

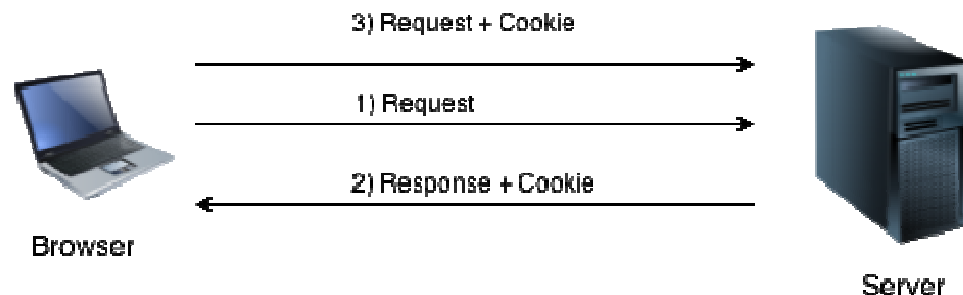
# Session Tracking Mechanism - Cookies

# What is Cookie?

- **A cookie**
  - small piece of information that is persisted between the multiple client requests
- A cookie has name and value

# How Cookie works?

- By default, each request is considered as a new request
- Cookie is added with response from the servlet
- Cookie is stored in the cache of the browser
- Request is sent by the user, cookie is added with request by default
- Recognize the user as the old user.



# Advantages & Disadvantages

- Advantage of Cookies
  - Simplest technique of maintaining the state
  - Cookies are maintained at client side
- Disadvantage of Cookies
  - It will not work if cookie is disabled from the browser
  - Only textual information can be set in Cookie object

# Constructors & Methods

| Constructor                       | Description  |
|-----------------------------------|--|
| Cookie()                          | constructs a cookie.                                 |
| Cookie(String name, String value) | constructs a cookie with a specified name and value. |

| Method                             | Description  |
|------------------------------------|--|
| public void setMaxAge(int expiry)  | Sets the maximum age of the cookie in seconds.                             |
| public String getName()            | Returns the name of the cookie. The name cannot be changed after creation. |
| public String getValue()           | Returns the value of the cookie.   |
| public void setName(String name)   | changes the name of the cookie.  |
| public void setValue(String value) | changes the value of the cookie.   |

# Creation and Deletion of Cookies

## How to create Cookie?

Cookie ck=**new** Cookie("user","sonoo jaiswal");//creating cookie object

response.addCookie(ck);//adding cookie in the response

## How to delete Cookie?

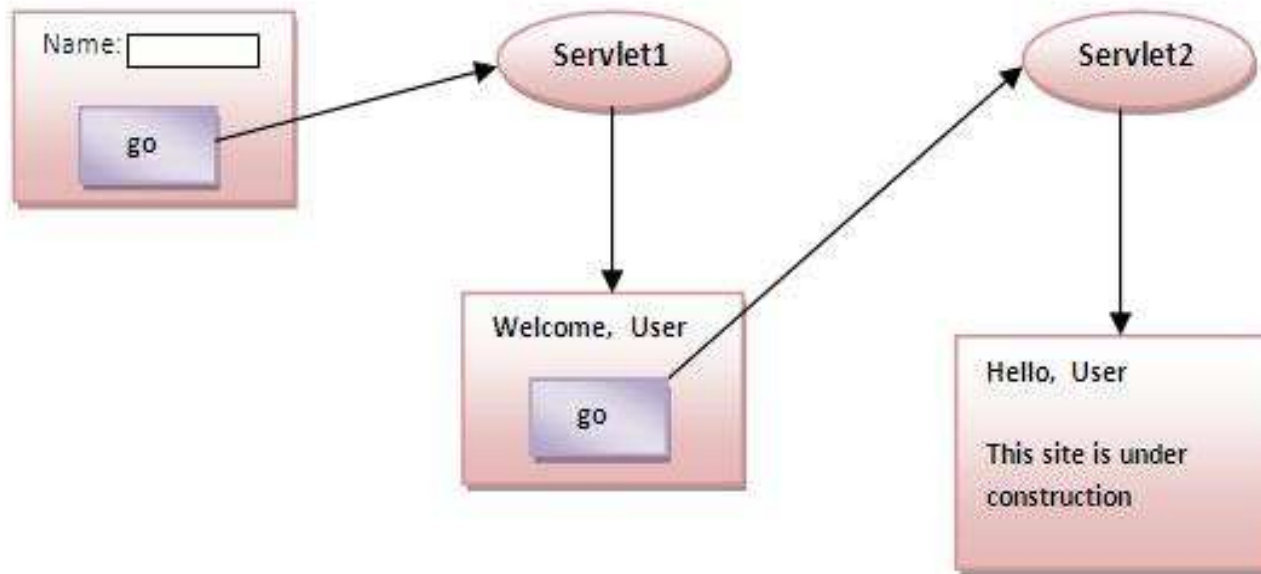
Cookie ck=**new** Cookie("user","");//deleting value of cookie

ck.setMaxAge(0);//changing the maximum age as 0

response.addCookie(ck);//adding cookie in the response

## How to get Cookies?

```
Cookie ck[]=request.getCookies();  
for(int i=0;i<ck.length;i++)  
{  
    out.print("<br>" + ck[i].getName() + " " + ck[i].getValue());  
}
```



**Storing the name of the user in the cookie object and accessing it in another servlet**

# Cookie Example1 – web.xml

```
<web-app>
```

```
<servlet>
```

```
<servlet-name>s1</servlet-name>
```

```
<servlet-class>FirstServlet</servlet-  
class>
```

```
</servlet>
```

```
<servlet-mapping>
```

```
<servlet-name>s1</servlet-name>
```

```
<url-pattern>/servlet1</url-  
pattern>
```

```
</servlet-mapping>
```

```
<servlet>
```

```
<servlet-name>s2</servlet-name>
```

```
<servlet-
```

```
class>SecondServlet</servlet-  
class>
```

```
</servlet>
```

```
<servlet-mapping>
```

```
<servlet-name>s2</servlet-name>
```

```
<url-pattern>/servlet2</url-  
pattern>
```

```
</servlet-mapping>
```

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



# Cookie Example1 – FirstServlet

```
public class FirstServlet extends HttpServlet {  
    public void doPost(HttpServletRequest request, HttpServletResponse response){  
  
        try{  
            response.setContentType("text/html");  
            PrintWriter out = response.getWriter();  
            String n=request.getParameter("userName");  
            out.print("Welcome "+n);  
            Cookie ck=new Cookie("uname",n);//creating cookie object  
            response.addCookie(ck);//adding cookie in the response  
            //creating submit button  
            out.print("<form action='servlet2'>");  
            out.print("<input type='submit' value='go'>");  
            out.print("</form>");  
            out.close();  
        }catch(Exception e){System.out.println(e);}  
    }  
}
```

# Cookie Example1 – SecondServlet

```
public class SecondServlet extends HttpServlet {  
public void doPost(HttpServletRequest request, HttpServletResponse response){  
    try{  
        response.setContentType("text/html");  
        PrintWriter out = response.getWriter();  
        Cookie ck[]=request.getCookies();  
        out.print("Hello "+ck[0].getValue());  
        out.close();  
        catch(Exception e){System.out.println(e);}  
    }  
}
```

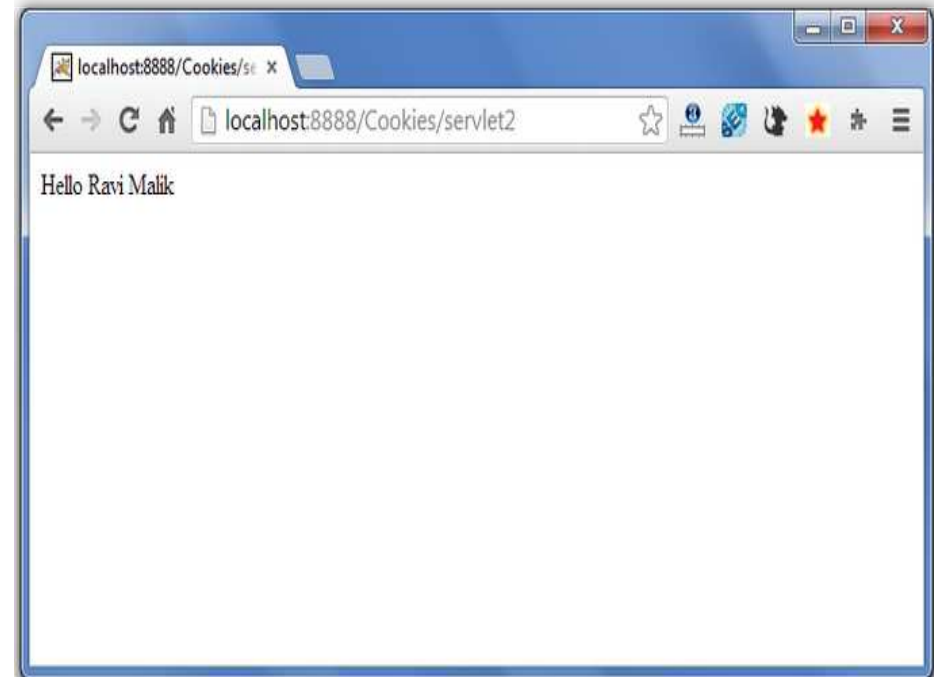
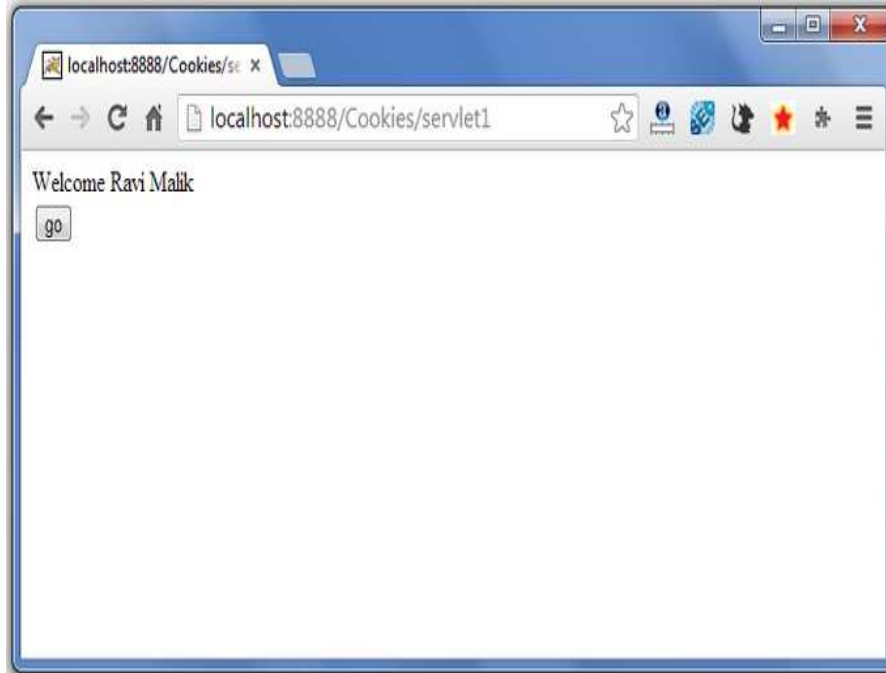
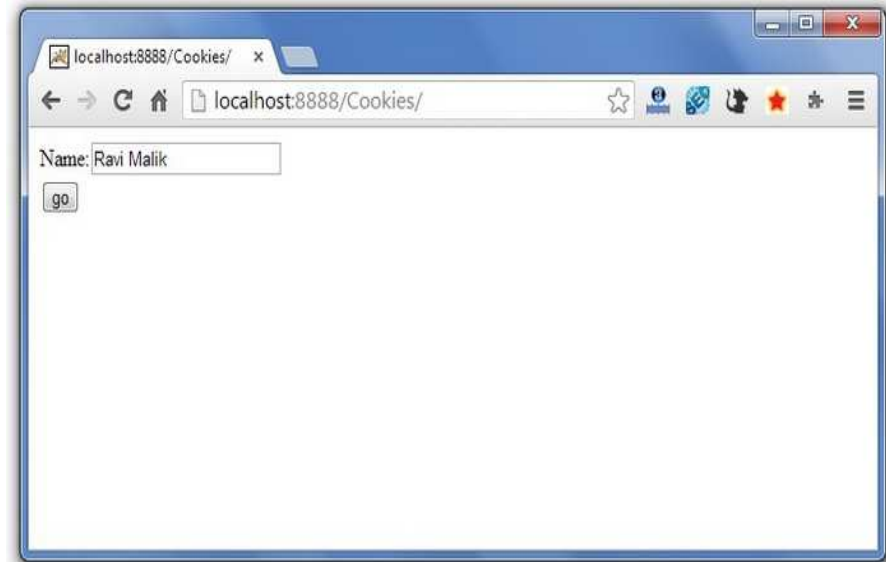
# Cookie Example1 – SecondServlet

## Index.html

```
<form action="servlet1" method="post">
```

```
  Name:<input type="text" name="userName"/><br/>
```

```
  <input type="submit" value="go"/>
</form>
```



# Cookie Example2 – Setting Cookies

```
public void doGet(...) {
    response.setContentType("text/html");
    PrintWriter out = response.getWriter();
    // Create cookies for first and last names.
    Cookie firstName = new Cookie("first_name",
    request.getParameter("first_name"));
    Cookie lastName = new Cookie("last_name",
    request.getParameter("last_name"));

    // Set expiry date after 24 Hrs for both the
    cookies.
    firstName.setMaxAge(60*60*24);
    lastName.setMaxAge(60*60*24);

    // Add both the cookies in the response
    header.
    response.addCookie( firstName );
    response.addCookie( lastName );
}
```

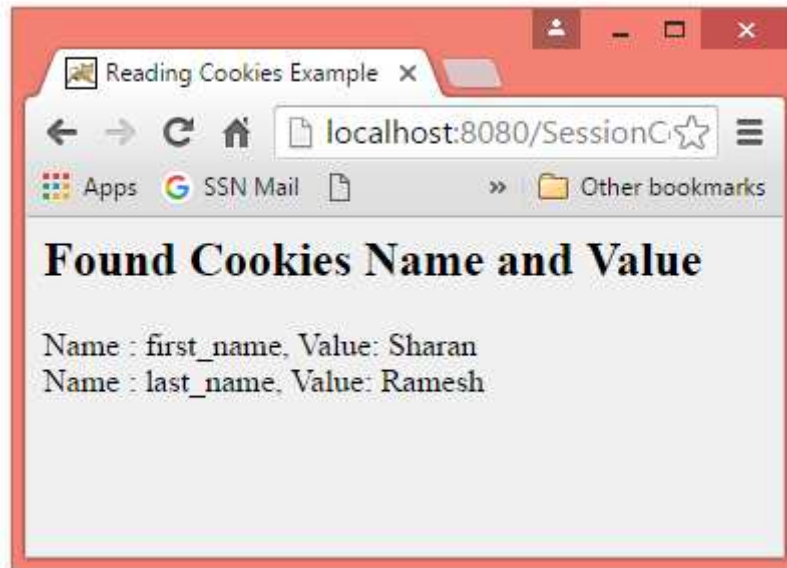
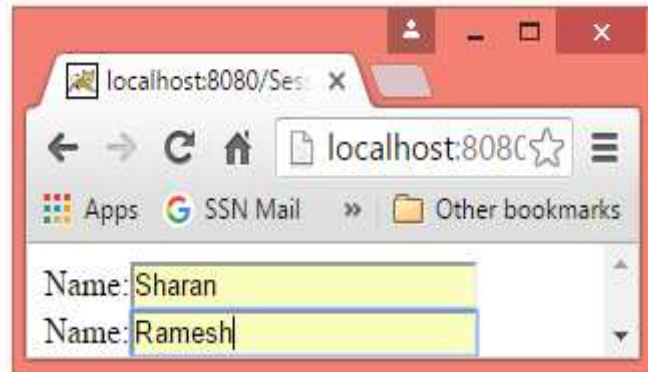
```
String title = "Setting Cookies Example";
String docType =
    "<!doctype html public \"-//w3c//dtd html 4.0 \"
    +
    \"transitional//en\">\n";
out.println(docType +
    "<html>\n" +
    "<head><title>" + title +
    "</title></head>\n" +
    "<body bgcolor=\"#f0f0f0\">\n" +
    "<h1 align=\"center\">" + title + "</h1>\n"
    +
    "<ul>\n" +
    "  <li><b>First Name</b>: "
    + request.getParameter("first_name") +
    "\n" +
    "  <li><b>Last Name</b>: "
    + request.getParameter("last_name") +
    "\n" +
    "</ul>\n" +
    "</body></html>");}}
```

# Cookie Example2 – Setting Cookies

```
public class ReadCookies extends HttpServlet {
    public void doGet(...) {
        Cookie cookie = null;
        Cookie[] cookies = null;
        // Get an array of Cookies associated with
        // this domain
        cookies = request.getCookies();
        // Set response content type
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();
        String title = "Reading Cookies Example";
        String docType =
            "<!doctype html public \"-//w3c//dtd html
            4.0 \" +
            \"transitional//en\">\n";
        out.println(docType +
            "<html>\n" +
            "<head><title>" + title +
            "</title></head>\n" +
            "<body bgcolor=\"#f0f0f0\">\n" );

        if( cookies != null ){
            out.println("<h2> Found Cookies Name
            and Value</h2>");
            for (int i = 0; i < cookies.length; i++)
            {
                cookie = cookies[i];
                out.print("Name : " + cookie.getName( ) );
                out.print("Value: " + cookie.getValue( ));
            }
        }
        else{
            out.println(
                "<h2>No cookies founds</h2>");
        }
        out.println("</body>");
        out.println("</html>");
    }
}
```

# Cookie Example2 - Output



## Index.html

```
<form action="hello" method="get">
Name:<input type="text"
name="first_name"/><br/>
Name:<input type="text"
name="last_name"/><br/>
<input type="submit" value="go"/>
</form>
```