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Information Security and Management Lab

Using various filters in Wireshark

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SLOT & SEMESTER	L7+L8 ,Winter Semester 2023-24
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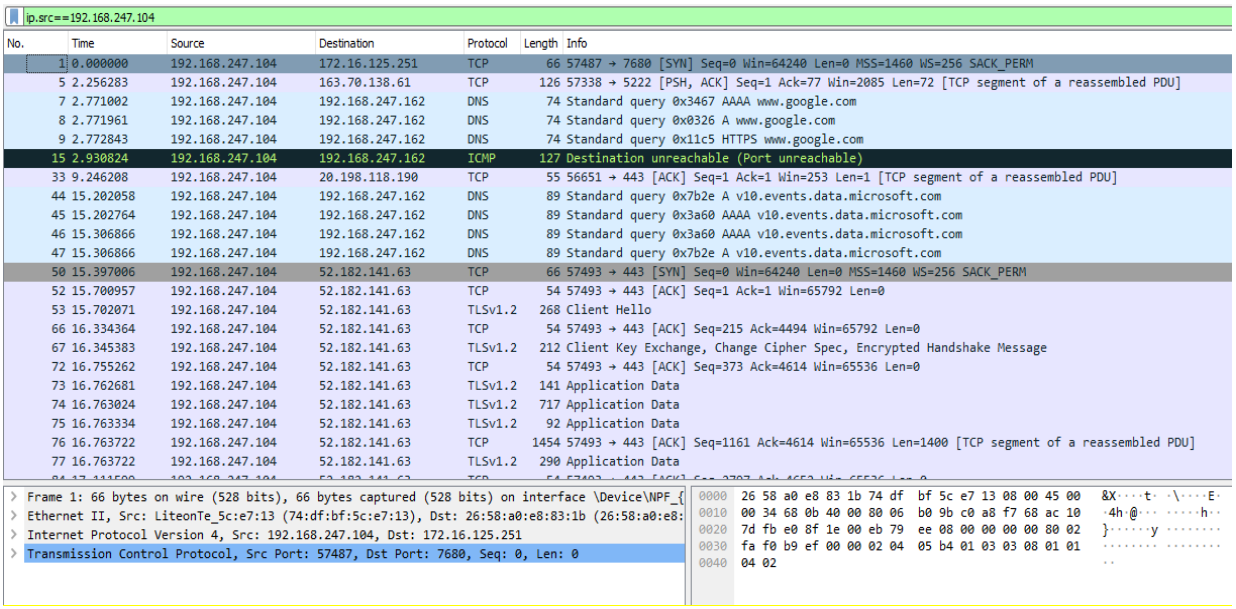
1. Filter by source address

This will only show traffic where the source IP address is

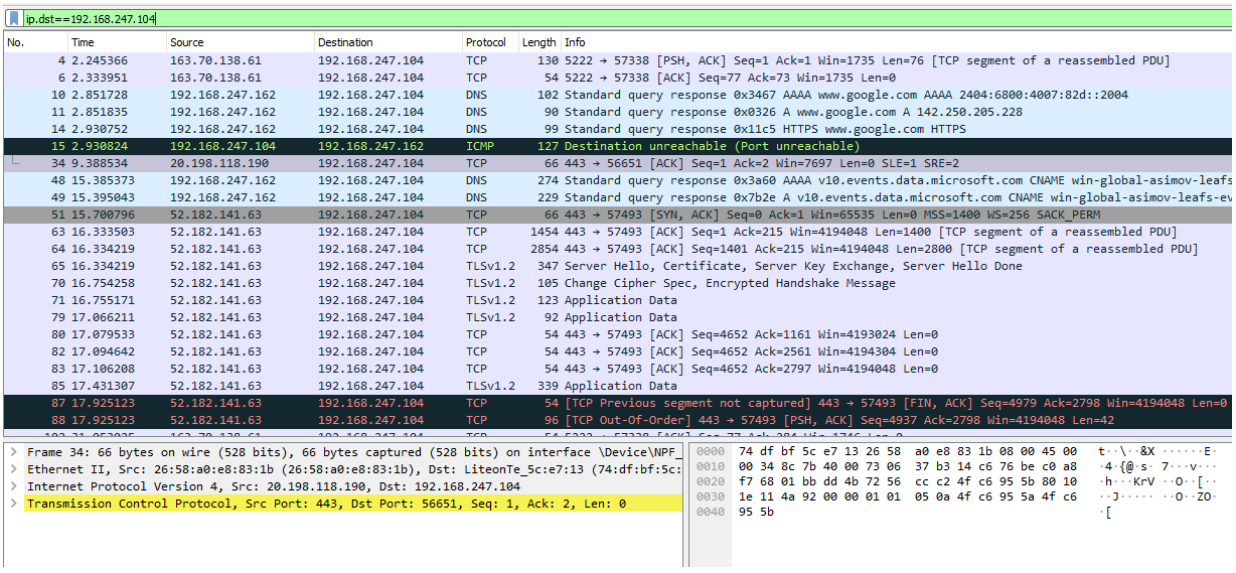
ip.src==192.168.247.104



2. Filter by destination address

Displays only traffic for the matching destination IP.

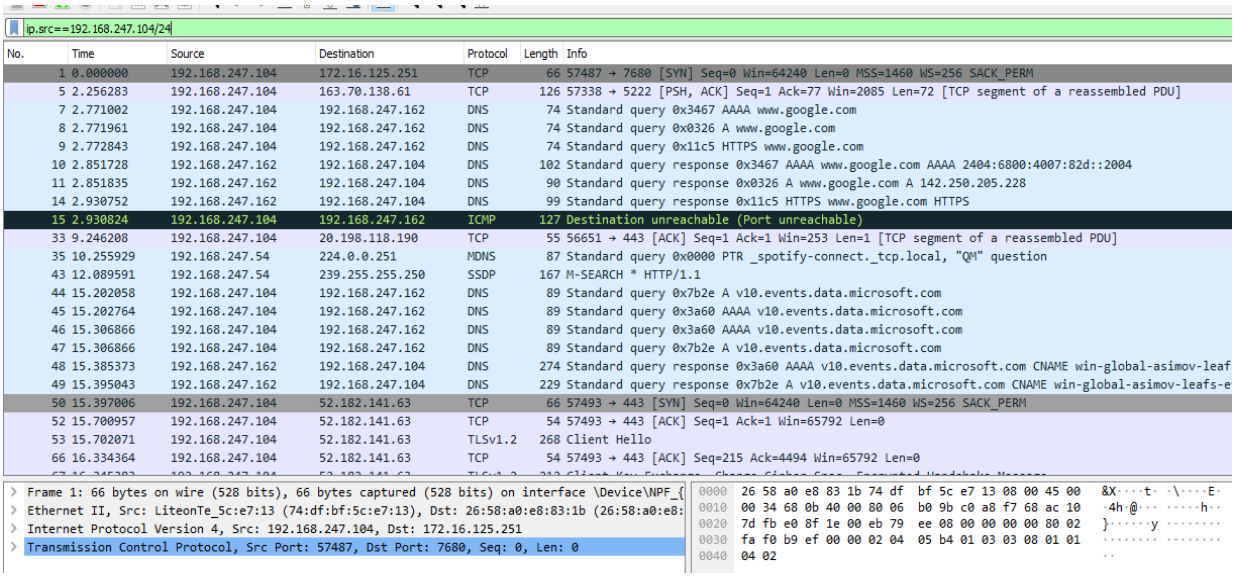
ip.dst==192.168.247.104



3. Filter by IP subnet

Displays all traffic for the entered subnet, this will match on source or destination. Use CIDR format for subnet display filter.

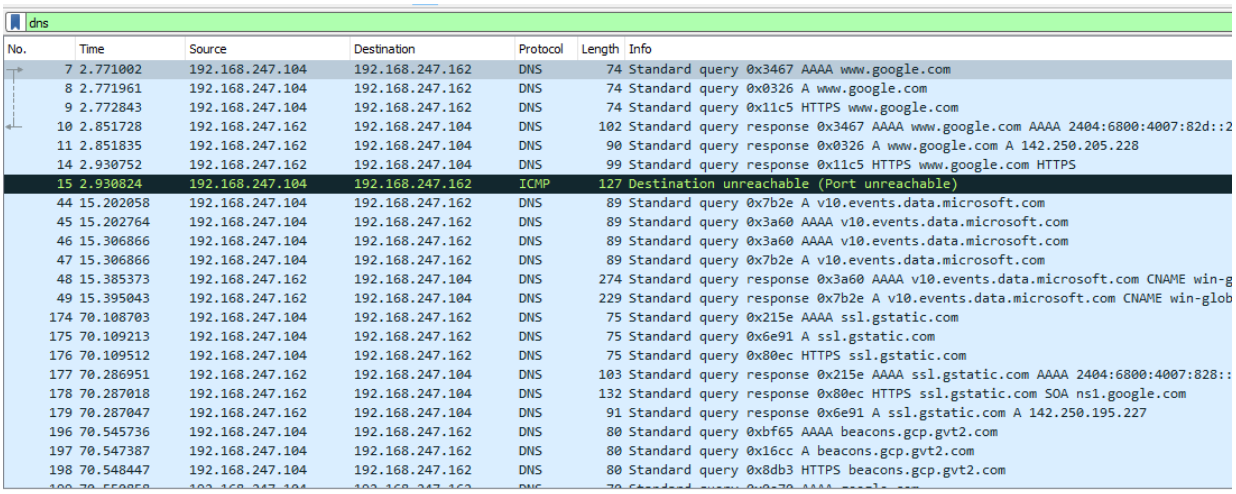
ip.src==192.168.247.104/24



4. Filter traffic based on protocol

To filter for a specific protocol just type in the name of the protocol. For example to display all DNS traffic just type DNS in the filter box.

dns



arp

arp

No.	Time	Source	Destination	Protocol	Length	Info
93	25.605678	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	Who has 192.168.247.104? Tell 192.168.247.162
94	25.605694	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	192.168.247.104 is at 74:df:bf:5c:e7:13
108	33.080065	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
109	33.083472	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
205	70.575889	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
207	70.579526	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
363	78.475456	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	Who has 192.168.247.104? Tell 192.168.247.162
364	78.475473	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	192.168.247.104 is at 74:df:bf:5c:e7:13
581	112.750036	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	Who has 192.168.247.104? Tell 192.168.247.162
582	112.750082	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	192.168.247.104 is at 74:df:bf:5c:e7:13
584	114.086203	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
585	114.094544	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
677	153.087802	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
678	153.093717	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
681	153.857546	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	Who has 192.168.247.104? Tell 192.168.247.162
682	153.857582	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	192.168.247.104 is at 74:df:bf:5c:e7:13
782	194.577736	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
783	194.607840	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
784	194.609384	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
810	230.074617	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	Who has 192.168.247.104? Tell 192.168.247.162
811	230.074656	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	192.168.247.104 is at 74:df:bf:5c:e7:13
813	232.079229	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104

http

http

No.	Time	Source	Destination	Protocol	Length	Info
1417	379.214805	192.168.247.104	23.207.140.227	HTTP	267	GET /en-US/livetile/preinstall?region=IN&appid=C98EA5B0842DBB9405BBF071E1DA76512D21FE36&FORM=Threshold HTTP/1.1
1428	379.306759	23.207.140.227	192.168.247.104	HTTP/X…	398	HTTP/1.1 200 OK

icmp

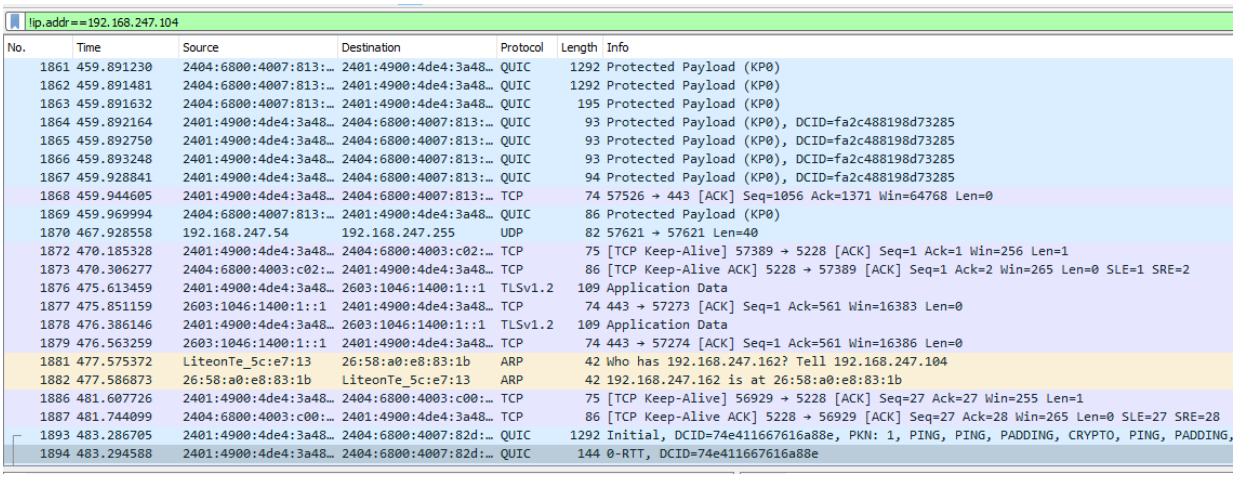
icmp

No.	Time	Source	Destination	Protocol	Length	Info
15	2.930824	192.168.247.104	192.168.247.162	ICMP	127	Destination unreachable (Port unreachable)
469	96.890417	192.168.247.104	192.168.247.162	ICMP	252	Destination unreachable (Port unreachable)
1162	358.109413	192.168.247.104	192.168.247.162	ICMP	174	Destination unreachable (Port unreachable)
1560	395.992876	192.168.247.104	192.168.247.162	ICMP	225	Destination unreachable (Port unreachable)
1896	483.366553	192.168.247.104	192.168.247.162	ICMP	127	Destination unreachable (Port unreachable)
2471	673.990161	192.168.247.104	192.168.247.162	ICMP	148	Destination unreachable (Port unreachable)

5. Exclude IP address

If you want to filter out an IP address so it's not displayed use this filter.

!ip.addr==192.168.247.104



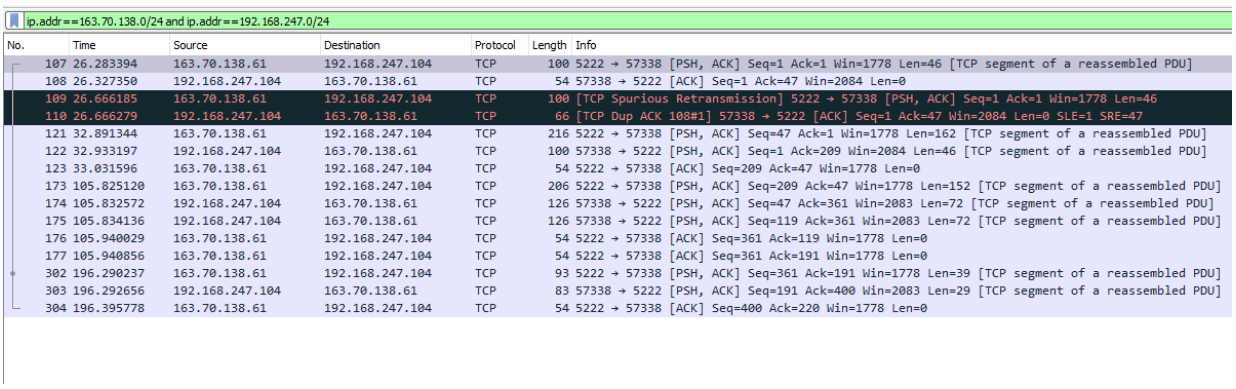
!ip.addr==192.168.247.104

No.	Time	Source	Destination	Protocol	Length	Info
1861	459.891230	2404:6800:4007:813:…	2401:4900:4de4:3a48…	QUIC	1292	Protected Payload (KP0)
1862	459.891481	2404:6800:4007:813:…	2401:4900:4de4:3a48…	QUIC	1292	Protected Payload (KP0)
1863	459.891632	2404:6800:4007:813:…	2401:4900:4de4:3a48…	QUIC	195	Protected Payload (KP0)
1864	459.892164	2401:4900:4de4:3a48…	2404:6800:4007:813:…	QUIC	93	Protected Payload (KP0), DCID=fa2c488198d73285
1865	459.892750	2401:4900:4de4:3a48…	2404:6800:4007:813:…	QUIC	93	Protected Payload (KP0), DCID=fa2c488198d73285
1866	459.893248	2401:4900:4de4:3a48…	2404:6800:4007:813:…	QUIC	93	Protected Payload (KP0), DCID=fa2c488198d73285
1867	459.928841	2401:4900:4de4:3a48…	2404:6800:4007:813:…	QUIC	94	Protected Payload (KP0), DCID=fa2c488198d73285
1868	459.944605	2401:4900:4de4:3a48…	2404:6800:4007:813:…	TCP	74	57526 → 443 [ACK] Seq=1056 Ack=1371 Win=64768 Len=0
1869	459.969994	2404:6800:4007:813:…	2401:4900:4de4:3a48…	QUIC	86	Protected Payload (KP0)
1870	467.928558	192.168.247.54	192.168.247.255	UDP	82	57621 → 57621 Len=40
1872	470.185328	2401:4900:4de4:3a48…	2404:6800:4003:c02:…	TCP	75	[TCP Keep-Alive] 57389 → 5228 [ACK] Seq=1 Ack=1 Win=256 Len=1
1873	470.306277	2404:6800:4003:c02:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 5228 → 57389 [ACK] Seq=1 Ack=2 Win=265 Len=0 SLE=1 SRE=2
1876	475.613459	2401:4900:4de4:3a48…	2603:1046:1400:1::1	TLSv1.2	109	Application Data
1877	475.851159	2603:1046:1400:1::1	2401:4900:4de4:3a48…	TCP	74	443 → 57273 [ACK] Seq=1 Ack=561 Win=16383 Len=0
1878	476.386146	2401:4900:4de4:3a48…	2603:1046:1400:1::1	TLSv1.2	109	Application Data
1879	476.563259	2603:1046:1400:1::1	2401:4900:4de4:3a48…	TCP	74	443 → 57274 [ACK] Seq=1 Ack=561 Win=16386 Len=0
1881	477.575372	LiteonTe_5c:e7:13	26:58:a0:e8:83:1b	ARP	42	Who has 192.168.247.162? Tell 192.168.247.104
1882	477.586873	26:58:a0:e8:83:1b	LiteonTe_5c:e7:13	ARP	42	192.168.247.162 is at 26:58:a0:e8:83:1b
1886	481.607726	2401:4900:4de4:3a48…	2404:6800:4003:c00:…	TCP	75	[TCP Keep-Alive] 56929 → 5228 [ACK] Seq=27 Ack=27 Win=255 Len=1
1887	481.744099	2404:6800:4003:c00:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 5228 → 56929 [ACK] Seq=27 Ack=28 Win=265 Len=0 SLE=27 SRE=28
1893	483.286705	2401:4900:4de4:3a48…	2404:6800:4007:82d:…	QUIC	1292	Initial, DCID=74e411667616a88e, PKN: 1, PING, PING, PADDING, CRYPTO, PING, PADDING,
1894	483.294588	2401:4900:4de4:3a48…	2404:6800:4007:82d:…	QUIC	144	0-RTT, DCID=74e411667616a88e

6. Show traffic between two workstations or subnet

This first one will show only traffic between the twosubnets.

ip.addr==163.70.138.0/24 and ip.addr==192.168.247.0/24

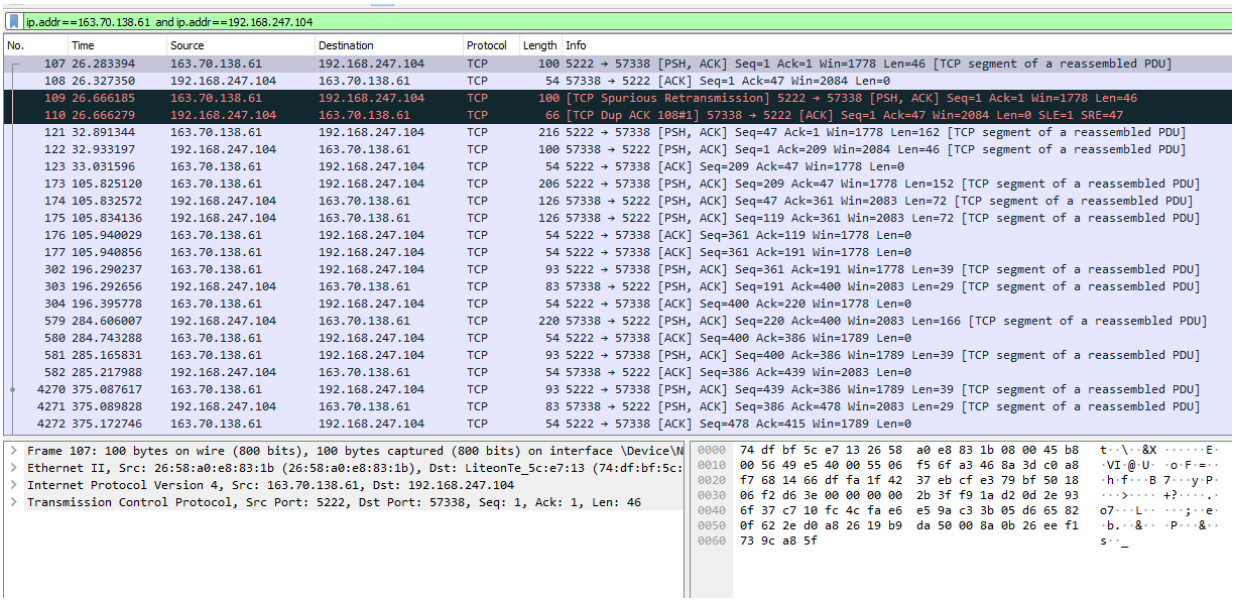


ip.addr==163.70.138.0/24 and ip.addr==192.168.247.0/24

No.	Time	Source	Destination	Protocol	Length	Info
107	26.283394	163.70.138.61	192.168.247.104	TCP	100	5222 → 57338 [PSH, ACK] Seq=1 Ack=1 Win=1778 Len=46 [TCP segment of a reassembled PDU]
108	26.327350	192.168.247.104	163.70.138.61	TCP	54	57338 → 5222 [ACK] Seq=1 Ack=47 Win=2084 Len=0
109	26.666185	163.70.138.61	192.168.247.104	TCP	100	[TCP Spurious Retransmission] 5222 → 57338 [PSH, ACK] Seq=1 Ack=1 Win=1778 Len=46
110	26.666279	192.168.247.104	163.70.138.61	TCP	66	[TCP Dup ACK 108#1] 57338 → 5222 [ACK] Seq=1 Ack=47 Win=2084 Len=0 SLE=1 SRE=47
121	32.891344	163.70.138.61	192.168.247.104	TCP	216	5222 → 57338 [PSH, ACK] Seq=47 Ack=1 Win=1778 Len=162 [TCP segment of a reassembled PDU]
122	32.933197	192.168.247.104	163.70.138.61	TCP	100	57338 → 5222 [PSH, ACK] Seq=1 Ack=209 Win=2084 Len=46 [TCP segment of a reassembled PDU]
123	33.031596	163.70.138.61	192.168.247.104	TCP	54	5222 → 57338 [ACK] Seq=209 Ack=47 Win=1778 Len=0
173	105.825120	163.70.138.61	192.168.247.104	TCP	206	5222 → 57338 [PSH, ACK] Seq=209 Ack=47 Win=1778 Len=152 [TCP segment of a reassembled PDU]
174	105.832572	192.168.247.104	163.70.138.61	TCP	126	57338 → 5222 [PSH, ACK] Seq=47 Ack=361 Win=2083 Len=72 [TCP segment of a reassembled PDU]
175	105.834136	192.168.247.104	163.70.138.61	TCP	126	57338 → 5222 [PSH, ACK] Seq=119 Ack=361 Win=2083 Len=72 [TCP segment of a reassembled PDU]
176	105.940029	163.70.138.61	192.168.247.104	TCP	54	5222 → 57338 [ACK] Seq=361 Ack=119 Win=1778 Len=0
177	105.940856	163.70.138.61	192.168.247.104	TCP	54	5222 → 57338 [ACK] Seq=361 Ack=191 Win=1778 Len=0
302	196.290237	163.70.138.61	192.168.247.104	TCP	93	5222 → 57338 [PSH, ACK] Seq=361 Ack=191 Win=1778 Len=39 [TCP segment of a reassembled PDU]
303	196.292656	192.168.247.104	163.70.138.61	TCP	83	57338 → 5222 [PSH, ACK] Seq=191 Ack=400 Win=2083 Len=29 [TCP segment of a reassembled PDU]
304	196.395778	163.70.138.61	192.168.247.104	TCP	54	5222 → 57338 [ACK] Seq=400 Ack=220 Win=1778 Len=0

This will show only traffic between the two specific IP address

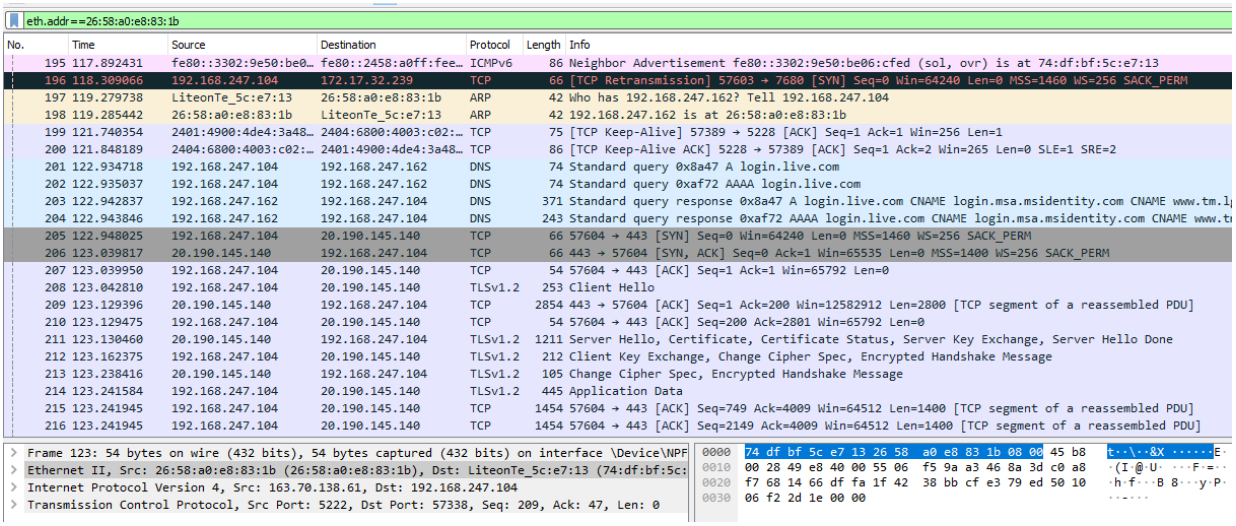
ip.addr==163.70.138.61 and ip.addr==192.168.247.104



7. Filter by MAC address

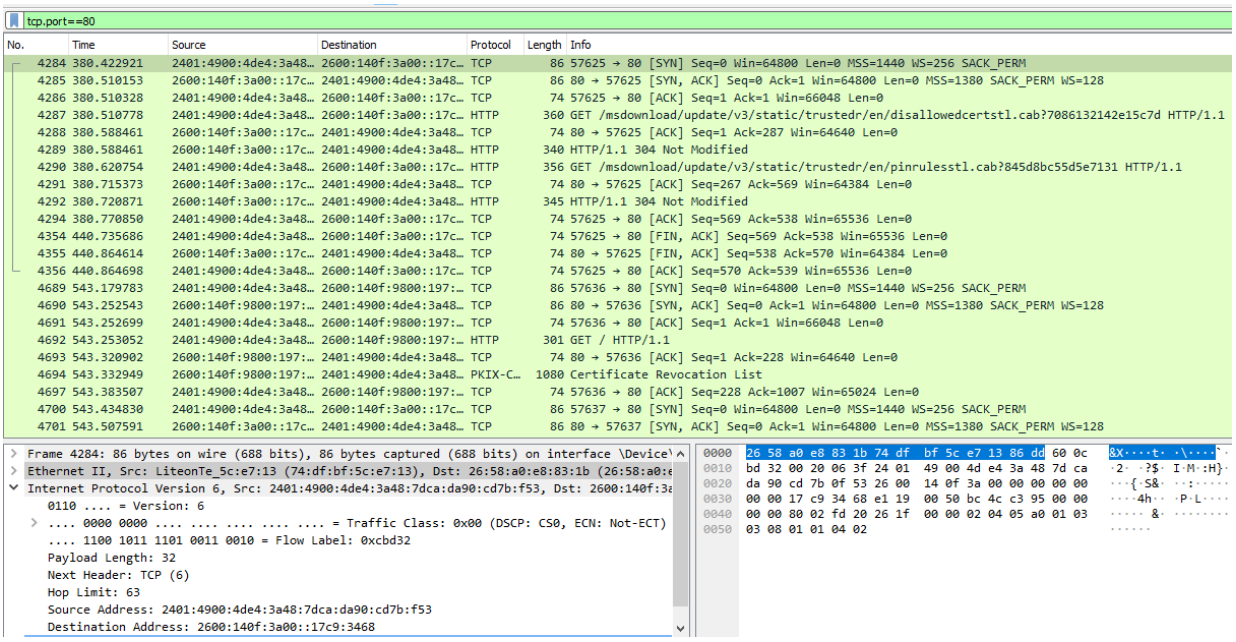
If you only want to see traffic for a specific MAC address use this filter

eth.addr==26:58:a0:e8:83:1b



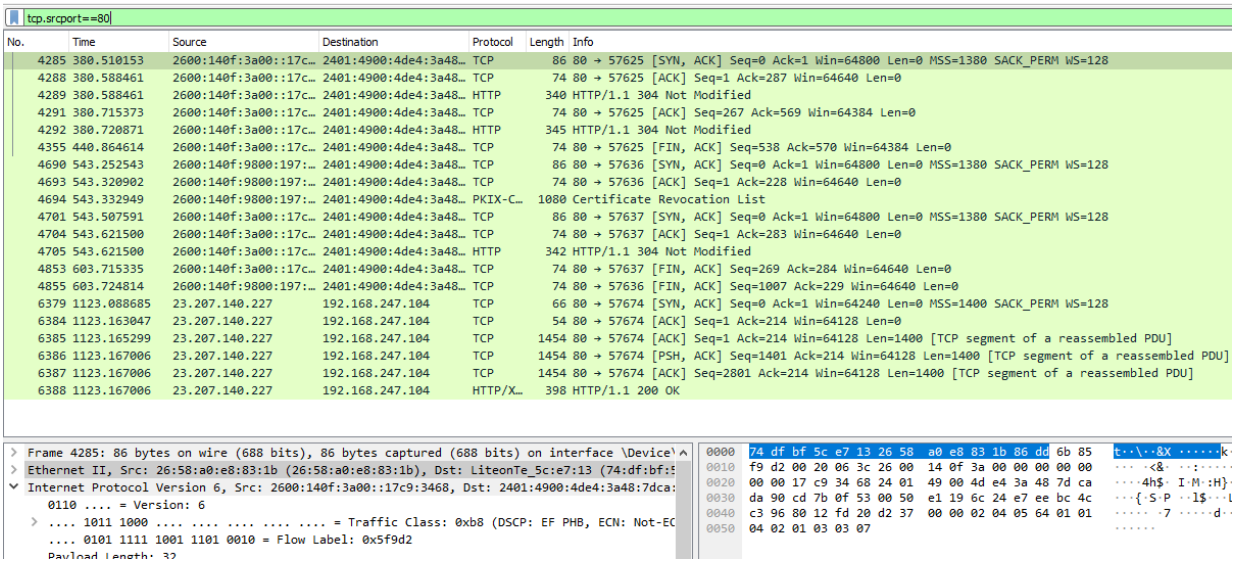
8. Filter on TCP port

tcp.port==80



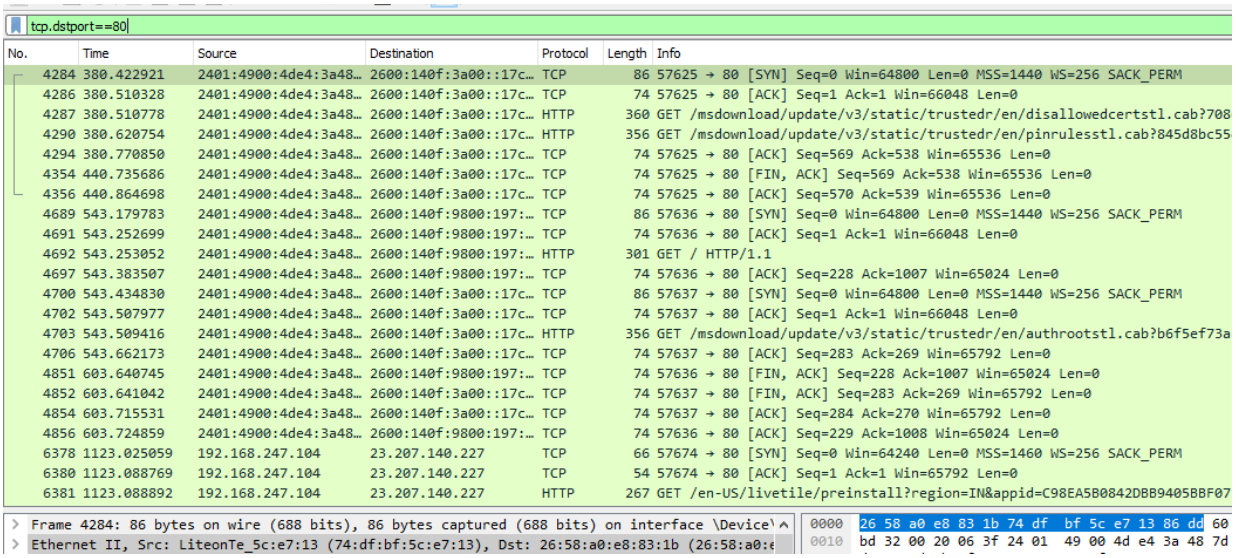
Filter on TCP port source

tcp.srcport==80



or destination port

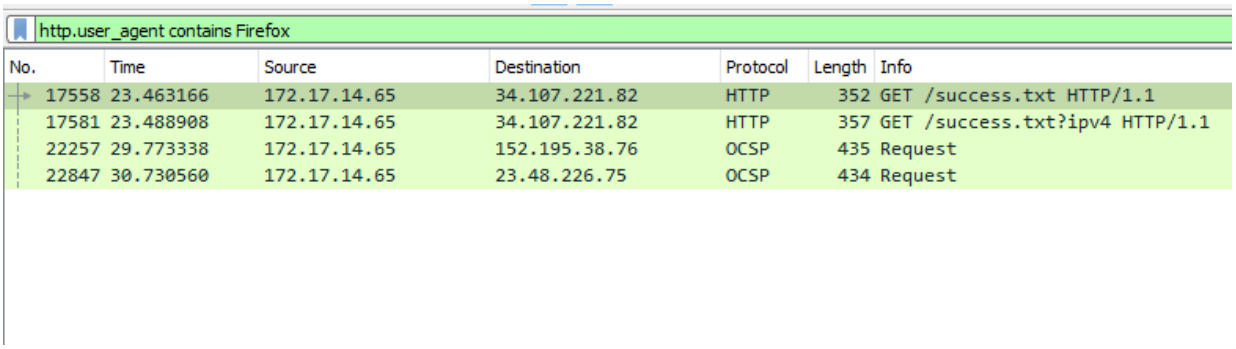
tcp.dstport==80



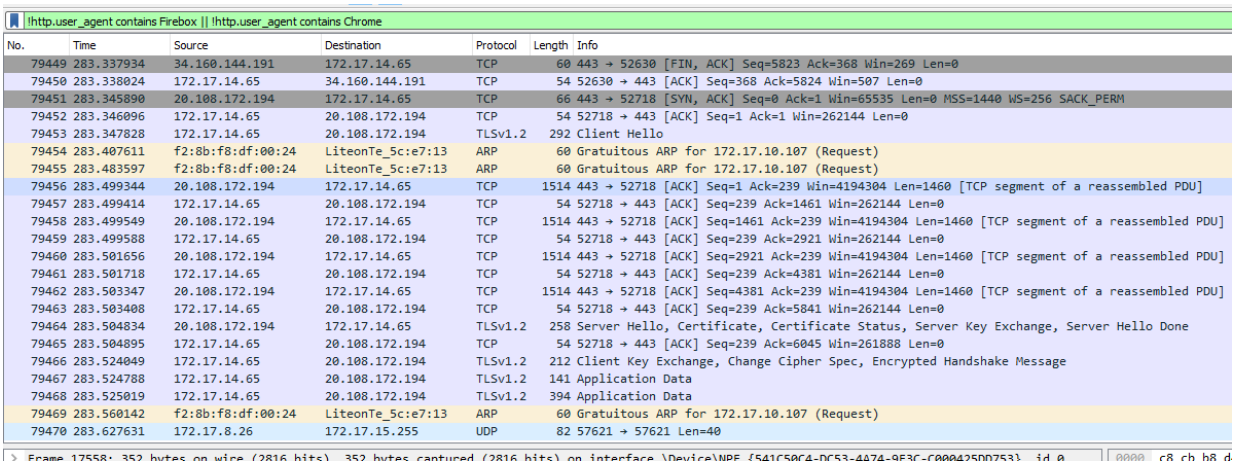
9. Find user agents

Its a good idea to understand what user agents are being used on your network, malicious traffic can often use unusual agent strings. To search for a user agent use this filter

http.user_agent contains Firefox



!http.user_agent contains Firefox || !http.user_agent contains Chrome



!http.user_agent contains Firefox || !http.user_agent contains Chrome

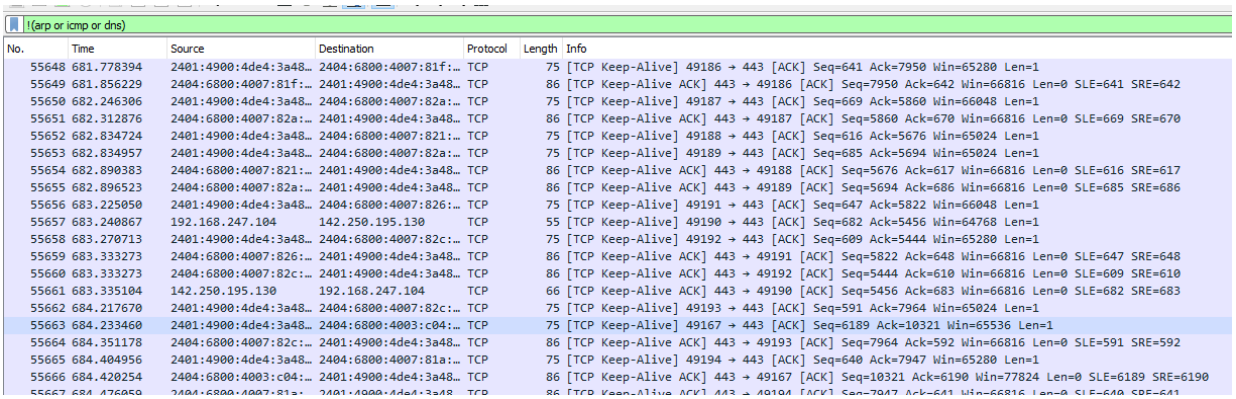
No.	Time	Source	Destination	Protocol	Length	Info
79449	283.337934	34.160.144.191	172.17.14.65	TCP	60	443 → 52630 [FIN, ACK] Seq=5823 Ack=368 Win=269 Len=0
79450	283.338024	172.17.14.65	34.160.144.191	TCP	54	52630 → 443 [ACK] Seq=368 Ack=5824 Win=507 Len=0
79451	283.345890	20.108.172.194	172.17.14.65	TCP	66	443 → 52718 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1440 WS=256 SACK_PERM
79452	283.346096	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=1 Ack=1 Win=262144 Len=0
79453	283.347828	172.17.14.65	20.108.172.194	TLSv1.2	292	Client Hello
79454	283.407611	f2:8b:f8:df:00:24	LiteonTe_5c:e7:13	ARP	60	Gratuitous ARP for 172.17.10.107 (Request)
79455	283.483597	f2:8b:f8:df:00:24	LiteonTe_5c:e7:13	ARP	60	Gratuitous ARP for 172.17.10.107 (Request)
79456	283.499344	20.108.172.194	172.17.14.65	TCP	1514	443 → 52718 [ACK] Seq=1 Ack=239 Win=4194304 Len=1460 [TCP segment of a reassembled PDU]
79457	283.499414	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=239 Ack=1461 Win=262144 Len=0
79458	283.499549	20.108.172.194	172.17.14.65	TCP	1514	443 → 52718 [ACK] Seq=1461 Ack=239 Win=4194304 Len=1460 [TCP segment of a reassembled PDU]
79459	283.499588	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=239 Ack=2921 Win=262144 Len=0
79460	283.501656	20.108.172.194	172.17.14.65	TCP	1514	443 → 52718 [ACK] Seq=2921 Ack=239 Win=4194304 Len=1460 [TCP segment of a reassembled PDU]
79461	283.501718	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=239 Ack=4381 Win=262144 Len=0
79462	283.503347	20.108.172.194	172.17.14.65	TCP	1514	443 → 52718 [ACK] Seq=4381 Ack=239 Win=4194304 Len=1460 [TCP segment of a reassembled PDU]
79463	283.503408	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=239 Ack=5841 Win=262144 Len=0
79464	283.504834	20.108.172.194	172.17.14.65	TLSv1.2	258	Server Hello, Certificate, Certificate Status, Server Key Exchange, Server Hello Done
79465	283.504895	172.17.14.65	20.108.172.194	TCP	54	52718 → 443 [ACK] Seq=239 Ack=6045 Win=261888 Len=0
79466	283.524049	172.17.14.65	20.108.172.194	TLSv1.2	212	Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
79467	283.524788	172.17.14.65	20.108.172.194	TLSv1.2	141	Application Data
79468	283.525019	172.17.14.65	20.108.172.194	TLSv1.2	394	Application Data
79469	283.560142	f2:8b:f8:df:00:24	LiteonTe_5c:e7:13	ARP	60	Gratuitous ARP for 172.17.10.107 (Request)
79470	283.627631	172.17.8.26	172.17.15.255	UDP	82	57621 → 57621 Len=40

> Frame 17558: 352 bytes on wire (2816 bits), 352 bytes captured (2816 bits) on interface \Device\NPF_{541C50C4-DC53-4A74-9F3C-C000425DD753}, id 0 | 0000 c8 cb b8 d

10. Filter background network noise

There are several protocols that can be very noisy, it sometimes helps to filter this out so you can focus on other traffic. This will filter out arp, icmp and DNS traffic.

!(arp or icmp or dns)



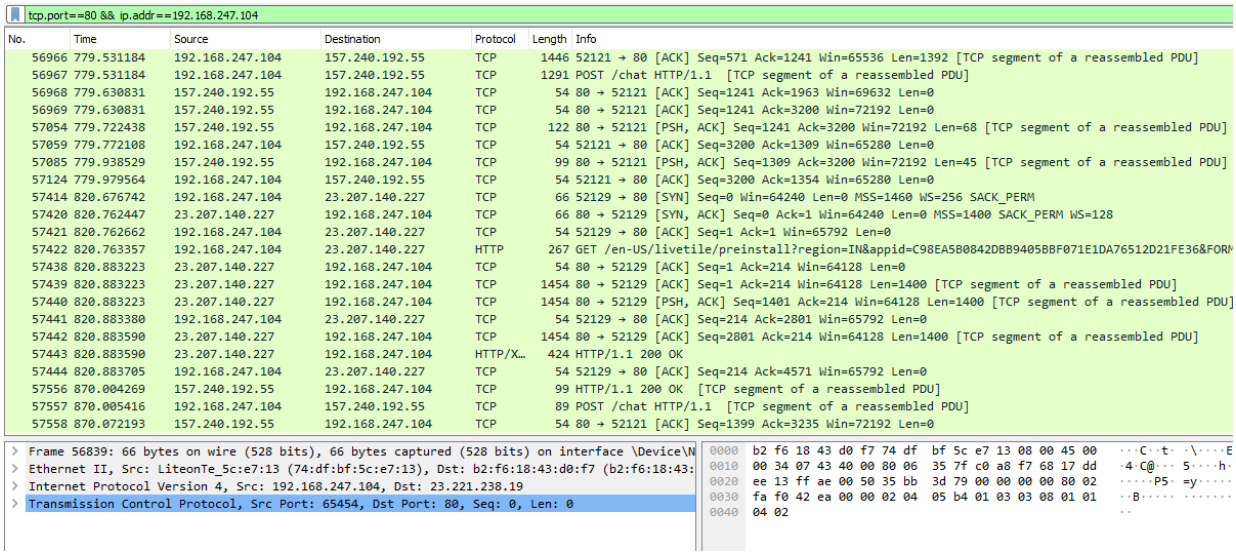
!(arp or icmp or dns)

No.	Time	Source	Destination	Protocol	Length	Info
55648	681.778394	2401:4900:4de4:3a48…	2404:6800:4007:81f:…	TCP	75	[TCP Keep-Alive] 49186 → 443 [ACK] Seq=641 Ack=7950 Win=65280 Len=1
55649	681.856229	2404:6800:4007:81f:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49186 [ACK] Seq=7950 Ack=642 Win=66816 Len=0 SLE=641 SRE=642
55650	682.246306	2401:4900:4de4:3a48…	2404:6800:4007:82a:…	TCP	75	[TCP Keep-Alive] 49187 → 443 [ACK] Seq=669 Ack=5860 Win=66048 Len=1
55651	682.312876	2404:6800:4007:82a:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49187 [ACK] Seq=5860 Ack=670 Win=66816 Len=0 SLE=669 SRE=670
55652	682.834724	2401:4900:4de4:3a48…	2404:6800:4007:821:…	TCP	75	[TCP Keep-Alive] 49188 → 443 [ACK] Seq=616 Ack=5676 Win=65024 Len=1
55653	682.834957	2401:4900:4de4:3a48…	2404:6800:4007:82a:…	TCP	75	[TCP Keep-Alive] 49189 → 443 [ACK] Seq=685 Ack=5694 Win=65024 Len=1
55654	682.890383	2404:6800:4007:821:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49188 [ACK] Seq=5676 Ack=617 Win=66816 Len=0 SLE=616 SRE=617
55655	682.896523	2404:6800:4007:82a:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49189 [ACK] Seq=5694 Ack=686 Win=66816 Len=0 SLE=685 SRE=686
55656	683.225050	2401:4900:4de4:3a48…	2404:6800:4007:826:…	TCP	75	[TCP Keep-Alive] 49191 → 443 [ACK] Seq=647 Ack=5822 Win=66048 Len=1
55657	683.240867	192.168.247.104	142.250.195.130	TCP	55	[TCP Keep-Alive] 49190 → 443 [ACK] Seq=682 Ack=5456 Win=64768 Len=1
55658	683.270713	2401:4900:4de4:3a48…	2404:6800:4007:82c:…	TCP	75	[TCP Keep-Alive] 49192 → 443 [ACK] Seq=609 Ack=5444 Win=65280 Len=1
55659	683.333273	2404:6800:4007:826:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49191 [ACK] Seq=5822 Ack=648 Win=66816 Len=0 SLE=647 SRE=648
55660	683.333273	2404:6800:4007:82c:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49192 [ACK] Seq=5444 Ack=610 Win=66816 Len=0 SLE=609 SRE=610
55661	683.335104	142.250.195.130	192.168.247.104	TCP	66	[TCP Keep-Alive ACK] 443 → 49190 [ACK] Seq=5456 Ack=683 Win=66816 Len=0 SLE=682 SRE=683
55662	684.217670	2401:4900:4de4:3a48…	2404:6800:4007:82c:…	TCP	75	[TCP Keep-Alive] 49193 → 443 [ACK] Seq=591 Ack=7964 Win=65024 Len=1
55663	684.233460	2401:4900:4de4:3a48…	2404:6800:4003:c04:…	TCP	75	[TCP Keep-Alive] 49167 → 443 [ACK] Seq=6189 Ack=10321 Win=65536 Len=1
55664	684.351178	2404:6800:4007:82c:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49193 [ACK] Seq=7964 Ack=592 Win=66816 Len=0 SLE=591 SRE=592
55665	684.404956	2401:4900:4de4:3a48…	2404:6800:4007:81a:…	TCP	75	[TCP Keep-Alive] 49194 → 443 [ACK] Seq=640 Ack=7947 Win=65280 Len=1
55666	684.420254	2404:6800:4003:c04:…	2401:4900:4de4:3a48…	TCP	86	[TCP Keep-Alive ACK] 443 → 49167 [ACK] Seq=10321 Ack=6190 Win=77824 Len=0 SLE=6189 SRE=6190

11. Filter on port and IP Address

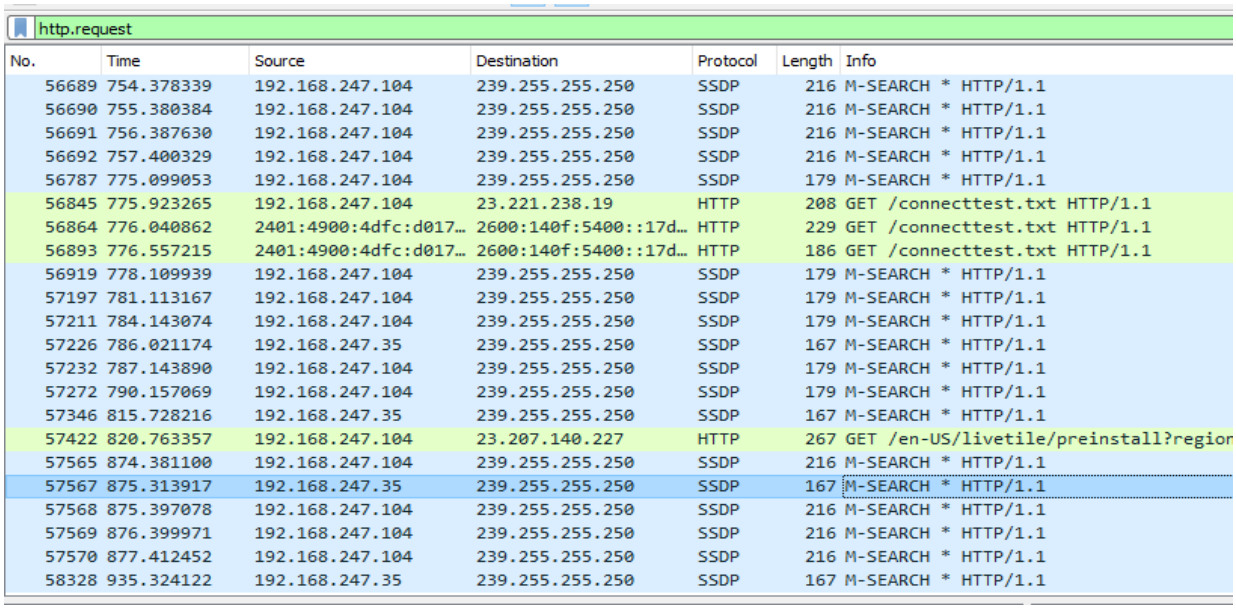
If you want to see traffic from a certain IP on a specific port use this filter

tcp.port==80 && ip.addr==192.168.247.104



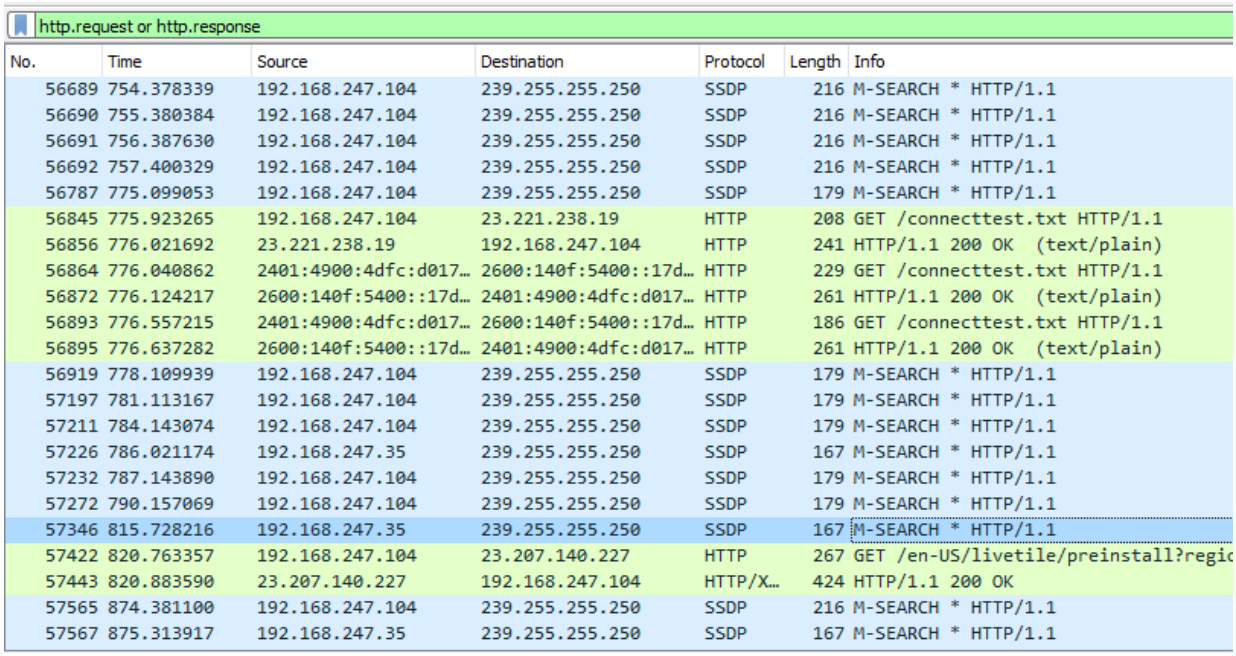
12. Filter for all http get requests

http.request



13. Filter for http get and responses

http.request or http.response



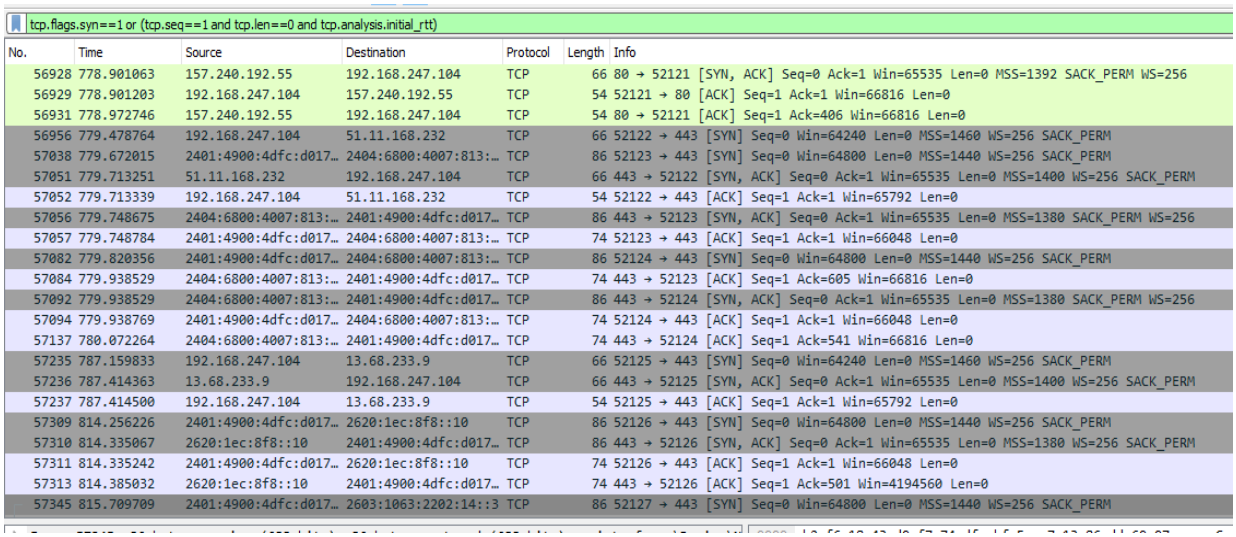
http.request or http.response

No.	Time	Source	Destination	Protocol	Length	Info
56689	754.378339	192.168.247.104	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
56690	755.380384	192.168.247.104	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
56691	756.387630	192.168.247.104	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
56692	757.400329	192.168.247.104	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
56787	775.099053	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
56845	775.923265	192.168.247.104	23.221.238.19	HTTP	208	GET /connecttest.txt HTTP/1.1
56856	776.021692	23.221.238.19	192.168.247.104	HTTP	241	HTTP/1.1 200 OK (text/plain)
56864	776.040862	2401:4900:4dfc:d017…	2600:140f:5400::17d…	HTTP	229	GET /connecttest.txt HTTP/1.1
56872	776.124217	2600:140f:5400::17d…	2401:4900:4dfc:d017…	HTTP	261	HTTP/1.1 200 OK (text/plain)
56893	776.557215	2401:4900:4dfc:d017…	2600:140f:5400::17d…	HTTP	186	GET /connecttest.txt HTTP/1.1
56895	776.637282	2600:140f:5400::17d…	2401:4900:4dfc:d017…	HTTP	261	HTTP/1.1 200 OK (text/plain)
56919	778.109939	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
57197	781.113167	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
57211	784.143074	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
57226	786.021174	192.168.247.35	239.255.255.250	SSDP	167	M-SEARCH * HTTP/1.1
57232	787.143890	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
57272	790.157069	192.168.247.104	239.255.255.250	SSDP	179	M-SEARCH * HTTP/1.1
57346	815.728216	192.168.247.35	239.255.255.250	SSDP	167	M-SEARCH * HTTP/1.1
57422	820.763357	192.168.247.104	23.207.140.227	HTTP	267	GET /en-US/livetile/preinstall?regic
57443	820.883590	23.207.140.227	192.168.247.104	HTTP/X…	424	HTTP/1.1 200 OK
57565	874.381100	192.168.247.104	239.255.255.250	SSDP	216	M-SEARCH * HTTP/1.1
57567	875.313917	192.168.247.35	239.255.255.250	SSDP	167	M-SEARCH * HTTP/1.1

14. Filter on three way handshake

The three way handshake is often used to calculate the network round trip time. This filter will display all the SYN, SYN ACK and SYN packets that should match the three way handshake.

tcp.flags.syn==1 or (tcp.seq==1 and tcp.ack==1 and tcp.len==0 and tcp.analysis.initial_rtt)



tcp.flags.syn==1 or (tcp.seq==1 and tcp.len==0 and tcp.analysis.initial_rtt)

No.	Time	Source	Destination	Protocol	Length	Info
56928	778.901063	157.240.192.55	192.168.247.104	TCP	66	80 → 52121 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1392 SACK_PERM WS=256
56929	778.901203	192.168.247.104	157.240.192.55	TCP	54	52121 → 80 [ACK] Seq=1 Ack=1 Win=66816 Len=0
56931	778.972746	157.240.192.55	192.168.247.104	TCP	54	80 → 52121 [ACK] Seq=1 Ack=406 Win=66816 Len=0
56956	779.478764	192.168.247.104	51.11.168.232	TCP	66	52122 → 443 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM
57038	779.672015	2401:4900:4dfc:d017…	2404:6800:4007:813:…	TCP	86	52123 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
57051	779.713251	51.11.168.232	192.168.247.104	TCP	66	443 → 52122 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1400 WS=256 SACK_PERM
57052	779.713339	192.168.247.104	51.11.168.232	TCP	54	52122 → 443 [ACK] Seq=1 Ack=1 Win=65792 Len=0
57056	779.748675	2404:6800:4007:813:…	2401:4900:4dfc:d017…	TCP	86	443 → 52123 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1380 SACK_PERM WS=256
57057	779.748784	2401:4900:4dfc:d017…	2404:6800:4007:813:…	TCP	74	52123 → 443 [ACK] Seq=1 Ack=1 Win=66048 Len=0
57082	779.820356	2401:4900:4dfc:d017…	2404:6800:4007:813:…	TCP	86	52124 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
57084	779.938529	2404:6800:4007:813:…	2401:4900:4dfc:d017…	TCP	74	443 → 52123 [ACK] Seq=1 Ack=605 Win=66816 Len=0
57092	779.938529	2404:6800:4007:813:…	2401:4900:4dfc:d017…	TCP	86	443 → 52124 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1380 SACK_PERM WS=256
57094	779.938769	2401:4900:4dfc:d017…	2404:6800:4007:813:…	TCP	74	52124 → 443 [ACK] Seq=1 Ack=1 Win=66048 Len=0
57137	780.072264	2404:6800:4007:813:…	2401:4900:4dfc:d017…	TCP	74	443 → 52124 [ACK] Seq=1 Ack=541 Win=66816 Len=0
57235	787.159833	192.168.247.104	13.68.233.9	TCP	66	52125 → 443 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM
57236	787.414363	13.68.233.9	192.168.247.104	TCP	66	443 → 52125 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1400 WS=256 SACK_PERM
57237	787.414500	192.168.247.104	13.68.233.9	TCP	54	52125 → 443 [ACK] Seq=1 Ack=1 Win=65792 Len=0
57309	814.256226	2401:4900:4dfc:d017…	2620:1ec:8f8::10	TCP	86	52126 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
57310	814.335067	2620:1ec:8f8::10	2401:4900:4dfc:d017…	TCP	86	443 → 52126 [SYN, ACK] Seq=0 Ack=1 Win=65535 Len=0 MSS=1380 WS=256 SACK_PERM
57311	814.335242	2401:4900:4dfc:d017…	2620:1ec:8f8::10	TCP	74	52126 → 443 [ACK] Seq=1 Ack=1 Win=66048 Len=0
57313	814.385032	2620:1ec:8f8::10	2401:4900:4dfc:d017…	TCP	74	443 → 52126 [ACK] Seq=1 Ack=501 Win=4194560 Len=0
57345	815.709709	2401:4900:4dfc:d017…	2603:1063:2202:14::3	TCP	86	52127 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM

15. Find executable or other file types

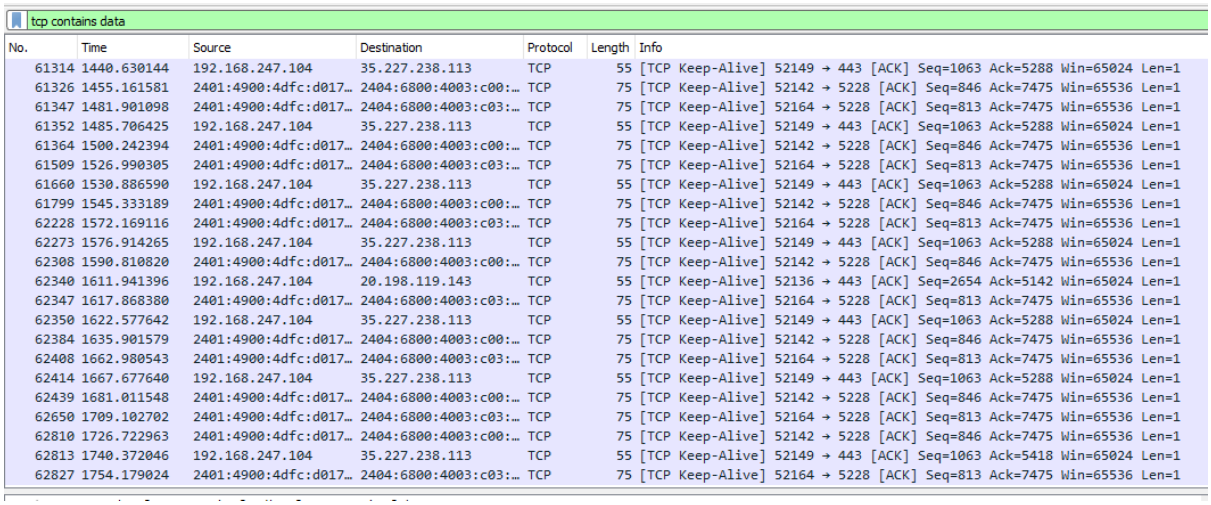
Need to see if users are download .exe or other file types use this filter

frame contains "(attachment|tar|exe|zip|pdf)"

Just add in any other file extension you want to filter for.

16. Search traffic based on a keyword

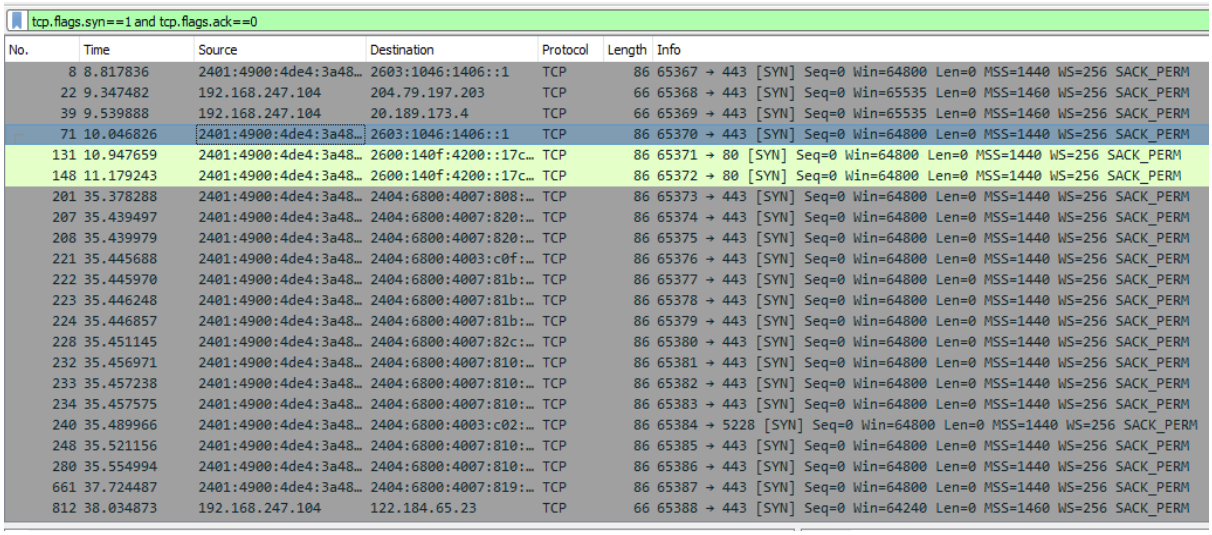
tcp contains data



17. Detecting SYN Floods (Possible DDoS attacks)

DDos attacks can be done in a variety of ways, a large number of TCP connections is one of them.

To look for a large number of tcp connection attempts use this filter tcp.flags.syn == 1 and tcp.flags.ack == 0

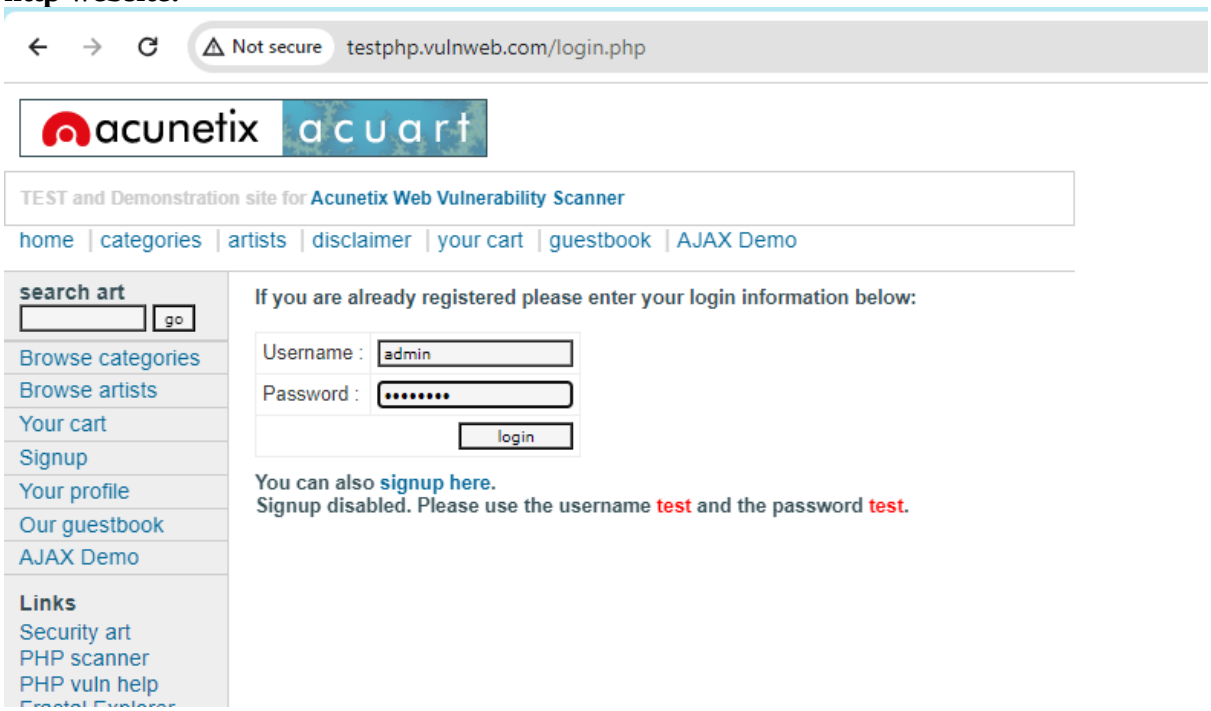


tcp.flags.syn==1 and tcp.flags.ack==0

No.	Time	Source	Destination	Protocol	Length	Info
8	8.817836	2401:4900:4de4:3a48…	2603:1046:1406::1	TCP	86	65367 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
22	9.347482	192.168.247.104	204.79.197.203	TCP	66	65368 → 443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=256 SACK_PERM
39	9.539888	192.168.247.104	20.189.173.4	TCP	66	65369 → 443 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=256 SACK_PERM
71	10.046826	2401:4900:4de4:3a48…	2603:1046:1406::1	TCP	86	65370 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
131	10.947659	2401:4900:4de4:3a48…	2600:140f:4200::17c…	TCP	86	65371 → 80 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
148	11.179243	2401:4900:4de4:3a48…	2600:140f:4200::17c…	TCP	86	65372 → 80 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
201	35.378288	2401:4900:4de4:3a48…	2404:6800:4007:808:…	TCP	86	65373 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
207	35.439497	2401:4900:4de4:3a48…	2404:6800:4007:820:…	TCP	86	65374 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
208	35.439979	2401:4900:4de4:3a48…	2404:6800:4007:820:…	TCP	86	65375 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
221	35.445688	2401:4900:4de4:3a48…	2404:6800:4003:c0f:…	TCP	86	65376 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
222	35.445970	2401:4900:4de4:3a48…	2404:6800:4007:81b:…	TCP	86	65377 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
223	35.446248	2401:4900:4de4:3a48…	2404:6800:4007:81b:…	TCP	86	65378 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
224	35.446857	2401:4900:4de4:3a48…	2404:6800:4007:81b:…	TCP	86	65379 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
228	35.451145	2401:4900:4de4:3a48…	2404:6800:4007:82c:…	TCP	86	65380 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
232	35.456971	2401:4900:4de4:3a48…	2404:6800:4007:810:…	TCP	86	65381 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
233	35.457238	2401:4900:4de4:3a48…	2404:6800:4007:810:…	TCP	86	65382 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
234	35.457575	2401:4900:4de4:3a48…	2404:6800:4007:810:…	TCP	86	65383 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
240	35.489966	2401:4900:4de4:3a48…	2404:6800:4003:c02:…	TCP	86	65384 → 5228 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
248	35.521156	2401:4900:4de4:3a48…	2404:6800:4007:810:…	TCP	86	65385 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
280	35.554994	2401:4900:4de4:3a48…	2404:6800:4007:810:…	TCP	86	65386 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
661	37.724487	2401:4900:4de4:3a48…	2404:6800:4007:819:…	TCP	86	65387 → 443 [SYN] Seq=0 Win=64800 Len=0 MSS=1440 WS=256 SACK_PERM
812	38.034873	192.168.247.104	122.184.65.23	TCP	66	65388 → 443 [SYN] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM

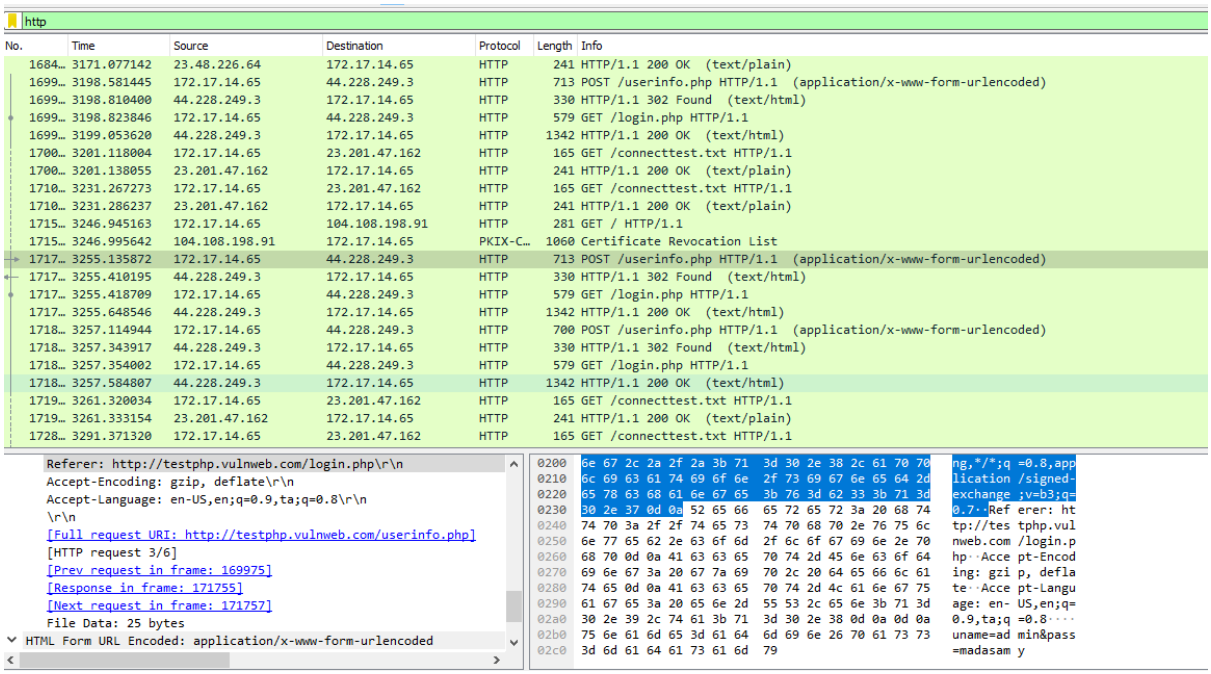
Capturing password in Wireshark:

http website:



21BCT0402

Capturing http packets:



Username and password information: