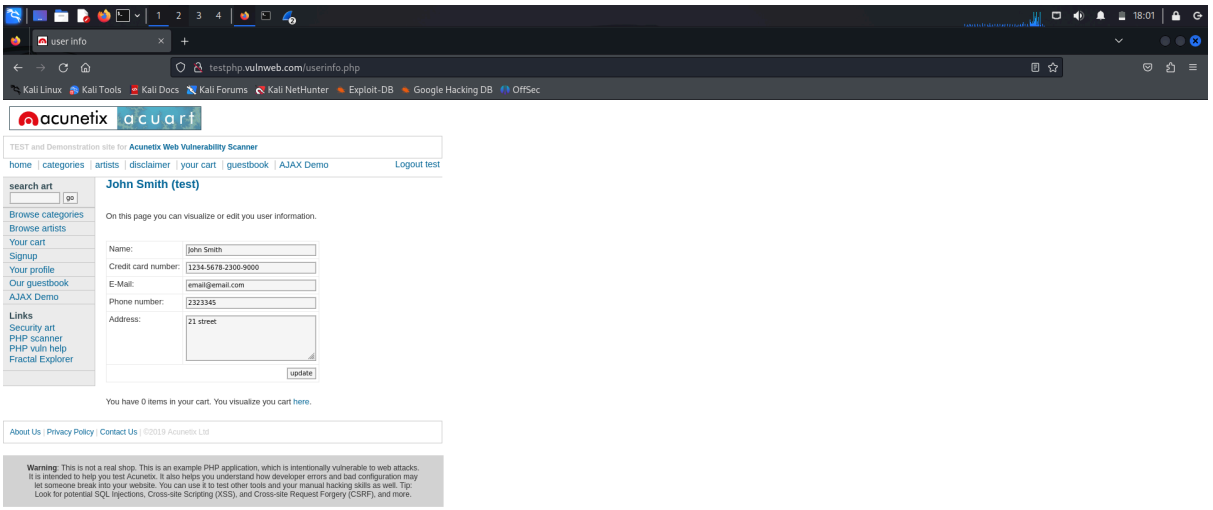
Bakka Ramyasree

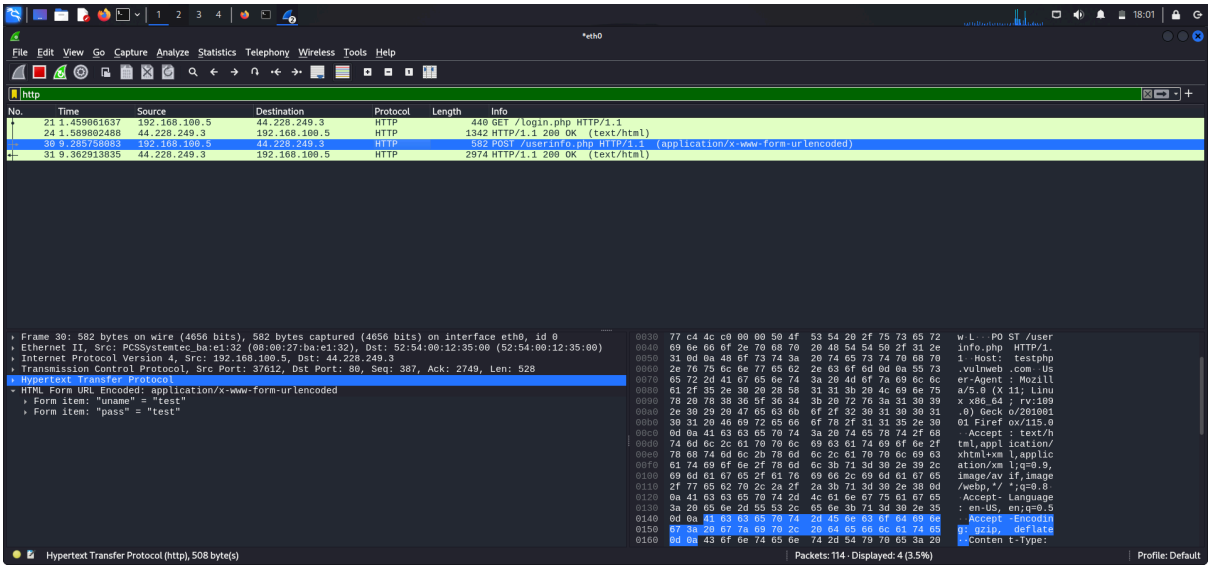
Session Persistence with Cookies in HTTP

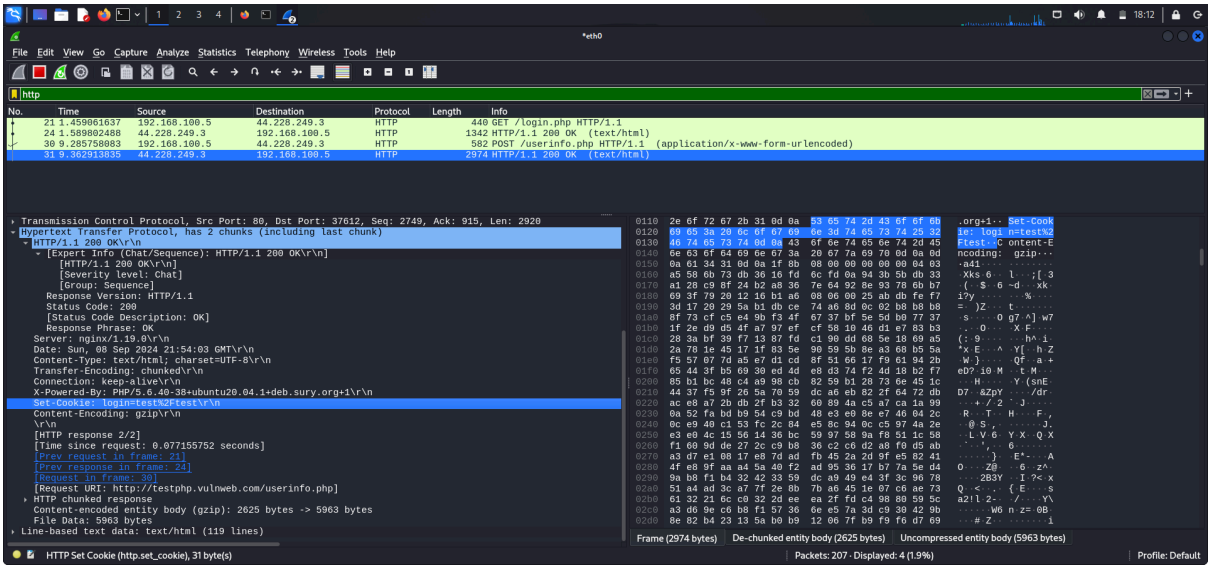
1. **Start Capturing in Wireshark:**
    - Begin by capturing traffic using Wireshark.
2. **Perform a Login to a Website:**
    - Visit a website that requires a login (e.g., any forum or email service).
    - Login with a test account and observe the packets in Wireshark.

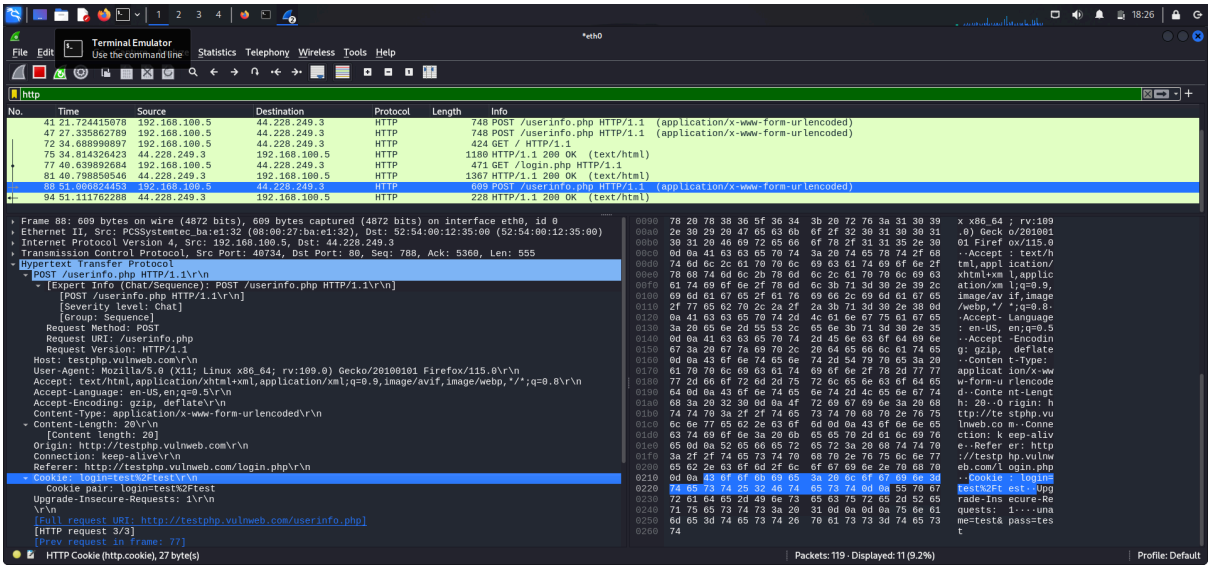


Identify HTTP Cookies:

- Filter the traffic using `http`.
- Locate the HTTP requests and responses involving cookies.
- Take a screenshot of these packets







GET request (loading the login page).

200 OK response (server’s response to the GET request).
POST request (sending login credentials).
200 OK response (server’s response after the login).

Analyze the Cookies:

- **Discuss how cookies are used to maintain session state.**

  Cookie Set by the Server:

  The server returned a response with a Set-Cookie header when you logged in:

  Set-Cookie: test%2Ftest for login

  The %2F is simply an encoded slash /. This instructs your browser to store a cookie called login with the value test/test.

  The Cookie is stored by the browser:

  This cookie (login=test/test) is saved by your browser and is linked to the page you visited.

  The browser returns a cookie to the server.

  This cookie is automatically included by your browser in the request header for all subsequent requests to the same website:

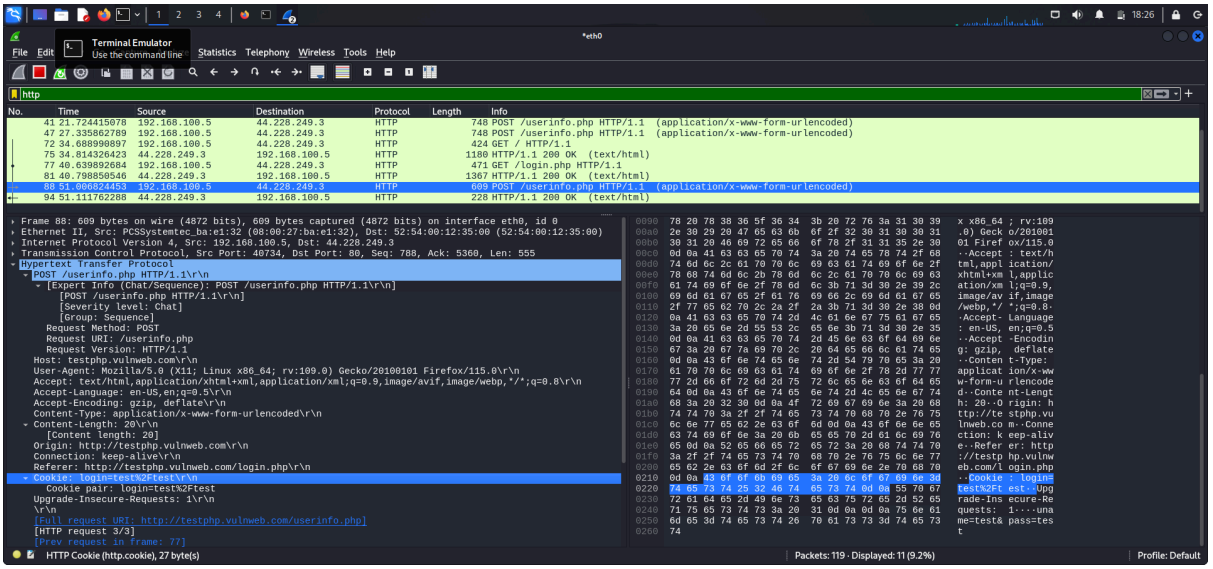
  Cookie: test%2Ftest

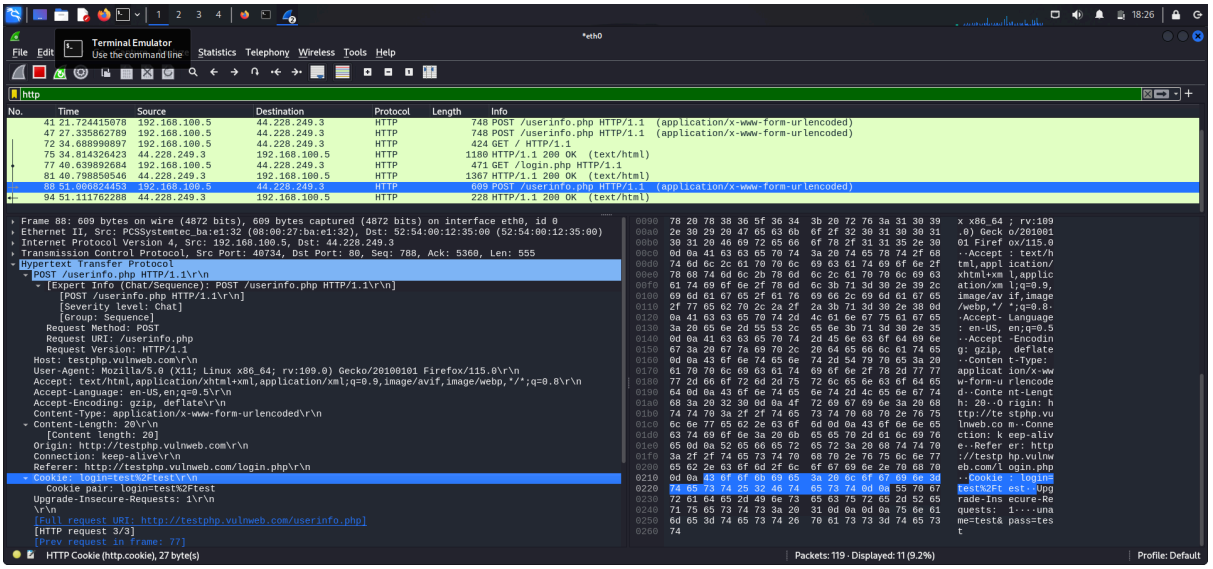
  In this manner, the server is aware that you are returning and can remember your choices or keep you logged in.

  The cookie is used by the server to identify the session.

  The login=test/test cookie is read by the server in order to identify your session and keep you logged in

Identify the Set-Cookie header in the server response and the Cookie header in subsequent client requests.





Document Findings:

- **Write a report explaining how cookies help maintain sessions in HTTP.**

Report: HTTP Session Maintenance via Cookies Overview
Cookies enable websites to keep track of you in between page views.

The server sends a cookie to your browser when you log in.
For instance: Cookie Set: login=test%2Ftest; Cookie Stored by the Browser:

This cookie is stored by your browser for that website.
Cookie is returned by the browser:

The browser transmits the cookie back to the server each time you interact with the website.

For instance: Cookie: login=test%2Ftest You Are Identified by the Server:
The cookie helps the server remember who you are, so it can maintain your login or store your preferences.

In summary
Cookies enable websites to retain your login information and continue your session when you visit different pages.