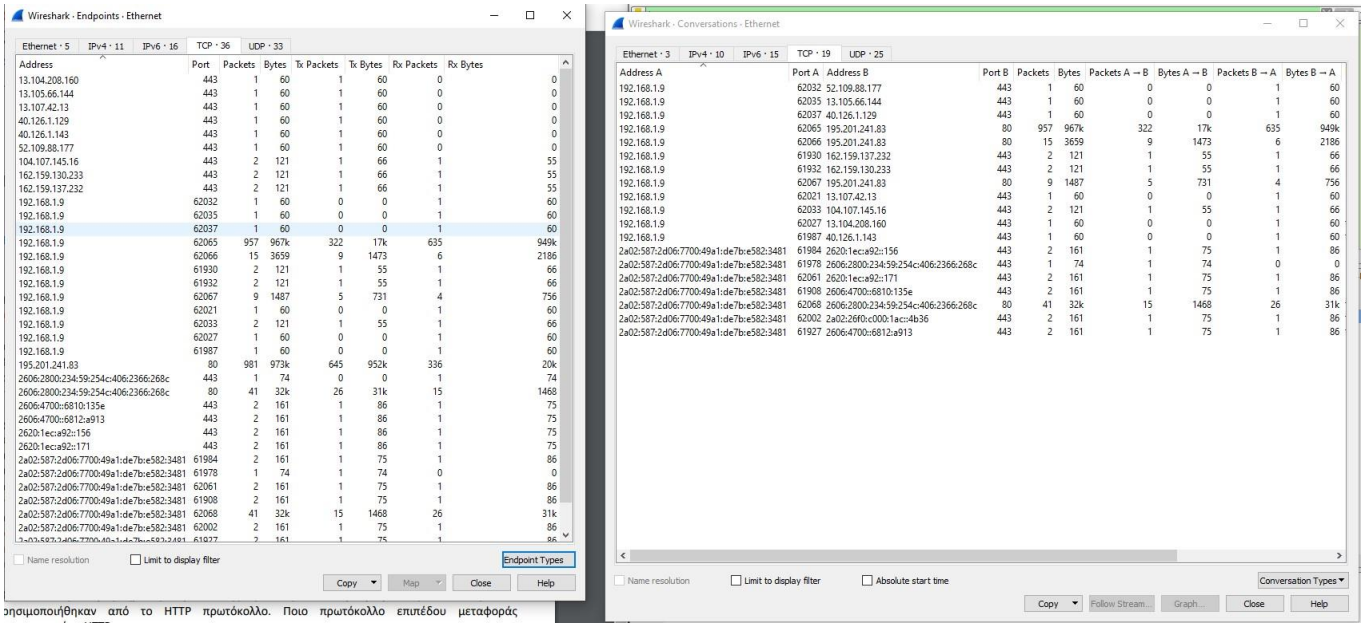
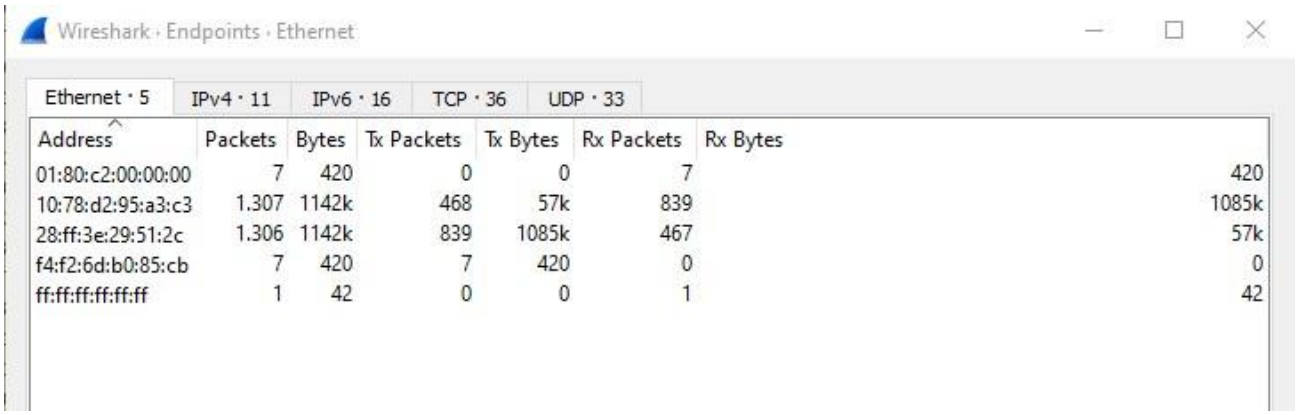
1)



2)

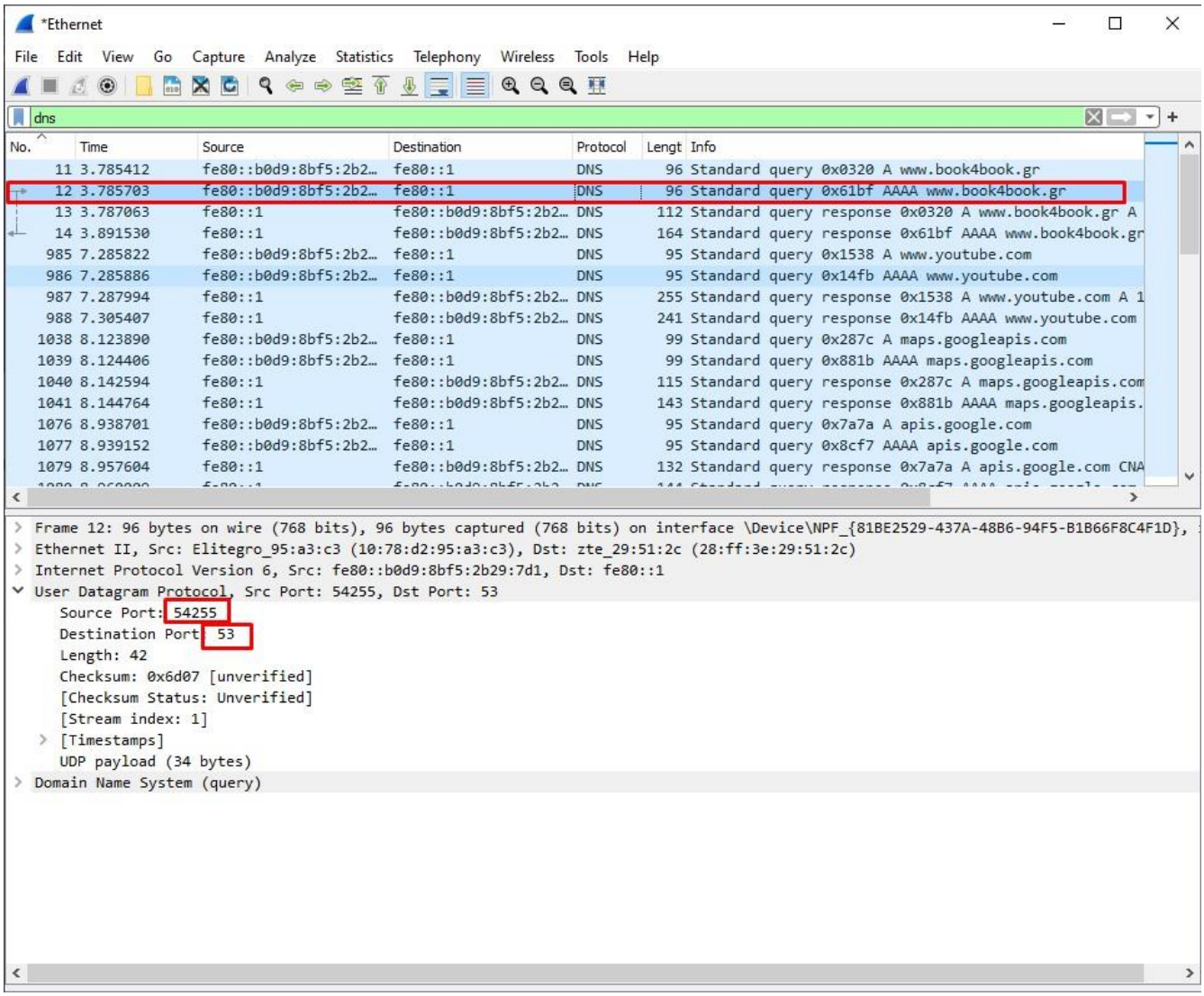


Το 2ο είναι η MAC address του pc

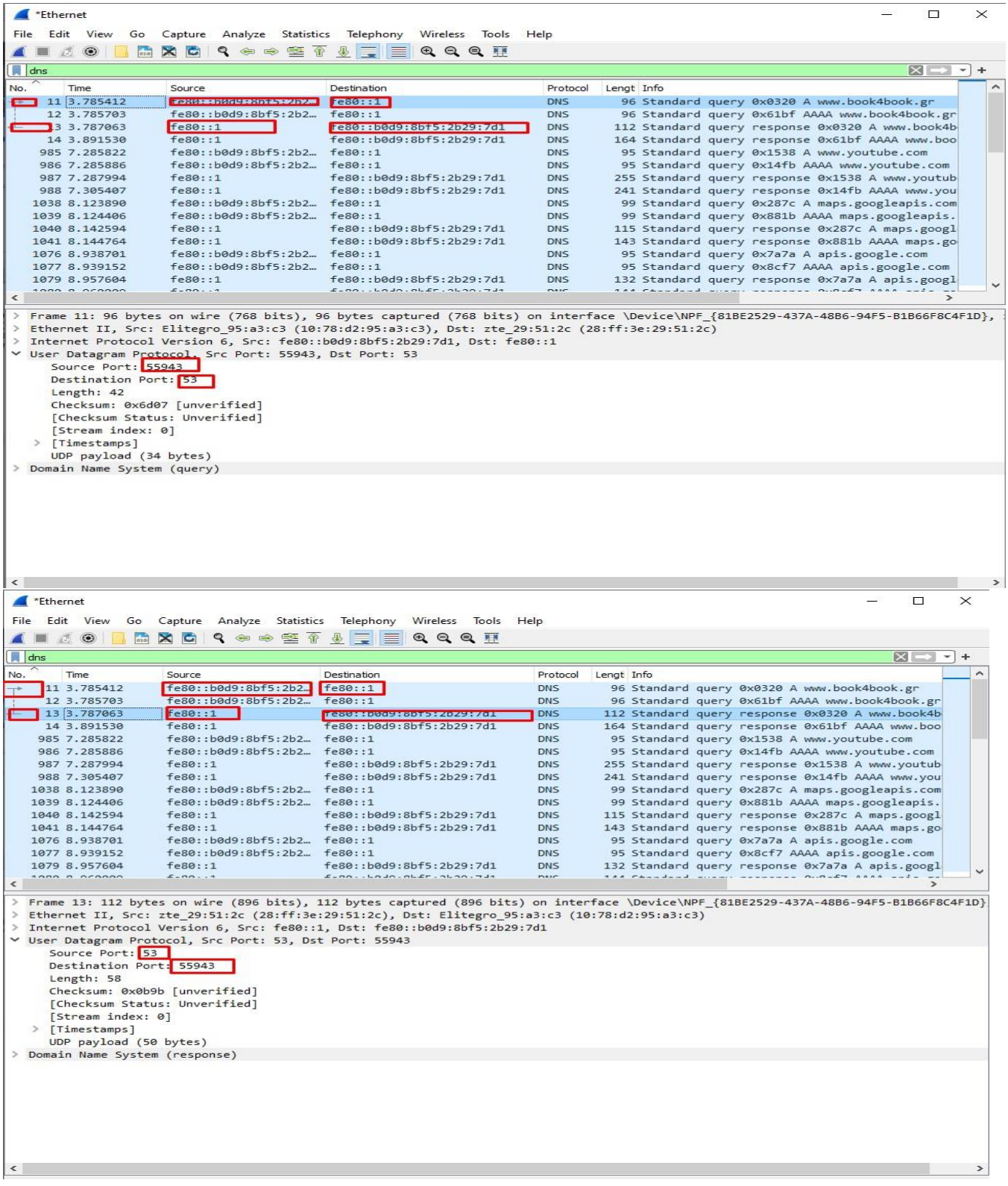
Το 3ο είναι η MAC address του router

3)

4)


*Ethernet
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
dns
No. Time Source Destination Protocol Lengt Info
11 3.785412 fe80::b0d9:8bf5:2b2… fe80::1 DNS 96 Standard query 0x0320 A www.book4book.gr
12 3.785703 fe80::b0d9:8bf5:2b2… fe80::1 DNS 96 Standard query 0x61bf AAAA www.book4book.gr
13 3.787063 fe80::1 fe80::b0d9:8bf5:2b2… DNS 112 Standard query response 0x0320 A www.book4book.gr A
14 3.891530 fe80::1 fe80::b0d9:8bf5:2b2… DNS 164 Standard query response 0x61bf AAAA www.book4book.gr
985 7.285822 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x1538 A www.youtube.com
986 7.285886 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x14fb AAAA www.youtube.com
987 7.287994 fe80::1 fe80::b0d9:8bf5:2b2… DNS 255 Standard query response 0x1538 A www.youtube.com A 1
988 7.305407 fe80::1 fe80::b0d9:8bf5:2b2… DNS 241 Standard query response 0x14fb AAAA www.youtube.com
1038 8.123890 fe80::b0d9:8bf5:2b2… fe80::1 DNS 99 Standard query 0x287c A maps.googleapis.com
1039 8.124406 fe80::b0d9:8bf5:2b2… fe80::1 DNS 99 Standard query 0x881b AAAA maps.googleapis.com
1040 8.142594 fe80::1 fe80::b0d9:8bf5:2b2… DNS 115 Standard query response 0x287c A maps.googleapis.com
1041 8.144764 fe80::1 fe80::b0d9:8bf5:2b2… DNS 143 Standard query response 0x881b AAAA maps.googleapis.
1076 8.938701 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x7a7a A apis.google.com
1077 8.939152 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x8cf7 AAAA apis.google.com
1079 8.957604 fe80::1 fe80::b0d9:8bf5:2b2… DNS 132 Standard query response 0x7a7a A apis.google.com CNA
Frame 12: 96 bytes on wire (768 bits), 96 bytes captured (768 bits) on interface \Device\NPF_{81BE2529-437A-48B6-94F5-B1B66F8C4F1D},
Ethernet II, Src: Elitegro_95:a3:c3 (10:78:d2:95:a3:c3), Dst: zte_29:51:2c (28:ff:3e:29:51:2c)
Internet Protocol Version 6, Src: fe80::b0d9:8bf5:2b29:7d1, Dst: fe80::1
User Datagram Protocol, Src Port: 54255, Dst Port: 53
Source Port: 54255
Destination Port: 53
Length: 42
Checksum: 0x6d07 [unverified]
[Checksum Status: Unverified]
[Stream index: 1]
[Timestamps]
UDP payload (34 bytes)
Domain Name System (query)

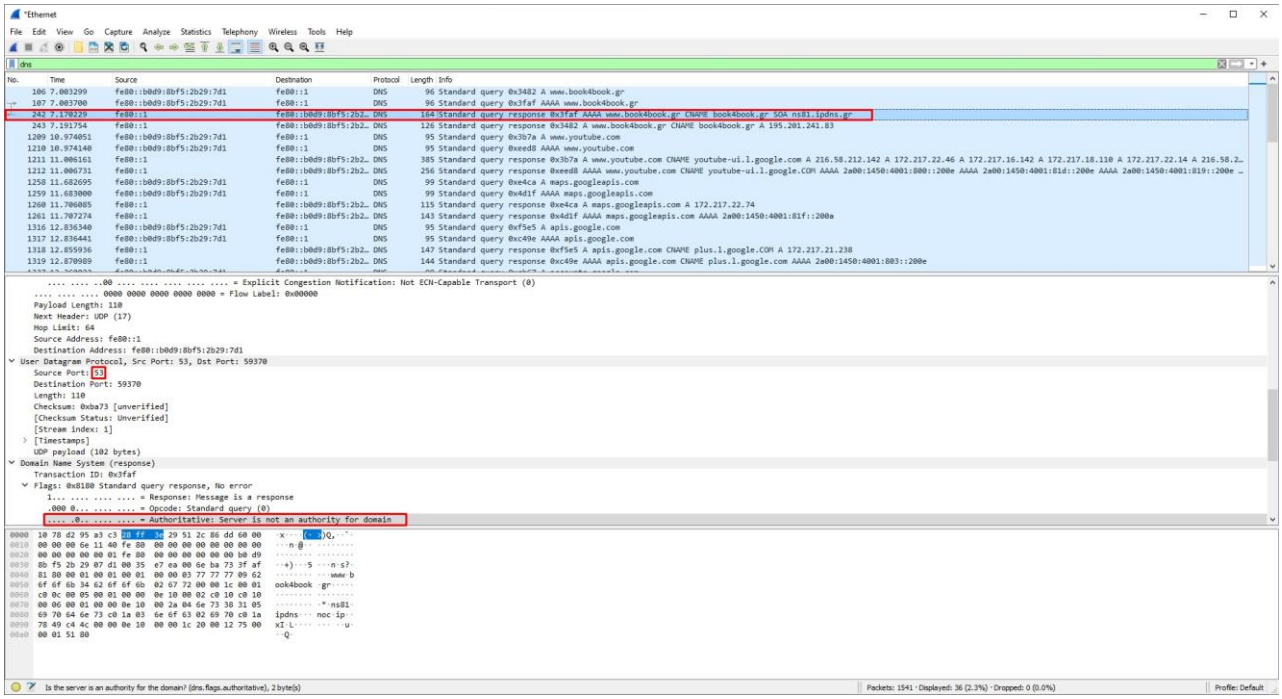
5)



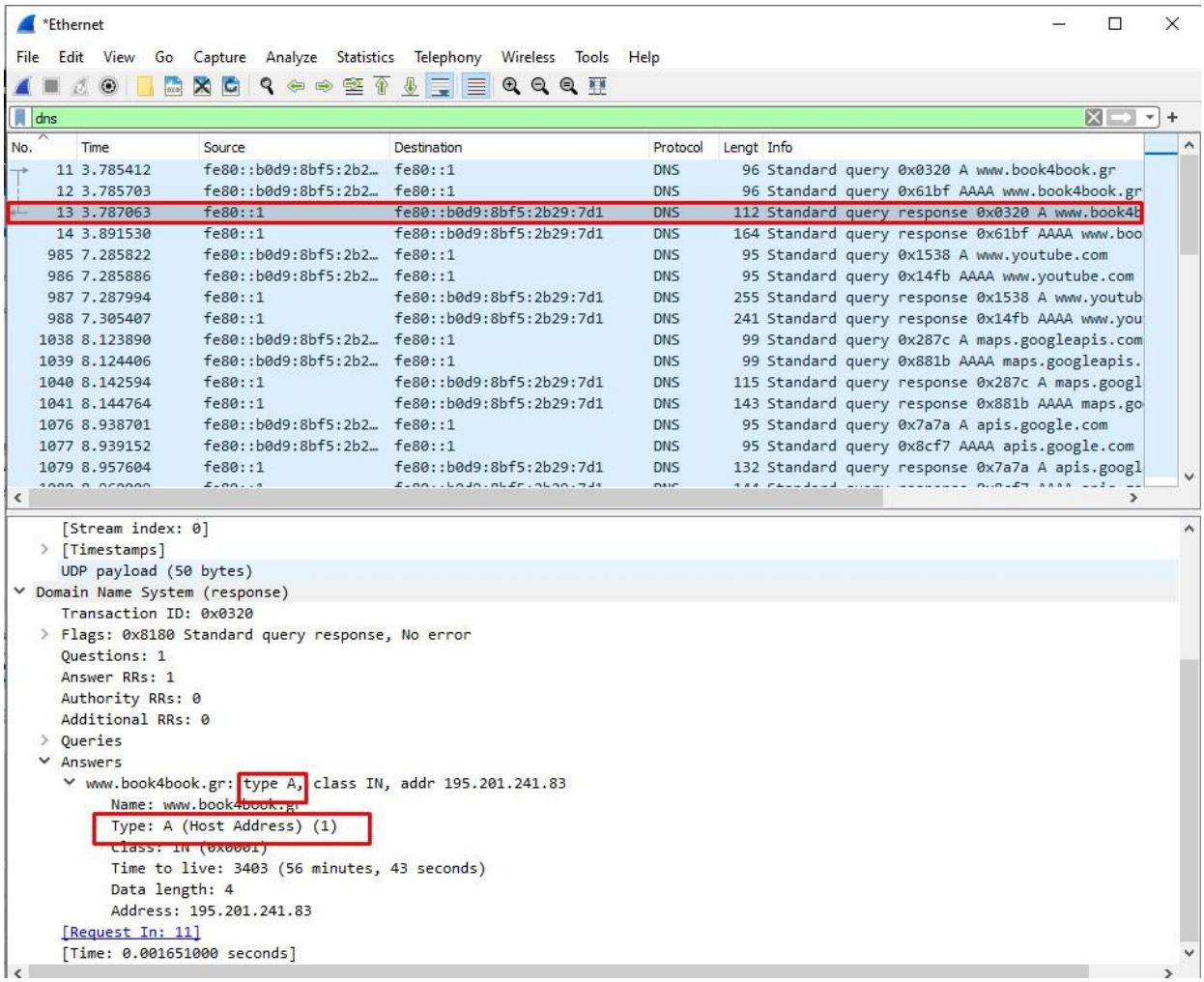
Το διακρίνουμε γιατί στο info μας λέει standard query response

Το πακέτο συνδέεται επειδή βλέπουμε ότι αντιστρέφονται τα destination kai source port. Επομένως καταλαβαίνουμε ότι αναφέρονται στο ίδιο πακέτο.

6)

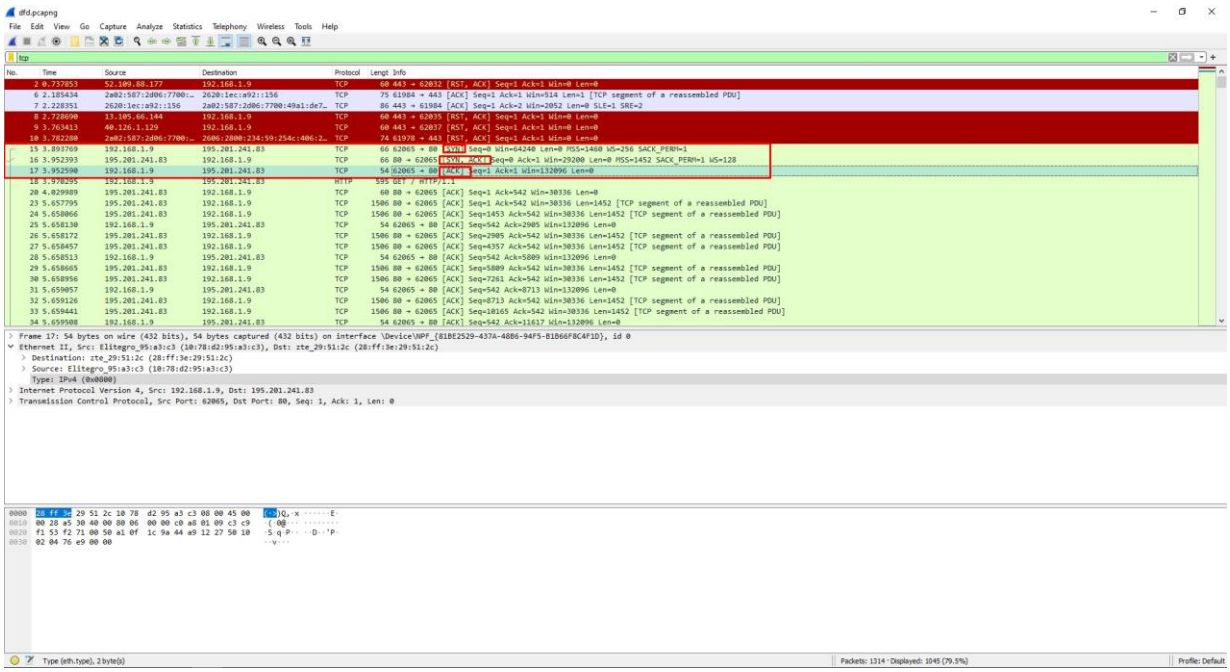

*Ethernet
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
dns
No. Time Source Destination Protocol Length Info
106 7.003299 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 96 Standard query 0x3482 A www.book4book.gr
107 7.003700 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 96 Standard query 0x3faf AAAA www.book4book.gr
242 7.170229 fe80::1 fe80::b0d9:8bf5:2b2… DNS 164 Standard query response 0x3faf AAAA www.book4book.gr CNAME book4book.gr SOA ns81.ipdns.gr
243 7.191754 fe80::1 fe80::b0d9:8bf5:2b2… DNS 126 Standard query response 0x3482 A www.book4book.gr CNAME book4book.gr A 195.201.241.83
1209 10.974051 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 95 Standard query 0x3b7a A www.youtube.com
1210 10.974140 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 95 Standard query 0xeed8 AAAA www.youtube.com
1211 11.006161 fe80::1 fe80::b0d9:8bf5:2b2… DNS 385 Standard query response 0x3b7a A www.youtube.com CNAME youtube-ui.l.google.com A 216.58.212.142 A 172.217.22.46 A 172.217.16.142 A 172.217.18.110 A 172.217.22.14 A 216.58.2…
1212 11.006731 fe80::1 fe80::b0d9:8bf5:2b2… DNS 256 Standard query response 0xeed8 AAAA www.youtube.com CNAME youtube-ui.l.google.COM AAAA 2a00:1450:4001:800::200e AAAA 2a00:1450:4001:81d::200e AAAA 2a00:1450:4001:819::200e …
1258 11.682695 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 99 Standard query 0xe4ca A maps.googleapis.com
1259 11.683000 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 99 Standard query 0x4d1f AAAA maps.googleapis.com
1260 11.706085 fe80::1 fe80::b0d9:8bf5:2b2… DNS 115 Standard query response 0xe4ca A maps.googleapis.com A 172.217.22.74
1261 11.707274 fe80::1 fe80::b0d9:8bf5:2b2… DNS 143 Standard query response 0x4d1f AAAA maps.googleapis.com AAAA 2a00:1450:4001:81f::200a
1316 12.836340 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 95 Standard query 0xf5e5 A apis.google.com
1317 12.836441 fe80::b0d9:8bf5:2b29:7d1 fe80::1 DNS 95 Standard query 0xc49e AAAA apis.google.com
1318 12.855936 fe80::1 fe80::b0d9:8bf5:2b2… DNS 147 Standard query response 0xf5e5 A apis.google.com CNAME plus.l.google.COM A 172.217.21.238
1319 12.870989 fe80::1 fe80::b0d9:8bf5:2b2… DNS 144 Standard query response 0xc49e AAAA apis.google.com CNAME plus.l.google.com AAAA 2a00:1450:4001:803::200e
....00 .... = Explicit Congestion Notification: Not ECN-Capable Transport (0)
.... 0000 0000 0000 0000 0000 = Flow Label: 0x00000
Payload Length: 110
Next Header: UDP (17)
Hop Limit: 64
Source Address: fe80::1
Destination Address: fe80::b0d9:8bf5:2b29:7d1
User Datagram Protocol, Src Port: 53, Dst Port: 59370
Source Port: 53
Destination Port: 59370
Length: 110
Checksum: 0xba73 [unverified]
[Checksum Status: Unverified]
[Stream index: 1]
[Timestamps]
UDP payload (102 bytes)
Domain Name System (response)
Transaction ID: 0x3faf
Flags: 0x8180 Standard query response, No error
1... .... = Response: Message is a response
.000 0... .... = Opcode: Standard query (0)
.... .0.. .... = Authoritative: Server is not an authority for domain
Is the server is an authority for the domain? (dns.flags.authoritative), 2 byte(s)
Packets: 1541 · Displayed: 36 (2.3%) · Dropped: 0 (0.0%)
Profile: Default

7)

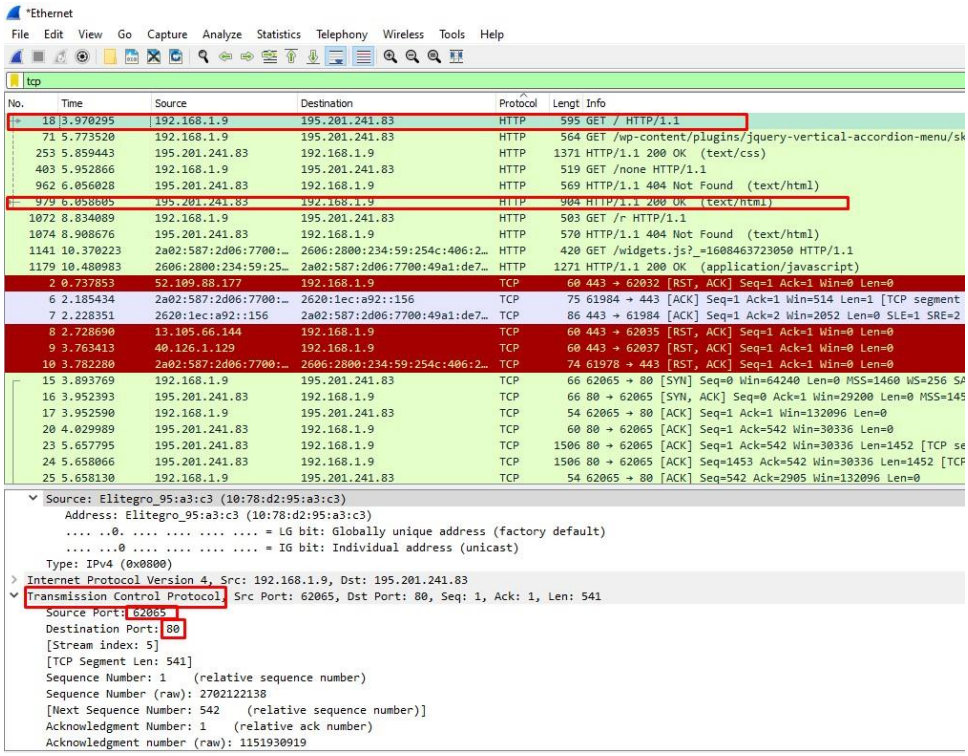

*Ethernet
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
dns
No. Time Source Destination Protocol Lengt Info
11 3.785412 fe80::b0d9:8bf5:2b2… fe80::1 DNS 96 Standard query 0x0320 A www.book4book.gr
12 3.785703 fe80::b0d9:8bf5:2b2… fe80::1 DNS 96 Standard query 0x61bf AAAA www.book4book.gr
13 3.787063 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 112 Standard query response 0x0320 A www.book4b
14 3.891530 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 164 Standard query response 0x61bf AAAA www.boo
985 7.285822 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x1538 A www.youtube.com
986 7.285886 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x14fb AAAA www.youtube.com
987 7.287994 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 255 Standard query response 0x1538 A www.youtub
988 7.305407 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 241 Standard query response 0x14fb AAAA www.you
1038 8.123890 fe80::b0d9:8bf5:2b2… fe80::1 DNS 99 Standard query 0x287c A maps.googleapis.com
1039 8.124406 fe80::b0d9:8bf5:2b2… fe80::1 DNS 99 Standard query 0x881b AAAA maps.googleapis.
1040 8.142594 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 115 Standard query response 0x287c A maps.googl
1041 8.144764 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 143 Standard query response 0x881b AAAA maps.go
1076 8.938701 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x7a7a A apis.google.com
1077 8.939152 fe80::b0d9:8bf5:2b2… fe80::1 DNS 95 Standard query 0x8cf7 AAAA apis.google.com
1079 8.957604 fe80::1 fe80::b0d9:8bf5:2b29:7d1 DNS 132 Standard query response 0x7a7a A apis.googl
[Stream index: 0]
[Timestamps]
UDP payload (50 bytes)
Domain Name System (response)
Transaction ID: 0x0320
Flags: 0x8180 Standard query response, No error
Questions: 1
Answer RRs: 1
Authority RRs: 0
Additional RRs: 0
Queries
Answers
www.book4book.gr: type A, class IN, addr 195.201.241.83
Name: www.book4book.gr
Type: A (Host Address) (1)
Class: IN (0x0001)
Time to live: 3403 (56 minutes, 43 seconds)
Data length: 4
Address: 195.201.241.83
[Request In: 11]
[Time: 0.001651000 seconds]

8)

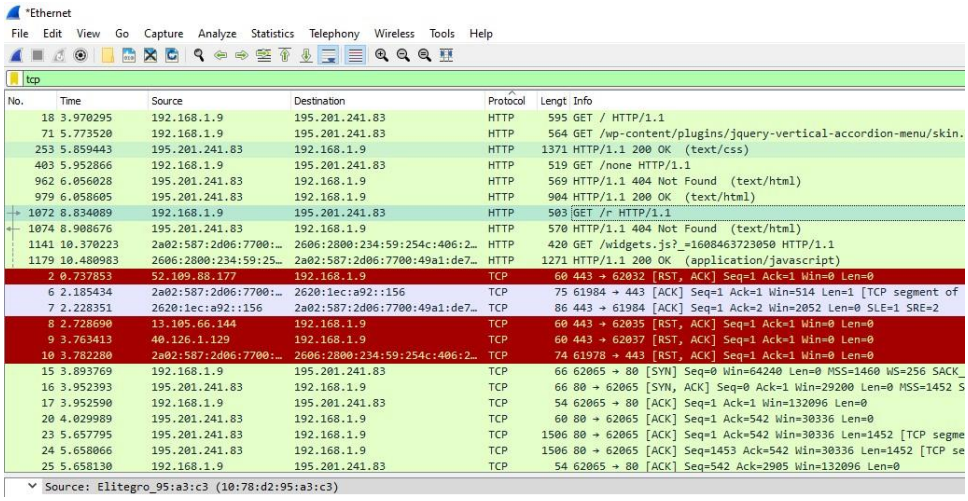
Για να γίνει η χειραψία 3 βημάτων πρέπει να υπάρχει σταθερή συνδεσή .Η σύνδεση πρέπει να είναι full dublex και οι δυο μεριές πρέπει να συγχρονίζονται (syn) και να γνωρίζονται(ack).Για να γίνει η ανταλλαγή των flags, γίνονται σε 3 βήματα SYN, SYN-ACK, and ACK



9)



10)



Έστειλα 3 get στο book4book.gr(195.201.241.83)

11)Τρέχω την έκδοση HTTP 1.1 όπως και ο σερβερ. Ο σερβερ λειτουργεί με apache