

EXP 7: PREFERENCES

Write a Servlet program to store a user's preferences (like theme or language) using cookies. Retrieve and display these preferences on subsequent visits.

AIM:

To develop a Java Servlet program that stores user preferences such as theme or language using **cookies**, and retrieves and displays these preferences on **subsequent visits**.

ALGORITHM:

□ Create an HTML form (preferences.html) that allows the user to select preferences such as:

- Theme (e.g., Light or Dark)
- Language (e.g., English, Tamil)

□ Create a servlet (PreferenceServlet) to:

- Read the submitted form data from the request.
- Create cookies for each preference (e.g., theme, language).
- Set an expiry time for the cookies (e.g., 24 hours).
- Add the cookies to the response.
- Display a confirmation message or redirect to a view page.

□ Create another servlet (ViewPreferencesServlet) to:

- Read all cookies from the request.
- Search for preference cookies by name (e.g., "theme", "language").
- Display the stored preferences if they exist.
- Provide a link to update the preferences.

□ Configure servlet mappings in web.xml or using annotations for:

- /savePreferences
- /viewPreferences

□ Test the application:

- Submit preferences.
- Refresh or revisit to verify cookies are stored and retrieved.
- Clear cookies in browser to simulate a new user.

SOURCE CODE:

PreferenceServlet.java

```
package servlets;  
  
import jakarta.servlet.*;  
import jakarta.servlet.http.*;  
import java.io.*;  
  
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 langCookie = new Cookie("language",  
            language);  
  
        // Set cookies to last for 1 day  
        themeCookie.setMaxAge(60 * 60 * 24);  
        langCookie.setMaxAge(60 * 60 * 24);  
  
        response.addCookie(themeCookie);  
        response.addCookie(langCookie);  
  
        response.setContentType("text/html");  
        PrintWriter out = response.getWriter();  
        out.println(x:"<h3>Preferences saved!</h3>");  
        out.println(x:"<a href='viewPreferences'>View  
            Preferences</a>");  
    }  
}
```

ViewPreferencesServlet.java

```
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;

public class ViewPreferencesServlet extends HttpServlet {
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

        String theme = "Not set";
        String language = "Not set";

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

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println(x:"<h2>Your Preferences</h2>");
        out.println("Theme: " + theme + "<br>");
        out.println("Language: " + language + "<br><br>");
        out.println(x:"<a href='preferences.html'>Change
            Preferences</a>");
    }
}
```

Preferences.html

```
<!DOCTYPE html>
<html>
<head>
|   <title>Set Preferences</title>
</head>
<body>
|   <h2>Select Your Preferences</h2>
|   <form action="savePreferences" method="post">
|       Theme:
|       <select name="theme">
|           <option value="Light">Light</option>
|           <option value="Dark">Dark</option>
|       </select><br><br>
|
|       Language:
|       <select name="language">
|           <option value="English">English</option>
|           <option value="Tamil">Tamil</option>
|           <option value="Hindi">Hindi</option>
|       </select><br><br>
|
|       <input type="submit" value="Save Preferences">
|   </form>
</body>
</html>
```

Web.xml

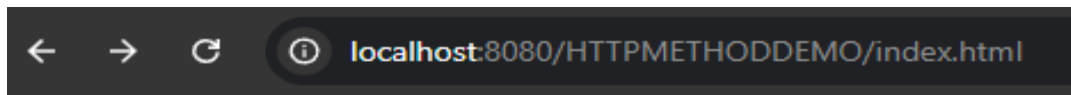
```
<web-app xmlns="https://jakarta.ee/xml/ns/jakartaee"
  xmlns:xsi="http://www.w3.org/2001/
XMLSchema-instance"
  xsi:schemaLocation="https://jakarta.ee/xml/ns/
jakartaee
https://jakarta.ee/xml/ns/
jakartaee/web-app_5_0.xsd"
  version="5.0">

  <servlet>
    <servlet-name>PreferenceServlet</servlet-name>
    <servlet-class>servlets.PreferenceServlet</
servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>PreferenceServlet</servlet-name>
    <url-pattern>/savePreferences</url-pattern>
  </servlet-mapping>

  <servlet>
    <servlet-name>ViewPreferencesServlet</servlet-name>
    <servlet-class>servlets.ViewPreferencesServlet</
servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>ViewPreferencesServlet</servlet-name>
    <url-pattern>/viewPreferences</url-pattern>
  </servlet-mapping>

</web-app>
```

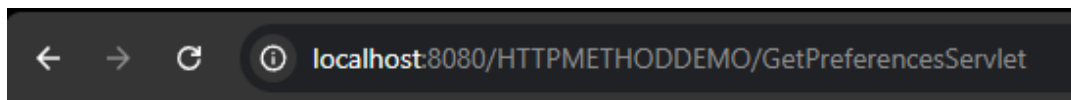
OUTPUT:



Set Your Preferences

Select Theme:

Select Language:

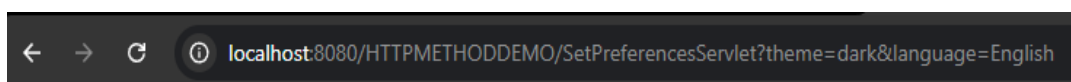


Your Preferences:

Theme: light

Language: English

[Change Preferences](#)



Your preferences have been saved!

[View Preferences](#)

RESULT:

Thus, the program was executed successfully.