

Maintaining State Demo

5 ways to maintain state

Container managed state (3 scopes)

1. request scope: destroyed when servlet finishes processing request
2. session scope: destroyed when user closes browser
3. application scope destroyed when the container stopped.
4. Cookies saved on browser, either temporary (deleted when the browser closes) or permanent
5. Hidden fields on a form

The following doGet and doPost methods demonstrates these five ways of maintaining state.

```
protected void doGet(HttpServletRequest request, HttpServletResponse
response)
throws ServletException, IOException
{
    request.setAttribute("requestState", "bob");
    request.getSession().setAttribute("sessionState", "bob");
    this.getServletContext().setAttribute("applicationState", "bob");

    Cookie c = new Cookie("cookiePermanentState", "bob");
    c.setMaxAge(3600);
    response.addCookie(c);

    c = new Cookie("cookieTemporaryState", "bob");
    response.addCookie(c);

    PrintWriter out = response.getWriter();
    out.print("<html><head><title>Test</title></head><body>");
    out.print("<form method='post'>");
    out.print("<p>Please click the button</p>");
    out.print("<input type='hidden' name='hiddenState' value='bob'>");
    out.print("<input type='submit' value='Click me' />");
    out.print("</form>");
    out.print("</body></html>");

}

protected void doPost(HttpServletRequest request, HttpServletResponse
response)
throws ServletException, IOException
{
    PrintWriter out = response.getWriter();
    out.print("<html><head><title>Test</title></head><body><p>See the Command
window</p></body></html>");

    System.out.format("requestState: %s\r\n",
request.getAttribute("requestState"));
    System.out.format("sessionState: %s\r\n",
request.getSession().getAttribute("sessionState"));
```

```
        System.out.format("applicationState: %s\r\n",
this.getServletContext().getAttribute("applicationState"));

        Cookie[] cookies = request.getCookies();
        int cnt = 0;
        if (cookies != null)
        {
            for (Cookie cookie : cookies)
            {
                if (cookie.getName().equals("cookiePermanentState"))
                    System.out.format("cookiePermanentState: %s\r\n",
cookie.getValue());
                else if (cookie.getName().equals("cookieTemporaryState"))
                    System.out.format("cookieTemporaryState: %s\r\n",
cookie.getValue());
            }
        }

        System.out.format("hiddenState: %s\r\n",
request.getParameter("hiddenState"));

    }
```