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CSE150 WIN22  
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## Discussion

### Application specifics and shortcomings

Note: The file should be run using Python 2.xx  
IreicherMyCurl.py has two use cases:

```
python IreicherMyCurl.py <domain-name-url>  
python IreicherMyCurl.py <ip-url> <hostname>
```

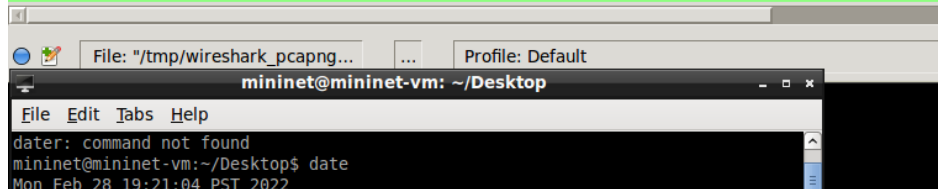
In both cases, if the request results in a 200 OK server response and the response is not chunked, the response data will be saved to a file. URLs must match 1 of the 2 cases stated above. In both cases of urls, the form is "url:port/file-path". However, only the url is required and the port and file-path are optional. If the URL does not start with "http://", an error is thrown. Additionally, there are some checks on the validity of the port (numeric) and making sure that an IP address has the correct IPv4 format. The application does not support https or chunked encoding. Also, the application takes advantage of Python 2.xx's byte encoded strings as default. This means that the request and response data do not need to be encoded or decoded.

### Log.csv Entries:

**Successful,200,http://www.example.com,www.example.com,10.0.2.15,93.184.216.34,51626,80,HTTP/1.1 200 OK**

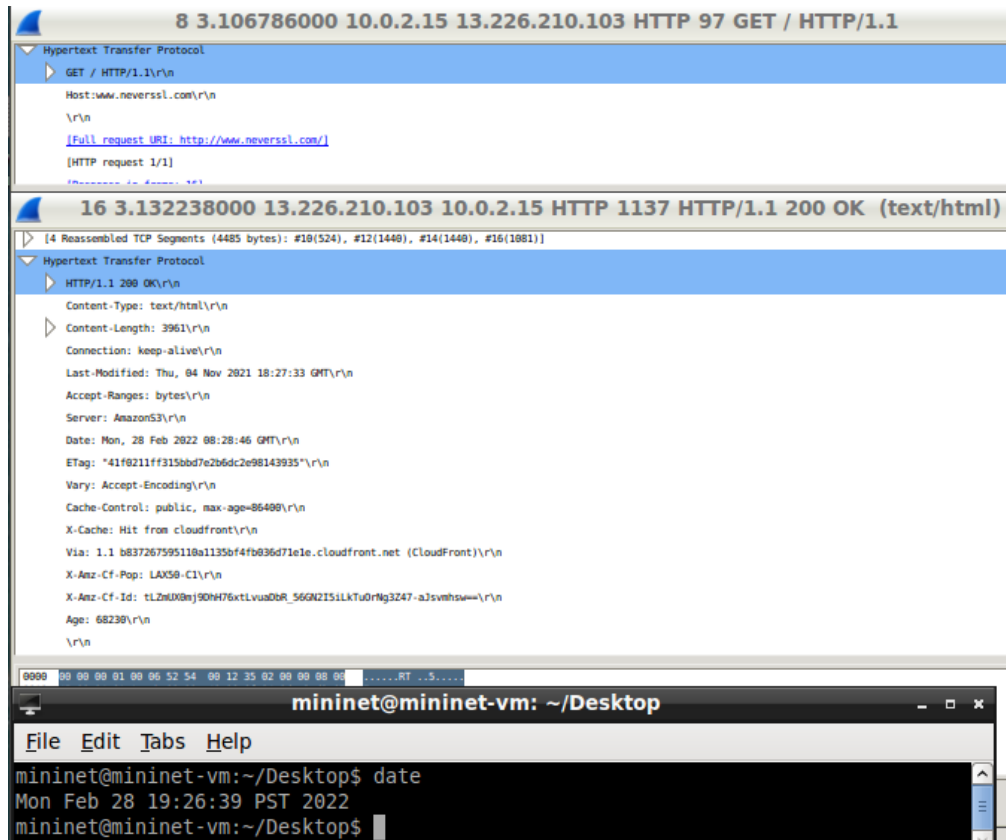
The request was successful and the output matches that of Curl.

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	10.0.2.15	75.75.75.75	DNS	77	Standard query 0x80c4 A www.example.com
2	0.013977000	75.75.75.75	10.0.2.15	DNS	93	Standard query response 0x80c4 A 93.184.216.34
3	0.015531000	10.0.2.15	93.184.216.34	TCP	76	51626 > http [SYN] Seq=0 Min=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=175402 TSecr=0 WS=128
4	0.028524000	93.184.216.34	10.0.2.15	TCP	62	http > 51626 [SYN, ACK] Seq=0 Ack=1 Min=65535 Len=0 MSS=1460
5	0.028539000	10.0.2.15	93.184.216.34	TCP	56	51626 > http [ACK] Seq=1 Ack=1 Min=29200 Len=0
6	0.028894000	10.0.2.15	93.184.216.34	HTTP	96	GET / HTTP/1.1
7	0.029041000	93.184.216.34	10.0.2.15	TCP	62	http > 51626 [ACK] Seq=1 Ack=41 Min=65535 Len=0
8	0.045295000	93.184.216.34	10.0.2.15	TCP	1516	[TCP segment of a reassembled PDU]
9	0.045312000	10.0.2.15	93.184.216.34	TCP	56	51626 > http [ACK] Seq=41 Ack=1461 Min=32120 Len=0
10	0.045833000	93.184.216.34	10.0.2.15	HTTP	187	HTTP/1.1 200 OK (text/html)
11	0.045838000	10.0.2.15	93.184.216.34	TCP	56	51626 > http [ACK] Seq=41 Ack=1592 Min=35040 Len=0
12	0.046310000	10.0.2.15	93.184.216.34	TCP	56	51626 > http [FIN, ACK] Seq=41 Ack=1592 Min=35040 Len=0
13	0.046528000	93.184.216.34	10.0.2.15	TCP	62	http > 51626 [ACK] Seq=1592 Ack=42 Min=65535 Len=0
14	0.064517000	93.184.216.34	10.0.2.15	TCP	62	http > 51626 [FIN, ACK] Seq=1592 Ack=42 Min=65535 Len=0
15	0.064535000	10.0.2.15	93.184.216.34	TCP	56	51626 > http [ACK] Seq=42 Ack=1593 Min=35040 Len=0



The screenshot shows a terminal window with the prompt `mininet@mininet-vm: ~/Desktop`. The user has entered `date`, which resulted in the error `date: command not found`. The user then entered `mininet@mininet-vm:~/Desktop$ date`, which output `Mon Feb 28 19:21:04 PST 2022`.





Unsuccessful,404,http://www.example.com/something.html,www.example.com,10.0.2.15,93.184.216.34,42691,80,HTTP/1.1 404 Not Found

The request was unsuccessful and the output matches that of Curl.

No.	Time	Source	Destination	Protocol	Length	Info
9	4.999963000	10.0.2.15	91.189.94.4	NTP	92	NTP Version 4, client
10	5.014853000	CadmusCo_27:c		ARP	44	Who has 10.0.2.2? Tell 10.0.2.15
11	5.015039000	RealtekU_12:3		ARP	62	10.0.2.2 is at 52:54:00:12:35:02
12	5.146054000	91.189.94.4	10.0.2.15	NTP	92	NTP Version 4, server
13	23.666136000	10.0.2.15	75.75.75.75	DNS	77	Standard query 0x6f61 A www.example.com
14	23.679119000	75.75.75.75	10.0.2.15	DNS	93	Standard query response 0x6f61 A 93.184.216.34
15	23.679286000	10.0.2.15	93.184.216.34	TCP	76	42691 > http [SYN] Seq=0 Win=29200 Len=0 MSS=1460 SACK_PERM=1 TSval=121970 TSecr=0 WS=128
16	23.692789000	93.184.216.34	10.0.2.15	TCP	62	http > 42691 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1460
17	23.692828000	10.0.2.15	93.184.216.34	TCP	56	42691 > http [ACK] Seq=1 Ack=1 Win=29200 Len=0
18	23.693248000	10.0.2.15	93.184.216.34	HTTP	110	GET /something.html HTTP/1.1
19	23.695457000	93.184.216.34	10.0.2.15	TCP	62	http > 42691 [ACK] Seq=1 Ack=55 Win=65535 Len=0
20	23.728305000	93.184.216.34	10.0.2.15	TCP	1516	[TCP segment of a reassembled PDU]
21	23.728325000	10.0.2.15	93.184.216.34	TCP	56	42691 > http [ACK] Seq=55 Ack=1461 Win=32120 Len=0
22	23.728898000	93.184.216.34	10.0.2.15	HTTP	194	HTTP/1.1 404 Not Found (text/html)
23	23.728916000	10.0.2.15	93.184.216.34	TCP	56	42691 > http [ACK] Seq=55 Ack=1599 Win=35040 Len=0
24	23.729286000	10.0.2.15	93.184.216.34	TCP	56	42691 > http [FIN, ACK] Seq=55 Ack=1599 Win=35040 Len=0
25	23.729417000	93.184.216.34	10.0.2.15	TCP	62	http > 42691 [ACK] Seq=1599 Ack=56 Win=65535 Len=0
26	23.746080000	93.184.216.34	10.0.2.15	TCP	62	http > 42691 [FIN, ACK] Seq=1599 Ack=56 Win=65535 Len=0
27	23.746100000	10.0.2.15	93.184.216.34	TCP	56	42691 > http [ACK] Seq=56 Ack=1600 Win=35040 Len=0

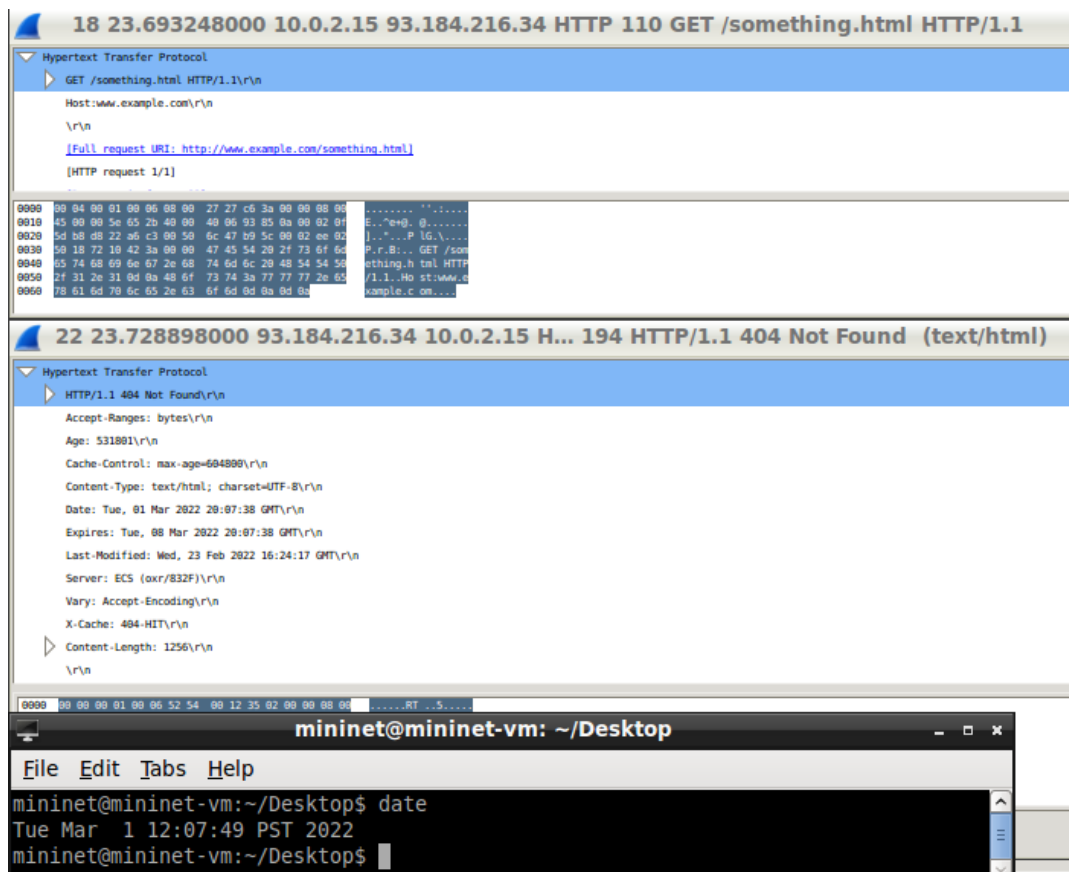
mininet@mininet-vm: ~/Desktop

File Edit Tabs Help

mininet@mininet-vm:~/Desktop\$ date

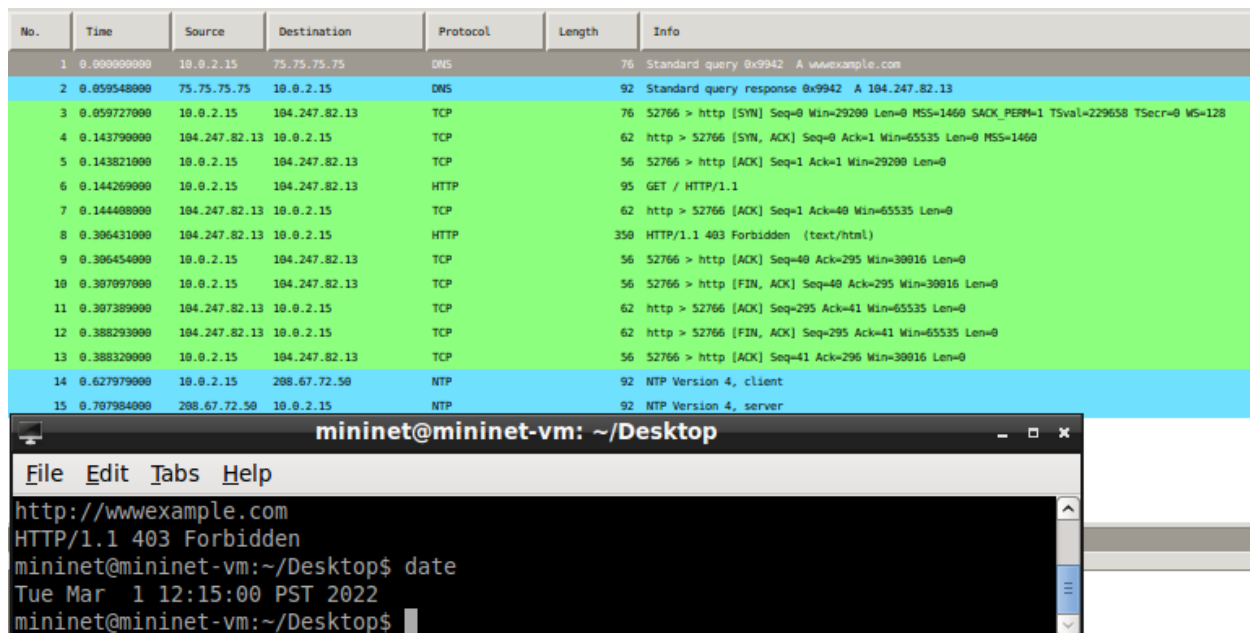
Tue Mar 1 12:07:49 PST 2022

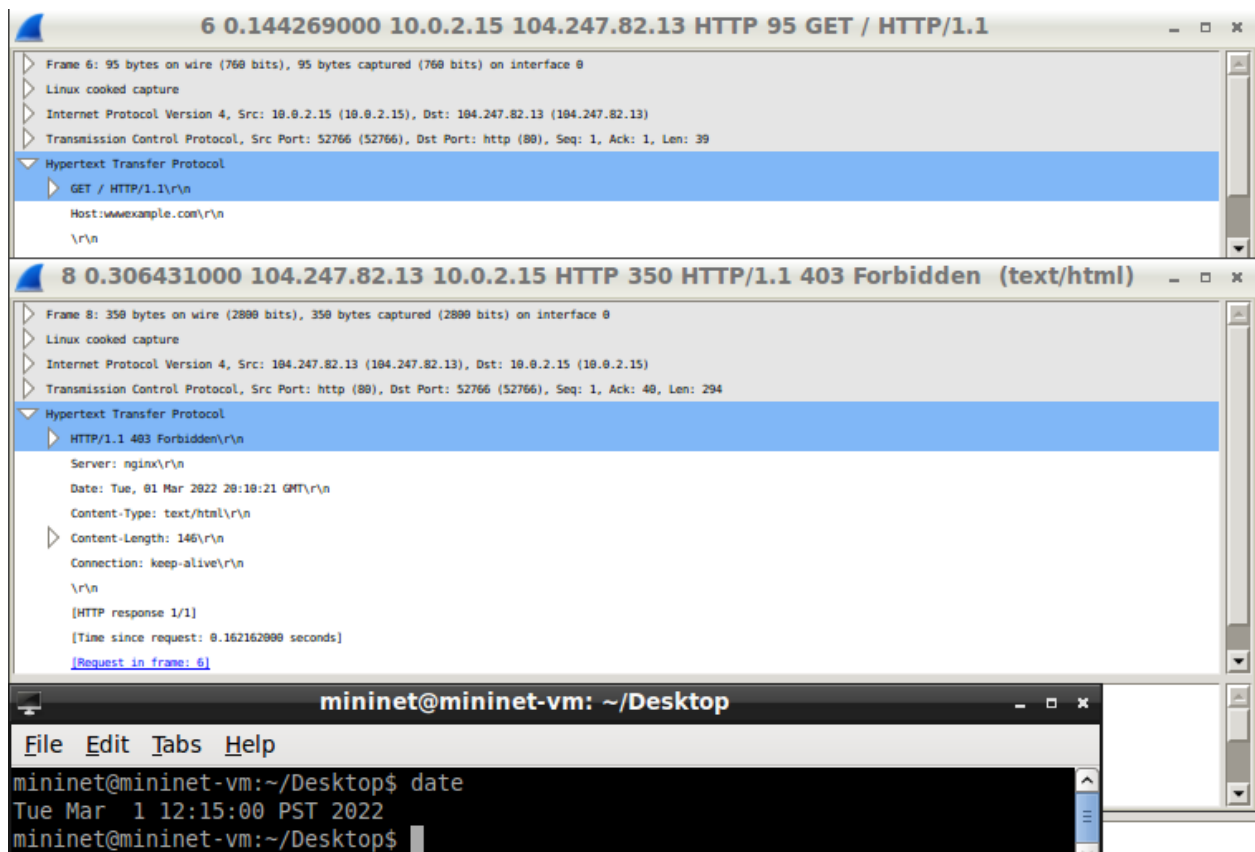
mininet@mininet-vm:~/Desktop\$



Unsuccessful,403,http://wwwexample.com,wwwexample.com,10.0.2.15,104.247.82.13,52766,80,HTTP/1.1 403 Forbidden

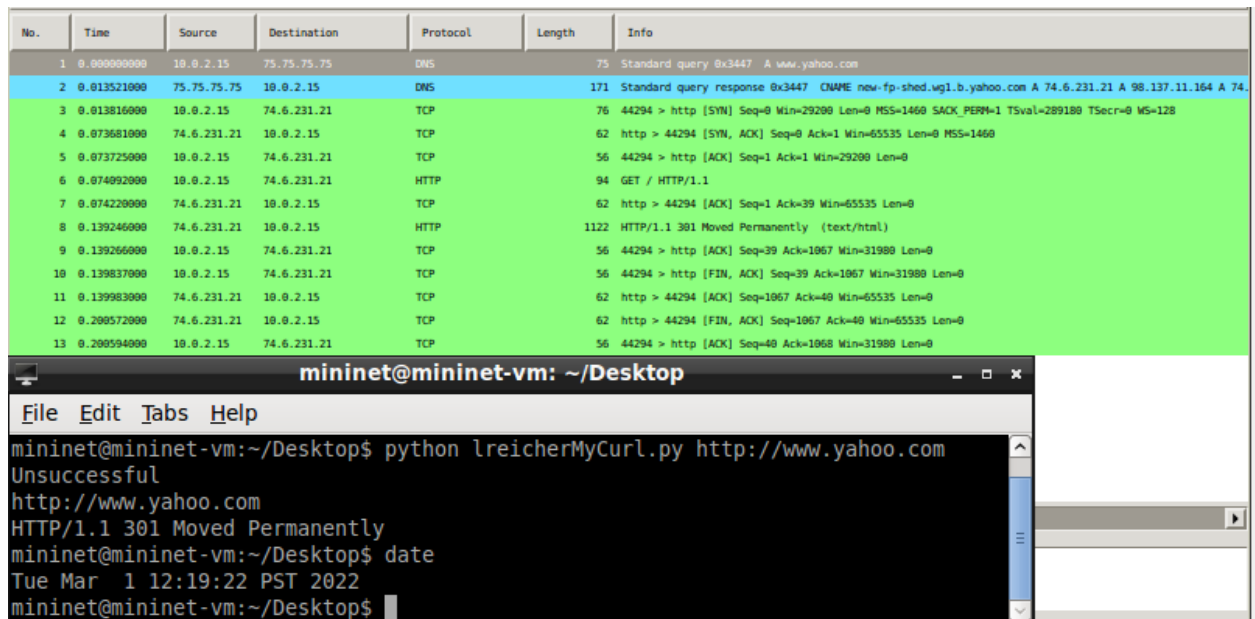
The request was unsuccessful and the output matches that of Curl.

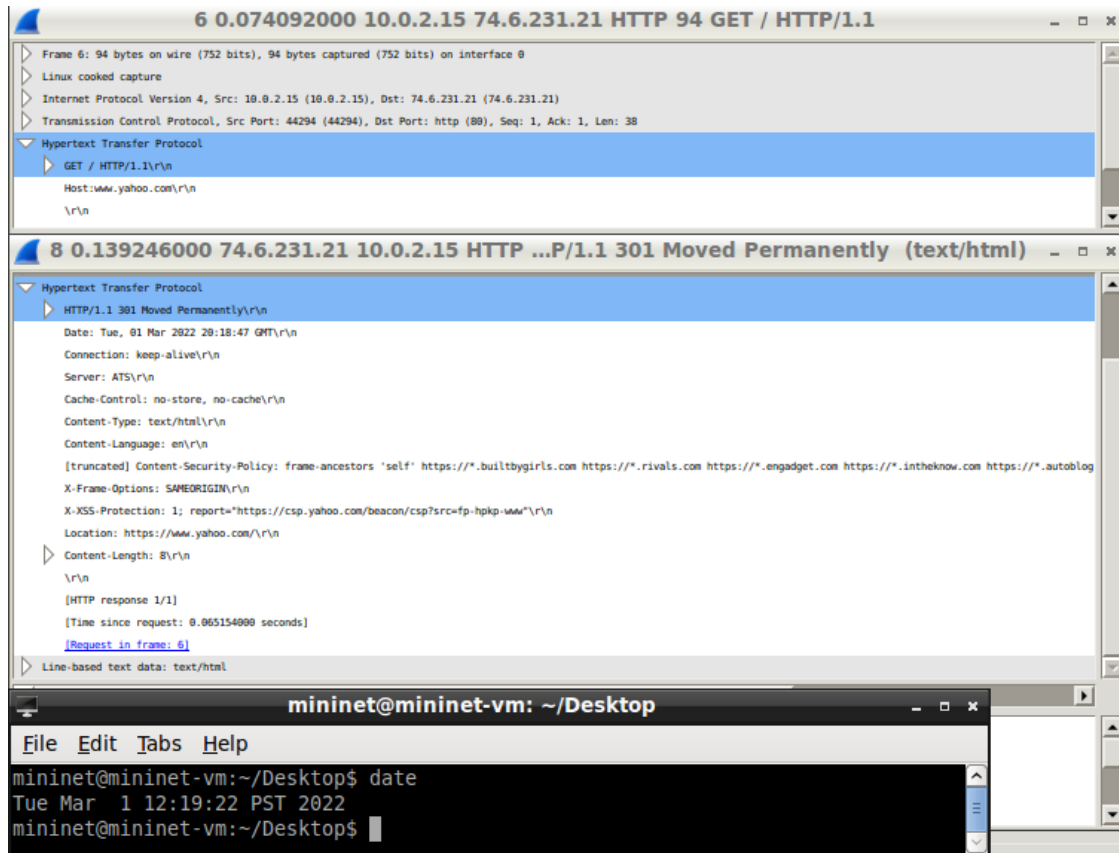




Unsuccessful,301,http://www.yahoo.com,www.yahoo.com,10.0.2.15,74.6.231.21,44294,80, HTTP/1.1 301 Moved Permanently

The request was unsuccessful and the output matches that of Curl.





Unsuccessful,ERR,http://www.google.com:443,www.google.com,10.0.2.15,142.251.46.196,37157,443,Empty reply from server

The request was unsuccessful and the output matches that of Curl. Note there are no readable request/response packets since they were sent using SSL.

