A4 – HTTP SESSION TRACKING

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HTML Code:

```
<html>
	<head>
		<title>HTTP Session</title>
		<style>
		body {background-color: powderblue;}
		h1 {text-align: center; color: rebeccapurple;}
		label {margin-right: auto; font-size: 25px; color: blue;}
		input {margin-right: auto; font-size: 25px; color: red;}
		</style>
	</head>

	<body>
		<h1>HTTP Session Tracking</h1>
		<div align="center">
			<form action="ServletOne">
			<label for="userName">User Name</label>
			<input type="text" name="userName"><br><br>
			<input type="submit" value="Let's Go!"/>
			</form>
		</div>
	</body>
</html>
```

Java Code:

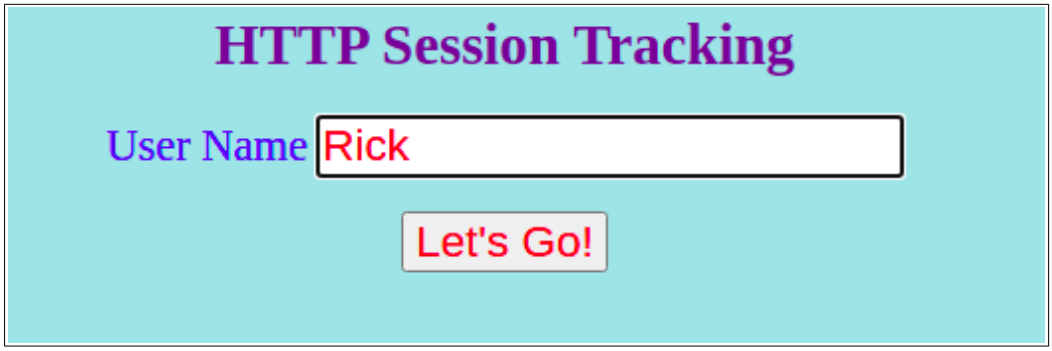
```
import javax.servlet.http.*;
import javax.servlet.*;
import javax.servlet.ServletException;
import java.io.*;

/*
HTTP Session creates a unique session ID for each different user
(browser)
*/

public class ServletOne extends HttpServlet {
	int hits; //variable for tracking user hits

	public void doGet(HttpServletRequest request,
	HttpServletResponse response){
		try{
			response.setContentType("text/html");
			PrintWriter out = response.getWriter();
			HttpSession session = request.getSession(true);
			//new session
			String u_name =
			request.getParameter("userName");
			session.setAttribute("uname", u_name);
			session.setMaxInactiveInterval(10);
					//setting timeout of 10 seconds
			if(session.getAttribute("hits") != null){
				//not a new session, already counting hits
				hits = (int) session.getAttribute("hits");
			}
			else{
				//new session, initiate hits to 0
				hits = 0;
			}

			hits++; //incrementing the number of hits
			session.setAttribute("hits", hits); //store the value in
			an attribute
```

```
                out.print("<h1>Welcome " + u_name +
                "!</h1><br>");
                out.println("<h2>Your Session ID: " + session.getId()
                + "</h2><br>"); //printing session ID
                out.println("<h2>Session Timeout: " +
                session.getMaxInactiveInterval() + "
                seconds</h2><br>");
                out.println("<h2>Your Hits: " + hits +
                "</h2><br>");
                out.close();
            }
            catch(Exception e){
                System.out.println(e);
            }
        }
}
```

Web XML:

```
<web-app>
	<servlet>
		<servlet-name>ServletOne</servlet-name>
		<servlet-class>ServletOne</servlet-class>
	</servlet>
	<servlet-mapping>
		<servlet-name>ServletOne</servlet-name>
		<url-pattern>/ServletOne</url-pattern>
	</servlet-mapping>
</web-app>
```

Output:


HTTP Session Tracking
User Name
Rick
Let's Go!


HTTP Session Tracking
User Name
Astley
Let's Go!


Welcome Rick!
Your Session ID: DCD2E35DF927F96D9EEA059BB1AED357
Session Timeout: 10 seconds
Your Hits: 1

Welcome Astley!

Your Session ID: 34F057DD2FCEAE7B6351029699F6BBC5

Session Timeout: 10 seconds

Your Hits: 1

Welcome Rick!

Your Session ID: D93E86CE60B446CE3EAC3270B865D682

Session Timeout: 10 seconds

Your Hits: 8

Welcome Astley!

Your Session ID: F4FE6CE27BE4DE9288C913A954705DE2

Session Timeout: 10 seconds

Your Hits: 7

Inference:

Each browser(client) has its own unique HTTP SessionID which gets timed-out every 10 seconds following which a new session is instantiated with a different session ID. Each user has his/her own *hits* tracking variable unique to his/her session, which also gets purged after the session expires, and the tracker variable is re-initialized to 0 once again. Thus, multiple users are tracked by the servlet and each user's actions are independent of the other users.