

Praktikum Modul 1

“Crimping dan Wireshark”



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1. Sebutkan web server yang digunakan pada "monta.if.its.ac.id"!

Jawab:

“monta.if.its.ac.id” menggunakan web server nginx “nginx/1.10.3\r\n”

2. Ishaq sedang bingung mencari topik ta untuk semester ini , lalu ia datang ke website monta dan menemukan **detail topik** pada website “monta.if.its.ac.id” , judul TA apa yang dibuka oleh ishaq ?

Jawab:

1. Pertama, filter pada display filter dengan **http.request.uri contains “detail”** untuk mendapatkan keyword dari “detail topik” pada soal
 2. Lalu didapatkan info **/index.php/topik/detailTopik/194**

http.request.uri contains "Detail"

No.	Time	Source	Destination	Protocol	Length	Info
576	43.66477...	192.168.0.27	eclipse.if.it.	HTTP	13	GET /index.php/topik/detailTopik/194 HTTP/1.1

- ### 3. Export objects, ambil file html-nya

Dari file html “194”, judul TA-nya adalah “**Evaluasi unjuk kerja User Space Filesystem FUSE**” atau dengan judul “**Evaluasi unjuk kerja User Space Filesystem (FUSE)**” pada <http://monta.if.its.ac.id/index.php/topik/detailTopik/194>.

```

<div class="box-header header-tabs">
<ul>
    <li><a href="http://monta.if.its.ac.id/index.php/topik/lihatTopik" title="Daftax Semua Topik TA">Semua</a></li>
    <!---li><a href="http://monta.if.its.ac.id/index.php/topik/daftarTopikDosen" title="Daftax Dosen Yang Memiliki Topik TA">Topik
Dosen</a></li-->
</ul>
</div>    <div class="alpha omega">
    <!-- judul halaman + gambar-->
    <div id="clear"></div>
    <h1>Topik Tugas Akhir</h1>

<h2 style="margin: 1em 0 15px;"> <span class="mw-headline">Evaluasi unjuk kerja User Space Filesystem &#40;FUSE&#41;</span></h2>
<h6 style="margin: 0 0 1em 15px;font-size: 12px;display:inline">oleh WAHYU SUADI, Rabu 17 Maret 2021 pukul 05:13:50 WIB</h6>
<div style="display: inline;float: right;padding: 1em 0 0; font-size: 14px;">
    <span class="fr-value00">KBK : </span><span class="fr-value80">AJK</span>
    <span class="fr-value00">Status : </span><span class="fr-value100">Belum Diambil</span>
</div>
<div style="overflow:hidden; margin:3em .2em .2em;min-height:400px;">
    <table width=400 border=1>
        <tr>
            <td style="margin:0; padding:0 1em 0 1em; font-size:100%;">
                <p>
                    User Space Filesystem &#40;FUSE&#41; digunakan untuk memudahkan implementasi filesystem di Linux. Sudah ada pengukuran kinerja FUSE (paper1) dan sudah diperlakukan lagi di (paper2). Sudah banyak optimisasi dilakukan sejak (paper1), salah satunya adalah kemampuan multithread. Tujuan tugas akhir ini adalah eksplorasi kinerja dari FUSE terkini. Yang dibandingkan adalah kinerja native (ext4), FUSE (c library) dan go (link1). Pengukurannya lihat (paper1).</p>
                <p>
                    &nbsp;</p>
                </td>
        </tr>
    </table>
</div>

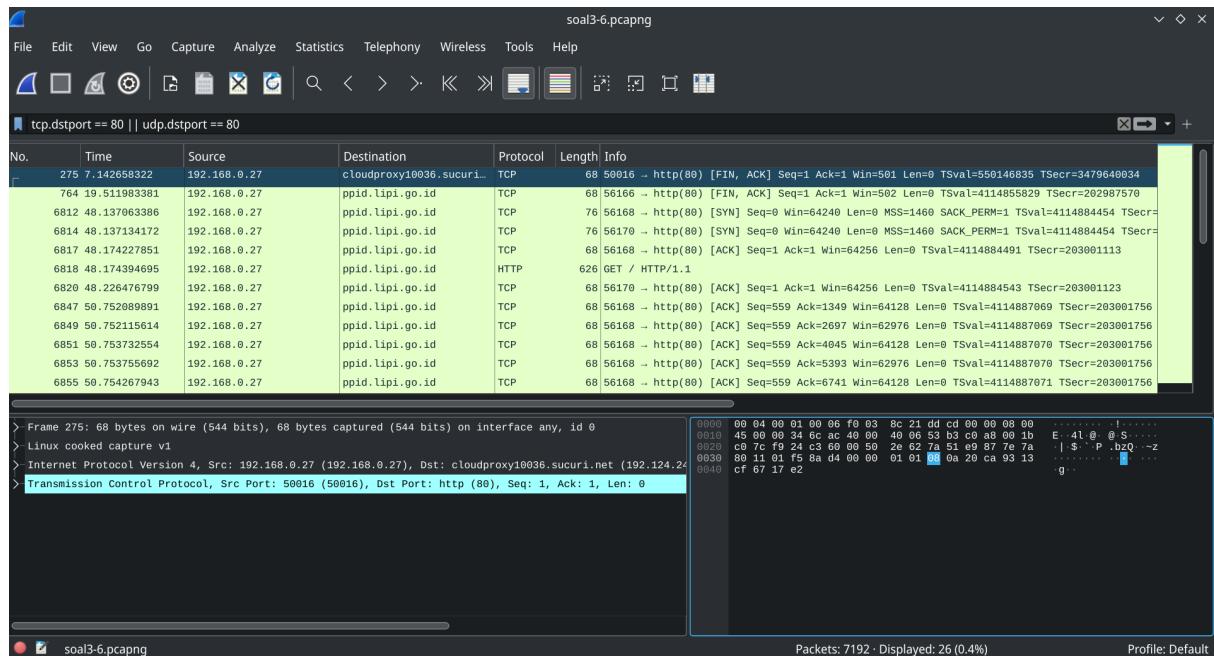
```

3. Filter sehingga wireshark hanya menampilkan paket yang menuju port 80!

Jawab:

Pada display filter, terapkan:

tcp.dstport == 80 || udp.dstport == 80

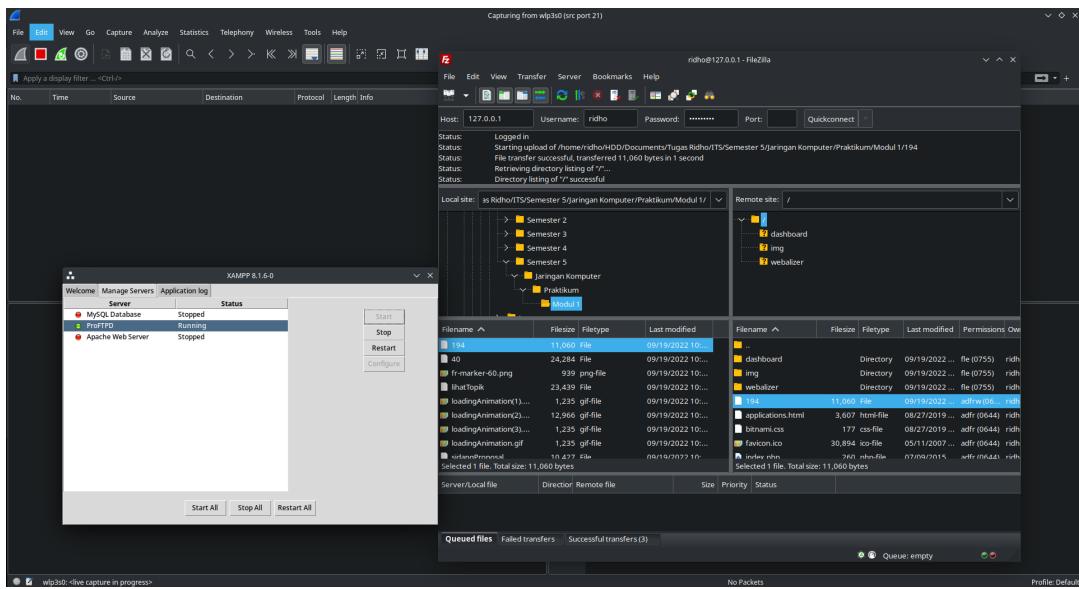


4. Filter sehingga wireshark hanya mengambil paket yang berasal dari port 21!

Jawab:

Pada capture filter, terapkan:

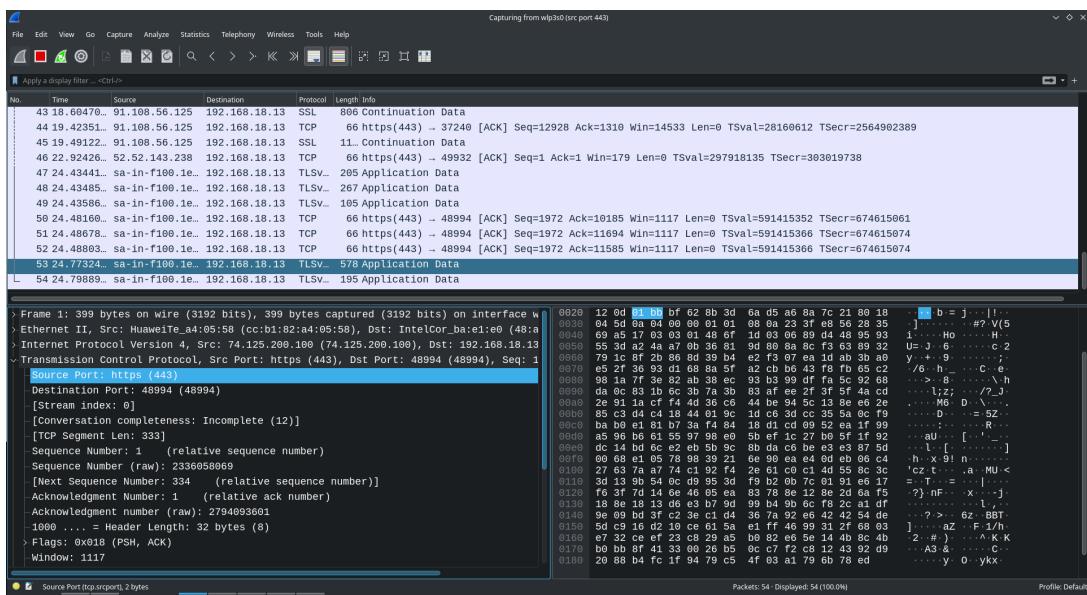
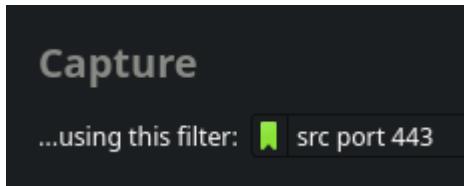
src port 21



5. Filter sehingga wireshark hanya mengambil paket yang berasal dari port 443!

Jawab:

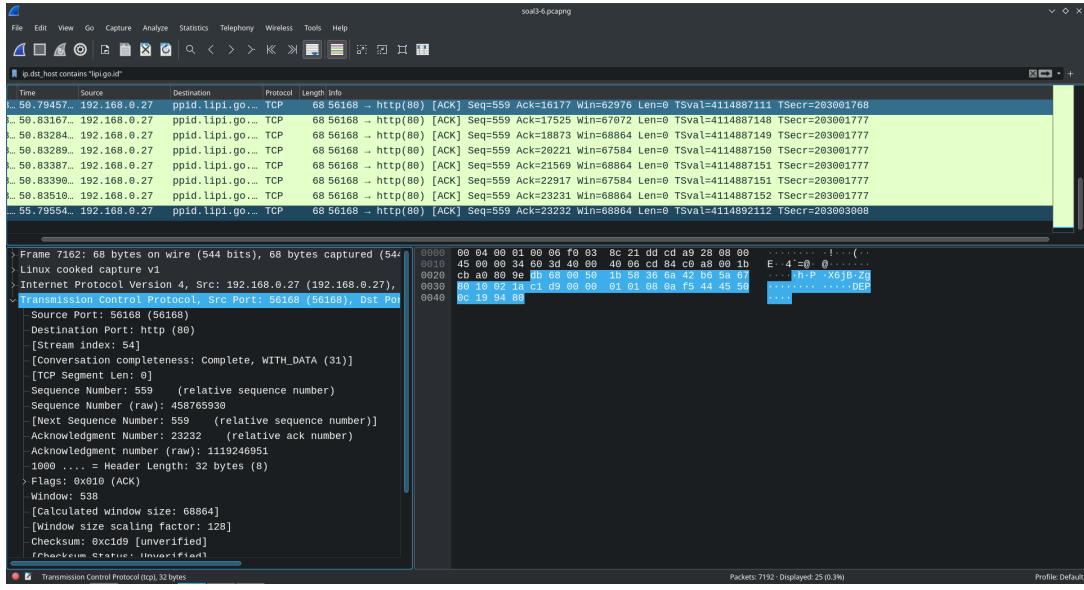
Pada capture filter, terapkan:
src port 443



6. Filter sehingga wireshark hanya menampilkan paket yang menuju ke lipi.go.id !

Jawab:

Pada display filter, terapkan:
ip.dst_host contains "lipi.go.id"

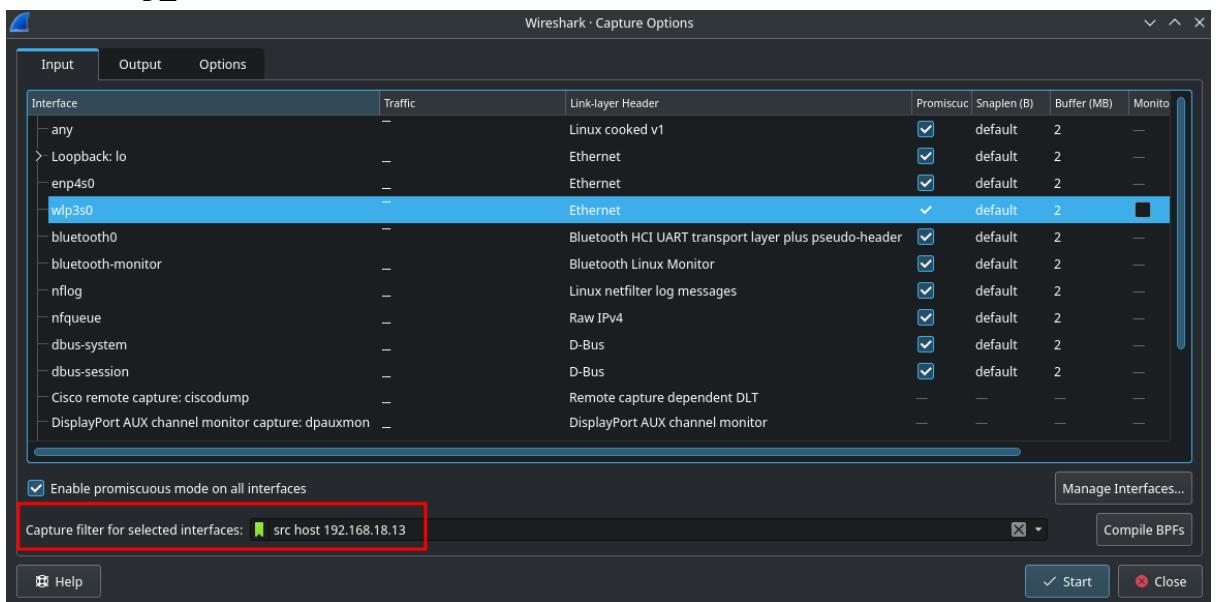


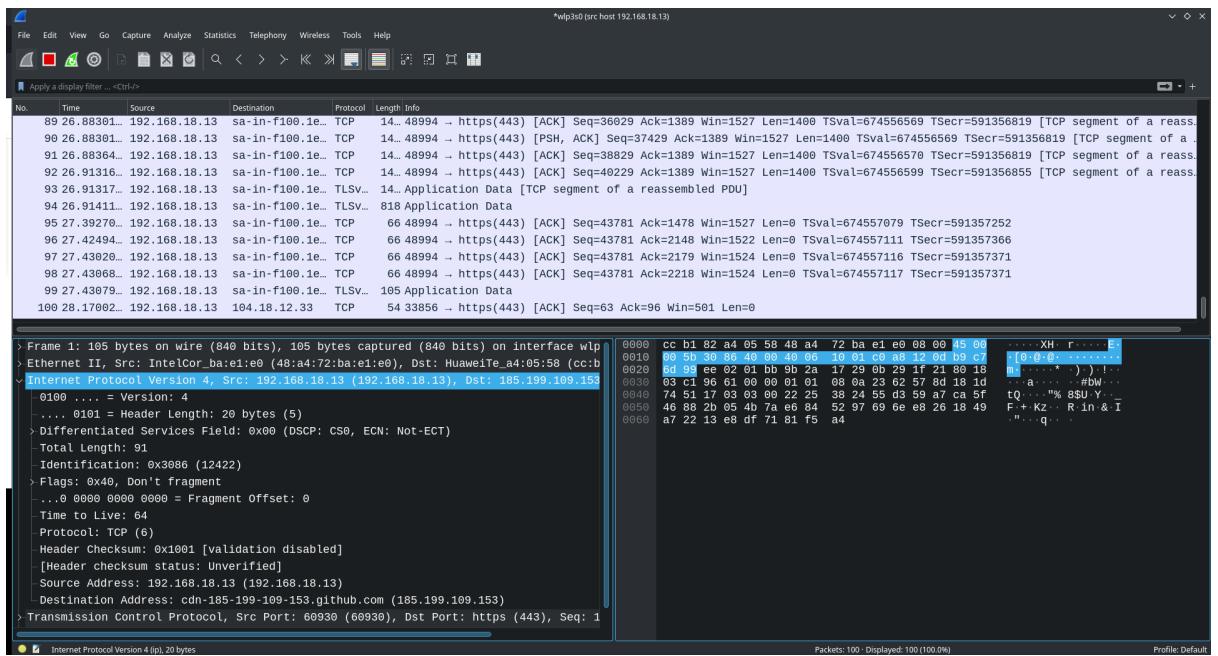
7. Filter sehingga wireshark hanya mengambil paket yang berasal dari ip kalian!

Jawab:

Pada capture filter, terapkan:

src host <ip_kita>, misal: **src host 192.168.18.13**





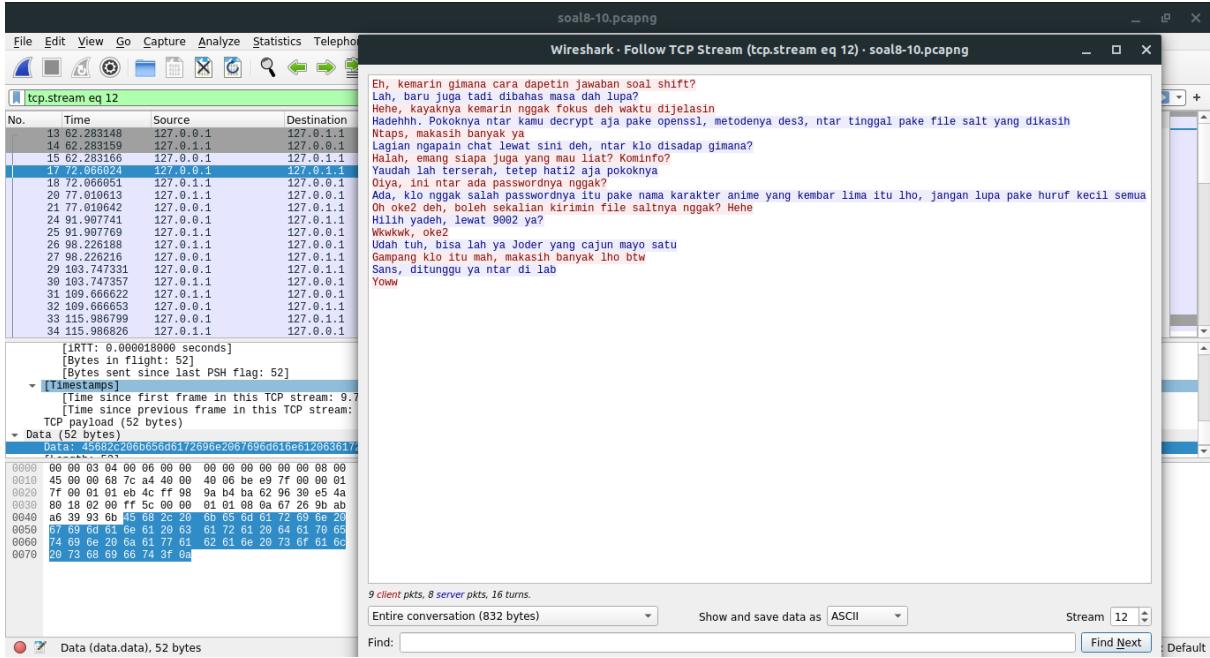
Untuk soal 8-10, silahkan baca cerita di bawah ini!

Di sebuah planet bernama Viltrumite, terdapat Kementerian Komunikasi dan Informatika yang baru saja menetapkan kebijakan baru. Dalam kebijakan baru tersebut, pemerintah dapat mengakses data pribadi masyarakat secara bebas jika memang dibutuhkan, baik dengan maupun tanpa persetujuan pihak yang bersangkutan. Sebagai mahasiswa yang sedang melaksanakan program magang di kementerian tersebut, kalian mendapat tugas berupa penyadapan percakapan mahasiswa yang diduga melakukan tindak kecurangan dalam kegiatan Praktikum Komunikasi Data dan Jaringan Komputer 2022. Selain itu, terdapat sebuah password rahasia (flag) yang diduga merupakan milik sebuah organisasi bawah tanah yang selama ini tidak sejalan dengan pemerintahan Planet Viltrumite. Tunggu apa lagi, segera kerjakan tugas magang tersebut agar kalian bisa mendapatkan pujian serta kenaikan jabatan di kementerian tersebut!

8. Telusuri aliran paket dalam file .pcap yang diberikan, cari informasi berguna berupa percakapan antara dua mahasiswa terkait tindakan kecurangan pada kegiatan praktikum. Percakapan tersebut dilaporkan menggunakan protokol jaringan dengan tingkat keandalan yang tinggi dalam pertukaran datanya sehingga kalian perlu menerapkan filter dengan protokol yang tersebut.

Jawab:

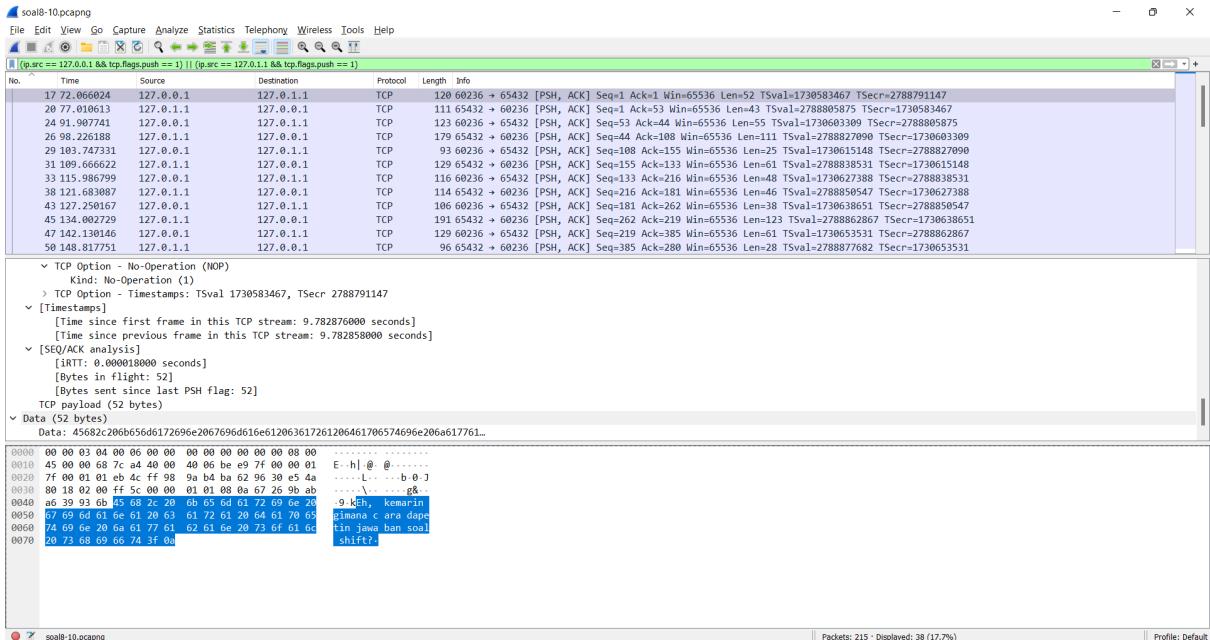
Cara pertama -> Menggunakan display filter dengan syntax berikut:
tcp.stream eq 12

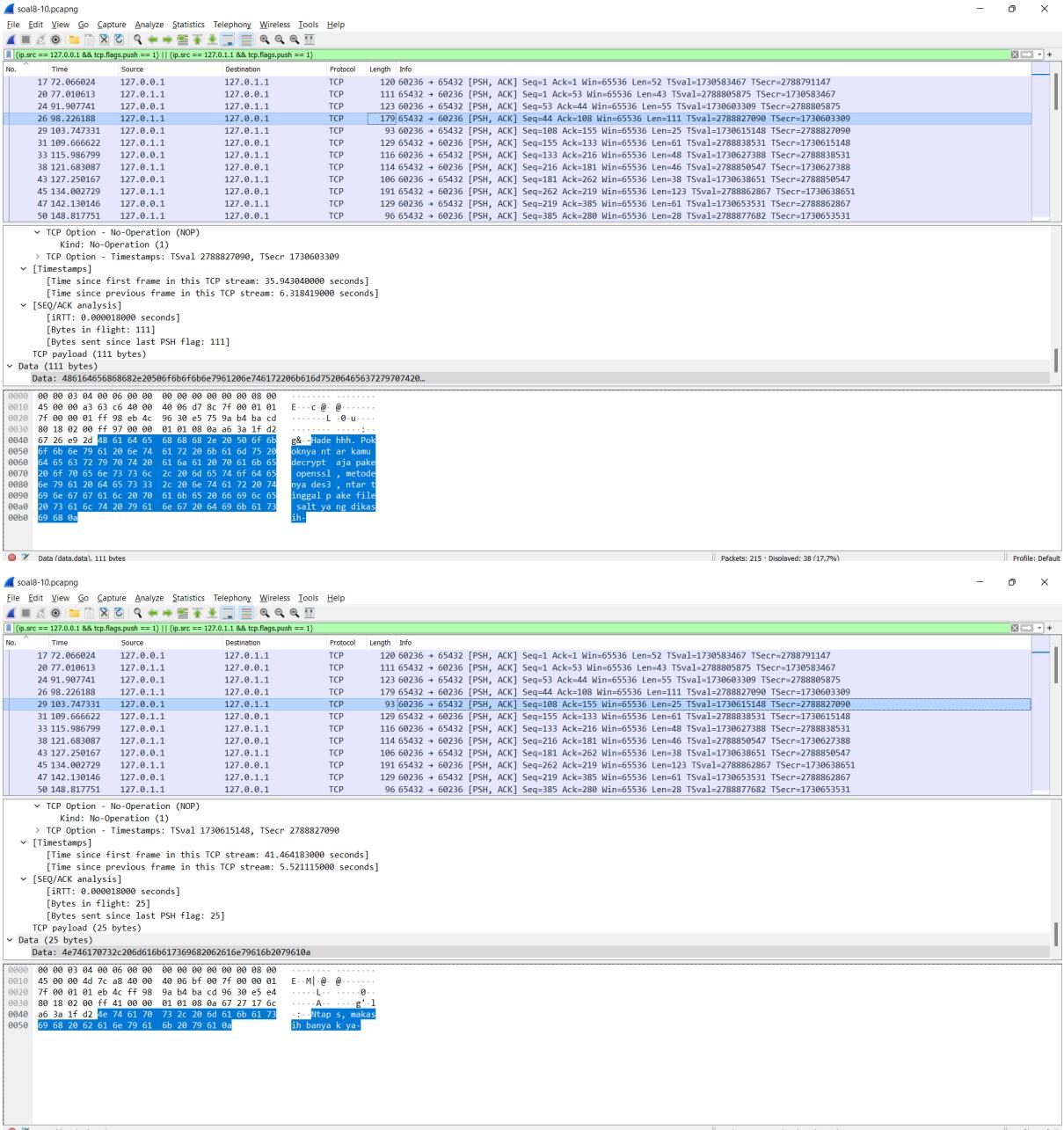


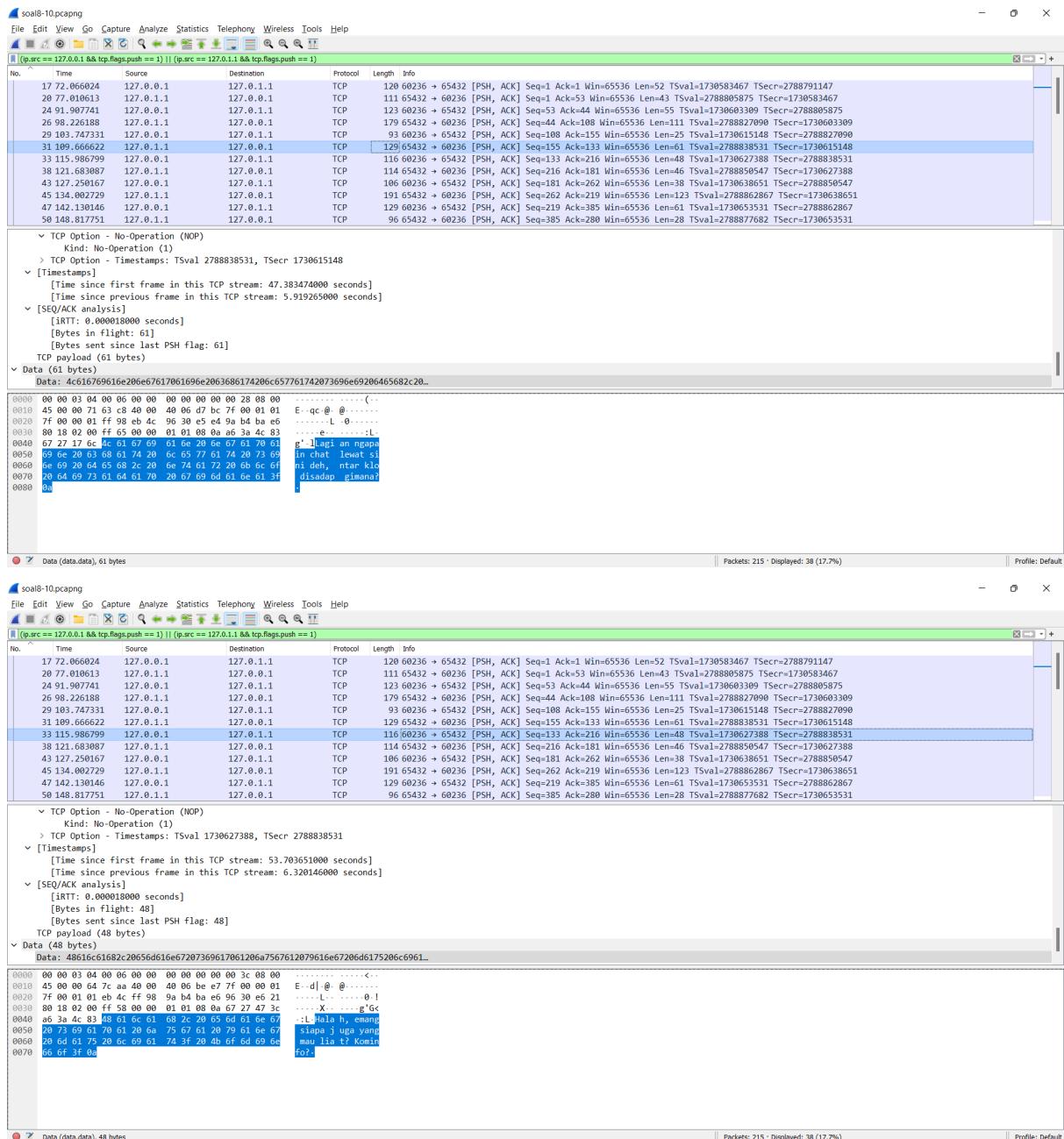
Cara kedua -> Menggunakan display filter dengan syntax sebagai berikut:

(ip.src == 127.0.0.1 && tcp.flags.push == 1) || (ip.src == 127.0.1.1 && tcp.flags.push == 1)

Untuk dokumentasi dari percakapan antara dua mahasiswa yang melakukan tindakan kecurangan pada praktikum, sebagai berikut:







The figure displays two windows of the NetworkMiner tool, both showing traffic between two hosts at IP address 127.0.0.1.

Top Window (Detailed View):

- Header:** (ip.src == 127.0.0.1 && tcp.flags.push == 1) || (ip.src == 127.0.0.1 && tcp.flags.push == 1)
- Table Headers:** No., Time, Source, Destination, Protocol, Length, Info
- Data:** A list of 58 captured TCP frames. Each frame entry includes the timestamp, source and destination IP, protocol (TCP), length, and detailed info about the payload. For example, frame 17 has a timestamp of 17.72.066024, source 127.0.0.1, destination 127.0.0.1, protocol TCP, length 120, and info showing a PSH, ACK sequence with sequence numbers 1 and 5432, and window sizes 65536 and 51.

Bottom Window (Broader View):

- Header:** (ip.src == 127.0.0.1 && tcp.flags.push == 1) || (ip.src == 127.0.0.1 && tcp.flags.push == 1)
- Table Headers:** No., Time, Source, Destination, Protocol, Length, Info
- Data:** A list of 50 captured TCP frames, showing a subset of the traffic from the top window. The frames are numbered 0000 through 0049, and the details are identical to the top window's entries.

The figure shows a screenshot of the Wireshark application window. At the top, there's a menu bar with File, Edit, View, Go, Capture, Analyze, Statistics, Telephone, Wireless, Tools, Help. Below the menu is a toolbar with icons for file operations, search, and zoom.

The main area displays a list of network frames. Each frame is represented by a row with columns for No., Time, Source, Destination, Protocol, Length, and Info. The 'Info' column contains detailed information about the frame's content, such as sequence numbers, flags (e.g., SYN, ACK, PSH), and payload data.

Two specific sessions are highlighted:

- Session 1 (Blue highlight):** This session is between 127.0.0.1 (Source) and 127.0.1.1 (Destination). It consists of several TCP frames. For example, frame 17 (No. 17) is a SYN-ACK frame from 127.0.1.1 to 127.0.0.1, with sequence number 65432 and acknowledgement number 1. Frame 18 (No. 20) is an ACK frame from 127.0.0.1 to 127.0.1.1, with sequence number 65432 and acknowledgement number 1.
- Session 2 (Grey highlight):** This session is also between 127.0.0.1 (Source) and 127.0.1.1 (Destination). It includes frames with sequence numbers like 191, 192, 193, etc., and acknowledgement numbers like 65432, 60236, etc.

At the bottom of the window, there are three panes: Data (data.data), 123 bytes; Packets: 215 - Displayed: 38 (17.7%); and Profile: Default.

soal8-10-pcapng

File Edit View Go Capture Analyze Statistics Telephone Wireless Tools Help

(ip.src == 127.0.0.1 && tcp.flags.push == 1) || (ip.src == 127.0.1.1 && tcp.flags.push == 1)

No.	Time	Source	Destination	Protocol	Length	Info
33	115.986799	127.0.0.1	127.0.1.1	TCP	116	60236 → 65432 [PSH, ACK] Seq=133 Ack=216 Win=65536 Len=48 TStamp=1730627388 TSecr=2788838531
38	116.683087	127.0.1.1	127.0.0.1	TCP	114	65432 → 60236 [PSH, ACK] Seq=216 Ack=181 Win=65536 Len=46 TStamp=2788850547 TSecr=1730627388
43	127.250167	127.0.0.1	127.0.1.1	TCP	106	60236 → 65432 [PSH, ACK] Seq=181 Ack=262 Win=65536 Len=38 TStamp=1730638651 TSecr=2788850547
45	134.080729	127.0.1.1	127.0.0.1	TCP	191	65432 → 60236 [PSH, ACK] Seq=262 Ack=219 Win=65536 Len=123 TStamp=278862867 TSecr=1730638651
47	142.130146	127.0.0.1	127.0.1.1	TCP	129	60236 → 65432 [PSH, ACK] Seq=219 Ack=385 Win=65536 Len=61 TStamp=1730653331 TSecr=278882867
50	148.181751	127.0.1.1	127.0.0.1	TCP	96	65432 → 60236 [PSH, ACK] Seq=385 Ack=280 Win=65536 Len=28 TStamp=2788877682 TSecr=1730653331
54	153.633683	127.0.0.1	127.0.1.1	TCP	81	60236 → 65432 [PSH, ACK] Seq=280 Ack=413 Win=65536 Len=13 TStamp=1730665035 TSecr=2788877682
61	161.201327	127.0.1.1	127.0.0.1	TCP	124	90802 → 45800 [PSH, ACK] Seq=1 Ack=Win=65536 Len=56 TStamp=2788890065 TSecr=1730672602
68	170.658976	127.0.1.1	127.0.0.1	TCP	117	65432 → 60236 [PSH, ACK] Seq=413 Ack=293 Win=65536 Len=49 TStamp=2788899523 TSecr=1730665035
71	171.200129	127.0.1.1	127.0.0.1	TCP	112	60236 → 65432 [PSH, ACK] Seq=293 Ack=462 Win=65536 Len=44 TStamp=1730688603 TSecr=2788899523
74	182.179279	127.0.1.1	127.0.0.1	TCP	98	65432 → 60236 [PSH, ACK] Seq=462 Ack=337 Win=65536 Len=30 TStamp=2788911043 TSecr=1730688603
77	188.579165	127.0.1.1	127.0.0.1	TCP	73	60236 → 65432 [PSH, ACK] Seq=337 Ack=492 Win=65536 Len=5 TStamp=1730699988 TSecr=2788911043

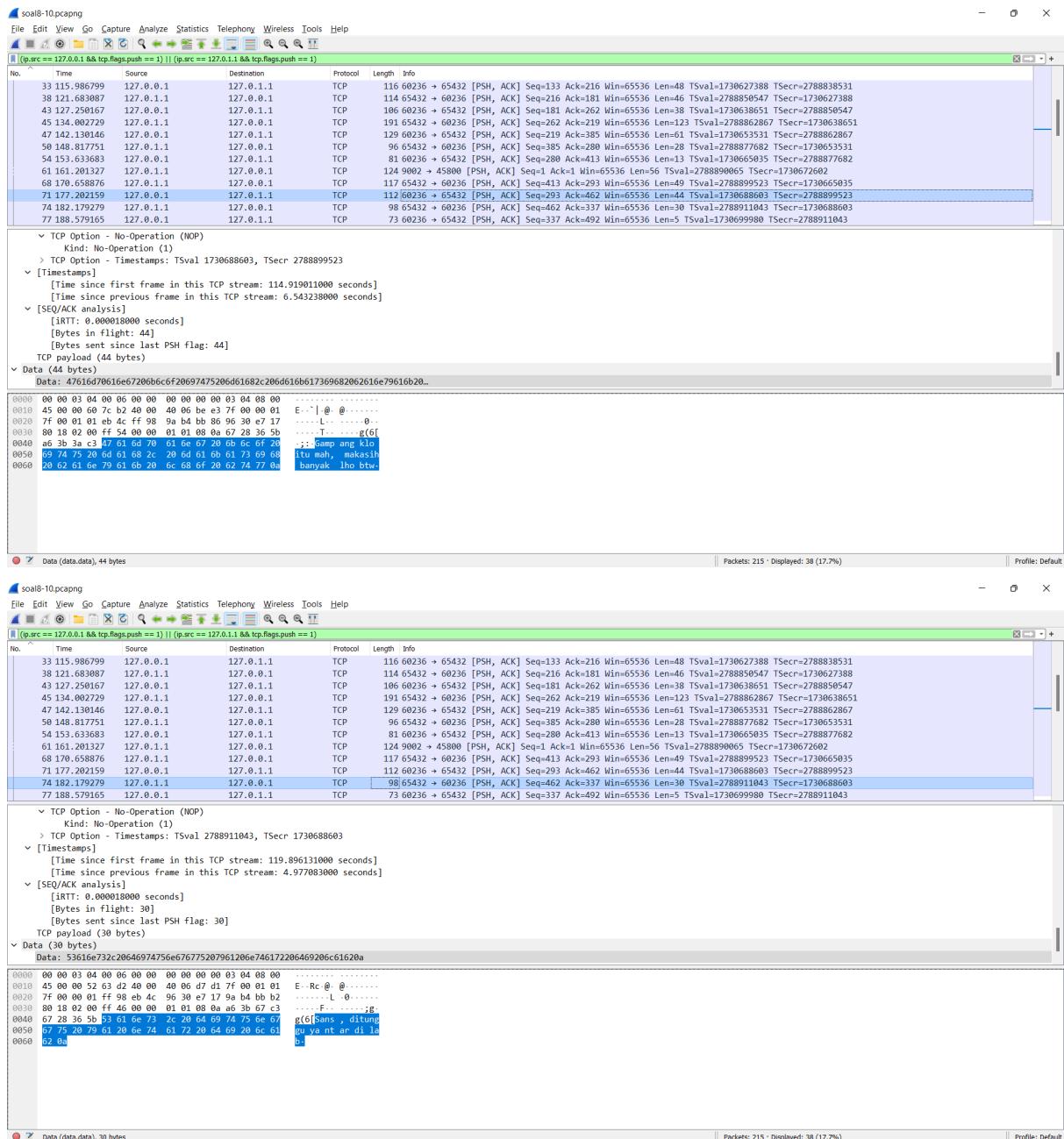
▼ TCP Option - No Operation (NOP)
 Kind: No-Operation (1)
 > TCP Option - Timestamps: TStamp 1730665035, TSecr 2788877682

▼ [Timestamps]
 [Time since first frame in this TCP stream: 91.350853000 seconds]
 [Time since previous frame in this TCP stream: 4.815888000 seconds]

▼ [SEQ/ACK analysis]
 [IRTT: 0.000018000 seconds]
 [Bytes in flight: 13]
 [Bytes sent since last PSH flag: 13]
TCP payload (13 bytes)
Data (13 bytes)
Data: 576b776b776b2c206f6b65320a

00000 00 00 03 04 00 00 00 00 00 00 00 00 00 00 00 00
00010 45 00 00 01 7c b0 40 00 40 bf 84 7f 00 00 01 E.. A! @ ..
00020 74 00 00 01 bc 4c ff 98 9a b4 bd 79 96 30 e6 e6 ..L... y ..
00030 80 18 02 00 ff 35 00 86 01 01 08 6a 67 2d 4b ..5.....g..K
00040 a6 3a e5 72 57 6b 77 6b 77 6b 2c 20 0f 6b 05 32 ..i..l..w..k., okc2
00050 0a ..

soal8-10.pcapng						
No.	Time	Source	Destination	Protocol	Length	Info
<pre>(p.src == 127.0.0.1 && tcp.flags.push == 1) (p.src == 127.0.1.1 && tcp.flags.push == 1)</pre>						
33	115.986799	127.0.0.1	127.0.1.1	TCP	116	60236 + 65432 [PSH, ACK] Seq=133 Ack=216 Win=65536 Len=48 TStamp=1730627388 TSect=2788838531
38	121.683087	127.0.1.1	127.0.1.1	TCP	114	65432 + 60236 [PSH, ACK] Seq=216 Ack=181 Win=65536 Len=46 TStamp=2788850547 TSect=1730627388
43	127.250167	127.0.0.1	127.0.1.1	TCP	106	60236 + 65432 [PSH, ACK] Seq=181 Ack=262 Win=65536 Len=38 TStamp=1730638651 TSect=2788850547
45	134.002729	127.0.1.1	127.0.1.1	TCP	191	65432 + 60236 [PSH, ACK] Seq=262 Ack=219 Win=65536 Len=123 TStamp=2788828671 TSect=1730638651
47	142.130146	127.0.0.1	127.0.1.1	TCP	129	60236 + 65432 [PSH, ACK] Seq=219 Ack=381 Win=65536 Len=61 TStamp=1730653331 TSect=2788862867
54	148.817751	127.0.1.1	127.0.1.1	TCP	96	65432 + 60236 [PSH, ACK] Seq=385 Ack=280 Win=65536 Len=28 TStamp=2788877682 TSect=1730653331
55	154.633683	127.0.0.1	127.0.1.1	TCP	81	60236 + 65432 [PSH, ACK] Seq=288 Ack=413 Win=65536 Len=13 TStamp=1730665035 TSect=2788877682
61	161.201327	127.0.1.1	127.0.1.1	TCP	124	9002 + 45800 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=56 TStamp=278889065 TSect=1730672602
66	170.658876	127.0.1.1	127.0.1.1	TCP	117	65432 + 60236 [PSH, ACK] Seq=413 Ack=293 Win=65536 Len=49 TStamp=2788899523 TSect=1730665035
71	177.202159	127.0.0.1	127.0.1.1	TCP	112	60236 + 65432 [PSH, ACK] Seq=293 Ack=462 Win=65536 Len=44 TStamp=1730688603 TSect=2788899523
74	182.179279	127.0.1.1	127.0.1.1	TCP	98	65432 + 60236 [PSH, ACK] Seq=462 Ack=337 Win=65536 Len=30 TStamp=2788911043 TSect=1730688603
77	188.579165	127.0.0.1	127.0.1.1	TCP	73	60236 + 65432 [PSH, ACK] Seq=337 Ack=499 Win=65536 Len=5 TStamp=1730699988 TSect=2788911043
<pre>▽ TCP Option - No-Operation (NOP) Kind: No-Operation (1) > TCP Option - Timestamps: TStamp 278889065, TSect 1730672602</pre>						
<pre>▽ [Timestamps] [Time since first frame in this TCP stream: 0.000080000 seconds] [Time since previous frame in this TCP stream: 0.0000294000 seconds]</pre>						
<pre>▽ [SEQ/ACK analysis] [IRTF: 0.000514000 seconds] [Bytes in flight: 56] [Bytes sent since last PSH flag: 56] TCP payload (56 bytes)</pre>						
<pre>▽ Data (56 bytes) Data: 53616c7465645f5fbf3adfaf4884228ce051bd1f6c12445a416e84b29c1d63c3c081b8b..</pre>						
<pre>0000 00 00 02 04 00 06 00 00 00 00 00 00 00 00 00 00 00 00 00 00</pre>						
0010	45 00 00 6c 33 fb 49 00 49 06 07 7f 70 01 01	E- 13 @ @.....				
0020	7f 00 00 01 23 2a b2 e8 67 22 5f 92 45 87 98 6b#*.. e" .E..k				
0030	80 18 02 00 ff 60 00 00 01 01 08 0a a6 3b 15 d1#*.. e" .E..k				
0040	67 27 f7 da 53 61 6c 74 65 64 5f 5f bf 3a df a1	g'..Salt ed ..::..				
0050	64 88 42 28 ce 05 1b d1 f6 c1 24 45 a4 16 e8 4b	..B.....\$!..k				
0060	99 c1 d6 3c 08 1b 8b b9 fc f5 66 20 95 87 96)...<....f ..F ..				
0070	13 17 e1 42 ff 47 34 e4 da 2b cb cf	...B.G4 ..::..				
<pre>0000 00 00 02 04 00 06 00 00 00 00 00 00 00 00 00 00 00 00 00</pre>						
<pre>0010 45 00 00 6c 33 fb 49 00 49 06 07 7f 70 01 01</pre>	E- ec @ @.....					
<pre>0020 7f 00 00 01 ff 98 eb 4c 96 30 e6 e6 94 b4 bb 86</pre>L 0.....					
<pre>0030 80 18 02 00 ff 59 00 00 01 01 08 0a a6 3b 3a c3</pre>Y ..::..					
<pre>0040 67 27 da 4b 55 64 61 68 20 74 75 68 2c 20 62 69</pre>	g'..Kdah tuh, bi					
<pre>0050 73 61 20 6c 68 20 79 61 20 4a 6f 64 65 72 26</pre>	sa lah y a Joder					
<pre>0060 79 61 6e 67 20 03 61 6a 75 6e 20 6d 61 79 6f 20</pre>	yang caj un mayo.					
<pre>0070 73 61 74 70 00</pre>	satu:					
<pre>0000 00 00 02 04 00 06 00 00 00 00 00 00 00 00 00 00 00 00</pre>						
<pre>0010 45 00 00 6c 33 fb 49 00 49 06 07 7f 70 01 01</pre>	E- ec @ @.....					
<pre>0020 7f 00 00 01 ff 98 eb 4c 96 30 e6 e6 94 b4 bb 86</pre>L 0.....					
<pre>0030 80 18 02 00 ff 59 00 00 01 01 08 0a a6 3b 3a c3</pre>Y ..::..					
<pre>0040 67 27 da 4b 55 64 61 68 20 74 75 68 2c 20 62 69</pre>	g'..Kdah tuh, bi					
<pre>0050 73 61 20 6c 68 20 79 61 20 4a 6f 64 65 72 26</pre>	sa lah y a Joder					
<pre>0060 79 61 6e 67 20 03 61 6a 75 6e 20 6d 61 79 6f 20</pre>	yang caj un mayo.					
<pre>0070 73 61 74 70 00</pre>	satu:					

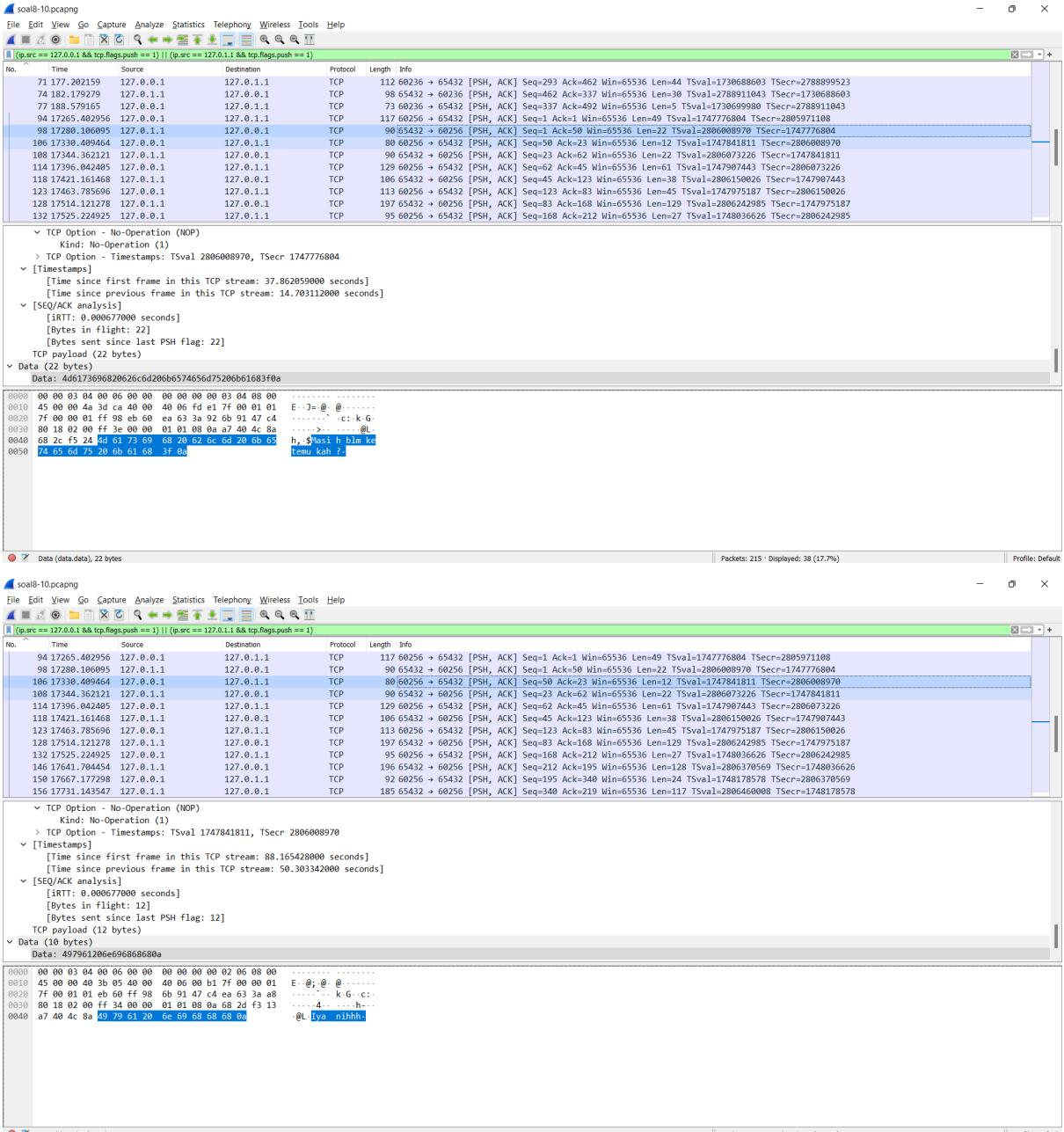


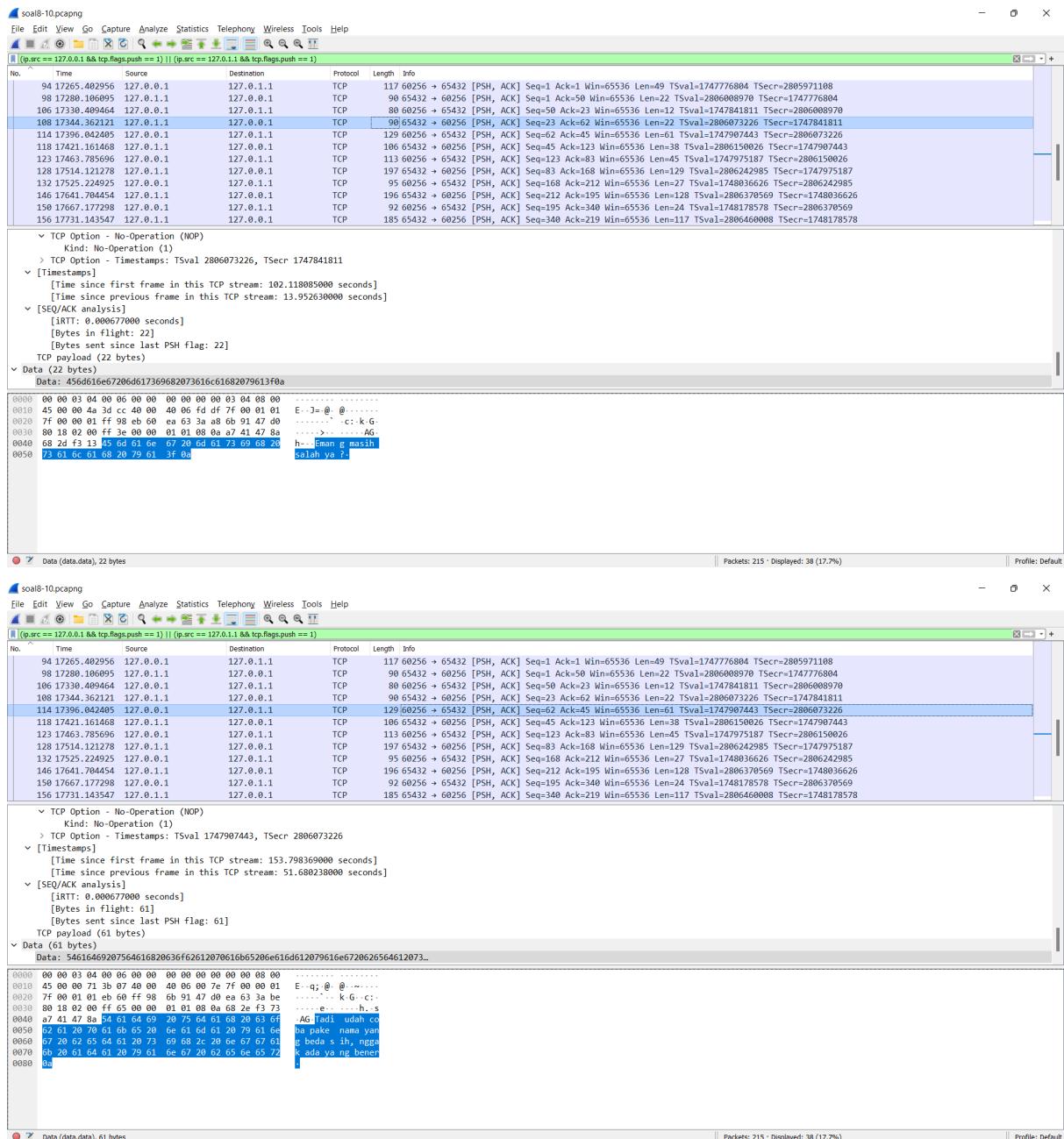
The figure shows a Wireshark capture window with the following details:

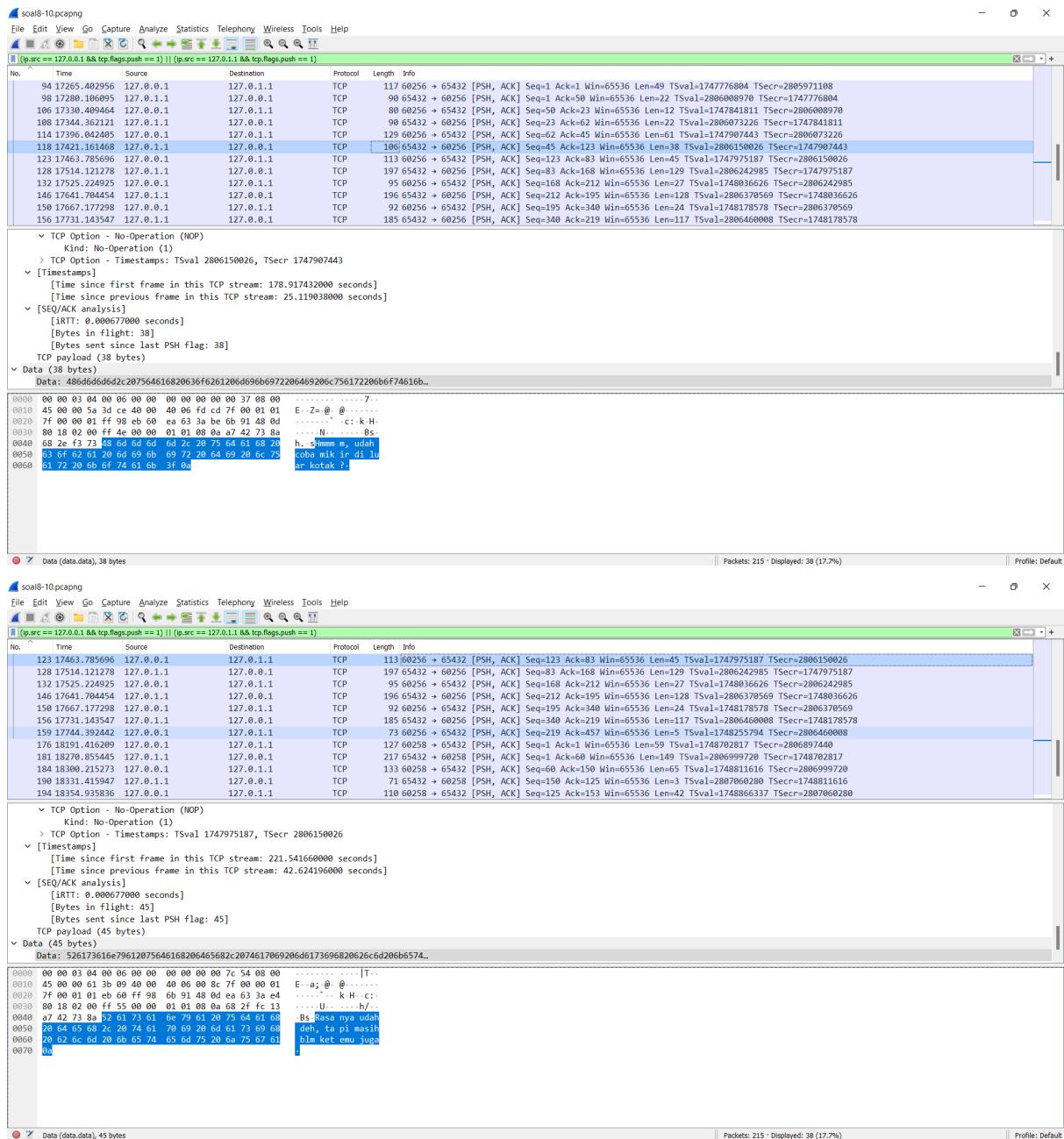
- File menu:** File, Edit, View, Go, Capture, Analyze, Statistics, Telephone, Wireless, Tools, Help.
- Search bar:** (q.src == "127.0.1.1 & bpf.flags.push == 1) || (q.src == "127.0.1.1 & bpf.flags.push == 1")
- Table Headers:** No., Time, Source, Destination, Protocol, Length, Info.
- Table Data:** The table lists 18 rows of network traffic. Row 1 is selected, highlighting the entire row in blue. The selected row shows:
 - Time: 71.177.202159
 - Source: 127.0.1.1
 - Destination: 127.0.0.1
 - Protocol: TCP
 - Length: 112
 - Info: [PSH, ACK] Seq=293 Ack=462 Win=65536 Len=44 TStamp=1730688683 TSecr=2788999523
- Selected Row Details:** Shows detailed information for the selected frame, including:
 - TCP Option - No-Operation (NOP)
 - Kind: No-Operation (1)
 - > TCP Option - Timestamps: TStamp 1730699980, TSecr 2788911043
 - [Timestamps]: [Time since first frame in this TCP stream: 126.296017000 seconds]
 - [Time since previous frame in this TCP stream: 6.399859000 seconds]
 - [SEQ/ACK analysis]: [iRTT: 0.000018000 seconds]
 - [Bytes in flight: 5]
 - [Bytes sent since last PSH flag: 5]
 - TCP payload (5 bytes)
 - Data (5 bytes): Data: 596f77770a
- Selected Row Bytes:** Shows the raw hex and ASCII representation of the selected frame's payload:

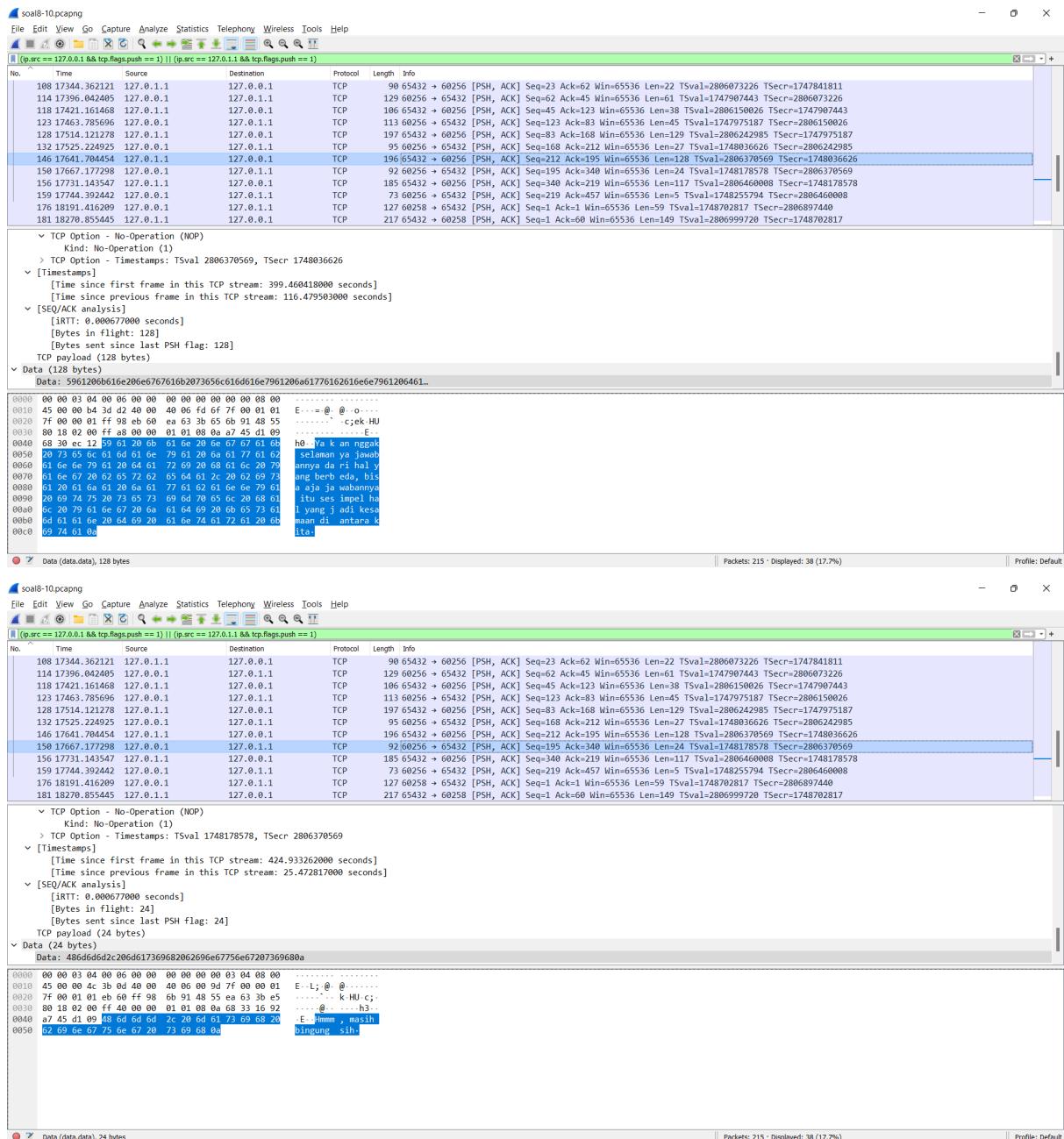
```
0000  00 00 03 04 00 06 00 00 00 00 00 02 06 08 00
0010  45 00 00 39 7c b4 40 00 40 06 bf 08 7f 00 00 01 E..9@@.....
0020  7f 00 01 01 eb 4c ff 98 9a b4 bb b2 96 0e 37 e5 ..L.....05
0030  88 18 02 00 ff 2d 00 01 01 08 0a 67 28 62 cc .....g(b
0040  a6 3b 67 c3 59 6f 77 77 0a ;E Yoww .
```

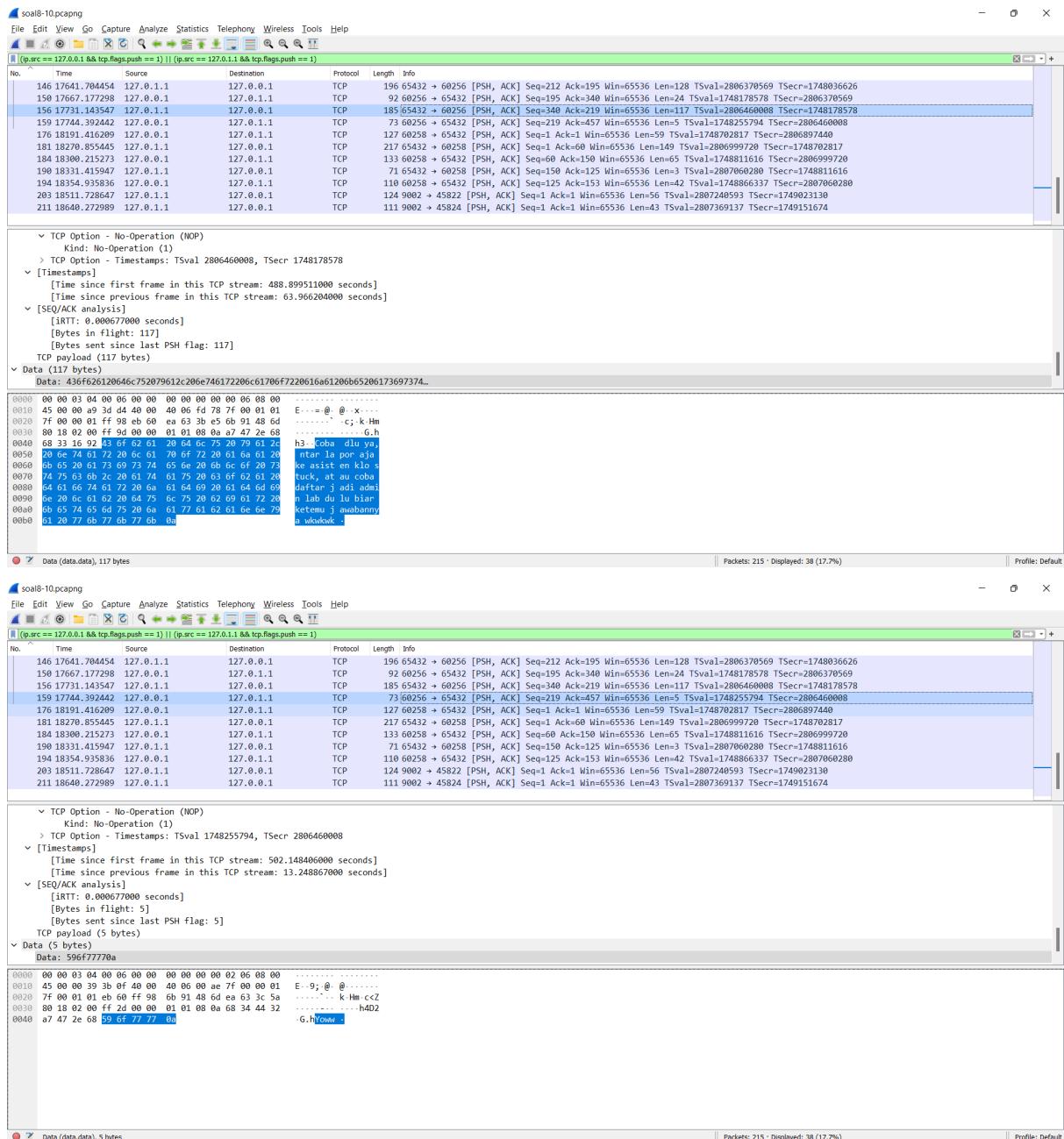
The Wireshark interface displays a list of captured network frames. The first few frames show the initial handshake (SYN, SYN-ACK, ACK) followed by data exchange (ACKs and PSHs). Subsequent frames show the transmission of a large file, with frame 127 being the final ACK received from the destination. The packet details, bytes, and timeline panes provide detailed information about each frame's content and timing.











soal10-10.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

(p.src == 127.0.0.1 & & tcp.flags.push == 1) || (p.src == 127.0.1.1 & & tcp.flags.push == 1)

No.	Time	Source	Destination	Protocol	Length	Info
146	17641.704454	127.0.1.1	127.0.0.1	TCP	196	65432 → 60256 [PSH, ACK] Seq=212 Ack=195 Win=65536 Len=128 Tsvr=2806370569 Tscr=1748036626
150	17667.177298	127.0.0.1	127.0.0.1	TCP	92	60256 → 65432 [PSH, ACK] Seq=195 Ack=340 Win=65536 Len=24 Tsvr=1749178579 Tscr=2806370569
156	17731.143547	127.0.1.1	127.0.0.1	TCP	185	65432 → 60256 [PSH, ACK] Seq=340 Ack=219 Win=65536 Len=117 Tsvr=2806460008 Tscr=1748178578
159	17744.392442	127.0.0.1	127.0.0.1	TCP	73	60256 → 65432 [PSH, ACK] Seq=219 Ack=457 Win=65536 Len=5 Tsvr=1748255794 Tscr=2806460008
176	18191.416209	127.0.0.1	127.0.0.1	TCP	127	60256 → 65432 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=59 Tsvr=1748702817 Tscr=2806897440
181	18270.855445	127.0.0.1	127.0.0.1	TCP	217	65432 → 60258 [PSH, ACK] Seq=1 Ack=60 Win=65536 Len=149 Tsvr=2806999720 Tscr=1748702817
184	18300.215273	127.0.0.1	127.0.0.1	TCP	133	60256 → 65432 [PSH, ACK] Seq=60 Ack=150 Win=65536 Len=65 Tsvr=1748811616 Tscr=2806999720
190	18331.415947	127.0.0.1	127.0.0.1	TCP	71	65432 → 60258 [PSH, ACK] Seq=150 Ack=125 Win=65536 Len=3 Tsvr=2807060280 Tscr=1748811616
194	18354.935836	127.0.0.1	127.0.0.1	TCP	110	60256 → 65432 [PSH, ACK] Seq=125 Ack=153 Win=65536 Len=42 Tsvr=1748866337 Tscr=2807060280
203	18511.728647	127.0.0.1	127.0.0.1	TCP	124	9002 → 45822 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=56 Tsvr=2807240593 Tscr=1749023138
211	18640.272989	127.0.0.1	127.0.0.1	TCP	111	9002 → 45824 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=43 Tsvr=2807369137 Tscr=1749151674

▼ TCP Option - No-Operation (NOP)
Kind: No-Operation (1)
> TCP Option - Timestamps: Tsvr 1748702817, Tscr 2806897440

▼ [Timestamps]
[Time since first frame in this TCP stream: 22.840907000 seconds]
[Time since previous frame in this TCP stream: 22.840950000 seconds]

▼ [SEQ/ACK analysis]
[IRTF: 0.000317000 seconds]
[Bytes in flight: 59]
TCP payload (59 bytes)
Data (59 bytes)
Data (59 bytes)

0000 00 00 03 04 00 06 00 00 00 00 00 00 00 00 44 00 D .
0010 45 00 00 6f c7 6e 40 00 40 06 74 18 7f 00 00 01 E . o . n @ . @ t . . .
0020 7f 00 01 01 eb 62 ff 98 d9 23 0c 07 f9 a0 55 af b . # . U .
0030 80 18 02 00 ff 63 00 00 01 01 08 0a 68 3b 16 61 c . . . h ; a .
0040 a7 4d db 25 68 2c 20 74 6f 6c 6f 6e 67 69 6e . M . Eh , tolongin
0050 20 64 6f 6e 67 2c 20 75 64 6f 6b 20 6d 65 70 65 . dong , u dah nepe
0060 74 20 6e 69 68 20 64 61 6e 20 6d 61 73 69 68 26 t niha n masihh
0070 62 6c 6d 20 6b 65 74 65 6d 75 20 3a 27 28 0a bim kete mu :`(.

0 Data (data.data), 59 bytes

Packets: 215 · Displayed: 38 (17.7%)

Profile: Default

soal10-10.pcapng

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

(p.src == 127.0.0.1 & & tcp.flags.push == 1) || (p.src == 127.0.1.1 & & tcp.flags.push == 1)

No.	Time	Source	Destination	Protocol	Length	Info
146	17641.704454	127.0.1.1	127.0.0.1	TCP	196	65432 → 60256 [PSH, ACK] Seq=212 Ack=195 Min=65536 Len=128 Tsvr=2806370569 Tscr=1748036626
150	17667.177298	127.0.0.1	127.0.0.1	TCP	92	60256 → 65432 [PSH, ACK] Seq=195 Ack=340 Min=65536 Len=24 Tsvr=1749178579 Tscr=2806370569
156	17731.143547	127.0.0.1	127.0.0.1	TCP	185	65432 → 60256 [PSH, ACK] Seq=340 Ack=219 Min=65536 Len=117 Tsvr=2806460008 Tscr=1748178578
159	17744.392442	127.0.0.1	127.0.0.1	TCP	73	60256 → 65432 [PSH, ACK] Seq=219 Ack=457 Min=65536 Len=5 Tsvr=1748255794 Tscr=2806460008
176	18191.416209	127.0.0.1	127.0.0.1	TCP	127	60256 → 65432 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=59 Tsvr=1748702817 Tscr=2806897440
181	18270.855445	127.0.0.1	127.0.0.1	TCP	217	65432 → 60258 [PSH, ACK] Seq=1 Ack=60 Min=65536 Len=149 Tsvr=1748702817
184	18300.215273	127.0.0.1	127.0.0.1	TCP	133	60256 → 65432 [PSH, ACK] Seq=60 Ack=150 Win=65536 Len=65 Tsvr=1748811616 Tscr=2806999720
190	18331.415947	127.0.0.1	127.0.0.1	TCP	71	65432 → 60258 [PSH, ACK] Seq=150 Ack=125 Win=65536 Len=3 Tsvr=2807060280 Tscr=1748811616
194	18354.935836	127.0.0.1	127.0.0.1	TCP	110	60256 → 65432 [PSH, ACK] Seq=125 Ack=153 Win=65536 Len=42 Tsvr=1748866337 Tscr=2807060280
203	18511.728647	127.0.0.1	127.0.0.1	TCP	124	9002 → 45822 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=56 Tsvr=2807240593 Tscr=1749023138
211	18640.272989	127.0.0.1	127.0.0.1	TCP	111	9002 → 45824 [PSH, ACK] Seq=1 Ack=1 Win=65536 Len=43 Tsvr=2807369137 Tscr=1749151674

▼ TCP Option - No-Operation (NOP)
Kind: No-Operation (1)
> TCP Option - Timestamps: Tsvr 2806999720, Tscr 1748702817

▼ [Timestamps]
[Time since first frame in this TCP stream: 102.280143000 seconds]
[Time since previous frame in this TCP stream: 79.439189000 seconds]

▼ [SEQ/ACK analysis]
[IRTF: 0.000317000 seconds]
[Bytes in flight: 149]
[Bytes sent since last PSH flag: 149]
TCP payload (149 bytes)
Data (149 bytes)

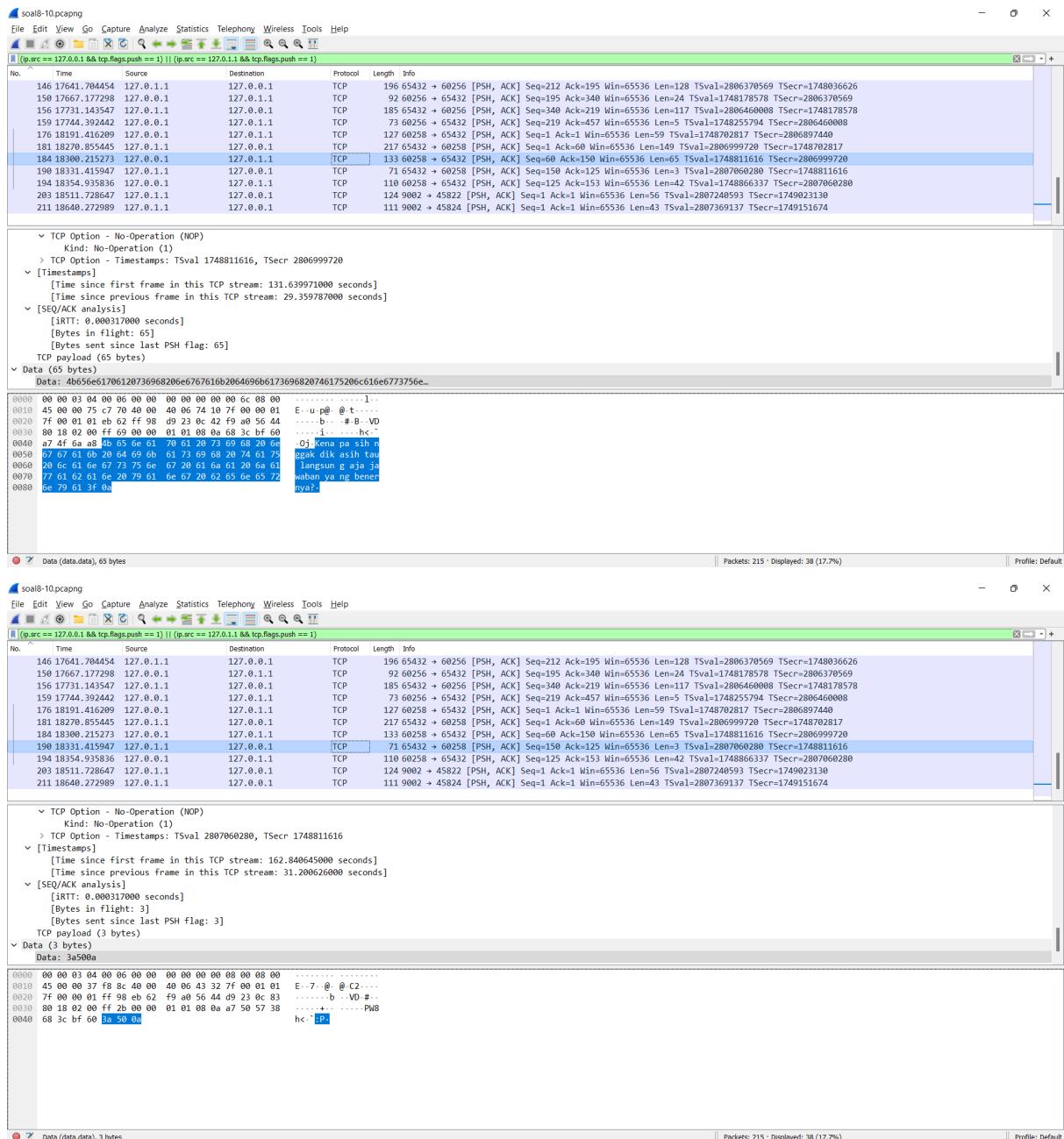
Data (149 bytes)

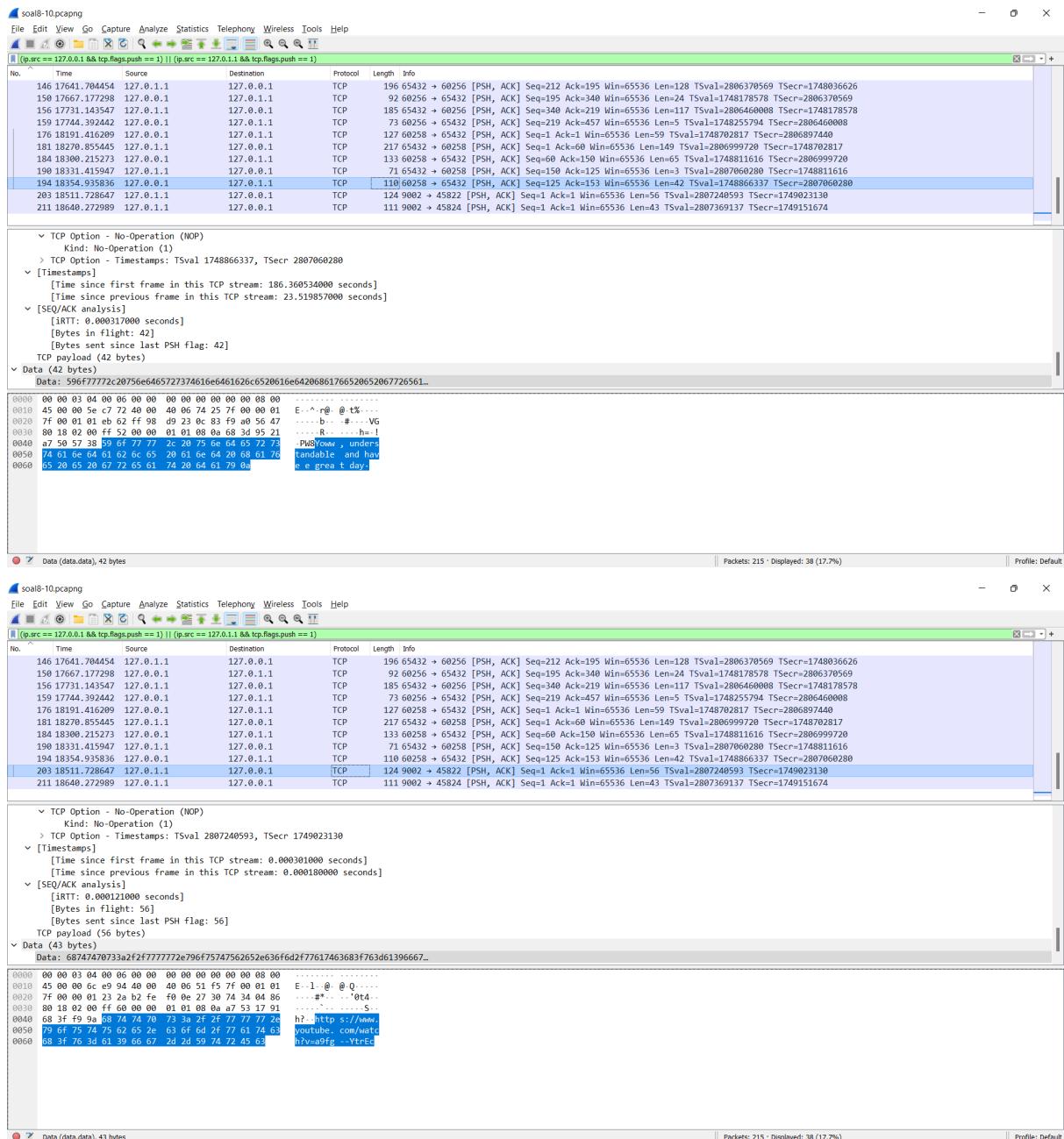
0000 00 00 03 04 00 06 00 00 00 00 00 00 00 00 00 00 00
0010 45 00 00 c9 f8 8a 40 00 40 06 42 7f 00 01 01 E @ . B . . .
0020 7f 00 00 01 ff 98 eb 62 f9 a0 55 af d9 23 0c 42 b . # . B .
0030 80 18 02 00 ff bd 00 00 01 01 08 0a a7 4f 6a a8 O .
0040 88 3b 16 61 6e 69 62 60 6e 67 69 61 6e 68 62 61 . h ; ahade hnn , dis
0050 65 6c 6d 69 66 20 6e 67 69 61 6e 68 62 61 6e 69 62 . langkah pse
0060 72 6c 75 20 6d 69 69 72 20 68 61 6c 20 79 62 61
0070 5e 67 20 62 65 72 62 65 64 61 2c 20 63 6f 62 61 . ng berbe da , cohak
0080 7b 69 6b 69 69 72 20 68 61 6c 20 79 61 6e 67 60 . pikir h al yang
0090 5b 65 6c 69 61 74 61 6e 69 71 61 20 73 61 6d 61 . kelatihan nya sama
00a0 20 6b 61 79 61 20 6f 72 61 6e 67 20 6c 61 69 . kayak o rang lai
00b0 5e 2c 20 62 69 73 61 20 6a 61 64 69 20 6a 61 77 . n , bisa jadi jawabannya muncul di
00c0 61 62 61 6e 79 61 20 6d 75 6e 66 75 6c 20 6d . ari situ .
00d0 61 72 69 20 73 69 74 75 6a

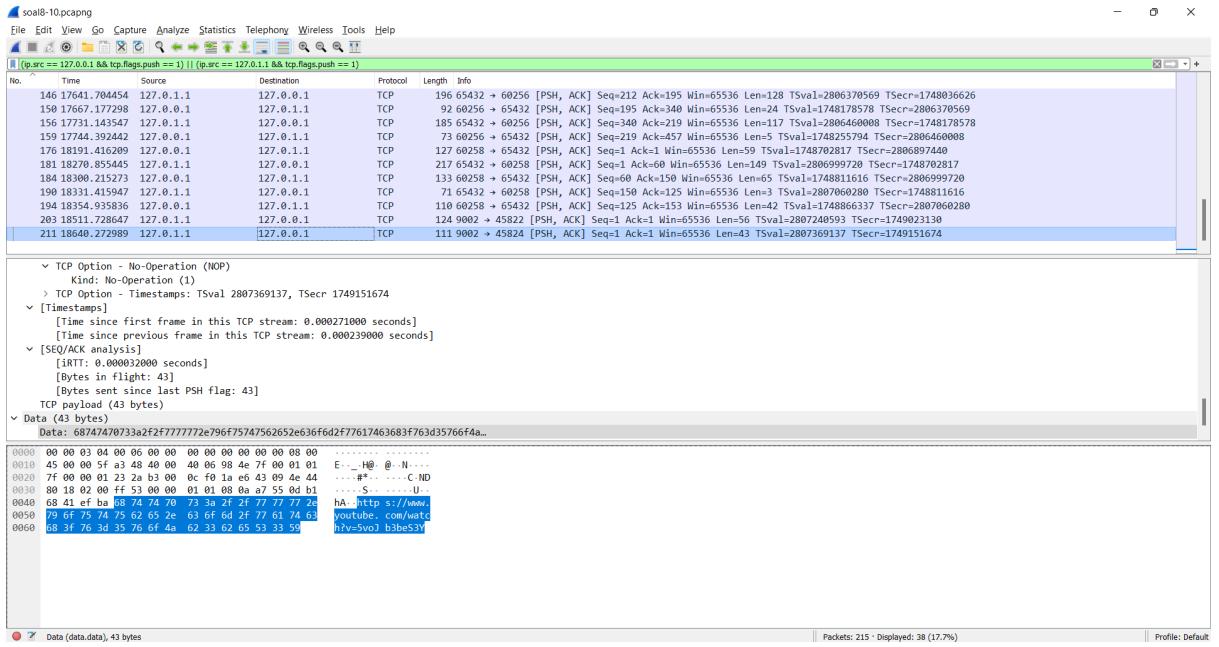
0 Data (data.data), 149 bytes

Packets: 215 · Displayed: 38 (17.7%)

Profile: Default



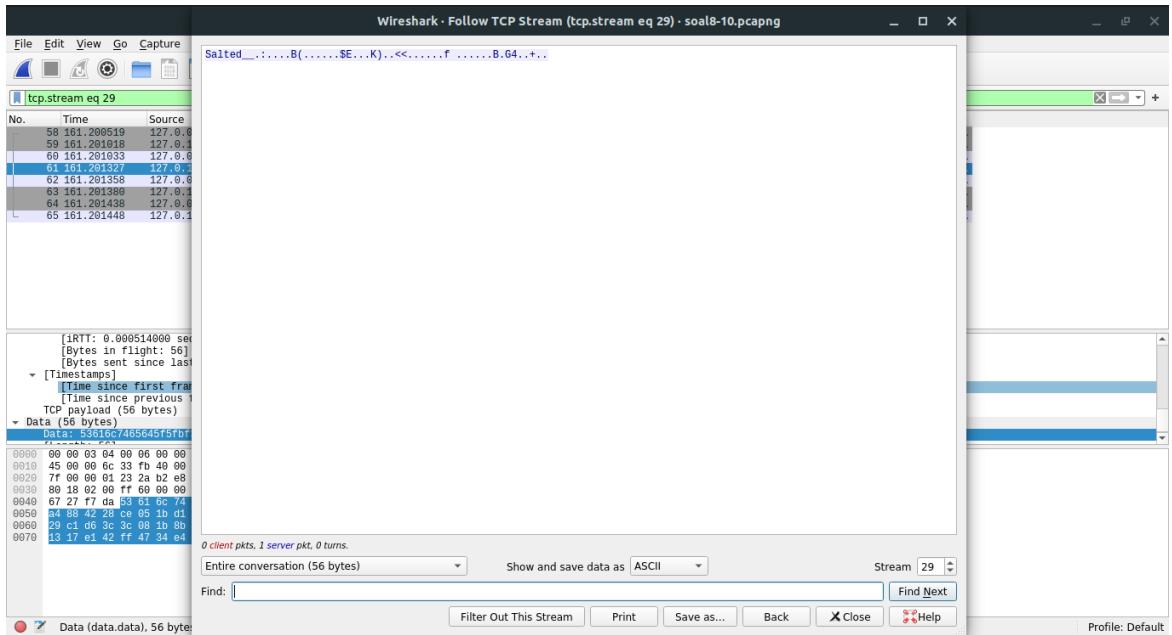




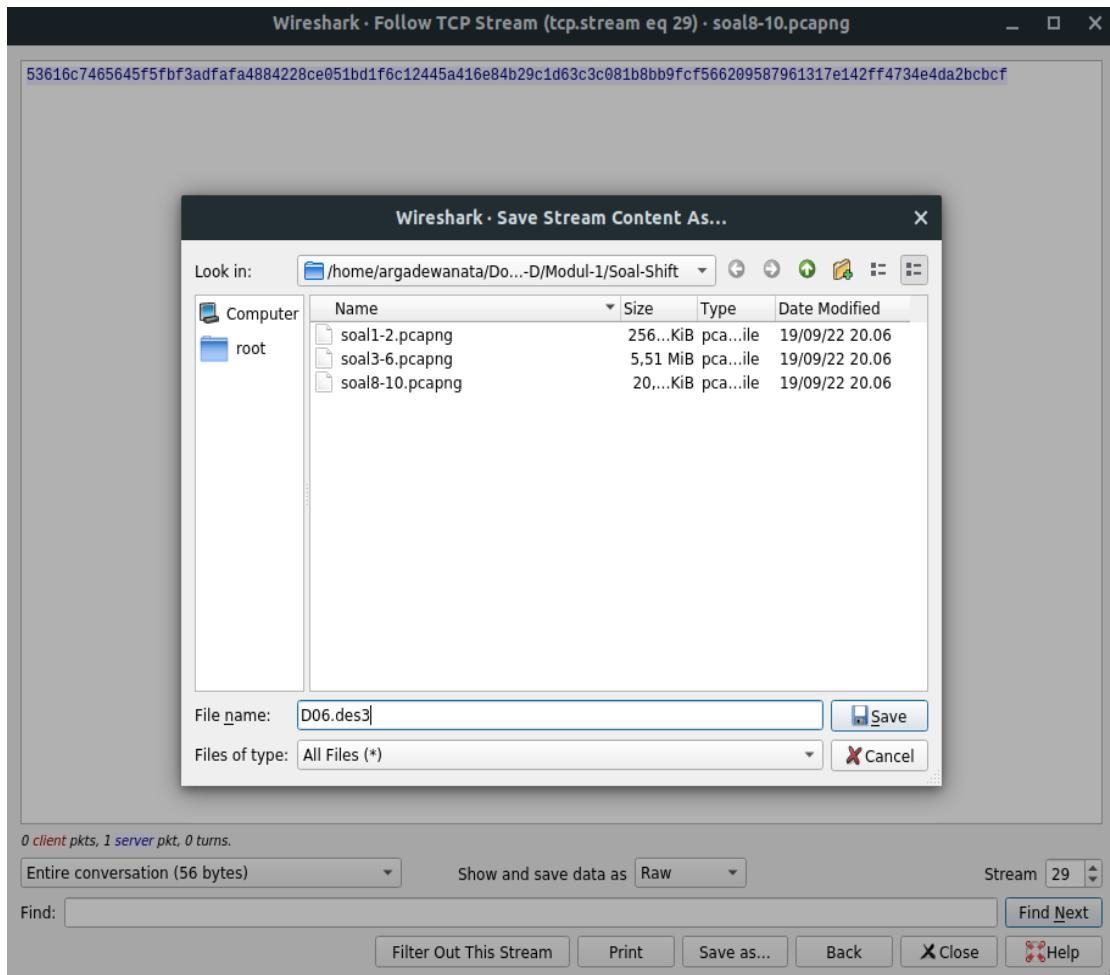
9. Terdapat laporan adanya pertukaran file yang dilakukan oleh kedua mahasiswa dalam percakapan yang diperoleh, carilah file yang dimaksud! Untuk memudahkan laporan kepada atasan, beri nama file yang ditemukan dengan format **[nama_kelompok].des3** dan simpan *output file* dengan nama “**flag.txt**”.

Jawab:

- A. Berdasarkan percakapan kedua orang diatas, dapat diketahui bahwa file salt dikirim menggunakan **port 9002**. Oleh karena itu, tampilkan file salt yang dikirim menggunakan **port 9002**.



- B. Ubah file salt yang telah ditemukan menjadi “**raw**” dan simpan dengan format[nama_kelompok].des3



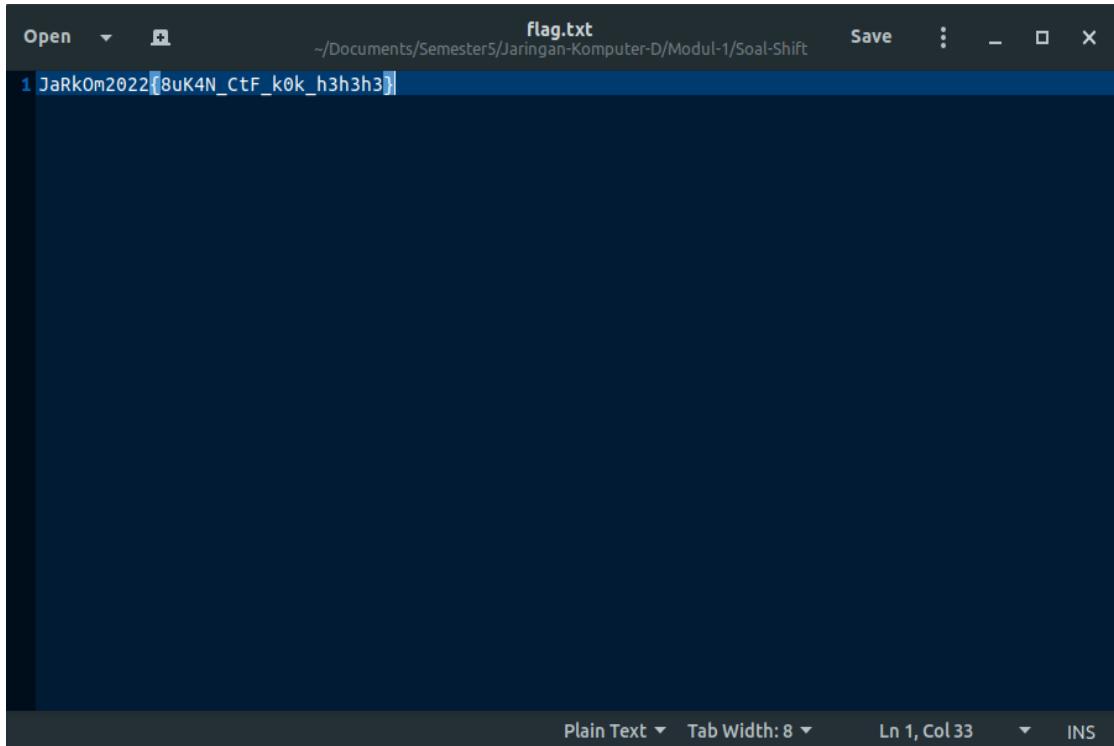
- C. Berdasarkan percakapan kedua orang tersebut, dapat diketahui bahwa salt di-encrypt dengan openssl metode des3. Oleh karena itu, buka terminal dengan mengetikkan command ini “**openssl des3 -d -in D06.des3 -out flag.txt**” untuk melakukan decrypt. Input password sesuai hint dari percakapan (**password = nakano**)

```
~/Documents/Semester5/Jaringan-Komputer-D/Modul-1/Soal-Shift
> openssl des3 -d -in D06.des3 -out flag.txt
enter des-ede3-cbc decryption password:
*** WARNING : deprecated key derivation used.
Using -iter or -pbkdf2 would be better.
```

10. Temukan password rahasia (flag) dari organisasi bawah tanah yang disebutkan di atas!

Jawab:

Jika telah menginput password salt = “**nakano**”, maka akan muncul sebuah file yang flag.txt yang berisikan



A screenshot of a terminal window titled "flag.txt". The window shows the path "/Documents/Semester5/Jaringan-Komputer-D/Modul-1/Soal-Shift". The text in the terminal is: "1 JaRkOm2022{8uK4N_CtF_k0k_h3h3h3}!". The terminal has a dark theme with light-colored text. The bottom status bar shows "Plain Text" and "Tab Width: 8".