

## Lab Session 02

- 01) Write a servlet that retrieves and displays the value of the "User-Agent" header sent by the client's browser. If the header is not present, display a message indicating its absence.

### Servlet.java

```

@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    //Get the User-Agent header from
    String userAgent=request.getHeader("User-Agent");
    response.setContentType("text/html");
    PrintWriter out=response.getWriter();
    //Display the value of the User-Agent

    if (userAgent != null && !userAgent.isEmpty()) {
        out.println("<html><head><title>User-Agent Header</title>");
        out.println("<h2>User-Agent Header Value:</h2>");
        out.println("<p>" + userAgent + "</p>");
        out.println("</body></html>");
    }
    else{
        out.println("<html><head><title>User-Agent Header</title> ");
        out.println("<h2>User-Agent Header Not Present</h2>");
        out.println("</body></html>");
    }
    // Close the PrintWriter
    //processRequest(request, response);
}

```

### Output

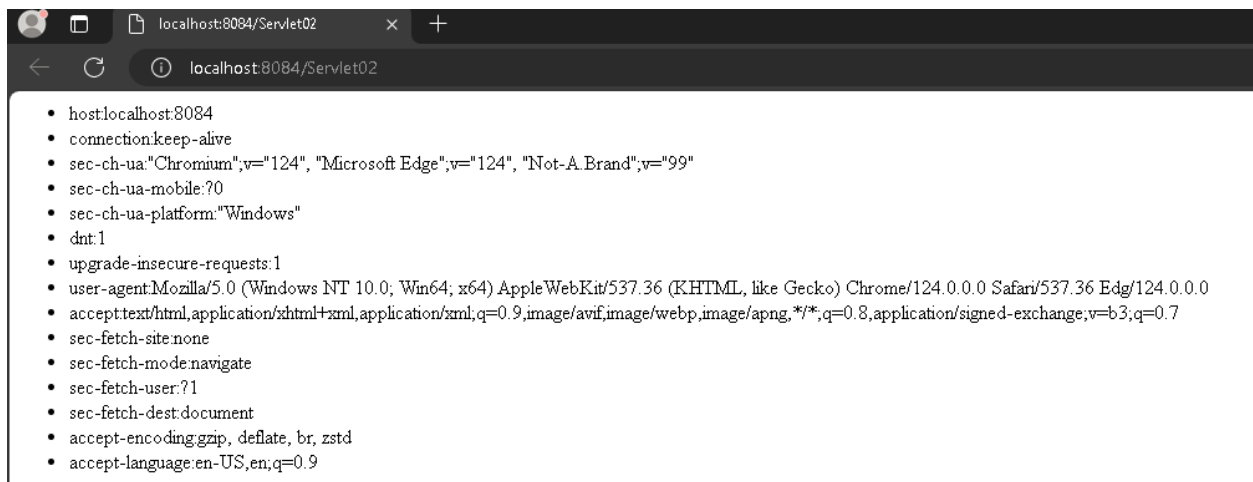


02) Write a servlet that browser retrieves and displays all incoming request headers from the client's browser.

### Servlet.java

```
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    Enumeration<String>headers=request.getHeaderNames();
    PrintWriter out=response.getWriter();
    response.setContentType("text/html");
    out.println("<ul>");
    while(headers.hasMoreElements()){
        String headerName =headers.nextElement();
        String headerValues =request.getHeader(headerName);
        out.println("<li>"+ headerName + ":" +headerValues + "</li>");
    }
    out.println("</ul>");
    //processRequest(request, response);
}
```

### Output



3. Create a servlet that sets custom response headers such as "Content-Type" and "Cache-Control" and sends a simple message as the response body.

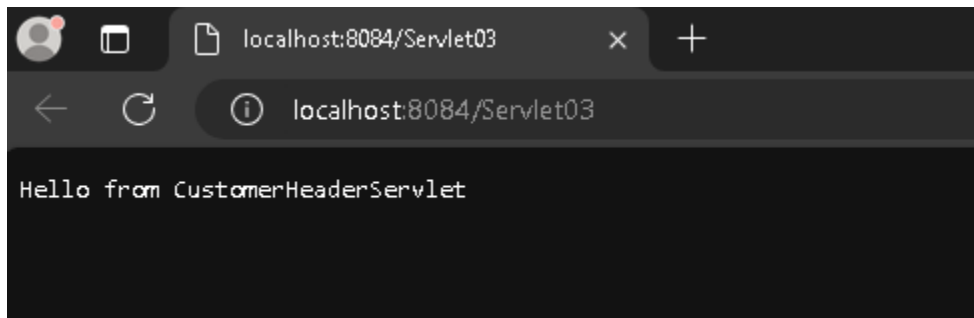
#### Servlet.java

```

-   //
-   @Override
-   protected void doGet(HttpServletRequest request, HttpServletResponse response)
-       throws ServletException, IOException {
-       response.setHeader("Content-Type", "text/plain");
-       response.setHeader("Cache-Control", "no-cache");
-
-       response.getWriter().println("Hello from CustomerHeaderServlet");
-       //processRequest(request, response);
-   }

```

#### Output-



4) Develop a servlet that redirects the user to another webpage using the "Location" response header. Include a delay by setting the "Refresh" header.

#### Servlet.java

```
    /*  
    @Override  
    protected void doGet(HttpServletRequest request, HttpServletResponse response)  
        throws ServletException, IOException {  
        int delaySeconds=5;  
        String redirectUrl="https://www.nsbm.ac.lk";  
        response.setHeader("Refresh",delaySeconds+"");URL=" + redirectUrl);  
        response.setHeader("Location",redirectUrl);  
        response.setStatus(HttpServletResponse.SC_FOUND);  
        response.getWriter().println("You will be redirected to"+redirectUrl+"ln"+delaySeconds+"seconds:");  
        //processRequest(request, response);  
    }  
    */
```

5) Write a servlet that reads and displays the value of a specific cookie sent by the client's browser. If the cookie doesn't exist, generate, and send a new one.

#### Servlet.java

```
    @Override  
    protected void doGet(HttpServletRequest request, HttpServletResponse response)  
        throws ServletException, IOException {  
        //Set content type of the response  
        response.setContentType("text/html");  
        PrintWriter out=response.getWriter();  
        Cookie[] cookies=request.getCookies();  
        boolean cookieFound=false;  
        String cookieName="myCookie";  
        String cookieValue=null;  
        if(cookies !=null){  
            for(Cookie cookie:cookies){  
                if(cookie.getName().equals(cookieName)){  
                    cookieFound=true;  
                    cookieValue=cookie.getValue();  
                    break;  
                }  
            }  
        }  
        if(!cookieFound) {  
            cookieValue="generatedValue";  
            Cookie newCookie=new Cookie(cookieName,cookieValue);  
            response.addCookie(newCookie);  
            out.println("<html><head><title>Cookie Servlet</title></head><body>");  
            out.println("<h2>Value of the specific cookie:</h2>");  
            out.println("<p>" + cookieValue + "</p>");  
            out.println("</body></html>");  
            out.close();  
        }  
        //processRequest(request, response);  
    }  
}
```

6)Write a servlet for user authentication.

If the username password are correct ,return a 200-status code.

Otherwise,return a 401-status code.

### Index.html

```
<html>
<head>
  <title>TODO supply a title</title>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
<body>
  <h2>Authentication</h2>
  <form action="AuthenticationServlet" method="POST">
    <label for="username">Username:</label><br>
    <input type="text" id="username" name="username"><br>
    <label for="password">Password:</label><br>
    <input type="text" id="password" name="password"><br>
    <input type="submit" value="Login">
  </form>
</body>
</html>
```

### AuthenticationServlet.java

```
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
    //Get username and password parameters from the request
    String username=request.getParameter("username");
    String password=request.getParameter("password");
    //check if the username and password are correct(Dummy example,replace with actual authentication logic)
    boolean isAuthenticated=authenticate(username,password);
    //Set the content type of the response
    response.setContentType("text/plain");
    //Get PrintWriter object to write the response
    PrintWriter out=response.getWriter();
    //If authentication successful,return 200 status code
    if(isAuthenticated){
        response.setStatus(HttpServletResponse.SC_OK);
        out.println("Authentication successfully");
    }else{
        //If authentication failed,return 401 status code
        response.setStatus(HttpServletResponse.SC_UNAUTHORIZED);
        out.println("Authentication failed.please check ypur username and password");
    }
    //close the printwriter
    out.close();
    //processRequest(request, response);
}
```