

## 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)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
  <title>User Preferences</title>
  <style>
    body {
      margin: 0;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      transition: background-color 0.3s ease, color 0.3s ease;
    }

    .container {
      height: 100vh;
      display: flex;
      justify-content: center;
      align-items: center;
    }

    .card {
      background-color: white;
      padding: 30px 40px;
      border-radius: 15px;
```

```
    box-shadow: 0 5px 15px rgba(0,0,0,0.1);
    text-align: center;
    min-width: 300px;
}
```

```
h2, h3 {
    color: #f25c57;
    margin-bottom: 15px;
}
```

```
label {
    display: block;
    margin-top: 10px;
    margin-bottom: 5px;
    color: #555;
}
```

```
select {
    width: 100%;
    padding: 10px;
    border: 2px solid #f25c57;
    border-radius: 8px;
    margin-bottom: 15px;
    font-size: 16px;
}
```

```
button {
    background-color: #f25c57;
    color: white;
    border: none;
    padding: 10px 20px;
    border-radius: 10px;
    cursor: pointer;
    font-size: 16px;
    transition: background 0.3s;
}
```

```
button:hover {
    background-color: #e14a45;
}
```

```
.preference-display {
    background-color: #f2f2f2;
    padding: 15px;
    border-radius: 10px;
    margin-top: 10px;
    margin-bottom: 20px;
}
```

```
.hidden {
    display: none;
}
```

```

/* Light Theme */
.light-theme {
  background: linear-gradient(to right, #fbd3e9, #bbded6);
  color: #000;
}

/* Dark Theme */
.dark-theme {
  background-color: #222;
  color: #fff;
}

.dark-theme .card {
  background-color: #333;
  color: #fff;
}

.dark-theme .preference-display {
  background-color: #444;
}

.dark-theme label {
  color: #ccc;
}
</style>
</head>
<body class="light-theme">
  <div class="container" id="form-container">
    <div class="card">
      <h2>Set Your Preferences</h2>
      <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>
        <option value="Spanish">Spanish</option>
      </select>

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

  <div class="container hidden" id="preferences-container">
    <div class="card">
      <h2>Set Your Preferences</h2>
      <h3>Your Preferences</h3>
      <div class="preference-display">
        <p>⚙️ <strong>Theme:</strong> <span id="selected-theme"></span></p>

```

```

        <p>🌐 <strong>Language:</strong> <span id="selected-language"></span></p>
    </div>
    <button onclick="changePreferences()">Change Preferences</button>
</div>
</div>

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

    document.getElementById('selected-theme').textContent = theme;
    document.getElementById('selected-language').textContent = language;

    document.body.className = theme + '-theme';
    document.getElementById('form-container').classList.add('hidden');
    document.getElementById('preferences-container').classList.remove('hidden');
}

function changePreferences() {
    document.getElementById('form-container').classList.remove('hidden');
    document.getElementById('preferences-container').classList.add('hidden');
}
</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";

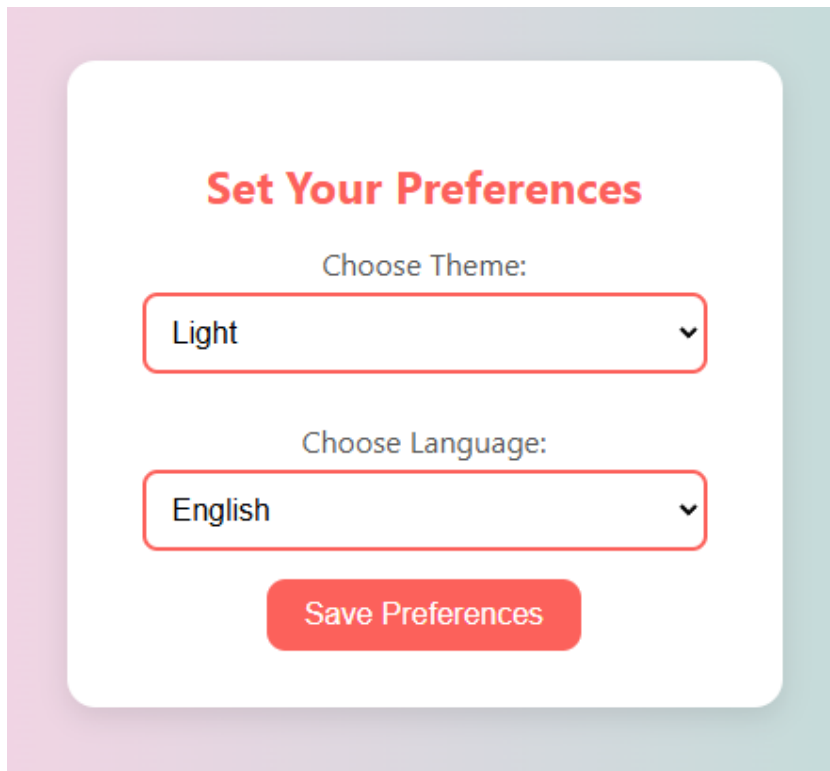
Cookie[] cookies = request.getCookies(); if (cookies != null) {
for (Cookie cookie : cookies) {
if ("theme".equals(cookie.getName())) theme = cookie.getValue();
if ("language".equals(cookie.getName())) language = cookie.getValue();
}
}

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**

Choose Theme:

Light ▼

Choose Language:

English ▼

Save Preferences

## Set Your Preferences

Choose Theme:

Light



Choose Language:

French



Save Preferences

## Set Your Preferences

### Your Preferences

🌞 Theme: dark

🌐 Language: English

Change Preferences

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

