

# 1. Using Cookies

## Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Art Themed Welcome Page</title>
  <style>
    body {
      background-image: url("art_gallery.jpg");
      background-size: cover;
      font-family: 'Courier New', Courier, monospace;
      font-size: xx-large;
      background-color: #f0f0f0;
      margin: 0;
      padding: 0;
    }
    .container {
      text-align: center;
      padding: 50px;
    }
    .title {
      font-size: 2.5em;
      color: #5a5a5a;
      margin-bottom: 20px;
    }
    .link-button {
      display: inline-block;
      padding: 15px 25px;
      font-size: 1.2em;
      color: white;
      background-color: #8e44ad;
      text-decoration: none;
      border-radius: 5px;
      margin-top: 20px;
    }
    .link-button:hover {
      background-color: #9b59b6;
    }
  </style>
```

```

</head>
<body>
  <div class="container">
    <div class="title">Welcome to the Art Themed Page!</div>
    <a href="artPage" class="link-button">Enter Art Page</a>
  </div>
</body>
</html>

```

### **ArtPageServlet.java**

```

@WebServlet("/artPage")
public class ArtPageServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = null;
        String theme = "default";
        int visitCount = 0;

        Cookie[] cookies = request.getCookies();
        if (cookies != null) {
            for (Cookie cookie : cookies) {
                switch (cookie.getName()) {
                    case "userName":
                        userName = cookie.getValue();
                        break;
                    case "theme":
                        theme = cookie.getValue();
                        break;
                    case "visitCount":
                        visitCount = Integer.parseInt(cookie.getValue());
                        break;
                }
            }
        }

        visitCount++;

        Cookie visitCookie = new Cookie("visitCount", Integer.toString(visitCount));
        visitCookie.setMaxAge(60 * 60 * 24); // 1 day
        response.addCookie(visitCookie);
    }
}

```

```

response.setContentType("text/html");
PrintWriter out = response.getWriter();
out.println("<html><body>");
out.println("<h1>Art Themed Page</h1>");
if (userName != null) {
    out.println("<p>Welcome back, " + userName + "!</p>");
} else {
    out.println("<p>Welcome to our art page!</p>");
}
out.println("<p>Number of visits: " + visitCount + "</p>");
out.println("<p>Current theme: " + theme + "</p>");
out.println("<form method='POST' action='artPage'>");
out.println("Name: <input type='text' name='userName'><br>");
out.println("<input type='submit' value='Save Name'>");
out.println("</form>");
out.println("<a href='theme'>Change Theme</a>");
out.println("</body></html>");
}

```

#### @Override

```

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
    String userName = request.getParameter("userName");

    if (userName != null && !userName.trim().isEmpty()) {
        Cookie userCookie = new Cookie("userName", userName);
        userCookie.setMaxAge(60 * 60 * 24 * 30); // 30 days
        response.addCookie(userCookie);
    }

    response.sendRedirect("artPage");
}
}

```

#### web.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
        http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
    version="3.0">

    <!-- Welcome Page -->
    <welcome-file-list>

```

```
<welcome-file>index.html</welcome-file>  
</welcome-file-list>
```

```
<!-- Art Page Servlet -->  
<servlet>  
  <servlet-name>ArtPageServlet</servlet-name>  
  <servlet-class>com.example.ArtPageServlet</servlet-class>  
</servlet>  
<servlet-mapping>  
  <servlet-name>ArtPageServlet</servlet-name>  
  <url-pattern>/artPage</url-pattern>  
</servlet-mapping>
```

```
<!-- Theme Selector Servlet -->  
<servlet>  
  <servlet-name>ArtThemeServlet</servlet-name>  
  <servlet-class>com.example.ArtThemeServlet</servlet-class>  
</servlet>  
<servlet-mapping>  
  <servlet-name>ArtThemeServlet</servlet-name>  
  <url-pattern>/theme</url-pattern>  
</servlet-mapping>
```

```
</web-app>
```

## 2.Using HTTP Session

### ArtSessionServlet.java:

```
@WebServlet("/artPage")
public class ArtSessionServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        HttpSession session = request.getSession(true);
        String userName = (String) session.getAttribute("userName");
        Integer visitCount = (Integer) session.getAttribute("visitCount");

        if (visitCount == null) {
            visitCount = 0;
        }

        visitCount++;

        session.setAttribute("visitCount", visitCount);
        response.setContentType("text/html");

        PrintWriter out = response.getWriter();
        out.println("<html><body>");
        out.println("<h1>Art Themed Page</h1>");
        if (userName != null) {
            out.println("<p>Welcome back, " + userName + "!</p>");
        } else {
            out.println("<p>Welcome to our art page!</p>");
        }
        out.println("<p>Number of visits: " + visitCount + "</p>");
        out.println("<form method='POST' action='artPage'>");
        out.println("Name: <input type='text' name='userName'><br>");
        out.println("<input type='submit' value='Save Name'>");
        out.println("</form>");
        out.println("<a href='theme'>Change Theme</a>");
        out.println("</body></html>");
    }

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = request.getParameter("userName");
```

```

        if (userName != null && !userName.trim().isEmpty()) {
            HttpSession session = request.getSession(true);
            session.setAttribute("userName", userName);
        }

        response.sendRedirect("artPage");
    }
}

```

### **web.xml**

```

<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
    http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
    version="3.0">

    <!-- Welcome Page -->
    <welcome-file-list>
        <welcome-file>index.html</welcome-file>
    </welcome-file-list>

    <!-- Art Page Servlet -->
    <servlet>
        <servlet-name>ArtPageServlet</servlet-name>
        <servlet-class>com.example.ArtPageServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>ArtPageServlet</servlet-name>
        <url-pattern>/artPage</url-pattern>
    </servlet-mapping>

    <!-- Theme Selector Servlet -->
    <servlet>
        <servlet-name>ArtThemeServlet</servlet-name>
        <servlet-class>com.example.ArtThemeServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>ArtThemeServlet</servlet-name>
        <url-pattern>/theme</url-pattern>
    </servlet-mapping>

</web-app>

```

### 3. Using URL Rewriting

#### ArtPageServlet.java:

```
@WebServlet("/artPage")
public class ArtPageServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = request.getParameter("userName");
        String visitCountParam = request.getParameter("visitCount");
        int visitCount = visitCountParam != null ? Integer.parseInt(visitCountParam) : 0;

        visitCount++;

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><body>");
        out.println("<h1>Art Themed Page</h1>");
        if (userName != null) {
            out.println("<p>Welcome back, " + userName + "!</p>");
        } else {
            out.println("<p>Welcome to our art page!</p>");
        }
        out.println("<p>Number of visits: " + visitCount + "</p>");
        out.println("<form method='GET' action='artPage'>");
        out.println("Name: <input type='text' name='userName'><br>");
        out.println("<input type='hidden' name='visitCount' value='" + visitCount + "'>");
        out.println("<input type='submit' value='Save Name'>");
        out.println("</form>");
        out.println("<a href='theme'>Change Theme</a>");
        out.println("</body></html>");
    }
}
```

#### Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Art Themed Welcome Page</title>
```

```

<style>
  body {
    background-image: url("art_gallery.jpg");
    background-size: cover;
    font-family: 'Courier New', Courier, monospace;
    font-size: xx-large;
    background-color: #f0f0f0;
    margin: 0;
    padding: 0;
  }
  .container {
    text-align: center;
    padding: 50px;
  }
  .title {
    font-size: 2.5em;
    color: #5a5a5a;
    margin-bottom: 20px;
  }
  .link-button {
    display: inline-block;
    padding: 15px 25px;
    font-size: 1.2em;
    color: white;
    background-color: #8e44ad;
    text-decoration: none;
    border-radius: 5px;
    margin-top: 20px;
  }
  .link-button:hover {
    background-color: #9b59b6;
  }
</style>
</head>
<body>
  <div class="container">
    <div class="title">Welcome to the Art Themed Page!</div>
    <a href="artPage?visitCount=0" class="link-button">Enter Art Page</a>
  </div>
</body>
</html>

```

### web.xml

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



```
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
    http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
  version="3.0">

  <!-- Welcome Page -->
  <welcome-file-list>
    <welcome-file>index.html</welcome-file>
  </welcome-file-list>

  <!-- Art Page Servlet -->
  <servlet>
    <servlet-name>ArtPageServlet</servlet-name>
    <servlet-class>com.example.ArtPageServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>ArtPageServlet</servlet-name>
    <url-pattern>/artPage</url-pattern>
  </servlet-mapping>

  <!-- Theme Selector Servlet -->
  <servlet>
    <servlet-name>ArtThemeServlet</servlet-name>
    <servlet-class>com.example.ArtThemeServlet</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>ArtThemeServlet</servlet-name>
    <url-pattern>/theme</url-pattern>
  </servlet-mapping>

</web-app>
```

## 4. Using Hidden Form Fields

### ArtPageServlet.java:

```
@WebServlet("/artPage")
public class ArtPageServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = request.getParameter("userName");
        String visitCountParam = request.getParameter("visitCount");
        int visitCount = visitCountParam != null ? Integer.parseInt(visitCountParam) : 0;

        visitCount++;

        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        out.println("<html><body>");
        out.println("<h1>Art Themed Page</h1>");
        if (userName != null) {
            out.println("<p>Welcome back, " + userName + "!</p>");
        } else {
            out.println("<p>Welcome to our art page!</p>");
        }
        out.println("<p>Number of visits: " + visitCount + "</p>");
        out.println("<form method='POST' action='artPage'>");
        out.println("Name: <input type='text' name='userName'><br>");
        out.println("<input type='hidden' name='visitCount' value='" + visitCount + "'>");
        out.println("<input type='submit' value='Save Name'>");
        out.println("</form>");
        out.println("<a href='theme'>Change Theme</a>");
        out.println("</body></html>");
    }

    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
        String userName = request.getParameter("userName");
        String visitCount = request.getParameter("visitCount");

        response.sendRedirect("artPage?userName=" + userName + "&visitCount=" + visitCount);
    }
}
```

```
}
```

### **Index.html**

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Art Theme</title>
</head>
<body>
  <h1>Welcome to Art Theme</h1>

  <form action="/processArtTheme" method="post">
    <!-- Hidden Fields -->
    <input type="hidden" name="theme" value="art">
    <input type="hidden" name="style" value="blue-and-gold">
    <input type="hidden" name="content" value="paintings, sculptures, galleries">

    <button type="submit">Submit Art Theme Details</button>
  </form>
</body>
</html>
```

### **web.xml**

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://java.sun.com/xml/ns/javaee"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://java.sun.com/xml/ns/javaee
    http://java.sun.com/xml/ns/javaee/web-app_3_0.xsd"
  version="3.0">

  <!-- Welcome Page -->
  <welcome-file-list>
    <welcome-file>index.html</welcome-file>
  </welcome-file-list>

  <!-- Art Page Servlet -->
  <servlet>
    <servlet-name>ArtPageServlet</servlet-name>
    <servlet-class>com.example.ArtPageServlet</servlet-class>
  </servlet>
  <servlet-mapping>
```

```
    <servlet-name>ArtPageServlet</servlet-name>  
    <url-pattern>/artPage</url-pattern>  
</servlet-mapping>
```

```
<!-- Theme Selector Servlet -->
```

```
<servlet>  
    <servlet-name>ArtThemeServlet</servlet-name>  
    <servlet-class>com.example.ArtThemeServlet</servlet-class>  
</servlet>  
<servlet-mapping>  
    <servlet-name>ArtThemeServlet</servlet-name>  
    <url-pattern>/theme</url-pattern>  
</servlet-mapping>
```

```
</web-app>
```

