

# CN ASSIGNMENT 2

1. Add & run Wire-shark and capture traffic in order to access a remote server using HTTP.

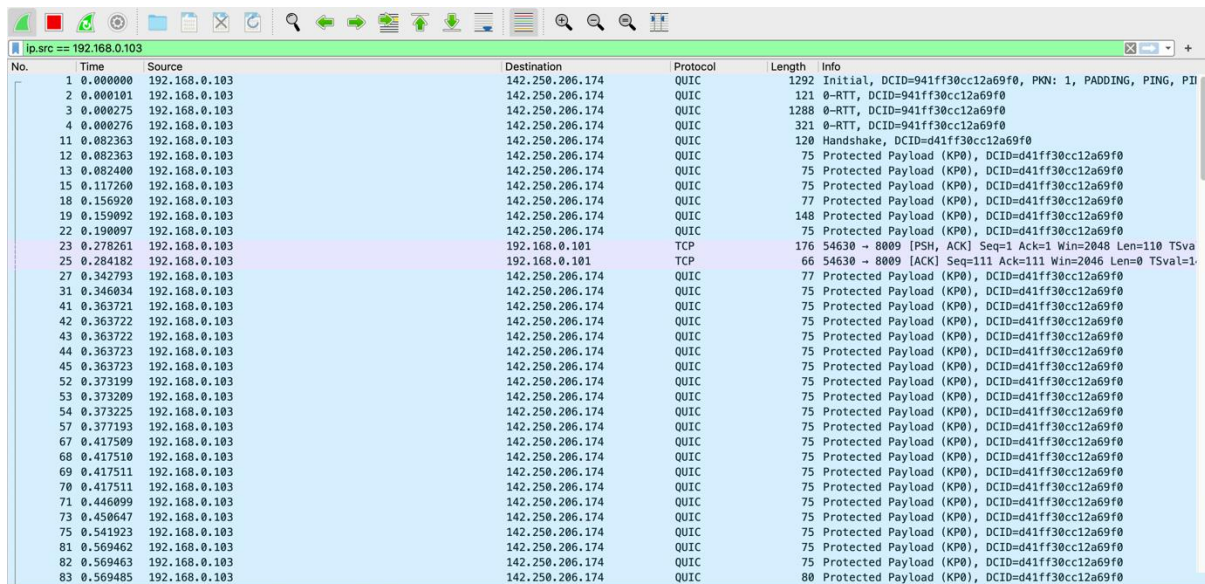
Wireshark capture showing UDP traffic. The packet list displays multiple packets from 192.168.0.1 to 192.168.0.103 on port 443. The packet details pane shows the structure of a UDP packet, including Ethernet II, Internet Protocol Version 4, and User Datagram Protocol. The packet bytes pane shows the raw data in hexadecimal and ASCII.

## http://info.cern.ch - home of the first website

From here you can:

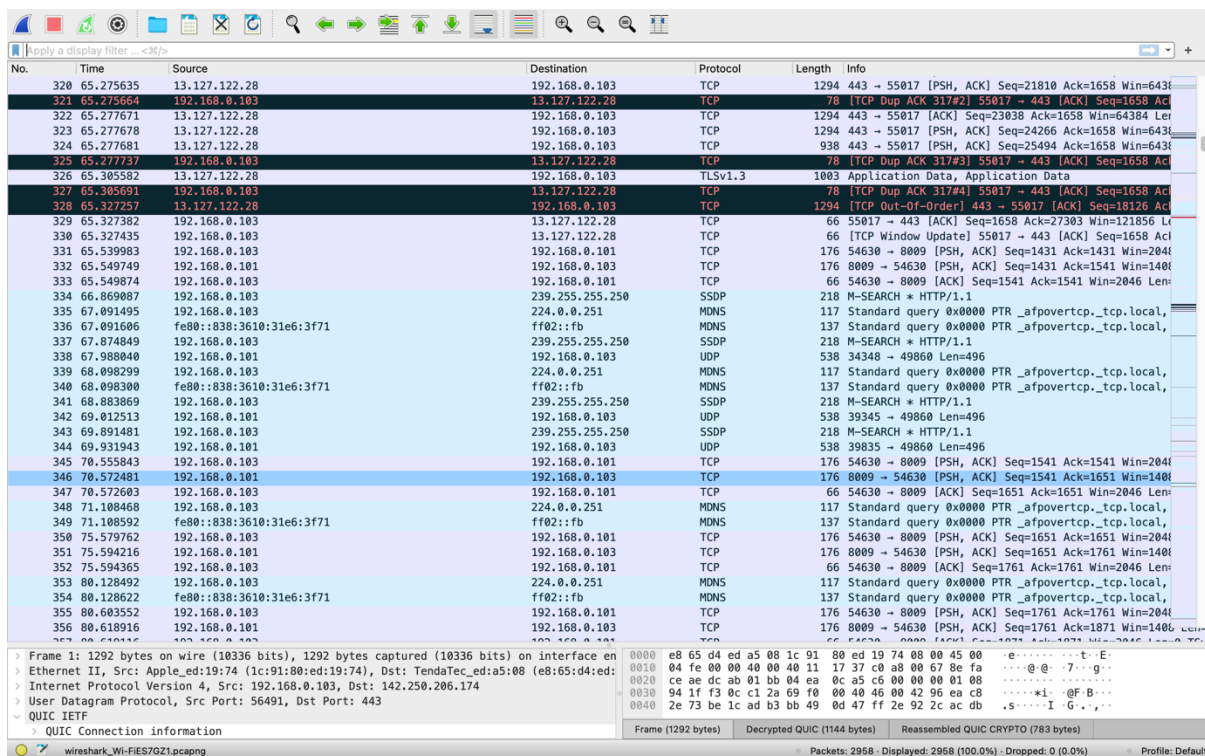
- [Browse the first website](#)
- [Browse the first website using the line-mode browser simulator](#)
- [Learn about the birth of the web](#)
- [Learn about CERN, the physics laboratory where the web was born](#)

Wireshark capture showing HTTP traffic. The packet list displays multiple packets from 192.168.0.103 to 188.184.21.108 on port 80. The packet details pane shows the structure of an HTTP packet, including Ethernet II, Internet Protocol Version 4, and Hypertext Transfer Protocol. The packet bytes pane shows the raw data in hexadecimal and ASCII.



No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	192.168.0.103	142.250.206.174	QUIC	1292	Initial, DCID=941ff30cc12a69f0, PKN: 1, PADDING, PING, PII
2	0.000101	192.168.0.103	142.250.206.174	QUIC	121	0-RTT, DCID=941ff30cc12a69f0
3	0.000275	192.168.0.103	142.250.206.174	QUIC	1288	0-RTT, DCID=941ff30cc12a69f0
4	0.000276	192.168.0.103	142.250.206.174	QUIC	321	0-RTT, DCID=941ff30cc12a69f0
11	0.002363	192.168.0.103	142.250.206.174	QUIC	120	Handshake, DCID=d41ff30cc12a69f0
12	0.002363	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
13	0.002400	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
15	0.117268	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
18	0.156920	192.168.0.103	142.250.206.174	QUIC	77	Protected Payload (KPB), DCID=d41ff30cc12a69f0
19	0.159092	192.168.0.103	142.250.206.174	QUIC	148	Protected Payload (KPB), DCID=d41ff30cc12a69f0
22	0.190997	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
23	0.278261	192.168.0.103	192.168.0.101	TCP	176	54630 → 8009 [PSH, ACK] Seq=1 Ack=1 Win=2048 Len=110 TSval=1
25	0.284182	192.168.0.103	192.168.0.101	TCP	66	54630 → 8009 [ACK] Seq=111 Ack=111 Win=2046 Len=0 TSval=1
27	0.342793	192.168.0.103	142.250.206.174	QUIC	77	Protected Payload (KPB), DCID=d41ff30cc12a69f0
31	0.346034	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
41	0.363721	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
42	0.363722	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
43	0.363722	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
44	0.363723	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
45	0.363723	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
52	0.373199	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
53	0.373209	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
54	0.373225	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
57	0.377193	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
67	0.417509	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
68	0.417510	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
69	0.417511	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
70	0.417511	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
71	0.446099	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
73	0.450647	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
75	0.541923	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
81	0.569462	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
82	0.569463	192.168.0.103	142.250.206.174	QUIC	75	Protected Payload (KPB), DCID=d41ff30cc12a69f0
83	0.569485	192.168.0.103	142.250.206.174	QUIC	80	Protected Payload (KPB), DCID=d41ff30cc12a69f0

## 2. Monitor Different packets captured for access.



No.	Time	Source	Destination	Protocol	Length	Info
320	65.275635	192.168.0.103	192.168.0.103	TCP	1294	443 → 55017 [PSH, ACK] Seq=21810 Ack=1658 Win=64384
321	65.275664	192.168.0.103	13.127.122.28	TCP	78	[TCP Dup ACK 317#2] 55017 → 443 [ACK] Seq=1658 Ac
322	65.277671	13.127.122.28	192.168.0.103	TCP	1294	443 → 55017 [ACK] Seq=23038 Ack=1658 Win=64384 Len
323	65.277678	13.127.122.28	192.168.0.103	TCP	1294	443 → 55017 [PSH, ACK] Seq=24266 Ack=1658 Win=6438
324	65.277681	13.127.122.28	192.168.0.103	TCP	938	443 → 55017 [PSH, ACK] Seq=25494 Ack=1658 Win=6438
325	65.277687	192.168.0.103	13.127.122.28	TCP	78	[TCP Dup ACK 317#3] 55017 → 443 [ACK] Seq=18126 Ac
326	65.305582	13.127.122.28	192.168.0.103	TLSv1.3	1063	Application Data, Application Data
327	65.305601	192.168.0.103	13.127.122.28	TCP	78	[TCP Dup ACK 317#4] 55017 → 443 [ACK] Seq=1658 Ac
328	65.327257	13.127.122.28	192.168.0.103	TCP	1294	[TCP Out-of-Order] 443 → 55017 [ACK] Seq=18126 Ac
329	65.327382	192.168.0.103	13.127.122.28	TCP	66	55017 → 443 [ACK] Seq=1658 Ack=27303 Win=121856 Len
330	65.327435	192.168.0.103	13.127.122.28	TCP	66	[TCP Window Update] 55017 → 443 [ACK] Seq=1658 Acl
331	65.539983	192.168.0.103	192.168.0.101	TCP	176	54630 → 8009 [PSH, ACK] Seq=1431 Ack=1431 Win=2048
332	65.549749	192.168.0.101	192.168.0.103	TCP	176	8009 → 54630 [PSH, ACK] Seq=1431 Ack=1541 Win=1408
333	65.549874	192.168.0.103	192.168.0.101	TCP	66	54630 → 8009 [ACK] Seq=1541 Ack=1541 Win=2046 Len
334	66.869087	192.168.0.103	239.255.255.250	SSDP	218	M-SEARCH * HTTP/1.1
335	67.091495	192.168.0.103	224.0.0.251	MDNS	117	Standard query 0x0000 PTR _afpovertcp._tcp.local,
336	67.091606	fe80::838:3610:31e6:3f71	ff02::fb	MDNS	137	Standard query 0x0000 PTR _afpovertcp._tcp.local,
337	67.874849	192.168.0.103	239.255.255.250	SSDP	218	M-SEARCH * HTTP/1.1
338	67.988040	192.168.0.101	192.168.0.103	UDP	538	34348 → 49860 Len=496
339	68.098299	192.168.0.103	224.0.0.251	MDNS	117	Standard query 0x0000 PTR _afpovertcp._tcp.local,
340	68.098300	fe80::838:3610:31e6:3f71	ff02::fb	MDNS	137	Standard query 0x0000 PTR _afpovertcp._tcp.local,
341	68.803069	192.168.0.103	239.255.255.250	SSDP	218	M-SEARCH * HTTP/1.1
342	69.812513	192.168.0.101	192.168.0.103	UDP	538	39345 → 49860 Len=496
343	69.891481	192.168.0.103	239.255.255.250	SSDP	218	M-SEARCH * HTTP/1.1
344	69.931943	192.168.0.101	192.168.0.103	UDP	538	39835 → 49860 Len=496
345	70.555843	192.168.0.103	192.168.0.101	TCP	176	54630 → 8009 [PSH, ACK] Seq=1541 Ack=1541 Win=2048
346	70.572481	192.168.0.101	192.168.0.103	TCP	176	8009 → 54630 [PSH, ACK] Seq=1541 Ack=1651 Win=1408
347	70.572603	192.168.0.103	192.168.0.101	TCP	66	54630 → 8009 [ACK] Seq=1651 Ack=1651 Win=2046 Len
348	71.108468	192.168.0.103	224.0.0.251	MDNS	117	Standard query 0x0000 PTR _afpovertcp._tcp.local,
349	71.108592	fe80::838:3610:31e6:3f71	ff02::fb	MDNS	137	Standard query 0x0000 PTR _afpovertcp._tcp.local,
350	75.579762	192.168.0.103	192.168.0.101	TCP	176	54630 → 8009 [PSH, ACK] Seq=1651 Ack=1651 Win=2048
351	75.594216	192.168.0.101	192.168.0.103	TCP	176	8009 → 54630 [PSH, ACK] Seq=1651 Ack=1761 Win=1408
352	75.594365	192.168.0.103	192.168.0.101	TCP	66	54630 → 8009 [ACK] Seq=1761 Ack=1761 Win=2046 Len
353	80.128492	192.168.0.103	224.0.0.251	MDNS	117	Standard query 0x0000 PTR _afpovertcp._tcp.local,
354	80.128622	fe80::838:3610:31e6:3f71	ff02::fb	MDNS	137	Standard query 0x0000 PTR _afpovertcp._tcp.local,
355	80.603552	192.168.0.103	192.168.0.101	TCP	176	54630 → 8009 [PSH, ACK] Seq=1761 Ack=1761 Win=2048
356	80.618916	192.168.0.101	192.168.0.103	TCP	176	8009 → 54630 [PSH, ACK] Seq=1761 Ack=1871 Win=1408

> Frame 1: 1292 bytes on wire (10336 bits), 1292 bytes captured (10336 bits) on interface en0  
> Ethernet II, Src: Apple, ed:19:74:1c:91:80:ed:19:74, Dst: TendaTec, ed:a5:08 (ed:65:d4:ed:  
> Internet Protocol Version 4, Src: 192.168.0.103, Dst: 142.250.206.174  
> User Datagram Protocol, Src Port: 56491, Dst Port: 443  
▼ QUIC IETF  
▼ QUIC Connection information

Frame (1292 bytes) | Decrypted QUIC (1144 bytes) | Reassembled QUIC CRYPTO (783 bytes)

Packets: 2958 | Displayed: 2958 (100.0%) | Dropped: 0 (0.0%) | Profile: Default

## 3. Capture Time between HTTP get and OK.

The image shows a Wireshark network traffic capture. The top pane displays a list of packets, with the selected packet (No. 24) being an HTTP response. The middle pane shows the details of this packet, and the bottom pane shows the raw packet data in hexadecimal and ASCII.

**Packets List:**

No.	Time	Source	Destination	Protocol	Length	Info	TCP Delta Time
15	0.307911611	194.227	15	HTTP	202	HTTP/1.1 204 No Content	0.307911611
237.29	0.009969210	15	194.227	OCSP	478	Request	0.009969210
15	0.064386275	15	194.227	OCSP	852	Response	0.064386275
45.136	0.000355735	15	194.227	OCSP	477	Request	0.000355735
15	0.048149613	15	194.227	OCSP	942	Response	0.048149613
194.227	0.000290767	15	194.227	OCSP	481	Request	0.000290767
194.227	0.000178637	15	194.227	OCSP	481	Request	0.000178637
15	0.120039441	15	194.227	OCSP	756	Response	0.120039441
15	0.112029101	15	194.227	OCSP	756	Response	0.112029101

**Packet Details (Packet 24):**

Content-Type: text/html\r\n  
Cache-Control: public,must-revalidate,max-age=0,s-maxage=3600\r\n  
\r\n  
[HTTP response 2/2]  
[Time since request: 0.040521894 seconds]  
[\[Prev request in frame: 24\]](#)  
[\[Prev response in frame: 30\]](#)  
[\[Request in frame: 5441\]](#)  
[Request URI: http://detectportal.firefox.com/canonical.html]  
File Data: 90 bytes

Line-based text data: text/html (1 lines)

**Raw Data (Hex/ASCII):**

```
0000 08 00 27 c1 72 78 52 54 00 12 35 02 08 00 45 00  ..'rxRT ..5...E.  
0010 01 52 3b a0 00 00 40 06 32 3a 22 6b dd 52 0a 00  .R;...@. 2:"k.R..  
0020 02 0f 00 50 9e ac 01 3e 5d 2c 74 a6 9d 45 50 18  ...P...> ],t...EP..  
0030 ff ff b0 02 00 00 48 54 54 50 2f 31 2e 31 20 32  ....HT TP/1.1 2  
0040 30 30 20 4f 4b 0d 0a 53 65 72 76 65 72 3a 20 6e  00 OK..S erver: n  
0050 67 69 6e 78 0d 0a 43 6f 6e 74 65 6e 74 2d 4c 65  ginx..Co ntent-Le  
0060 6e 67 74 68 3a 20 39 30 0d 0a 56 69 61 3a 20 31  ngth: 90 ..Via: 1  
0070 2e 31 20 67 6f 6f 67 6c 65 0d 0a 44 61 74 65 3a  .1 googl e..Date:  
0080 20 57 65 64 2c 20 30 38 20 46 65 62 20 32 30 32  Wed, 08 Feb 202  
0090 33 20 32 33 3a 32 34 3a 35 31 20 47 4d 54 0d 0a  3 23:24: 51 GMT..  
00a0 41 67 65 3a 20 31 35 33 35 30 0d 0a 43 6f 6e 74  Age: 153 50 ..Cont  
00b0 65 6e 74 2d 54 79 70 65 3a 20 74 65 78 74 2f 68  ent-Type : text/h
```