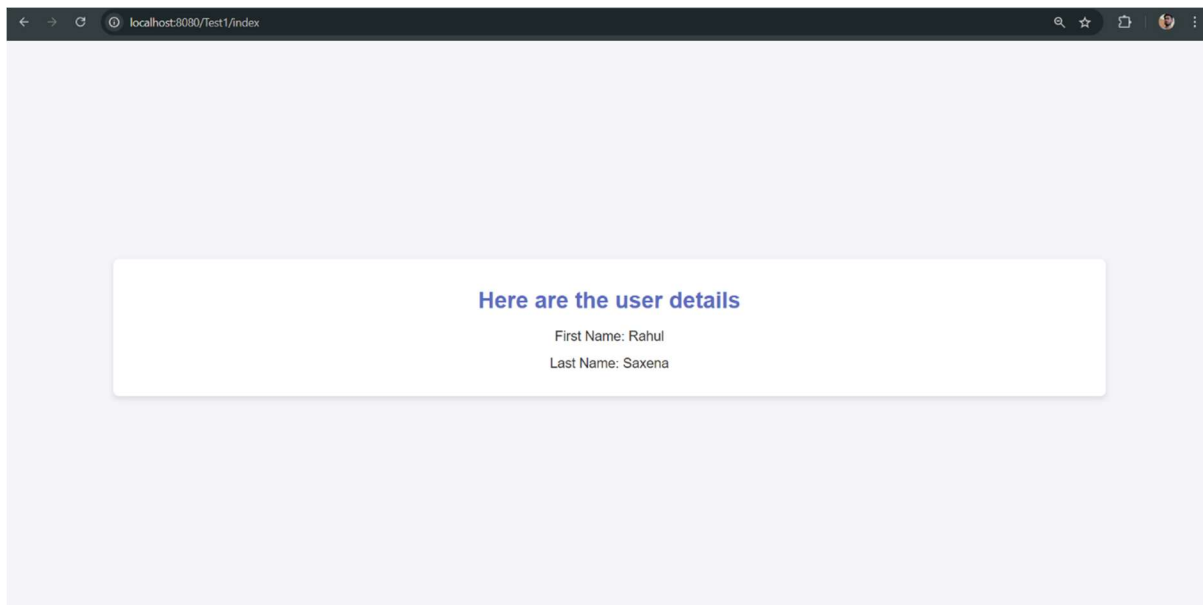


The form is centered on a white background. It contains two text input fields, one for 'First Name' and one for 'Last Name', each with a placeholder text 'Enter First Name' and 'Enter Last Name' respectively. Below the input fields are two buttons: a blue button labeled 'Submit via GET' and an orange button labeled 'Submit via POST'.

GET Method Output:



POST Method Output:



Learning outcomes:

1. Understanding how client-server communication works in web applications.
2. Learning how to handle HTTP GET and POST methods in web forms.
3. Familiarizing with the process of retrieving and displaying form data in a servlet.
4. Gaining knowledge of how to design web forms and handle form submissions in Java-based web applications.

Evaluation Grid:

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.	Demonstration and Performance		5
2.	Worksheet		10
3.	Post Lab Quiz		5