

## TASK 2

No.	Time	Source	Destination	Protocol	Length	Info
61	10.568505	10.62.203.132	44.228.249.3	HTTP	725	POST /userinfo.php HTTP/1.1 (application/x-www-form-urlencoded)
120	17.689330	44.228.249.3	10.62.203.132	HTTP	330	HTTP/1.1 302 Found (text/html)
124	18.002586	44.228.249.3	10.62.203.132	HTTP	596	GET /login.php HTTP/1.1
162	19.154990	44.228.249.3	10.62.203.132	HTTP	82	HTTP/1.1 200 OK (text/html)
178	19.443303	44.228.249.3	10.62.203.132	HTTP	725	POST /userinfo.php HTTP/1.1 (application/x-www-form-urlencoded)
186	19.449416	44.228.249.3	10.62.203.132	HTTP	596	GET /login.php HTTP/1.1
218	19.732678	44.228.249.3	10.62.203.132	HTTP	82	HTTP/1.1 200 OK (text/html)
259	21.396567	44.228.249.3	10.62.203.132	HTTP	570	GET /login.php HTTP/1.1
262	21.948846	44.228.249.3	10.62.203.132	HTTP	82	HTTP/1.1 200 OK (text/html)
289	23.376574	10.62.203.132	44.228.249.3	HTTP	574	GET /guestbook.php HTTP/1.1
312	23.687117	44.228.249.3	10.62.203.132	HTTP	1399	HTTP/1.1 200 OK (text/html)
314	23.697327	10.62.203.132	44.228.249.3	HTTP	481	GET /images/remark.gif HTTP/1.1
340	24.068362	44.228.249.3	10.62.203.132	HTTP	133	HTTP/1.1 200 OK (GIF89a)
423	27.492672	10.62.203.132	44.228.249.3	HTTP	573	GET /cart.php HTTP/1.1
425	29.972622	44.228.249.3	10.62.203.132	HTTP	1372	HTTP/1.1 200 OK (text/html)
Frame 546: Packet, 725 bytes on wire (5800 bits), 725 bytes captured (5800 bits) on interface \Device\NPF_{4A356E62-1B48-4						
> Ethernet II, Src: Intel_a2:a7:dd (48:51:c5:a2:a7:dd), Dst: 3a:89:82:32:a5:bc (3a:89:82:32:a5:bc)						
> Internet Protocol Version 4, Src: 10.62.203.132, Dst: 44.228.249.3						
> Transmission Control Protocol, Src Port: 52986, Dst Port: 80, Seq: 1, Ack: 1, Len: 671						
\v HyperText Transfer Protocol						
> POST /userinfo.php HTTP/1.1\r\n						
Host: testphp.vulnweb.com\r\n						
Connection: keep-alive\r\n						
Content-Length: 20\r\n						
Cache-Control: max-age=0\r\n						
Upgrade-Insecure-Requests: 1\r\n						
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/143.0.0.0 Safari/						
Origin: http://testphp.vulnweb.com\r\n						
Content-Type: application/x-www-form-urlencoded\r\n						
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/						
Referer: http://testphp.vulnweb.com/login.php\r\n						
Accept-Encoding: gzip, deflate\r\n						
Accept-Language: en-US,en;q=0.9,en-IN;q=0.8\r\n						
\r\n						
[Response in frame: 59]						
[Full request URL: http://testphp.vulnweb.com/userinfo.php]						
0000 3a 89 82 32 a5 bc 48 f1 c5 a2 a7 dd 08 00 45 00 : -2 -HQ						
0001 02 c7 4a da 44 00 08 00 00 00 3e cb 84 2c e4 : J @ >>						
0002 f9 03 ce fa 00 00 36 91 d5 0f 57 0f 34 ef 50 18 : P6 -W 4						
0003 01 04 fe 63 00 00 50 4f 53 54 20 2f 75 73 65 72 : c PO ST /us						
0004 69 66 6f 26 78 68 70 20 48 54 50 2f 31 2e info.php HTTP/						
0005 31 04 08 4f 73 74 3a 28 74 65 73 74 68 70 : 1 Host: testp						
0006 24 76 75 6c 6d 77 65 62 26 63 60 0d 04 43 6f .vulnweb .com						
0007 00 00 00 00 00 00 00 00 00 00 00 00 00 00 : nticodekeep						
0008 66 67 66 04 08 4f 73 74 3a 28 74 65 62 2d 4c 6f live Co ntent						
0009 66 67 68 3a 29 32 30 0d 04 43 61 63 68 65 2d ngth: 20 -Cach						
000A 43 6f 6e 74 72 6f 6c 3a 20 6d 61 78 2d 61 67 65 Control: max-a						
000B 3d 30 0d 0a 05 57 0d 67 72 61 64 65 2d 49 66 73 65 w@ Upgr adeIn						
000C 63 75 72 65 2d 52 65 71 75 65 73 74 73 3a 20 31 cure-req uests:						
000D 0d 04 55 73 65 72 2d 4f 67 65 6e 74 3a 20 4d 6f : -User A gent:						
000E 78 69 6c 61 2f 35 2e 30 28 57 69 64 6f zilla/5. 0 (Win						
000F 77 73 20 4e 54 29 31 30 2e 30 3b 20 57 69 6e 36 ws NT 10 .0 ;						
0100 24 76 75 6c 6d 77 65 62 26 63 60 0d 04 43 6f 4; xiaoweb						
0101 48 74 73 3a 25 33 20 41 78 70 65 75 62 26 63 60 0d 04 43 6f k1537 .com						
0102 4c 2c 20 6c 69 6b 65 20 47 65 63 6b 6f 29 20 43 6f 1. like Gecko						
0103 68 72 6f 6d 65 2f 31 34 33 2e 30 2e 30 2e 30 2e 30 2e hrome/14 3.0 .0						
0104 53 61 66 61 72 69 2f 35 33 37 2e 33 36 20 45 64 Safari/5 37.36						
0105 67 2f 31 34 33 2e 30 2e 30 2e 30 0d 0a 4f 72 69 g/143.0. 0. 0 -0						
0106 67 69 6e 3a 28 68 74 74 70 3a 2f 2f 74 65 73 74 gin: ht t p://te						
0107 70 68 70 2e 76 75 6c 6d 77 65 62 2e 63 6f 6d 0d ph.php vuln web.co						
0108 0a 43 6f 6e 74 65 6e 72 2d 54 79 70 65 3a 20 61 Content-Type:						
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help						
ws.col.info == "GET /login.php HTTP/1.1"						
No.	Time		Source	Destination	Protocol	Length
556	41.315120	10.62.203.132	44.228.249.3	HTTP	596	GET /login.php HTTP/1.1
648	53.395303	10.62.203.132	44.228.249.3	HTTP	596	GET /login.php HTTP/1.1
980	102.975363	10.62.203.132	44.228.249.3	HTTP	596	GET /login.php HTTP/1.1
Frame 556: Packet, 596 bytes on wire (4768 bits), 596 bytes captured (4768 bits) on interface \Device\NPF_{4A356E62-1B48-4						
> Ethernet II, Src: Intel_a2:a7:dd (48:51:c5:a2:a7:dd), Dst: 3a:89:82:32:a5:bc (3a:89:82:32:a5:bc)						
> Internet Protocol Version 4, Src: 10.62.203.132, Dst: 44.228.249.3						
> Transmission Control Protocol, Src Port: 52986, Dst Port: 80, Seq: 8005, Ack: 23448, Len: 542						
\v HyperText Transfer Protocol						
> GET /login.php HTTP/1.1\r\n						
Host: testphp.vulnweb.com\r\n						
Connection: keep-alive\r\n						
Cache-Control: max-age=0\r\n						
Upgrade-Insecure-Requests: 1\r\n						
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/143.0.0.0 Safari/53						
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/si						
Referer: http://testphp.vulnweb.com/login.php\r\n						
Accept-Encoding: gzip, deflate\r\n						
Accept-Language: en-US,en;q=0.9,en-IN;q=0.8\r\n						
\r\n						
[Response in frame: 563]						
[Full request URL: http://testphp.vulnweb.com/login.php]						
0000 3a 89 82 32 a5 bc 48 f1 c5 a2 a7 dd 08 00 45 00 : -2 -HQ						
0001 02 c7 4a da 44 00 08 00 00 00 3e cb 84 2c e4 : F3 @ >>						
0002 f9 03 ce fa 00 00 50 31 f4 53 57 0f 98 60 50 18 : P6 -W 4						
0003 01 04 fe 63 00 00 50 4f 53 54 20 2f 75 73 65 72 : c PO ST /us						
0004 69 66 6f 26 78 68 70 20 48 54 50 2f 31 2e 31 0d 0a 48 info.php						
0005 6f 73 74 3a 20 74 65 73 74 68 70 28 76 75 6c ost: tes						
0006 74 69 6f 6e 3a 28 6b 65 65 70 2d 61 6c 69 76 65 nweb.com						
0007 74 69 6f 6e 3a 28 6b 65 65 70 2d 61 6c 69 76 65 tion: ke						
0008 20 6d 61 78 2d 61 67 65 3d 30 0d 0a 55 70 67 72 : max-age						
0009 61 64 65 2d 49 6e 73 65 63 75 72 65 2d 41 ade-Inse						
000A 75 65 73 74 73 3a 20 31 0d 0a 55 73 65 72 2d 41 uests: 1						
000B 61 64 65 2d 49 6e 73 65 63 75 72 65 2d 41 gent: Mo						
000C 67 65 66 6f 26 78 69 64 6f 73 20 48 54 28 31 30 0 (Andro						
000D 38 28 28 57 69 60 64 6f 73 20 48 54 28 31 30 0 ; Web						
000E 41 20 38 57 69 60 64 6f 73 20 48 54 28 31 30 0 ; Web						
000F 33 36 20 28 48 57 65 24 6b 69 74 2f 35 33 37 26 AndroWeb						
0010 47 65 63 6b 6f 29 28 48 6b 69 74 2f 35 33 34 Gecko) C						
0120 33 2e 30 2e 30 2e 30 2e 30 20 53 61 66 61 72 69 2f 35 3.0.0.0						
0130 33 37 20 33 36 20 45 64 67 2f 31 34 33 2e 30 2e 30 2e 37.36 Ed						
0140 38 2e 30 8d 0a 4						

Wireshark · HTTP / Packet Counter · wifi

Packet Type	Count	Average	Min Val	Max Val	Rate (ms)	Percent	Burst Rate	Burst Start
Total HTTP Packets	36				0.0004	100%	0.0200	10.565
HTTP Response Packets	18				0.0002	50.00%	0.0100	10.565
2xx: Success	12				0.0001	66.67%	0.0100	10.975
200 OK	12				0.0001	100.00%	0.0100	10.975
3xx: Redirection	6				0.0001	33.33%	0.0100	10.565
302 Found	6				0.0001	100.00%	0.0100	10.565
?:?: broken	0				0.0000	0.00%	-	-
5xx: Server Error	0				0.0000	0.00%	-	-
4xx: Client Error	0				0.0000	0.00%	-	-
1xx: Informational	0				0.0000	0.00%	-	-
HTTP Request Packets	18				0.0002	50.00%	0.0100	10.157
GET	12				0.0001	66.67%	0.0100	10.569
POST	6				0.0001	33.33%	0.0100	10.157
Other HTTP Packets	0				0.0000	0.00%	-	-

Display filter: Enter a display filter ...

Frame 186: Packet, 596 bytes on wire (4768 bits), 596 bytes captured (4768 bits) on interface \Device\NPF\_{4A356E62-1BA8-4

Ethernet II, Src: Intel\_a2:a7:dd (48:51:c5:a2:a7:dd), Dst: 3a:89:82:32:a5:bc (3a:89:82:32:a5:bc)

Internet Protocol Version 4, Src: 10.62.203.132, Dst: 44.228.249.3

Transmission Control Protocol, Src Port: 52986, Dst Port: 80, Seq: 3090, Ack: 6325, Len: 542

Hypertext Transfer Protocol

  GET /login.php HTTP/1.1\r\n

  Host: testphp.vulnweb.com\r\n

  Connection: keep-alive\r\n

  Cache-Control: max-age=0\r\n

  Upgrade-Insecure-Requests: 1\r\n

  User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/143.0.0.0 Safari/53

  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,\*/\*;q=0.8,application/si

  Referer: http://testphp.vulnweb.com/login.php\r\n

  Accept-Encoding: gzip, deflate\r\n

  Accept-Language: en-US,en;q=0.9,en-IN;q=0.8\r\n

\r\n

[Response in frame: 218]

[Full request URI: http://testphp.vulnweb.com/login.php]

Wireshark · Export · HTTP object list

Text Filter: Content Type: All Content-Types

Packet	Hostname	Content Type	Size	Filename
54	testphp.vulnweb.com	application/x-www-form-urlencoded	20 bytes	userinfo.php
59	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
64	testphp.vulnweb.com	text/html	5523 bytes	login.php
115	testphp.vulnweb.com	application/x-www-form-urlencoded	20 bytes	userinfo.php
119	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
124	testphp.vulnweb.com	text/html	5523 bytes	login.php
162	testphp.vulnweb.com	application/x-www-form-urlencoded	12 bytes	userinfo.php
178	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
218	testphp.vulnweb.com	text/html	5523 bytes	login.php
262	testphp.vulnweb.com	text/html	5523 bytes	login.php
312	testphp.vulnweb.com	text/html	5390 bytes	guestbook.php
340	testphp.vulnweb.com	image/gif	79 bytes	remark.gif
425	testphp.vulnweb.com	text/html	4903 bytes	cart.php
443	testphp.vulnweb.com	text/html	5523 bytes	login.php
483	testphp.vulnweb.com	application/x-www-form-urlencoded	16 bytes	userinfo.php
484	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
488	testphp.vulnweb.com	text/html	5523 bytes	login.php
548	testphp.vulnweb.com	application/x-www-form-urlencoded	16 bytes	userinfo.php
554	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
563	testphp.vulnweb.com	text/html	5523 bytes	login.php
642	testphp.vulnweb.com	application/x-www-form-urlencoded	20 bytes	userinfo.php
647	testphp.vulnweb.com	text/html	14 bytes	userinfo.php
651	testphp.vulnweb.com	text/html	5523 bytes	login.php

Save Save All Preview Close Help

In the first request, the server sends the complete resource with HTTP 200 OK, whereas in the second request the server validates the cached copy using conditional headers and responds with HTTP 304 Not Modified if the resource has not changed, thereby avoiding retransmission of the full content.

The Wireshark interface displays two network captures:

- Capture 1 (Top):** Filtered by `_ws.col.info == "HTTP/1.1 302 Found (text/html)"`. It shows multiple HTTP 302 Found responses (Status Code 330) from source IP 44.228.249.3 to destination IP 10.62.203.132. The requests are timestamped between 10.564604 and 53.390535.
- Capture 2 (Bottom):** Filtered by `_ws.col.info == "HTTP/1.1 200 OK (text/html)"`. It shows a series of HTTP 200 OK responses (Status Code 82) from the same source IP 44.228.249.3 to the same destination IP 10.62.203.132. The requests are timestamped between 10.974764 and 103.423792.

### TASK 3

The Wireshark interface displays a single network capture for an HTTP2 connection:

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	10.9.0.2	139.162.123.134	HTTP	244	GET /robots.txt HTTP/1.1
2	0.600079	139.162.123.134	10.9.0.2	HTTP2	164	HTTP/1.1 101 Switching Protocols , SETTINGS[0]
3	0.600465	10.9.0.2	139.162.123.134	HTTP2	90	Magic
4	0.600541	10.9.0.2	139.162.123.134	HTTP2	93	SETTINGS[0]
5	0.600575	10.9.0.2	139.162.123.134	HTTP2	75	SETTINGS[0]
6	0.600596	139.162.123.134	10.9.0.2	HTTP2	342	HEADERS[1]: 200 OK, DATA[1] (text/plain)
7	0.600603	10.9.0.2	139.162.123.134	HTTP2	79	WINDOW_UPDATE[0]
8	0.601307	10.9.0.2	139.162.123.134	HTTP2	115	HEADERS[3]: GET /humans.txt
9	0.912304	139.162.123.134	10.9.0.2	HTTP2	75	SETTINGS[0]
10	0.916413	139.162.123.134	10.9.0.2	HTTP2	156	HEADERS[3]: 404 Not Found, DATA[3] (text/plain)

Wireshark · HTTP / Packet Counter · http2-h2c[1].pcap

Packet Type	Count	Average	Min Val	Max Val	Rate (ms)	Percent	Burst Rate	Burst Start
Total HTTP Packets	2				0.0033	100%	0.0100	0.000
HTTP Response Packets	1				0.0017	50.00%	0.0100	0.600
1xx: Informational	1				0.0017	100.00%	0.0100	0.600
101 Switching Protocols	1				0.0017	100.00%	0.0100	0.600
???: broken	0				0.0000	0.00%	-	-
5xx: Server Error	0				0.0000	0.00%	-	-
4xx: Client Error	0				0.0000	0.00%	-	-
3xx: Redirection	0				0.0000	0.00%	-	-
2xx: Success	0				0.0000	0.00%	-	-
HTTP Request Packets	1				0.0017	50.00%	0.0100	0.000
Other HTTP Packets	0				0.0000	0.00%	-	-

Wireshark · HTTP2 · http2-h2c[1].pcap

Topic / Item	Count	Average	Min Val	Max Val	Rate (ms)	Percent	Burst Rate	Burst Start
HTTP2	10				0.0316	100%	0.0700	0.600
Type	10				0.0316	100.00%	0.0700	0.600
SETTINGS	4				0.0126	40.00%	0.0300	0.600
HEADERS	3				0.0095	30.00%	0.0200	0.601
DATA	2				0.0063	20.00%	0.0100	0.601
WINDOW_UPDATE	1				0.0032	10.00%	0.0100	0.601

Wireshark · Protocol Hierarchy Statistics · http2-h2c[1].pcap

Protocol	Percent Packets	Packets	Percent Bytes	Bytes	Bits/s	End Packets	End Bytes	End Bits/s	PDUs
Frame	100.0	10	100.0	1433	12 k	0	0	0	10
Ethernet	100.0	10	9.8	140	1222	0	0	0	10
Internet Protocol Version 4	100.0	10	14.0	200	1745	0	0	0	10
Transmission Control Protocol	100.0	10	22.3	320	2793	0	0	0	10
HyperText Transfer Protocol 2	80.0	8	34.7	497	4338	8	220	1920	10
Hypertext Transfer Protocol	20.0	2	19.3	276	2409	1	178	1553	2
HyperText Transfer Protocol 2	10.0	1	1.9	27	235	1	27	235	1

## TASK 1







