- Http request and response

No.	Time	Source	Destination	Protocol	Length	Info
7384	28.966653	2.16.70.4	192.168.100.152	HTTP	1466	HTTP/1.1 200 OK (application/pkix-cert)
6831	28.602421	192.168.100.152	2.16.70.4	HTTP	373	GET /DigiCertGlobalRootG2.crt HTTP/1.1
6914	28.623196	2600:1416:e000:1b3:…	2001:16a2:6b28:600:…	HTTP	426	HTTP/1.1 200 OK (application/pkix-cert)
6966	28.687818	2600:1416:e000:1bd:…	2001:16a2:6b28:600:…	HTTP	327	HTTP/1.1 200 OK (application/pkix-cert)
7601	29.067756	2600:1416:2000:380:…	2001:16a2:6b28:600:…	HTTP	611	HTTP/1.1 200 OK
19919	107.860376	2600:1416:e000:1bd:…	2001:16a2:6b28:600:…	HTTP	426	HTTP/1.1 200 OK (application/pkix-cert)
19933	107.913008	2600:1416:e000:1b3:…	2001:16a2:6b28:600:…	HTTP	327	HTTP/1.1 200 OK (application/pkix-cert)
19959	108.483495	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP	1402	HTTP/1.1 200 OK (text/html)
20022	108.760296	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP	492	HTTP/1.1 200 OK (application/javascript)
20071	109.084142	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP	976	HTTP/1.1 200 OK (text/css)
20078	109.385285	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP	400	HTTP/1.1 200 OK (text/css)
20080	109.385285	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP	1186	HTTP/1.1 200 OK (text/css)
20234	109.928147	2604:a880:4:1d0::1f…	2001:16a2:6b28:600:…	HTTP/X…	1385	HTTP/1.1 200 OK

> Frame 6831: 373 bytes on wire (2984 bits), 373 bytes captured (2984 bits) on interface \Device\NPF_{8D0BE7C9-4B48-424D-8415-9DD
> Ethernet II, Src: Intel_2e:d0:f6 (3c:9c:0f:2e:d0:f6), Dst: HuaweiTechno_f2:f0:e3 (fc:e3:3c:f2:f0:e3)
> Internet Protocol Version 4, Src: 192.168.100.152, Dst: 2.16.70.4
> Transmission Control Protocol, Src Port: 61254, Dst Port: 80, Seq: 1, Ack: 1, Len: 319
⌄ Hypertext Transfer Protocol
  > GET /DigiCertGlobalRootG2.crt HTTP/1.1\r\n
    Host: cacerts.digicert.com\r\n
    Connection: keep-alive\r\n
    User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/132.0.0.0 Safari/537.36
    Accept-Encoding: gzip, deflate\r\n
    Accept-Language: ar,en;q=0.9,en-GB;q=0.8,en-US;q=0.7\r\n
    \r\n
    [Response in frame: 7384]
    [Full request URI: http://cacerts.digicert.com/DigiCertGlobalRootG2.crt]

- TCP handshake

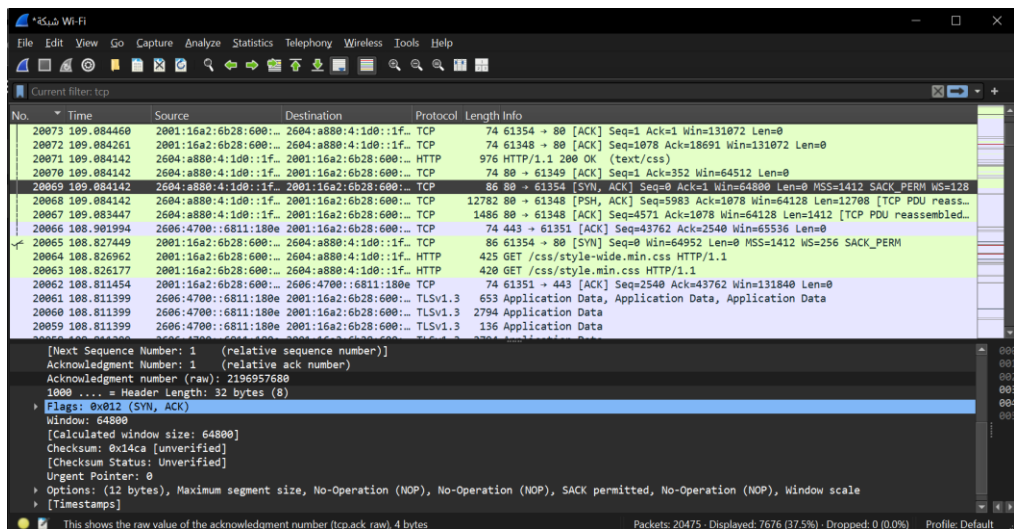| No.	Time	Source	Destination	Protocol	Length	Info
20023	108.760354	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61348 → 80 [ACK] Seq=732 Ack=4571 Win=131072 Len=0
20063	108.826177	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	420	GET /css/style.min.css HTTP/1.1
20064	108.826962	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	425	GET /css/style-wide.min.css HTTP/1.1
20065	108.827449	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	86	61354 → 80 [SYN] Seq=0 Win=64952 Len=0 MSS=1412 WS=256 SACK_PERM
20072	109.084181	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61348 → 80 [ACK] Seq=1078 Ack=18691 Win=131072 Len=0
20073	109.084460	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61354 → 80 [ACK] Seq=1 Ack=1 Win=131072 Len=0
20074	109.085223	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	427	GET /css/style-normal.min.css HTTP/1.1
20075	109.125995	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61349 → 80 [ACK] Seq=352 Ack=903 Win=130304 Len=0
20081	109.385398	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61348 → 80 [ACK] Seq=1078 Ack=23253 Win=131072 Len=0
20091	109.437734	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	74	61354 → 80 [ACK] Seq=354 Ack=1113 Win=130048 Len=0
20146	109.692263	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	487	GET /css/images/banner.svg HTTP/1.1
20147	109.693564	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	502	GET /css/images/header-major-on-light.svg HTTP/1.1
20148	109.693838	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	501	GET /css/images/header-major-on-dark.svg HTTP/1.1
20161	109.762152	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	TCP	86	61356 → 80 [SYN] Seq=0 Win=64952 Len=0 MSS=1412 WS=256 SACK_PERM
20236	109.930873	2001:16a2:6b28:600:…	2604:a880:4:1d0::1f…	HTTP	460	GET /favicon.ico HTTP/1.1

    [Next Sequence Number: 1   (relative sequence number)]
    Acknowledgment Number: 0
    Acknowledgment number (raw): 0
    1000 .... = Header Length: 32 bytes (8)
  > Flags: 0x002 (SYN)
    Window: 64952
    [Calculated window size: 64952]
    Checksum: 0xc4c5 [unverified]
    [Checksum Status: Unverified]
    Urgent Pointer: 0
  > Options: (12 bytes), Maximum segment size, No-Operation (NOP), Window scale, No-Operation (NOP), No-Operation (NOP), SACK permitted
  > [Timestamps]

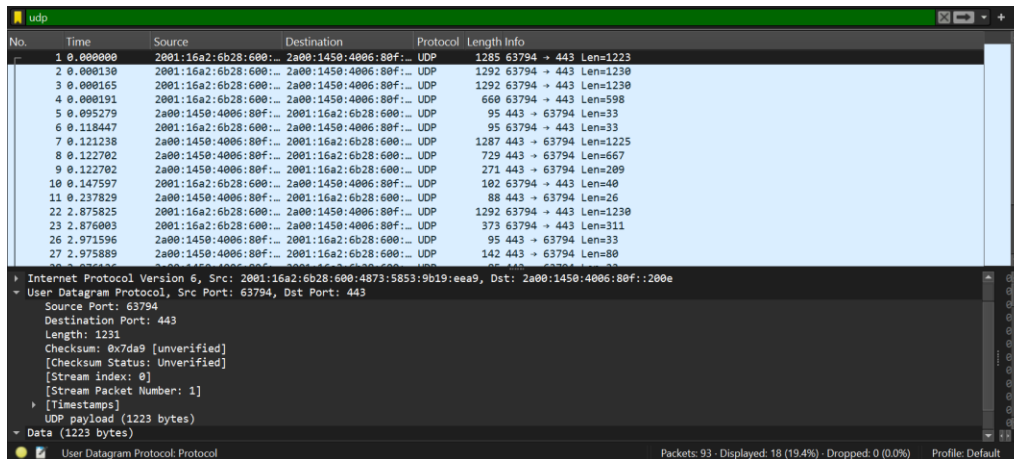● ☑ This shows the raw value of the acknowledgment number (tcp.ack_raw), 4 bytes   Packets: 20475 · Displayed: 7676 (37.5%) · Dropped: 0 (0.0%)   Profile: Default

```
No.    ▼ Time        Source                  Destination             Protocol  Length Info
  20073 109.084460  2001:16a2:6b28:600:…    2604:a880:4:1d0::1f…    TCP       74 61354 → 80 [ACK] Seq=1 Ack=1 Win=131072 Len=0
  20072 109.084261  2001:16a2:6b28:600:…    2604:a880:4:1d0::1f…    TCP       74 61348 → 80 [ACK] Seq=1078 Ack=18691 Win=131072 Len=0
  20071 109.084142  2604:a880:4:1d0::1f…    2001:16a2:6b28:600:…   HTTP      976 HTTP/1.1 200 OK  (text/css)
  20070 109.084142  2604:a880:4:1d0::1f…    2001:16a2:6b28:600:…   TCP       74 80 → 61349 [ACK] Seq=1 Ack=352 Win=64512 Len=0
  20069 109.084142  2604:a880:4:1d0::1f…    2001:16a2:6b28:600:…   TCP       86 80 → 61354 [SYN, ACK] Seq=0 Ack=1 Win=64800 Len=0 MSS=1412 SACK_PERM WS=128
  20068 109.084142  2604:a880:4:1d0::1f…    2001:16a2:6b28:600:…   TCP    12782 80 → 61348 [PSH, ACK] Seq=5983 Ack=1078 Win=64128 Len=12708 [TCP PDU reass…
  20067 109.083447  2604:a880:4:1d0::1f…    2001:16a2:6b28:600:…   TCP     1486 80 → 61348 [ACK] Seq=4571 Ack=1078 Win=64128 Len=1412 [TCP PDU reassembled…
  20066 108.901994  2606:4700::6811:180e   2001:16a2:6b28:600:…   TCP       74 443 → 61351 [ACK] Seq=43762 Ack=2540 Win=65536 Len=0
  20065 108.827449  2001:16a2:6b28:600:…    2604:a880:4:1d0::1f…    TCP       86 61354 → 80 [SYN] Seq=0 Win=64952 Len=0 MSS=1412 WS=256 SACK_PERM
  20064 108.826962  2001:16a2:6b28:600:…    2604:a880:4:1d0::1f…   HTTP      425 GET /css/style-wide.min.css HTTP/1.1
  20063 108.826177  2001:16a2:6b28:600:…    2604:a880:4:1d0::1f…   HTTP      420 GET /css/style.min.css HTTP/1.1
  20062 108.811454  2001:16a2:6b28:600:…    2606:4700::6811:180e   TCP       74 61351 → 443 [ACK] Seq=2540 Ack=43762 Win=131840 Len=0
  20061 108.811399  2606:4700::6811:180e   2001:16a2:6b28:600:…   TLSv1.3   653 Application Data, Application Data, Application Data
  20060 108.811399  2606:4700::6811:180e   2001:16a2:6b28:600:…   TLSv1.3  2794 Application Data
  20059 108.811399  2606:4700::6811:180e   2001:16a2:6b28:600:…   TLSv1.3   136 Application Data
```

```
     [Next Sequence Number: 5983    (relative sequence number)]
     Acknowledgment Number: 1078    (relative ack number)
     Acknowledgment number (raw): 314863555
     0101 .... = Header Length: 20 bytes (5)
   ▶ Flags: 0x010 (ACK)
     Window: 501
     [Calculated window size: 64128]
     [Window size scaling factor: 128]
     Checksum: 0x1ebc [unverified]
     [Checksum Status: Unverified]
     Urgent Pointer: 0
   ▶ [Timestamps]
```

This shows the raw value of the acknowledgment number (tcp.ack_raw), 4 bytes   Packets: 20475 · Displayed: 7676 (37.5%) · Dropped: 0 (0.0%)   Profile: Default

- UDP

	TCP or UDP	Reasons
Reliability and Connection Establishment	TCP	TCP ensures reliable data transfer using the **three-way handshake** (SYN, SYN-ACK, ACK),
Data Integrity and Ordering	TCP	TCP guarantees **error detection, retransmission, and ordered delivery**

	TCP	UDP
Use cases	Web browsing (HTTP/HTTPS), File Transfer (FTP), Email (SMTP, IMAP, POP3), Remote access (SSH, Telnet)	Video streaming, Online gaming, VoIP, DNS queries, IoT applications
Performance	Reliable but slower due to connection setup, error-checking, and retransmissions. Suitable for applications where **data accuracy is crucial**.	Faster due to the **lack of connection establishment and error correction**. Suitable for applications that prioritize **speed and low latency over reliability**.