# EXP 7 Servlet-based project is to store user preferences

## AIM:

The goal of this Servlet-based project is to store user preferences (such as theme and language) using cookies and retrieve and display them on subsequent visits.

## ALGORITHM:

Step 1: Load Preferences Page → **Browser checks for existing cookies.**

Step 2 Retrieve Preferences (GET Request) → **Servlet reads cookies and applies saved settings.**

Step 3: User Selects Preferences → **User picks theme and language.**

Step 4: Save Preferences (POST Request) → **JavaScript sends data to Servlet.**

Step 5: Servlet Stores Preferences → **Cookies are updated and sent back to the browser.**

Step 6: Preferences Applied on Next Visit → **Browser loads saved settings automatically.**

## PROGRAM:

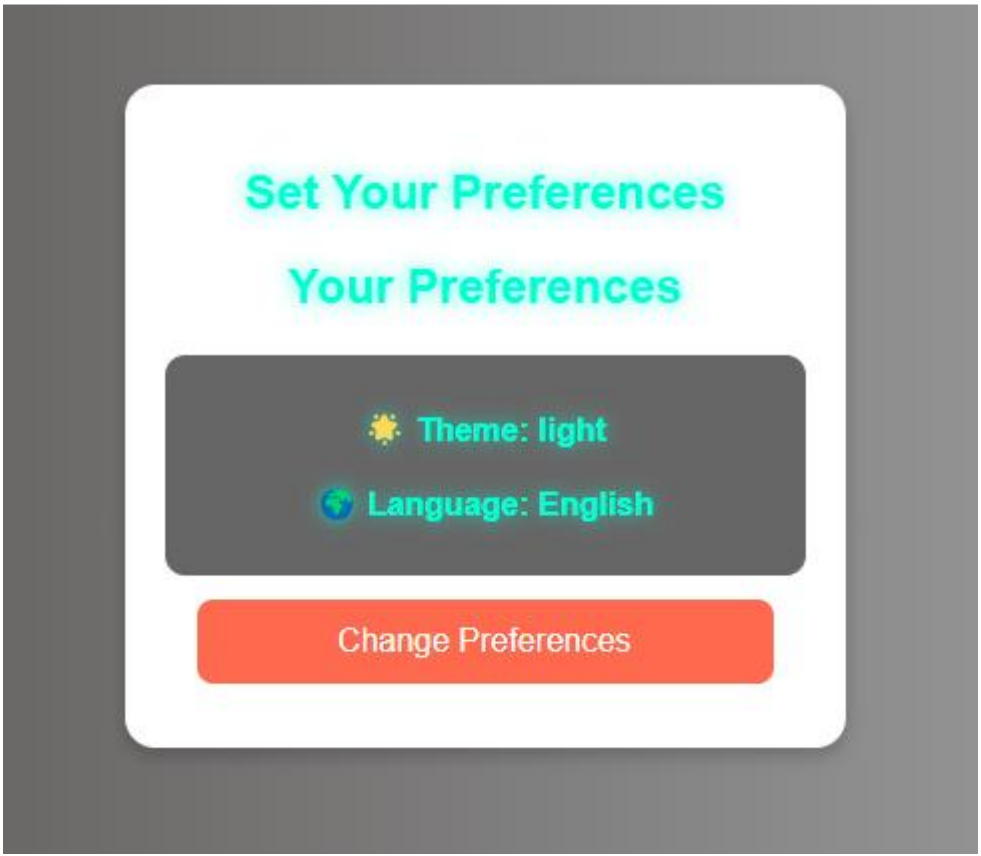
### `index.html` (Frontend - Combined HTML, CSS & JavaScript)

```
html CopyEdit
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Preferences using Cookies</title>
    <style>
body {
            font-family: 'Poppins', sans-serif;
            background: linear-gradient(to right, #ffafbd, #ffc3a0);
text-align: center;             display: flex;             justify-
content: center;             align-items: center;
height: 100vh;             margin: 0;
            transition: background 0.5s ease-in-out;
        }

        .container {
background: white;
padding: 20px;
border-radius: 15px;
            box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
            width: 320px;
        }
h2 {
            color: #ff6f61;
        }          select, button {
width: 90%;             padding: 10px;
margin: 10px 0;             border:
1px solid #ff6f61;             border-
radius: 8px;             text-align:
center;
        }
        button {
            background: #ff6f61;
color: white;             border:
none;             cursor:
pointer;             transition:
0.3s;
        }
        button:hover {
background: #e6514a;
        }

        .pref-box {
margin-top: 20px;
padding: 10px;
            background: rgba(255, 255, 255, 0.8);
color: black;             border-radius: 10px;
font-weight: bold;
        }

        .hidden {
display: none;
        }

        .dark-mode {
            background: linear-gradient(to right, #333333, #1e1e1e);
color: white;
        }

        .dark-mode .container {
            background: rgba(255, 255, 255, 0.1);
backdrop-filter: blur(10px);
        }

        .dark-mode .pref-box {
            background: rgba(255, 255, 255, 0.2);
color: white;
        }
    </style>
</head>
<body>
    <div class="container">
        <h2>Set Your Preferences</h2>
        <div id="form-section">
            <label for="theme">Choose Theme:</label>
<select id="theme">
                <option value="light">Light</option>
<option value="dark">Dark</option>
            </select>

            <label for="language">Choose Language:</label>
            <select id="language">
                <option value="English">English</option>
                <option value="French">French</option>
            </select>

            <button onclick="savePreferences()">Save Preferences</button>
</div>

        <div id="view-section" class="hidden">
            <h2>Your Preferences</h2>
            <div class="pref-box">
                <p>🌟 Theme: <span id="saved-theme">-</span></p>
                <p>🌍 Language: <span id="saved-language">-</span></p>
            </div>
            <button onclick="resetPreferences()">Change
Preferences</button>
        </div>
    </div>

    <script>
        function savePreferences() {
            let theme = document.getElementById("theme").value;
let language = document.getElementById("language").value;

            fetch("PreferenceServlet", {
method: "POST",
                headers: { "Content-Type": "application/x-www-
formurlencoded" },
                body: `theme=${theme}&language=${language}`
            }).then(() => updateView());
        }
        function updateView() {
fetch("PreferenceServlet")
                .then(response => response.json())
                .then(data => {
                    document.getElementById("saved-theme").innerText =
data.theme;
                    document.getElementById("saved-language").innerText =
data.language;
                    document.body.classList.toggle("dark-mode", data.theme
=== "dark");

document.getElementById("formsection").classList.add("hidden");

document.getElementById("viewsection").classList.remove("hidden");
                });
        }
        function resetPreferences() {
            fetch("PreferenceServlet", { method: "DELETE" }).then(() => {
document.getElementById("formsection").classList.remove("hidden");

document.getElementById("viewsection").classList.add("hidden");
            });
        }

        window.onload = updateView;
    </script>
</body>
</html>
```

### **`PreferenceServlet.java`** **(Backend - Java Servlet)**

```
java CopyEdit
import java.io.IOException; import
javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.Cookie; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse; import
org.json.JSONObject;

@WebServlet("/PreferenceServlet")
public class PreferenceServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
String theme = request.getParameter("theme");
        String language = request.getParameter("language");
        Cookie themeCookie = new Cookie("theme", theme);
        Cookie languageCookie = new Cookie("language", language);

        themeCookie.setMaxAge(60 * 60 * 24 * 7); // 1 Week
languageCookie.setMaxAge(60 * 60 * 24 * 7);

        response.addCookie(themeCookie);
response.addCookie(languageCookie);     }
    protected void doGet(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
        String theme = "light";
        String language = "English";

        Cookie[] cookies = request.getCookies();
if (cookies != null) {
            for (Cookie cookie : cookies) {
                if ("theme".equals(cookie.getName())) theme =
cookie.getValue();
                if ("language".equals(cookie.getName())) language =
cookie.getValue();
            }
        }

        JSONObject json = new JSONObject();
json.put("theme", theme);
json.put("language", language);
response.setContentType("application/json")
;
response.getWriter().write(json.toString())
;
    }
    protected void doDelete(HttpServletRequest request, HttpServletResponse
response) throws ServletException, IOException {
Cookie themeCookie = new Cookie("theme", "");
        Cookie languageCookie = new Cookie("language", "");
         themeCookie.setMaxAge(0);
languageCookie.setMaxAge(0);
         response.addCookie(themeCookie);
response.addCookie(languageCookie);
    } }
```

**OUTPUT:**

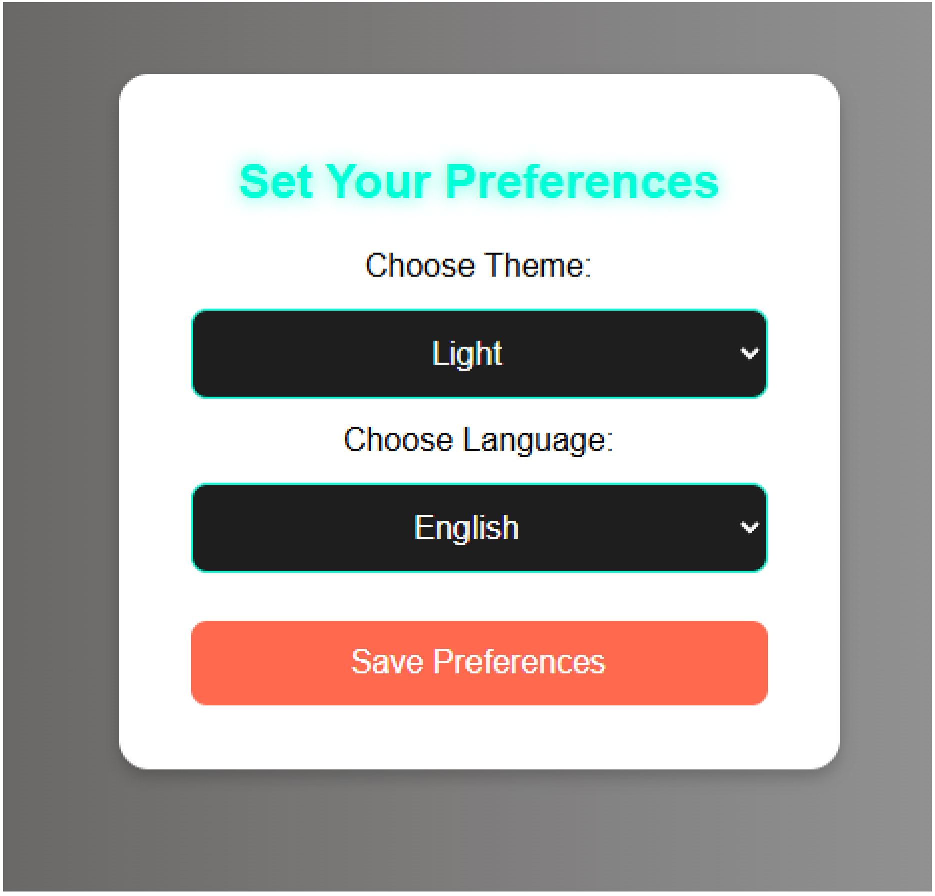


Set Your Preferences

Your Preferences

☀ Theme: light

🌍 Language: English



Set Your Preferences

Choose Theme: Light

Choose Language: English

**RESULT:** The Servlet-based project to store user preferences using cookies were executed successfully.