

# UCS1601---Internet Programming

## Assignment – 4

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### **Aim:**

- To write a servlet program to track multiple users.
- To set a time limit for a user's session.
- Compare the session ID's before and after the session expiration.

### **Code:**

web.xml File

```
<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>

  <session-config>
    <session-timeout>5</session-timeout>
  </session-config>
</web-app>
```

## index.html File

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Backend Programming</title>
  <!-- Stylesheet -->
  <link href="style.css" rel='stylesheet' type='text/css' />
</head>

<body>
  <div align="center">
    <form action = "ServletOne" method = "GET">
      User Name: <input type = "text" name = "name">
      <br />
      <input type = "submit" id = "button" value = "Submit" />
    </form>
  </div>
</body>

</html>
```

## style.css FILE

```
h1
{
  font-size: 4vw;
  margin: 3.5vw 0vw 2vw;
  font-weight: 300;
  color: #fff;
  text-shadow: 3px 3px 3px #1d1d1d;
  letter-spacing: 5px;
  text-align: center;
  font-family: 'Source Sans Pro', sans-serif;
}

body
{
  font-family: 'Source Sans Pro', sans-serif;
  font-size: 100%;
  background-color: #23b4cc;
}
```

```
#button
{
  text-transform: capitalize;
  background: #82bb3b;
  color: #fff;
  padding: 0.5em 1em;
  border: none;
  width: 20%;
  margin-top: 1em;
  float: left;
  outline: none;
  font-family: 'Source Sans Pro', sans-serif;
  margin-left: 40%;
}

input{
  width: 50%;
  font-weight: 300;
  color: whitesmoke;
  font-size: 16px;
  letter-spacing: 1.2px;
  padding: 10px 10px;
  outline: none;
  background: rgba(255, 255, 255, 0);
  border: none;
  border-bottom: 1px solid white;
  box-sizing: border-box;
  font-family: 'Source Sans Pro', sans-serif;
}

div{
  box-sizing: border-box;
  padding: 3vw;
  background: rgba(0, 0, 0, 0.78);
  max-width: 700px;
  margin: 0 auto;
  height: 200px;
}

form{
  color: azure;
}
```

## ServletOne.java FILE

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

public class ServletOne extends HttpServlet {
    int visitCount = 1;
    public void doGet(HttpServletRequest request, HttpServletResponse response)
    ){
        try{
            response.setContentType("text/html");

            String title = "Welcome Back!";

            // Create a session object
            HttpSession session = request.getSession();

            // Check for new session
            if (session.isNew())
            {
                title = "Welcome!";
            }
            else
            {
                visitCount = visitCount + 1;
            }

            // Get session creation time.
            Date createTime = new Date(session.getCreationTime());

            // Set response content type
            response.setContentType("text/html");
            PrintWriter out = response.getWriter();

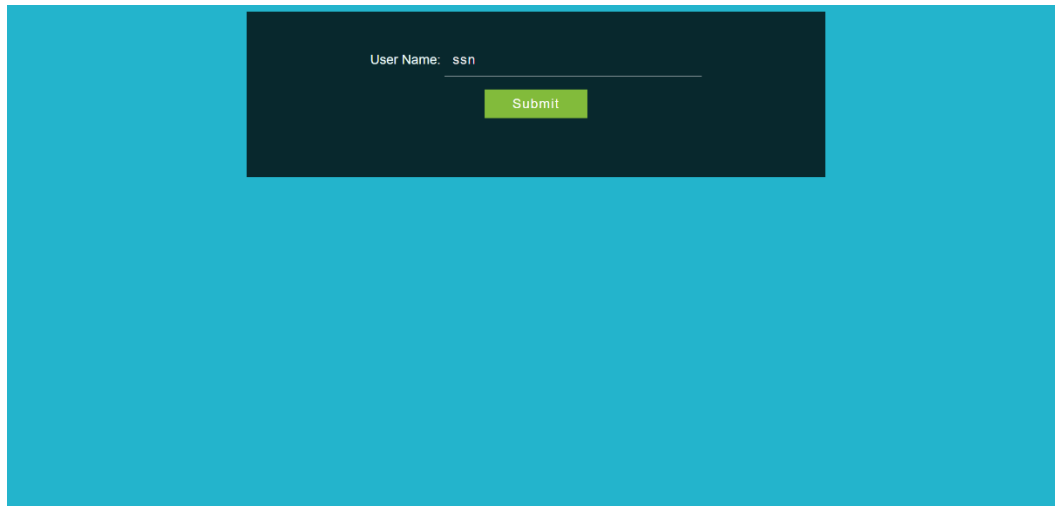
            out.println("<html>\n" +
                "<head>"+
                    "<title>" + title + "</title>"+
                    "<style>"+
                        "div{box-sizing: border-
box;padding: 3vw;background: rgba(0, 0, 0, 0.78);max-
width: 700px;margin: 0 auto;height:400px;}"+
                        "table td{color:#82bb3b;}"+
                        "th {padding-top: 12px;padding-bottom: 12px;text-
align: left;background-color: #4CAF50;color: white;}"+
```



## Outputs:

'Welcome' message displayed for the new session. For any login using the same session after the first login, 'Welcome Back' is displayed.

### First Time Logging in



User Name:

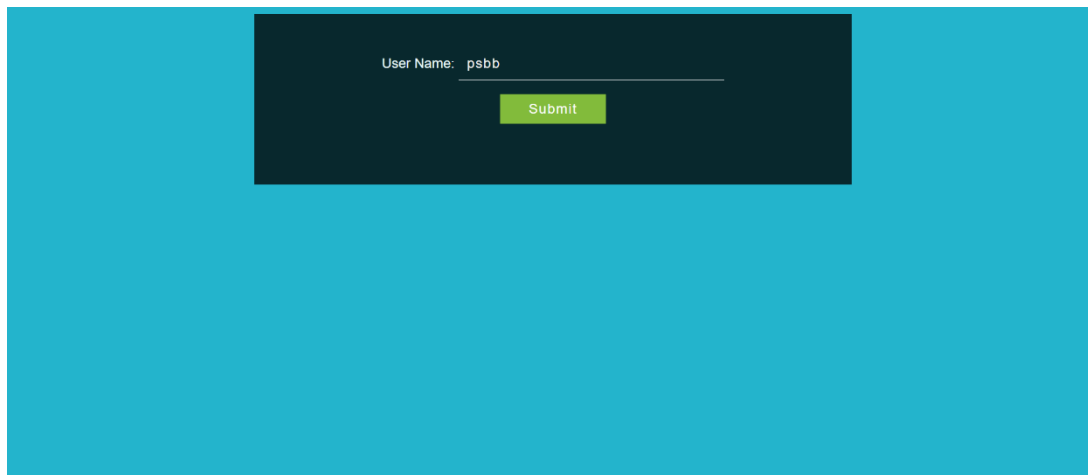
### Session information for first user

**Welcome!**

Session Information

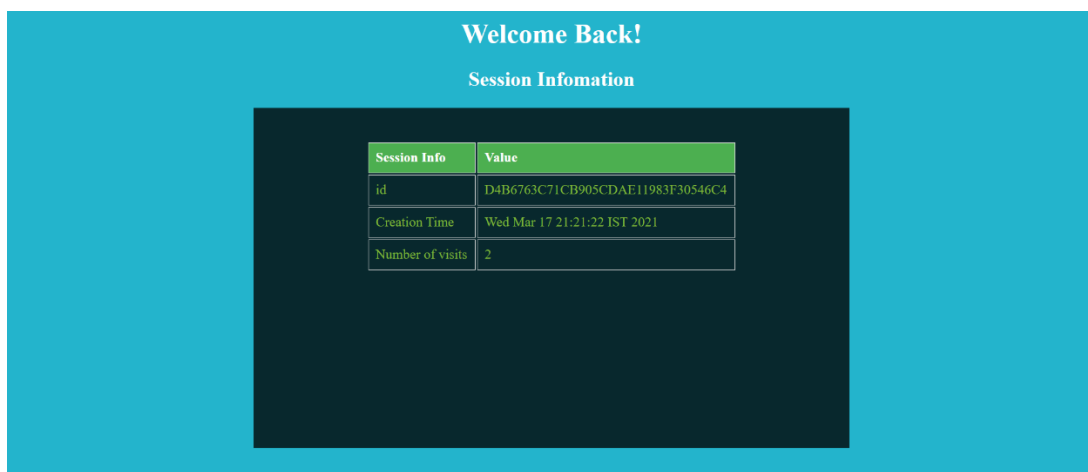
Session Info	Value
id	D4B6763C71CB905CDAE11983F30546C4
Creation Time	Wed Mar 17 21:21:22 IST 2021
Number of visits	1

## Second User Login with the same Session



A screenshot of a login form on a blue background. The form is a dark blue rectangle containing the text "User Name: psbb" followed by a horizontal line for input. Below the line is a green "Submit" button.

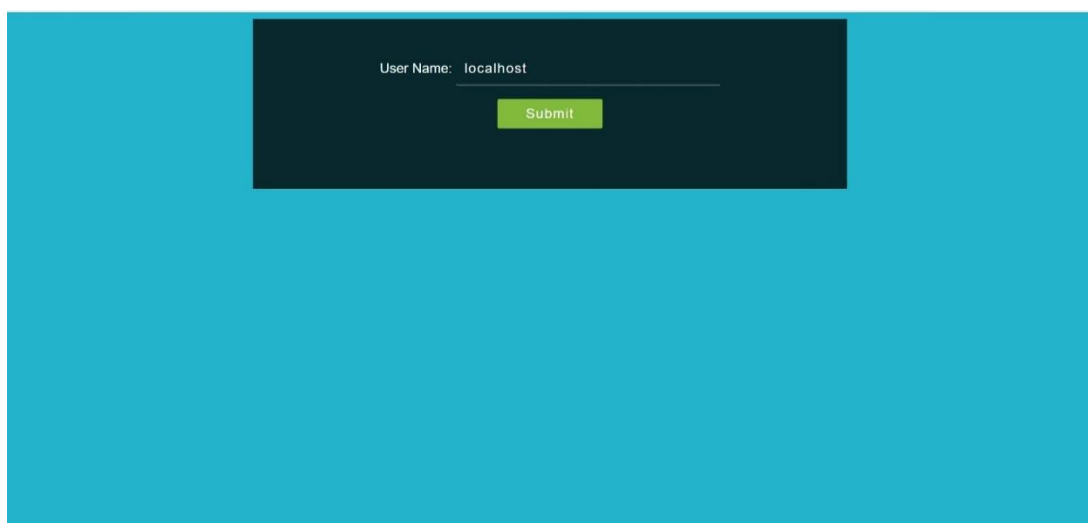
## Session information for second user



A screenshot of a web page with a blue background. At the top, it says "Welcome Back!". Below that, it says "Session Information". In the center, there is a dark blue rectangle containing a table with session details.

Session Info	Value
id	D4B6763C71CB905CD AE11983F30546C4
Creation Time	Wed Mar 17 21:21:22 IST 2021
Number of visits	2

## New Session after session timeout



A screenshot of a login form on a blue background. The form is a dark blue rectangle containing the text "User Name: localhost" followed by a horizontal line for input. Below the line is a green "Submit" button.

## Session Information of the new Session

Welcome!	
Session Information	
Session Info	Value
id	0E338455BE5479B77DC59836AC4DCB5E
Creation Time	Wed Mar 17 21:42:52 IST 2021
Number of visits	1

## Compilation of Java Code:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 1: cmd + - - - x

C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\Assign2>javac -d WEB-INF/classes ServletOne.java

C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\Assign2>
```

## Tomcat Server:

```
Tomcat
17-Mar-2021 23:26:46.077 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web application at
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\Assign1] has finished in [784] ms
17-Mar-2021 23:26:46.079 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\Assign2]
17-Mar-2021 23:26:46.172 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\Assign2] has finished in [94] ms
17-Mar-2021 23:26:46.173 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\docs]
17-Mar-2021 23:26:46.244 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\docs] has finished in [70] ms
17-Mar-2021 23:26:46.244 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\IPProject]
17-Mar-2021 23:26:46.323 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\IPProject] has finished in [79] ms
17-Mar-2021 23:26:46.324 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\la-4]
17-Mar-2021 23:26:46.409 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\la-4] has finished in [85] ms
17-Mar-2021 23:26:46.410 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\manager]
17-Mar-2021 23:26:46.532 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\manager] has finished in [121] ms
17-Mar-2021 23:26:46.533 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deploying web application di
rectory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\ROOT]
17-Mar-2021 23:26:46.591 INFO [main] org.apache.catalina.startup.HostConfig.deployDirectory Deployment of web applicatio
n directory [C:\Program Files\Apache Software Foundation\Tomcat 10.0\webapps\ROOT] has finished in [58] ms
17-Mar-2021 23:26:46.598 INFO [main] org.apache.coyote.AbstractProtocol.start Starting ProtocolHandler ["http-nio-8080"]
17-Mar-2021 23:26:46.628 INFO [main] org.apache.catalina.startup.Catalina.start Server startup in [1427] milliseconds
```