

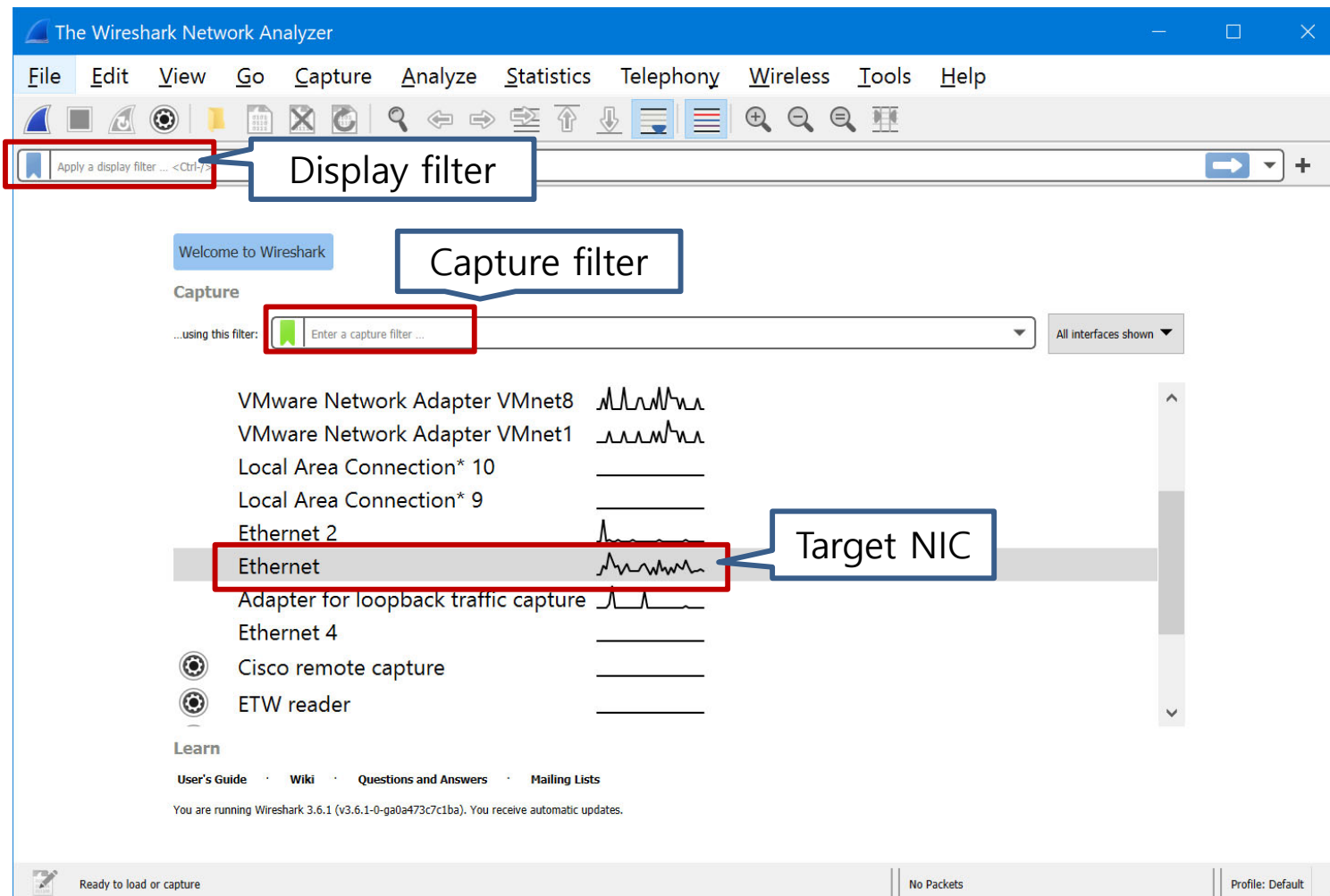
04 GET과 POST 전송방식

- GET과 POST 전송방식 요약

구분	GET 방식	POST 방식
전송형태	쿼리 스트링이 HTTP 요청 메시지 헤더의 URL을 통해 전송	쿼리 스트링이 HTTP 요청 메시지의 바디를 통해 전송
보안	지원되지 않음 (URL 창을 통해 사용자 입력값이 노출)	지원됨
전송량	메시지 헤더 크기에 따라 제한 (4KB)	제한 없음
속도	상대적으로 빠름	상대적으로 느림

04 HTTP 프로토콜 확인

- 다운로드: <https://www.wireshark.org/>
- Display Filter: http로 조회



File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http 필터 사용

http

No.	Time	Source	Destination	Protocol	Length	Info
50	2.988575	210.94.252.180	210.94.252.188	HTTP	702	GET /Hello/SimpleCalculator.html HTTP/1.1
51	2.994025	210.94.252.188	210.94.252.188	HTTP	185	HTTP/1.1 304
65	3.077897	210.94.252.180	210.94.252.188	HTTP	421	GET /wai/wai.js HTTP/1.1
66	3.082160	210.94.252.188	210.94.252.188	HTTP	1019	HTTP/1.1 404 (text/html)

> Frame 50: 702 bytes on wire (5616 bits), 702 bytes captured (5616 bits) on interface \Device\NPF_{4EE0D0D7-F6D2-4704-A15A-02A1992F0B53}, id 0
 > Ethernet II, Src: SuperMic_6a:f7:d6 (0c:c4:7a:6a:f7:d6), Dst: SuperMic_49:1f:9e (ac:1f:6b:49:1f:9e)
 > Internet Protocol Version 4, Src: 210.94.252.180, Dst: 210.94.252.188
 > Transmission Control Protocol, Src Port: 62042, Dst Port: 8080, Seq: 1, Ack: 1, Len: 648

Hypertext Transfer Protocol

GET /Hello/SimpleCalculator.html HTTP/1.1\r\n

> [Expert Info (Chat/Sequence): GET /Hello/SimpleCalculator.html HTTP/1.1\r\n]

Request Method: GET

Request URI: /Hello/SimpleCalculator.html

Request Version: HTTP/1.1

Host: 210.94.252.188:8080\r\n

Connection: keep-alive\r\n

Cache-Control: max-age=0\r\n

DNT: 1\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/97.0.4692.71 Safari/537.36\r\n

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=0.9\r\n

Accept-Encoding: gzip, deflate\r\n

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

> Cookie: JSESSIONID=E01B634003F8786B5AEDCE162D90F6C4\r\n

If-None-Match: W/"711-1642084087790"\r\n

If-Modified-Since: Thu, 13 Jan 2022 14:28:07 GMT\r\n

\r\n

[Full request URI: http://210.94.252.188:8080/Hello/SimpleCalculator.html]

[HTTP request 1/2]

[Response in frame: 51]

[Next request in frame: 65]

```

0030  20 14 a0 d1 00 00 47 45 54 20 2f 48 65 6c 6c 6f  ....GET /Hello
0040  2f 53 69 6d 70 6c 65 43 61 6c 63 75 6c 61 74 6f  /SimpleC alculato
0050  72 2e 68 74 6d 6c 20 48 54 54 50 2f 31 2e 31 0d  r.html H TTP/1.1
0060  0a 48 6f 73 74 3a 20 32 31 30 2e 39 34 2e 32 35  .Host: 2 10.94.25
0070  32 2e 31 38 38 3a 38 30 38 30 0d 0a 43 6f 6e 6e  2.188:80 80 Conn
0080  65 63 74 69 6f 6e 3a 20 6b 65 65 70 2d 61 6c 69  ection: keep-ali
0090  76 65 0d 0a 43 61 63 68 65 2d 43 6f 6e 74 72 6f  ve Cach e-Contro
00a0  6c 3a 20 6d 61 78 2d 61 67 65 3d 30 0d 0a 44 4e  l: max-a ge=0 DN
00b0  54 3a 20 31 0d 0a 55 70 67 72 61 64 65 2d 49 6e  T: 1 Up grade-In
00c0  73 65 63 75 72 65 2d 52 65 71 75 65 73 74 73 3a  secure-R equests:
00d0  20 31 0d 0a 55 73 65 72 2d 41 67 65 6e 74 3a 20  1 User -Agent:
00e0  4d 6f 7a 69 6c 6c 61 2f 35 2e 30 20 28 57 69 6e  Mozilla/ 5.0 (Win

```

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http

No.	Time	Source	Destination	Protocol	Length	Info
33	2.144734	210.94.252.180	210.94.252.188	HTTP	702	GET /Hello/SimpleCalculator.html HTTP/1.1
34	2.150260	210.94.252.188	210.94.252.180	HTTP	185	HTTP/1.1 304
36	2.239614	210.94.252.180	210.94.252.188	HTTP	421	GET /wai/wai.js HTTP/1.1
37	2.243705	210.94.252.188	210.94.252.180	HTTP	1019	HTTP/1.1 404 (text/html)
223	10.109887	210.94.252.180	210.94.252.188	HTTP	695	GET /Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA HTTP/1.1
224	10.116240	210.94.252.188	210.94.252.180	HTTP	354	HTTP/1.1 200 (text/html)

Frame 223: 695 bytes on wire (5560 bits), 695 bytes captured (5560 bits) on interface \Device\NPF_{4EE0D0D7-F6D2-4704-A15A-02A1992F0B53}, id 0

Ethernet II, Src: SuperMic_6a:f7:d6 (0c:c4:7a:6a:f7:d6), Dst: SuperMic_49:1f:9e (ac:1f:6b:49:1f:9e)

Internet Protocol Version 4, Src: 210.94.252.180, Dst: 210.94.252.188

Transmission Control Protocol, Src Port: 62301, Dst Port: 8080, Seq: 1016, Ack: 1097, Len: 641

Hypertext Transfer Protocol

GET /Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA HTTP/1.1\r\n

[Expert Info (Chat/Sequence): GET /Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA HTTP/1.1\r\n]

Request Method: GET

Request URI: /Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA

Request Version: HTTP/1.1

Host: 210.94.252.188:8080\r\n

Connection: keep-alive\r\n

Upgrade-Insecure-Requests: 1\r\n

DNT: 1\r\n

User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/97.0.4692.71 Safari/537.36\r\n

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=0.9\r\n

Referer: http://210.94.252.188:8080/Hello/SimpleCalculator.html\r\n

Accept-Encoding: gzip, deflate\r\n

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

Cookie: JSESSIONID=E01B634003F8786B5AEDCE162D90F6C4\r\n

\r\n

[Full request URI: http://210.94.252.188:8080/Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA]

[HTTP request 3/3]

[Prev request in frame: 36]

[Response in frame: 224]

0200 74 70 3a 2f 2f 32 31 30 2e 39 34 2e 32 35 32 2e tp://210 .94.252.
0210 31 38 38 3a 38 30 38 30 2f 48 65 6c 6c 6f 2f 53 188:8080 /Hello/S
0220 69 6d 70 6c 65 43 61 6c 63 75 6c 61 74 6f 72 2e impleCal
0230 68 74 6d 6c 6d 0a 41 63 63 65 70 74 2d 45 6e 63 html·Ac cept-Enc
0240 6f 64 69 6e 67 3a 20 67 7a 69 70 2c 20 64 65 66 oding: g zip, def
0250 6c 61 74 65 0d 0a 41 63 63 65 70 74 2d 4c 61 6e late·Ac cept-Lan
0260 67 75 61 67 65 3a 20 65 6e 2d 55 53 2c 65 6e 3b guage: e n-US,en;
0270 71 3d 30 2e 39 2c 6b 6f 3b 71 3d 30 2e 38 0d 0a q=0.9,ko;q=0.8·
0280 43 6f 6f 6b 69 65 3a 20 4a 53 45 53 53 49 4f 4e Cookie: JSESSION
0290 49 44 3d 45 30 31 42 36 33 34 30 30 33 46 38 37 ID=E01B6 34003F87
02a0 38 36 42 35 41 45 44 36 45 31 36 32 44 39 30 46 86B5AEDC E162D90F
02b0 36 43 34 0d 0a 0d 0a 6C4·

Text item (text), 85 byte(s)

Packets: 1712 · Displayed: 6 (0.4%) Profile: Default

2) Request: JSP 호출, GET 클라이언트(180)→서버(188)

헤더에 파라미터 전달

헤더

<http 필터 사용>

*Request: GET, SimpleCalculator.jsp에 요청
 *값 전달: num1=100, operator=-, num2=2

Capturing from Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http

No.	Time	Source	Destination	Protoc	Leng	Info
33	2.144734	210.94.252.180	210.94.252.188	HTTP	702	GET /Hello/SimpleCalculator.html HTTP/1.1
34	2.150260	210.94.252.188	210.94.252.180	HTTP	185	HTTP/1.1 304
36	2.239614	210.94.252.180	210.94.252.188	HTTP	421	GET /wai/wai.js HTTP/1.1
37	2.243705	210.94.252.188	210.94.252.180	HTTP	1019	HTTP/1.1 404 (text/html)
223	10.109887	210.94.252.180	210.94.252.188	HTTP	695	GET /Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA HTTP/1.1
224	10.116240	210.94.252.188	210.94.252.180	HTTP	354	HTTP/1.1 200 (text/html)
3061	138.926012	210.94.252.180	211.115.106.76	HTTP	388	GET /ik?c=103&p=kLiGkmo21ixX 8iaRNlmRmWNS7SqUbsketS4NnnY11I=&k=1 HTTP/1.1

3) Response: JSP 응답
서버(188)→클라이언트(180)

Hypertext Transfer Protocol

HTTP/1.1 200 \r\n

[Expert Info (Chat/Sequence): HTTP/1.1 200 \r\n]

Response Version: HTTP/1.1

Status Code: 200

[Status Code Description: OK]

Content-Type: text/html; charset=EUC-KR\r\n

Content-Length: 137\r\n

Date: Thu, 13 Jan 2022 14:47:34 GMT\r\n

Keep-Alive: timeout=20\r\n

Connection: keep-alive\r\n

\r\n

[HTTP response 3/3]

[Time since request: 0.006353000 seconds]

[\[Prev request in frame: 36\]](#)

[\[Prev response in frame: 37\]](#)

[\[Request in frame: 223\]](#)

[Request URI: http://210.94.252.188:8080/Hello/SimpleCalculator.jsp?num1=100&operator=-&num2=2&B1=%B0%E8%BB%EA]

File Data: 137 bytes

Line-based text data: text/html (14 lines)

\r\n

<!DOCTYPE html>\r\n

<html>\r\n

<head>\r\n

<meta charset="EUC-KR">\r\n

<title>Insert title here</title>\r\n

</head>\r\n

<body>\r\n

\r\n

98\r\n

결과: Body
에 포함되어
반환함

*Response: SimpleCalculator.jsp 결과
반환
*값 전달: $100 - 2 = 98$

0100 61 20 63 68 61 72 73 65 74 3d 22 45 55 43 2d 4b a charse t="EUC-K
0110 52 22 3e 0d 0a 3c 74 69 74 6c 65 3e 49 6e 73 65 R">...<ti tle>Inse
0120 72 74 20 74 69 74 6c 65 20 68 65 72 65 3c 2f 74 rt title here<t
0130 69 74 6c 65 3e 0d 0a 3c 2f 68 65 61 64 3e 0d 0a itle>...</head>..
0140 3c 62 6f 64 79 3e 0d 0a 0d 0a 39 38 0d 0a 0d 0a <body>...98..
0150 0d 0a 3c 2f 62 6f 64 79 3e 0d 0a 3c 2f 68 74 6d ...</body >...</htm
0160 6c 3e l>

Text item (text), 4 byte(s)

Packets: 3836 · Displayed: 20 (0.5%) Profile: Default

POST 호출

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help



No.	Time	Source	Destination	Protocol	Length	Info
30	1.823025	210.94.252.180	210.94.252.188	HTTP	703	GET /Hello/SimpleCalculator.h
31	1.828393	210.94.252.188	210.94.252.180	HTTP	185	HTTP/1.1 304
33	1.897620	210.94.252.180	210.94.252.188	HTTP	422	GET /wai/wai.js HTTP/1.1
34	1.902324	210.94.252.188	210.94.252.180	HTTP	1019	HTTP/1.1 404 (text/html)
241	8.941711	210.94.252.180	210.94.252.188	HTTP	827	POST /Hello/SimpleCalculator.jsp HTTP/1.1 (application/x-www-form-urlencoded)
242	8.948480	210.94.252.188	210.94.252.180	HTTP	354	HTTP/1.1 200 (text/html)

Request: JSP 호출, **POST**
클라이언트(180)→서버(188)

> Frame 241: 827 bytes on wire (6616 bits), 827 bytes captured (6616 bits) on interface \Device\NPF_{4EE0D0D7-F6D2-4704-A15A-02A1992F0B53}, id 0
 > Ethernet II, Src: SuperMic_6a:f7:d6 (0c:c4:7a:6a:f7:d6), Dst: SuperMic_49:1f:9e (ac:1f:6b:49:1f:9e)
 > Internet Protocol Version 4, Src: 210.94.252.180, Dst: 210.94.252.188
 > Transmission Control Protocol, Src Port: 54185, Dst Port: 8080, Seq: 1018, Ack: 1097, Len: 773

Hypertext Transfer Protocol

POST /Hello/SimpleCalculator.jsp HTTP/1.1\r\n
 > [Expert Info (Chat/Sequence): POST /Hello/SimpleCalculator.jsp HTTP/1.1\r\n]
 Request Method: POST
 Request URI: /Hello/SimpleCalculator.jsp
 Request Version: HTTP/1.1
 Host: 210.94.252.188:8080\r\n
 Connection: keep-alive\r\n
 > Content-Length: 42\r\n
 Cache-Control: max-age=0\r\n
 Origin: http://210.94.252.188:8080\r\n

헤더에 파라미터 없음

파라미터가
Body에 포함됨

```

02a0 20 67 7a 69 70 2c 20 64 65 66 6c 61 74 65 0d 0a  00000000  gzip, deflate
02b0 41 63 63 65 70 74 2d 4c 61 6e 67 75 61 67 65 3a  00000000  Accept-encoding: gzip, deflate
02c0 20 65 6e 2d 55 53 2c 65 6e 3b 71 3d 30 2e 39 2c  00000000  Accept-Language: en-US,en;q=0.9,ko;q=0.8
02d0 6b 6f 3b 71 3d 30 2e 38 0d 0a 43 6f 6f 6b 69 65  00000000  Cookie
02e0 3a 20 4a 53 45 53 53 49 4f 4e 49 44 3d 46 45 39  00000000  : JSESSIONID=FE9482AE1D288C3602E38EF01C168D12
02f0 34 38 32 41 45 31 44 32 38 38 43 33 36 30 32 45  00000000  num1=100&operator=-&num2=1&B1=%B0%E8%BB%EA
0300 33 38 45 46 30 31 43 31 36 38 44 31 32 0d 0a 0d  00000000
0310 0a 6e 75 6d 31 3d 31 30 30 26 6f 70 65 72 61 74  00000000
0320 6f 72 3d 2d 26 6e 75 6d 32 3d 31 26 42 31 3d 25  00000000
0330 42 30 25 45 38 25 42 42 25 45 41
    
```

*Request 패킷: **POST**로 SimpleCalculator.jsp를 요청
 *값 전달: num1=100, operator=-, num2=1

Hypertext Transfer Protocol (http), 731 byte(s)

Packets: 294 · Displayed: 6 (2.0%) · Dropped: 0 (0.0%)

Profile: Default

*Ethernet

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

http

Response: JSP 응답
서버(188)→클라이언트(180)

No.	Time	Source	Destination	Protocol	Length	Info
30	1.823025	210.94.252.180	210.94.252.188	HTTP	703	GET /Hello/SimpleCalculator.html
31	1.828393	210.94.252.188	210.94.252.180	HTTP	185	HTTP/1.1 304
33	1.897620	210.94.252.180	210.94.252.188	HTTP	422	GET /wai/wai.js HTTP/1.1
34	1.902324	210.94.252.188	210.94.252.180	HTTP	1019	HTTP/1.1 404 (text/html)
241	8.941711	210.94.252.180	210.94.252.188	HTTP	827	POST /Hello/SimpleCalculator.jsp HTTP/1.1 (application/x-www-form-urlencoded)
242	8.948480	210.94.252.188	210.94.252.180	HTTP	354	HTTP/1.1 200 (text/html)

HTTP/1.1 200 \r\n
Content-Type: text/html; charset=EUC-KR\r\n
Content-Length: 137\r\n
Date: Tue, 11 Jan 2022 13:48:23 GMT\r\n
Keep-Alive: timeout=20\r\n
Connection: keep-alive\r\n
\r\n
[HTTP response 3/3]
[Time since request: 0.006769000 seconds]
[Prev request in frame: 33]
[Prev response in frame: 34]
[Request in frame: 241]
[Request URI: http://210.94.252.188:8080/Hello/SimpleCalculator.jsp]
File Data: 137 bytes

Line-based text data: text/html (14 lines)

```

00d0 61 6c 69 76 65 0d 0a 0d 0a 0d 0a 3c 21 44 4f 43 alive... <!DOC
00e0 54 59 50 45 20 68 74 6d 6c 3e 0d 0a 3c 68 74 6d TYPE html l>...<htm
00f0 6c 3e 0d 0a 3c 68 65 61 64 3e 0d 0a 3c 6d 65 74 l>...<hea d>...<met
0100 61 20 63 68 61 72 73 65 74 3d 22 45 55 43 2d 4b a charse t="EUC-K
0110 52 22 3e 0d 0a 3c 74 69 74 6c 65 3e 49 6e 73 65 R">...<ti tle>Inse
0120 72 74 20 74 69 74 6c 65 20 68 65 72 65 3c 2f 74 rt title here<t
0130 69 74 6c 65 3e 0d 0a 3c 2f 68 65 61 64 3e 0d 0a title>... </head>
0140 3c 62 6f 64 79 3e 0d 0a 0d 0a 39 39 0d 0a 0d 0a <body>... 99....
0150 0d 0a 3c 2f 62 6f 64 79 3e 0d 0a 3c 2f 68 74 6d ...</body >...</htm
0160 6c 3e l>
  
```

SimpleCalculator.jsp을 요청해서
Response 결과 반환
: 100 - 1 = 99

File Data (http.file_data), 137 byte(s)

Packets: 294 · Displayed: 6 (2.0%) · Dropped: 0 (0.0%)

Profile: Default