



MISSION HACKERS

BANGLADESH

Assignment No-02

Assignment Title: Wireshark Packet Capture

Course Title: Cybersecurity & Ethical Hacking

Submitted by:

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**Lab Task Topic: Capturing and Analyzing HTTP Login
Packets.**

Submitted to:

MD Sha Jalal

Founder of Mission Hackers Bangladesh

❑ What is Wireshark?

Wireshark is a network protocol analyzer that allows users to capture and analyze network traffic in detail. It is widely regarded as one of the most powerful tools for network troubleshooting, security analysis, and protocol development. Wireshark is free, open-source, and available on multiple platforms, including Windows, macOS, Linux.

❑ Installing Wireshark on Kali Linux

1. Open Terminal : `ctrl+alt+t`
2. By Default Wireshark is installed in Kali Linux
3. Check the Latest version in terminal :
`wireshark -version`
4. If not installed, install with :
`sudo apt update`
`sudo apt install wireshark -y`
5. Launch Wireshark with : **`sudo wireshark`**

❑ Capturing Packet From HTTP Login Page

We will now simulate capturing an HTTP login (not HTTPS). Since modern websites use HTTPS, we'll use a **demo HTTP login site** like: [Acunetix Web Vulnerability Scanner](#)

1. Open Wireshark
2. Selecting active network interfaces such as: `eth0`, `wlan0`, `lo`
3. After selecting the interface it will start capturing
4. I will filter the capture in the top of the capture only HTTP
5. Everything is setup. Now browse to the HTTP login page.

6. The page link is : <http://testphp.vulnweb.com/login.php>

← ↻ 🏠 ⚠ Not secure | testphp.vulnweb.com/login.php

acunetix **acuart**

TEST and Demonstration site for **Acunetix Web Vulnerability Scanner**

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[Fractal Explorer](#)

If you are already registered please enter your login information below:

Username :

Password :

You can also [signup here](#).
Signup disabled. Please use the username **test** and the password **test**.

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Warning: This is not a real shop. This is an example PHP application, which is intentionally vulnerable to web attacks. It is intended to help you test Acunetix. It also helps you understand how developer errors and bad configuration may let someone break into your website. You can use it to test other tools and your manual hacking skills as well. Tip: Look for potential SQL Injections, Cross-site Scripting (XSS), and Cross-site Request Forgery (CSRF), and more.

Figure 1: Acunetix Vulnerability Scanner

7. After fill up the form entering any dummy credentials like
Username : Netcat404

Password : Netarious725@3lsm#

8. Submit the form.

9. Go back to Wireshark and Stop the capturing packet by clicking the red square (Stop) button.

Saving the Capture file as capture.pcapng

tcp.stream eq 22

| No. | Time | Source | Destination | Protocol | Length | Info |
|------|----------------|---------------|---------------|----------|--------|--|
| 1095 | 140.454121575 | 192.168.1.105 | 44.228.249.3 | TCP | 74 | 636314 → 80 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 SACK_PERM TSval=1922444758 TSecr=0 WS=1024 |
| 1099 | 140.7080094377 | 44.228.249.3 | 192.168.1.105 | TCP | 74 | 80 → 36314 [SYN, ACK] Seq=0 Ack=1 Win=62643 Len=0 MSS=1440 SACK_PERM TSval=818009080 TSecr=1922444758 WS=128 |
| 1100 | 140.708249149 | 192.168.1.105 | 44.228.249.3 | TCP | 66 | 36314 → 80 [ACK] Seq=1 Ack=1 Win=64512 Len=0 TSval=1922445012 TSecr=818009080 |
| 1101 | 140.708777763 | 192.168.1.105 | 44.228.249.3 | HTTP | 513 | GET /login.php HTTP/1.1 |
| 1103 | 140.963594282 | 44.228.249.3 | 192.168.1.105 | TCP | 66 | 80 → 36314 [ACK] Seq=1 Ack=448 Win=62098 Len=0 TSval=8180001064 TSecr=1922445012 |
| 1104 | 140.963595491 | 44.228.249.3 | 192.168.1.105 | HTTP | 2814 | HTTP/1.1 200 OK (text/html) |
| 1106 | 140.963755836 | 192.168.1.105 | 44.228.249.3 | TCP | 66 | 36314 → 80 [ACK] Seq=448 Ack=2749 Win=62464 Len=0 TSval=1922445267 TSecr=818001605 |
| 1255 | 173.467756284 | 192.168.1.105 | 44.228.249.3 | HTTP | 738 | POST /userinfo.php HTTP/1.1 (application/x-www-form-urlencoded) |
| 1294 | 173.721224726 | 44.228.249.3 | 192.168.1.105 | TCP | 66 | 80 → 36314 [ACK] Seq=2749 Ack=1120 Win=61568 Len=0 TSval=818033823 TSecr=192247771 |
| 1295 | 173.727736954 | 44.228.249.3 | 192.168.1.105 | HTTP | 342 | HTTP/1.1 302 Found (text/html) |
| 1297 | 173.727911127 | 192.168.1.105 | 44.228.249.3 | TCP | 66 | 36314 → 80 [ACK] Seq=1120 Ack=3025 Win=62464 Len=0 TSval=1922478931 TSecr=818033824 |
| 1301 | 173.754061476 | 192.168.1.105 | 44.228.249.3 | HTTP | 586 | GET /login.php HTTP/1.1 |
| 1310 | 174.016131712 | 44.228.249.3 | 192.168.1.105 | TCP | 66 | 80 → 36314 [ACK] Seq=3025 Ack=1640 Win=61056 Len=0 TSval=818034112 TSecr=1922478958 |
| 1311 | 174.011400003 | 44.228.249.3 | 192.168.1.105 | HTTP | 2814 | HTTP/1.1 200 OK (text/html) |
| 1312 | 174.011747139 | 192.168.1.105 | 44.228.249.3 | TCP | 66 | 36314 → 80 [ACK] Seq=1640 Ack=5773 Win=60416 Len=0 TSval=1922478315 TSecr=818034113 |


```

> Frame 1255: 738 bytes on wire (5904 bits), 738 bytes captured (5904 bits) on interface wlan0, id 0
> Ethernet II, Src: Intel_d9:ea:2c: (98:bd:8d:d9:ea:2c), Dst: NetisTechno_b4:d8:ff: (dc:8e:bd:b4:d8:ff)
> Internet Protocol Version 4, Src: 192.168.1.105, Dst: 44.228.249.3
> Transmission Control Protocol, Src Port: 36314, Dst Port: 80, Seq: 448, Ack: 2749, Len: 672
> Hypertext Transfer Protocol
    > POST /userinfo.php HTTP/1.1\r\n
        Request Method: POST
        Request URI: /userinfo.php
        Request Version: HTTP/1.1
    Host: testphp.vulnweb.com\r\n
    Connection: keep-alive\r\n
    Content-Length: 43\r\n
    Cache-Control: max-age=0\r\n
    Origin: http://testphp.vulnweb.com\r\n
  
```

```

0020 f9 83 bd da 00 50 85 aa b6 86 09 c6 44 85 80 18      = . P . D
0030 00 80 ea bf 09 09 01 81 08 0a 72 96 ae cb 30 c3     = ..POST /userinfo
0040 ba 49 50 af 53 54 20 2f 75 63 75 62 96 66 6f 6f   = ..PHP HT F/1.1 M
0050 2e 70 78 69 20 48 54 54 50 2f 31 62 31 9d 0a 48   = ..ost tes tphp.w
0060 6f 72 74 20 74 65 72 74 70 60 78 76 75 6c 66     = ..mweb.com Connec
0070 76 77 65 62 63 6f 6d 43 6f 0a 43 6f 65 2d 43 6f  = ..tion: ke ep-aliv
0080 74 69 6f 6a 3a 20 6f 65 70 7d 61 6c 69 67 6a 68   = ..tent-length
0090 0d 0a 43 6f 6e 74 65 6e 74 2d 4c 85 66 67 74 69   = .. : 43 Ca che-Con
00a0 3a 20 34 33 6d 0a 43 6f 63 65 65 2d 43 6f 6e 74   = ..rol: max -age=0
00b0 72 6f 6a 3a 20 6d 6f 78 2d 61 67 65 3d 30 0d 0a   = ..t php.v ulnweb.c
00c0 4f 72 69 67 69 6e 3a 20 68 74 74 70 3a 2f 2f 74   = ..rigin: http://t
00d0 65 73 74 70 68 70 2e 76 75 6e 6f 77 65 62 63    = ..ded Upgr ade-ins
00e0 6f 6d 0d 43 6f 6e 74 65 6e 74 2d 54 79 79 65    = ..on Cont ent-Type
00f0 3a 20 61 70 70 6e 69 63 61 74 69 6f 6e 2f 78 2d   = .. applic ation/x-
0100 77 77 72 66 6f 72 6d 2d 75 72 65 65 63 6f 6f    = ..wrm -form -urlencod
0110 64 65 64 0d 0a 55 70 67 72 61 64 65 2d 40 6e 73   = .. ded Upgr ade-ins
0120 65 73 72 62 62 5d 62 5d 65 71 75 65 73 74 3a 20   = ..ecure-Re quest:s
0130 31 0d 0a 55 73 65 72 2d 41 67 65 6e 74 3a 20 4d   = .. 1 User-A gent: M
0140 6f 74 69 6e 63 2f 55 2e 30 20 28 31 31 3b         = ..ozilla/5 .0 (X11;
0150 20 4c 69 6e 75 70 70 78 38 30 6f 36 34 29 41     = .. Linux x 86_64) A
0160 70 70 65 57 65 62 4b 69 74 2f 35 33 37 2e 33     = ..ppleWeb I t/53.7
  
```

Packets: 1381 · Displayed: 15 (1.1%) · Dropped: 0 (0.0%) Profile: Default

Under the Analyze click Follow and select TCP or HTTP Stream.
Then the Username and the Password is visible unencrypted.



Now this is the process of Capturing Packet and get information from it....

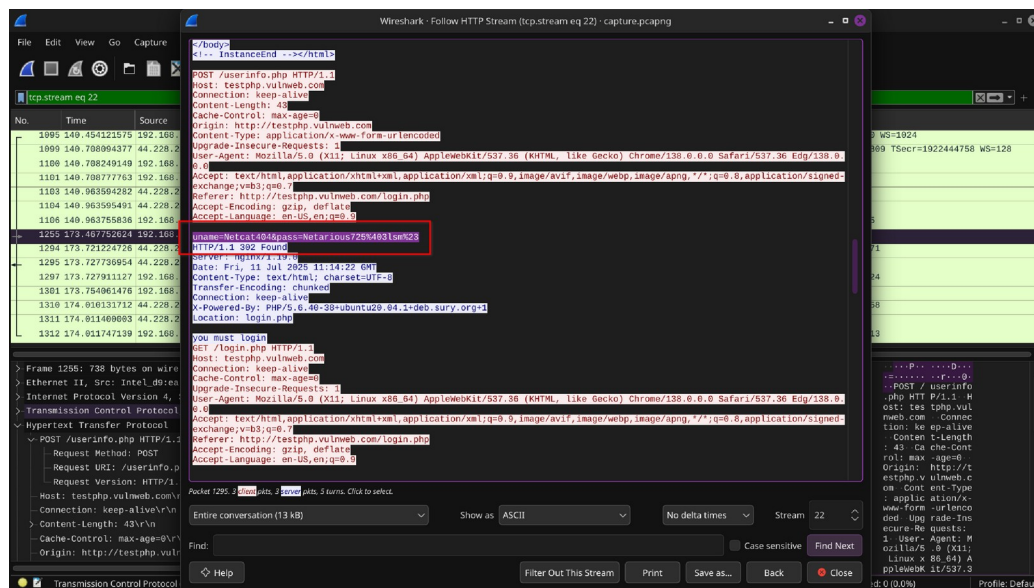


Figure 4: Visible information from captured packet

□ Analyses the Captured Packet Using Wnalyzer

We have the Captured file capture.pcapng in the folder. Now Following those step we can Analyze the data from the packet -

1. Open terminal in the working directory of that captured file.
2. For analyze the file we have to install some dependencies:

python3-dpkt : **sudo apt install python3-dpkt**

```
(spyder@kali)-[~/Github/Ethical-Hacking/MissionHackerBD/ Wireshark]
$ sudo apt install python3-dpkt
Installing:
python3-dpkt

Summary:
  Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 98
  Download size: 152 kB
  Space needed: 807 kB / 147 GB available

Get:1 http://mirror.kku.ac.th/kali kali-rolling/main amd64 python3-dpkt all 1.9.8-2 [152 kB]
Fetched 152 kB in 2s (78.1 kB/s)
Selecting previously unselected package python3-dpkt.
(Reading database ... 1060505 files and directories currently installed.)
Preparing to unpack .../python3-dpkt_1.9.8-2_all.deb ...
Unpacking python3-dpkt (1.9.8-2) ...
Setting up python3-dpkt (1.9.8-2) ...
Scanning processes...
Scanning processor microcode...
Scanning linux images...

Running kernel seems to be up-to-date.

The processor microcode seems to be up-to-date.
```

Figure 5: Installing Dependencies

3. After install all the dependencies, now we can use Wanalyzer by the command : `python3 wanalyzer.py`

```
..ionHackerBD/ Wireshark + v
(spyder@kali)-[~/Github/Ethical-Hacking/MissionHackerBD/ Wireshark]
$ ls
capture.pcapng  Module-3-4.pdf  README.md  wanalyzer.py

(spyder@kali)-[~/Github/Ethical-Hacking/MissionHackerBD/ Wireshark]
$ python3 wanalyzer.py
-----
Source IP: 192.168.1.105
Destination IP: 150.171.28.11
Payload (partial):
GET /browsernetworktime/time/1/current?cup2key=2:fC-3uEH8P2MH6YgHdV3Izg3C9SG8uT_
a495991b7852b855 HTTP/1.1
Host: edge.microsoft.com
Connection: keep-alive
```

Figure 6: Running Wanalyzer

4. As we can see the analyze report of the captured file :

```
(spyder@kali)-[~/Github/Ethical-Hacking/MissionHackerBD/ Wireshark]
$ python3 wanalyzer.py
-----
Source IP: 192.168.1.105
Destination IP: 150.171.28.11
Payload (partial):
GET /browsernetworktime/time/1/current?
cup2key=2:fC-3uEH8P2MH6YgHdV3Izg3C9SG8uT_YQu4eX-
UjgI8&cup2hreq=e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855
HTTP/1.1
Host: edge.microsoft.com
Connection: keep-alive
Pragma: no-cache
Cache-Control: no-cache
Sec-Mesh-Client-Edge-Version: 138.0.3351.77
Sec-Mesh-Client-Edge-Channel: stable
Sec-Mesh-Client-OS: Linux
Sec-Mesh-Client-OS-Version: 6.12.33+kali-amd64
Sec-Mesh-Client-Arch: x86_64
Sec-Mesh-Client-WebView: 0
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/138.0.0.0 Safari/537.36 Edg/138.0.0.0
Accept-Encoding: gzip, deflate
-----
Source IP: 150.171.28.11
Destination IP: 192.168.1.105
Payload (partial):
HTTP/1.1 200 OK
Cache-Control: no-store, must-revalidate, no-cache, max-age=0
```


Pragma: no-cache
Content-Length: 100
Content-Type: application/json
Content-Encoding: gzip
Expires: Mon, 01 Jan 1990 00:00:00 GMT
X-Frame-Options: sameorigin
X-XSS-Protection: 1; mode=block
X-Content-Type-Options: nosniff
x-cup-server-proof:
304602210088C3BCDE3A07314D789D55A3160993C6BA46929568D8D28B4B78584482ABFCC0022100F32
CDCE3859EC2834AEBA04B2A4B3F41FB0A611C5D102F6A10244A3610229EE4:e3b0c44298fc1c149afb
4c8996fb92427ae41e4649b934ca495991b7852b855
Content-Disposition: attachment; filename='json.txt'
X-Cache: CONFIG_NOCACHE
X-MSEdge-Ref: Ref A: 168A7D530C664CF99F26A3140AA1B4BD Ref B: SIN30EDGE0509 Ref C:
2025-07-11T11:12:13Z
Date: Fri, 11 Jul 2025 11:12:13 GMT

Source IP: 192.168.1.105
Destination IP: 44.228.249.3
Payload (partial):
GET /login.php HTTP/1.1
Host: testphp.vulnweb.com
Connection: keep-alive
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/138.0.0.0 Safari/537.36 Edg/138.0.0.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/
webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9

Source IP: 44.228.249.3
Destination IP: 192.168.1.105
Payload (partial):
HTTP/1.1 200 OK
Server: nginx/1.19.0
Date: Fri, 11 Jul 2025 11:13:49 GMT
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Connection: keep-alive
X-Powered-By: PHP/5.6.40-38+ubuntu20.04.1+deb.sury.org+1
Content-Encoding: gzip

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Xms6
7MPIdQm;n_IHe`^Y(3iGX>7?qstn~=:gQ\$'?8浑VWIr>JkQ,@YrKRyuTJ1(lMy56
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Source IP: 192.168.1.105
Destination IP: 44.228.249.3
Payload (partial):
POST /userinfo.php HTTP/1.1
Host: testphp.vulnweb.com
Connection: keep-alive
Content-Length: 43
Cache-Control: max-age=0
Origin: http://testphp.vulnweb.com
Content-Type: application/x-www-form-urlencoded
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko)
Chrome/138.0.0.0 Safari/537.36 Edg/138.0.0.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Referer: http://testphp.vulnweb.com/login.php
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9

uname=Netcat404&pass=Netarious725%403łsm%23

Source IP: 44.228.249.3
Destination IP: 192.168.1.105
Payload (partial):
HTTP/1.1 302 Found
Server: nginx/1.19.0
Date: Fri, 11 Jul 2025 11:14:22 GMT
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Connection: keep-alive
X-Powered-By: PHP/5.6.40-38+ubuntu20.04.1+deb.sury.org+1
Location: login.php

e
you must login
0

Source IP: 192.168.1.105
Destination IP: 44.228.249.3
Payload (partial):
GET /login.php HTTP/1.1
Host: testphp.vulnweb.com
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/138.0.0.0 Safari/537.36 Edg/138.0.0.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Referer: http://testphp.vulnweb.com/login.php
Accept-Encoding: gzip, deflate
Accept-Language: en-US,en;q=0.9

Source IP: 44.228.249.3
Destination IP: 192.168.1.105
Payload (partial):
HTTP/1.1 200 OK
Server: nginx/1.19.0
Date: Fri, 11 Jul 2025 11:14:22 GMT
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Connection: keep-alive
X-Powered-By: PHP/5.6.40-38+ubuntu20.04.1+deb.sury.org+1
Content-Encoding: gzip


```
###[ Ethernet ]###
  dst      = dc:8e:8d:b4:d8:ff
  src      = 98:bd:80:d9:ea:2c
  type     = IPv4
###[ IP ]###
  version  = 4
  ihl      = 5
  tos      = 0x0
  len      = 60
  id       = 52425
  flags    = DF
  frag     = 0
  ttl      = 64
  proto    = tcp
  chksum   = 0x1221
  src      = 192.168.1.105
  dst      = 103.62.50.130
  \options \
###[ TCP ]###
  sport    = 57578
  dport    = 6464
  seq      = 1881558653
  ack      = 0
  dataofs  = 10
  reserved = 0
  flags    = S
  window   = 64240
  chksum   = 0x5c00
  urgptr   = 0
  options  = [('MSS', 1460), ('SAckOK', b''), ('Timestamp', (4211052413,
0)), ('NOP', None), ('WScale', 10)]
```
