SERVLETS PART-9

Session Tracking:

Session tracking is a mechanism that servlets use to maintain client state information about a series of request from the same user across some time period.

Client state information can be a user name, password, shopping items, examination id, .. etc.,

There are four session tracking methods:

1) Cookies

2) URL Rewriting

3) Http Sessions

4) Hidden Form Fields

1) Cookies:

A cookie is a piece of information stored at client side to maintain client state information.

Example:

books.html

```
<html>

<body bgcolor=green text=yellow>

<h1><u>Java Books</u></h1>

<form action=set>
```

```
<input type=checkbox name=book1 value=Java2CompleteReference> Java 2 Complete Reference<br>
<input type=checkbox name=book2 value=HeadFirstJava> Head First Java<br>
<input type=checkbox name=book3 value=SCJPByKathySierra> SCJP By Kathy Sierra<br><br>
<input type=submit><input type=reset>
</form>
</body>
</html>
```

SetCookie.java

```
package cookie;
import java.io.IOException;
import java.io.PrintWriter;
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;
@WebServlet("/set")
public class SetCookie extends HttpServlet {
	protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
		String s1=request.getParameter("book1");
		String s2=request.getParameter("book2");
		String s3=request.getParameter("book3");
		if(s1!=null)
		{
			Cookie c1=new Cookie("b1",s1);
			response.addCookie(c1);
		}
		if(s2!=null)
		{
			Cookie c2=new Cookie("b2",s2);
			response.addCookie(c2);
		}
		if(s3!=null)
		{
			Cookie c3=new Cookie("b3",s3);
			response.addCookie(c3);
		}
		PrintWriter pw=response.getWriter();
		pw.println("<html><body bgcolor=cyan text=red>");
		pw.println("<h1>Your Books Are Added To Cart</h1>");
		pw.println("<a href=get>Next</a>");
		pw.println("</body></html>");
	}
}
```

GetCookie.java

```
package cookie;
import java.io.IOException;
import java.io.PrintWriter;
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;
@WebServlet("/get")
public class GetCookie extends HttpServlet {
	protected void doGet(HttpServletRequest request,
HttpServletResponse response) throws ServletException, IOException {
		PrintWriter pw=response.getWriter();
		pw.println("<html><body bgcolor=yellow text=blue>");
		pw.println("<h1>Selected Books:</h1>");
```

```
                Cookie[] c1=request.getCookies();
                for(Cookie c2 : c1)
                {
                        String s=c2.getValue();
                        pw.println(s+"<br>");
                }
                pw.println("</body></html>");
        }
}
```

2) URL Rewriting:

In this session tracking method client state information appended to URL.

Example:

Set.java

```
package url;
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
```

```
@WebServlet("/set")
public class Set extends HttpServlet {
        protected void doGet(HttpServletRequest request,
HttpServletResponse response) throws ServletException, IOException {
                String s1=request.getParameter("book1");
                String s2=request.getParameter("book2");
                String s3=request.getParameter("book3");
                PrintWriter pw=response.getWriter();
                pw.println("<html><body bgcolor=cyan text=red>");
                pw.println("<h1>Your Books Are Added To Cart</h1>");
                pw.println("<a
href=get?b1="+s1+"&b2="+s2+"&b3="+s3+">Next</a>");
                pw.println("</body></html>");
        }
}
```

Get.java

```
package url;
import java.io.IOException;
import java.io.PrintWriter;
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;

@WebServlet("/get")

public class Get extends HttpServlet {

        protected void doGet(HttpServletRequest request,
HttpServletResponse response) throws ServletException, IOException {

                PrintWriter pw=response.getWriter();

                String s1=request.getParameter("b1");

                String s2=request.getParameter("b2");

                String s3=request.getParameter("b3");

                pw.println("<html><body bgcolor=yellow text=blue>");

                pw.println("<h1>Selected Books:</h1>");

                if(!(s1.equals("null")))

                {

                        pw.println(s1);

                }

                if(!(s2.equals("null")))

                {

                        pw.println(s2);

                }

                if(!(s3.equals("null")))

                {
```

```
                pw.println(s3);
            }
            pw.println("</body></html>");
        }
    }
```

Cookies Vs URL Rewriting

Cookies	URL Rewriting
1) In this session tracking method client client state information stored at client side.	1) In this session tracking method client state information appended to URL.
2) It supports only text.	2) It is also supports only text.
3) Here size of the data is limited.	3) Here also size of the data is limited.
4) Here it is possible to set the time interval.	4) Here it is not possible to set the time interval.
5) Cookies are not secure because cookies client state information can be viewed by the user through browser settings option.	5) It is also not secure because here client state information displayed in address bar in a browser window.
6) This session tracking method fails if the cookies are disabled in a browser.	6) This session tracking method always works.

By

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