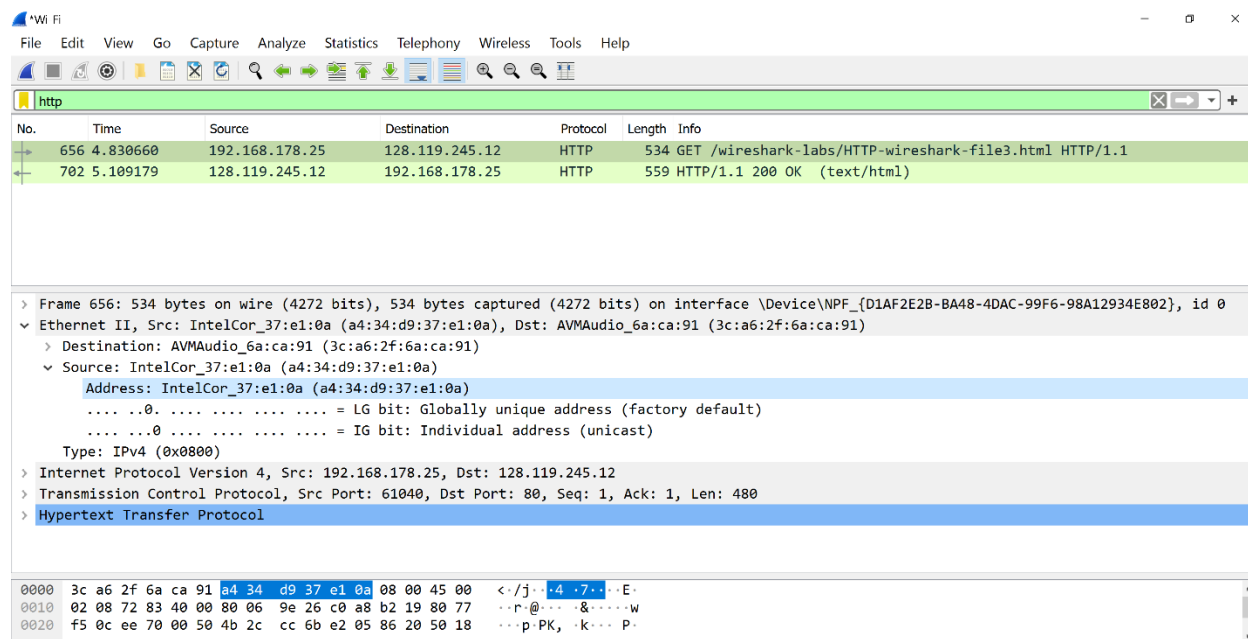


5.

1. Adresa Ethernet a calculatorului este : a4:34:d9:37:e1:0a

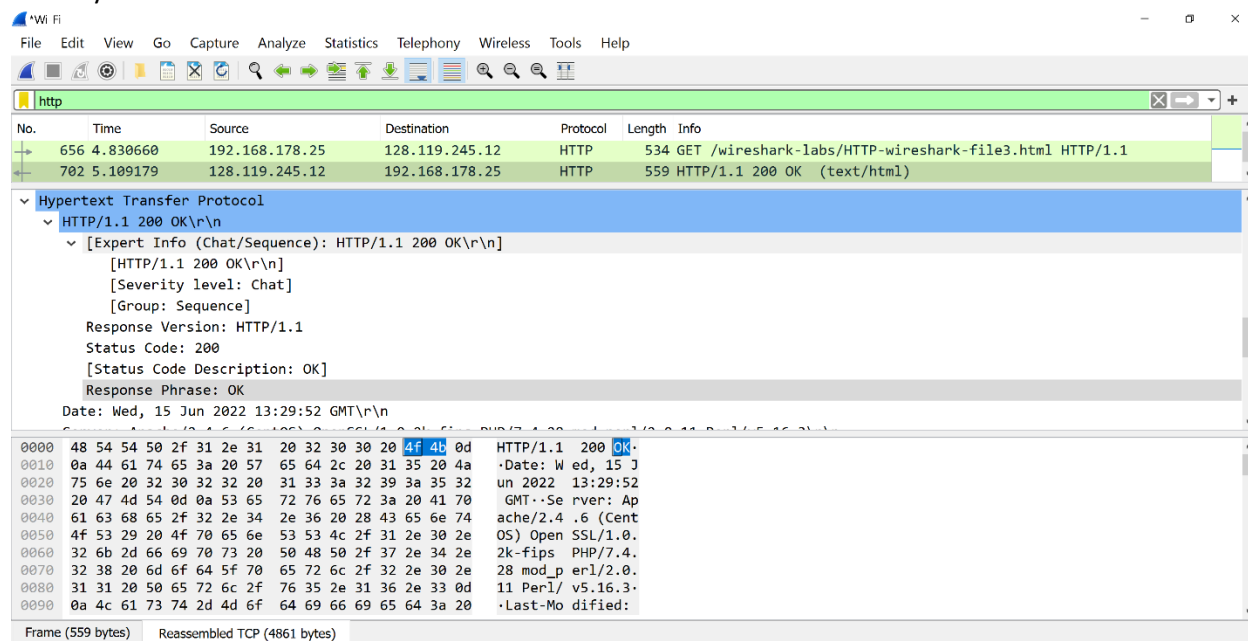


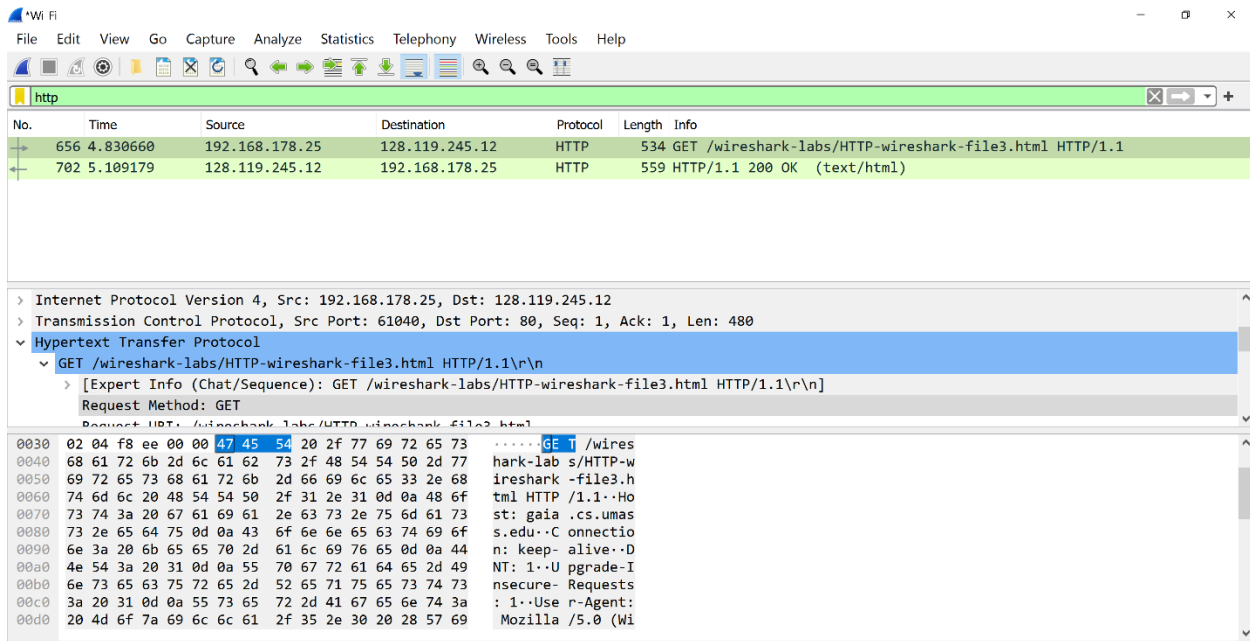
2. Adresa de destinatie : 3c:a6:2f:6a:ca:91 .

Aceasta nu este adresa Ethernet a gaia.cs.umass.edu , ci este adresa routerului(AVM Fritz!Box) cu care ma conectez la internet.

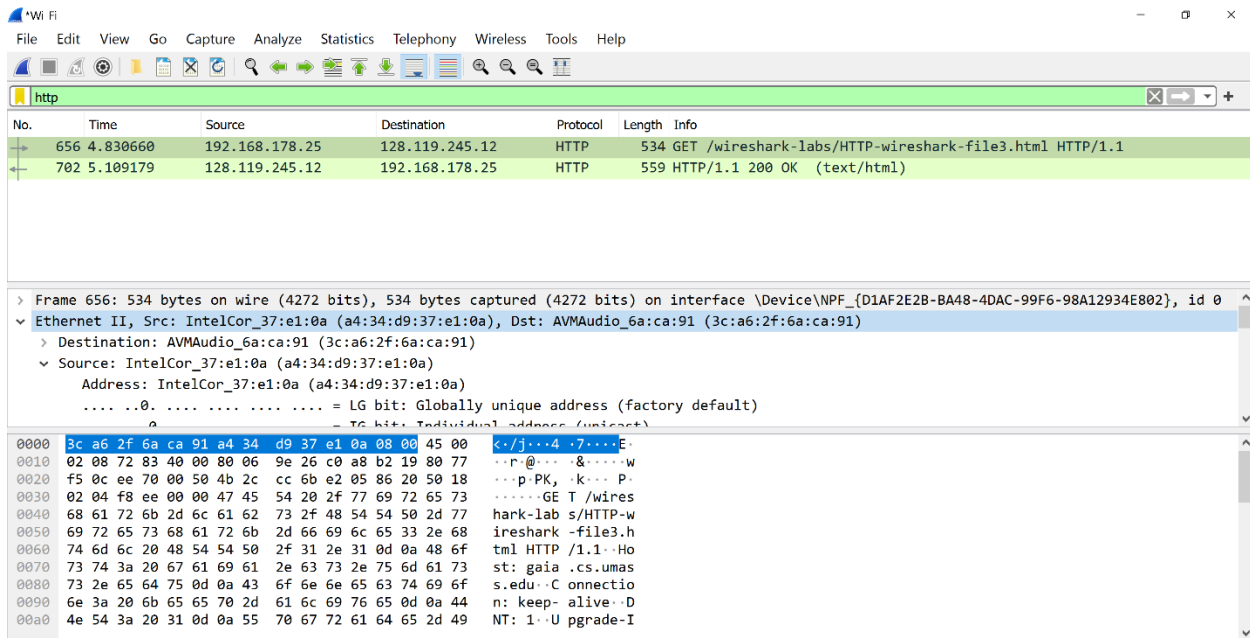
3. Valoarea hexazecimala corespunde protocolului IPv4 si este 0x0800.

4. 47 bytes in frame.





5. Valoarea adresei sursei Ethernet este a4:34:d9:37:e1:0a , care este adresa calculatorului.



6. Adresa de destinatie in cadrul Ethernet este 3c:a6:2f:6a:ca:91 , care e adresa routerului.

7. Valoarea hexazecimala corespunde protocolului IPv4 si este 0x0800. (In figura de la ex. 1)

## 8. Simbolului „O” îi corespund 79 octeti.

The image shows a Wireshark capture of an HTTP 200 OK response. The packet list shows two packets: a GET request (No. 656) and a 200 OK response (No. 702). The selected packet (No. 702) is expanded, showing the Hypertext Transfer Protocol details. The response status is 200 OK, and the response phrase is OK. The date is Wed, 15 Jun 2022 13:29:52 GMT. The packet bytes pane shows the raw data of the response, including the status line and various headers.

No.	Time	Source	Destination	Protocol	Length	Info
656	4.830660	192.168.178.25	128.119.245.12	HTTP	534	GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1
702	5.109179	128.119.245.12	192.168.178.25	HTTP	559	HTTP/1.1 200 OK (text/html)

**Hypertext Transfer Protocol**

- HTTP/1.1 200 OK\r\n
  - [Expert Info (Chat/Sequence): HTTP/1.1 200 OK\r\n]
  - [HTTP/1.1 200 OK\r\n]
  - [Severity level: Chat]
  - [Group: Sequence]
  - Response Version: HTTP/1.1
  - Status Code: 200
  - [Status Code Description: OK]
  - Response Phrase: OK
  - Date: Wed, 15 Jun 2022 13:29:52 GMT\r\n

Frame (559 bytes) | Reassembled TCP (4861 bytes)

## 9. 4 cadre ethernet.

The image shows a Wireshark capture of a reassembled TCP segment. The packet list shows two packets: a GET request (No. 656) and a 200 OK response (No. 702). The selected packet (No. 702) is expanded, showing the Hypertext Transfer Protocol details. The response status is 200 OK, and the response phrase is OK. The date is Wed, 15 Jun 2022 13:29:52 GMT. The packet bytes pane shows the raw data of the response, including the status line and various headers.

No.	Time	Source	Destination	Protocol	Length	Info
656	4.830660	192.168.178.25	128.119.245.12	HTTP	534	GET /wireshark-labs/HTTP-wireshark-file3.html HTTP/1.1
702	5.109179	128.119.245.12	192.168.178.25	HTTP	559	HTTP/1.1 200 OK (text/html)

**[4 Reassembled TCP Segments (4861 bytes): #697(1452), #698(1452), #699(1452), #702(505)]**

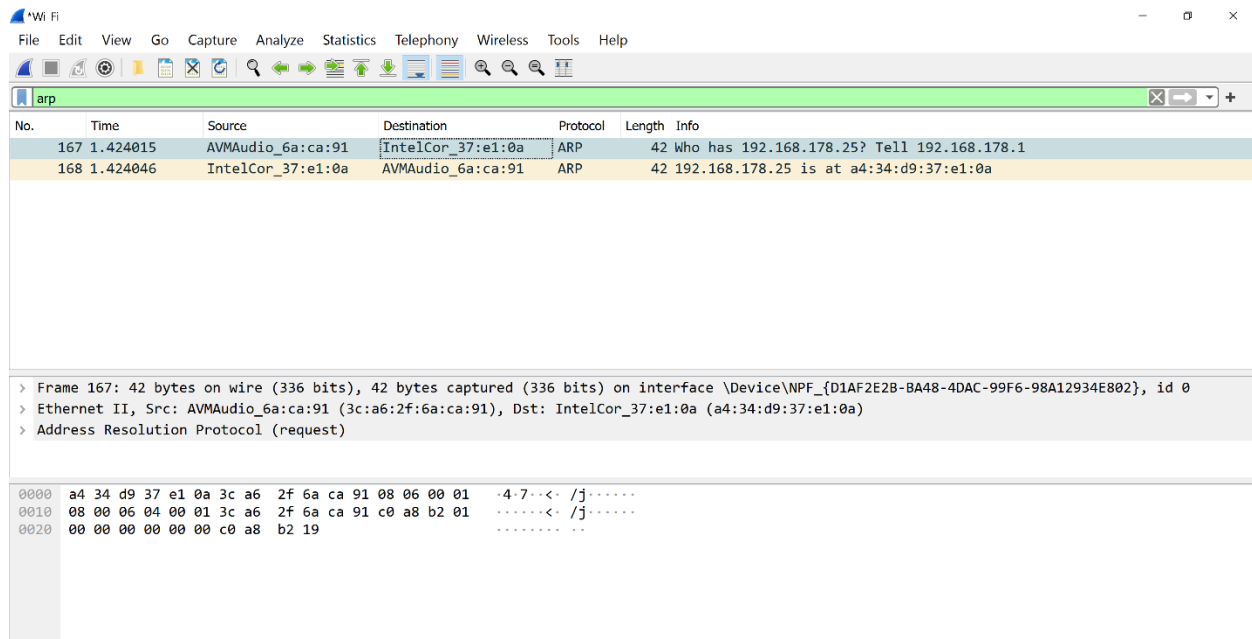
- [Frame: 697, payload: 0-1451 (1452 bytes)]
- [Frame: 698, payload: 1452-2903 (1452 bytes)]
- [Frame: 699, payload: 2904-4355 (1452 bytes)]
- [Frame: 702, payload: 4356-4860 (505 bytes)]
- [Segment count: 4]
- [Reassembled TCP length: 4861]
- [Reassembled TCP Data: 485454502f312e3120323030204f4b0d0a446174653a205765642c203135204a756e2032...]

**Hypertext Transfer Protocol**

- Line-based text data: text/html (98 lines)

Frame (559 bytes) | Reassembled TCP (4861 bytes)

## 10.2 intrari



Wireshark capture showing ARP traffic. The filter is set to 'arp'. The packet list shows two packets:

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

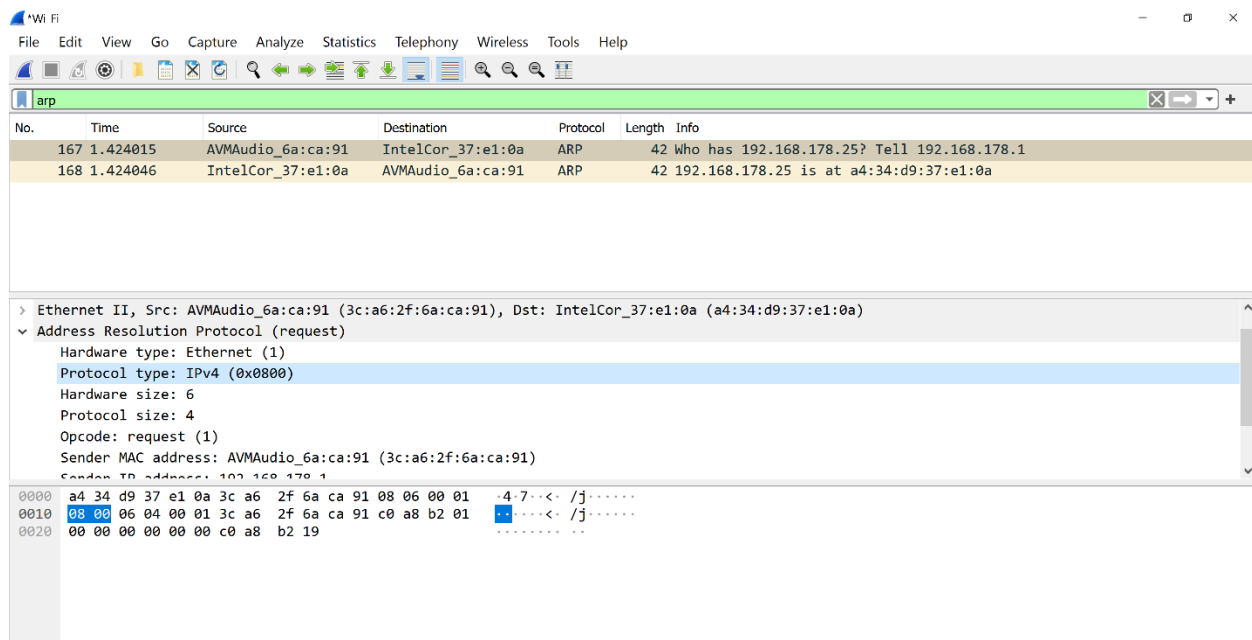
Packet 167 details:

- Frame 167: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface \Device\NPF\_{D1AF2E2B-BA48-4DAC-99F6-98A12934E802}, id 0
- Ethernet II, Src: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91), Dst: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Address Resolution Protocol (request)

Packet 167 hex dump:

```
0000 a4 34 d9 37 e1 0a 3c a6 2f 6a ca 91 08 06 00 01  -4-7--<- /j-----
0010 08 00 06 04 00 01 3c a6 2f 6a ca 91 c0 a8 b2 01  -<----- /j-----
0020 00 00 00 00 00 00 c0 a8 b2 19  -<----- ..
```

## 11. Este continut Protocol Type , Mac Adress + IP Adress pentru Sender/Target.



Wireshark capture showing ARP traffic. The filter is set to 'arp'. The packet list shows two packets:

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

Packet 167 details:

- Ethernet II, Src: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91), Dst: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Address Resolution Protocol (request)
  - Hardware type: Ethernet (1)
  - Protocol type: IPv4 (0x0800)
  - Hardware size: 6
  - Protocol size: 4
  - Opcode: request (1)
  - Sender MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
  - Sender IP address: 192.168.178.1

Packet 167 hex dump:

```
0000 a4 34 d9 37 e1 0a 3c a6 2f 6a ca 91 08 06 00 01  -4-7--<- /j-----
0010 08 00 06 04 00 01 3c a6 2f 6a ca 91 c0 a8 b2 01  -<----- /j-----
0020 00 00 00 00 00 00 c0 a8 b2 19  -<----- ..
```

12. Valoarea hexazecimala a adresei sursa este a4:34:d9:37:e1:0a

The image shows a Wireshark packet capture window titled '\*Wi Fi'. The packet list pane shows two packets: packet 167 (1.424015) and packet 168 (1.424046). Packet 168 is selected, and the packet details pane shows the following information:

- Protocol type: IPv4 (0x0800)
- Hardware size: 6
- Protocol size: 4
- Opcode: reply (2)
- Sender MAC address: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Sender IP address: 192.168.178.25
- Target MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Target IP address: 192.168.178.1

The packet bytes pane shows the raw data of the packet, with the source MAC address highlighted in blue: 3c a6 2f 6a ca 91 a4 34 d9 37 e1 0a 08 06 00 01.

13. Valoarea hexazecimala a adresei destinatie este 3c:a6:2f:6a:ca:91 si corespunde routerului.

14. Valoarea hexazecimală pentru câmpul de tip Ethernet Frame de doi octeți este 0x0806 si corespunde protocolului ARP.

The image shows a Wireshark packet capture window titled '\*Wi Fi'. The packet list pane shows two packets: packet 167 (1.424015) and packet 168 (1.424046). Packet 168 is selected, and the packet details pane shows the following information:

- Frame 168: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on interface \Device\NPF\_{D1AF2E2B-BA48-4DAC-99F6-98A12934E802}, id 0
- Ethernet II, Src: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a), Dst: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Destination: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Source: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Type: ARP (0x0806)
- Address Resolution Protocol (reply)
- Hardware type: Ethernet (1)
- Protocol type: IPv4 (0x0800)

The packet bytes pane shows the raw data of the packet, with the source MAC address highlighted in blue: 3c a6 2f 6a ca 91 a4 34 d9 37 e1 0a 08 06 00 01.

## 16. Valoarea câmpului opcode din mesajul de solicitare ARP trimis de computer este reply (2)

The screenshot shows a Wireshark capture of an ARP request packet. The packet list at the top shows two packets: packet 167 (time 1.424015) is an ARP request from AVMAudio\_6a:ca:91 to IntelCor\_37:e1:0a, asking for the MAC address of 192.168.178.25; packet 168 (time 1.424046) is an ARP reply from IntelCor\_37:e1:0a to AVMAudio\_6a:ca:91, stating that 192.168.178.25 is at a4:34:d9:37:e1:0a. The packet details pane for packet 168 shows the 'Address Resolution Protocol (reply)' section with the 'Opcode: reply (2)' field highlighted. The packet bytes pane shows the raw data of the ARP reply.

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

Address Resolution Protocol (reply)

- Hardware type: Ethernet (1)
- Protocol type: IPv4 (0x0800)
- Hardware size: 6
- Protocol size: 4
- Opcode: reply (2)
- Sender MAC address: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Sender IP address: 192.168.178.25
- Target MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)

0000 3c a6 2f 6a ca 91 a4 34 d9 37 e1 0a 08 06 00 01 </j>...4 7.....  
0010 08 00 06 04 00 02 a4 34 d9 37 e1 0a c0 a8 b2 19 .....4 7.....  
0020 3c a6 2f 6a ca 91 c0 a8 b2 01 </j>... ..

## 17. Mesajul de solicitare ARP conține adresa IP a expeditorului? Dacă răspunsul este da, care este acea valoare?

Da , contine si este 192.168.178.25

The screenshot shows the same Wireshark capture as before, but with the details pane for packet 168 expanded further. It shows the 'Protocol type: IPv4 (0x0800)' and 'Hardware size: 6' fields. The 'Opcode: reply (2)' field is still highlighted. The 'Sender IP address: 192.168.178.25' field is also highlighted. The 'Target MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)' and 'Target IP address: 192.168.178.1' fields are also visible. The packet bytes pane shows the raw data of the ARP request.

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

Protocol type: IPv4 (0x0800)

- Hardware size: 6
- Protocol size: 4
- Opcode: reply (2)
- Sender MAC address: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Sender IP address: 192.168.178.25
- Target MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Target IP address: 192.168.178.1

0000 3c a6 2f 6a ca 91 a4 34 d9 37 e1 0a 08 06 00 01 </j>...4 7.....  
0010 08 00 06 04 00 02 a4 34 d9 37 e1 0a c0 a8 b2 19 .....4 7.....  
0020 3c a6 2f 6a ca 91 c0 a8 b2 01 </j>... ..

## 18. Adresa IP este 192.168.178.1

Wireshark interface showing an ARP reply packet. The packet list table is as follows:

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

The packet details pane shows the following information for the selected packet (No. 168):

- Protocol type: IPv4 (0x0800)
- Hardware size: 6
- Protocol size: 4
- Opcode: reply (2)
- Sender MAC address: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Sender IP address: 192.168.178.25
- Target MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Target IP address: 192.168.178.1

The packet bytes pane shows the raw data in hexadecimal and ASCII:

```
0000 3c a6 2f 6a ca 91 a4 34 d9 37 e1 0a 08 06 00 01 <./j...4 .7.....
0010 08 00 06 04 00 02 a4 34 d9 37 e1 0a c0 a8 b2 19 .....4 .7.....
0020 3c a6 2f 6a ca 91 c0 a8 b2 01 <./j... ..
```

## 19. request (1)

Wireshark interface showing an ARP request packet. The packet list table is as follows:

No.	Time	Source	Destination	Protocol	Length	Info
167	1.424015	AVMAudio_6a:ca:91	IntelCor_37:e1:0a	ARP	42	Who has 192.168.178.25? Tell 192.168.178.1
168	1.424046	IntelCor_37:e1:0a	AVMAudio_6a:ca:91	ARP	42	192.168.178.25 is at a4:34:d9:37:e1:0a

The packet details pane shows the following information for the selected packet (No. 167):

- Ethernet II, Src: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91), Dst: IntelCor\_37:e1:0a (a4:34:d9:37:e1:0a)
- Address Resolution Protocol (request)
- Hardware type: Ethernet (1)
- Protocol type: IPv4 (0x0800)
- Hardware size: 6
- Protocol size: 4
- Opcode: request (1)
- Sender MAC address: AVMAudio\_6a:ca:91 (3c:a6:2f:6a:ca:91)
- Sender IP address: 192.168.178.1

The packet bytes pane shows the raw data in hexadecimal and ASCII:

```
0000 a4 34 d9 37 e1 0a 3c a6 2f 6a ca 91 08 06 00 01 -4-7-<./j.....
0010 08 00 06 04 00 01 3c a6 2f 6a ca 91 c0 a8 b2 01 ...<./j.....
0020 00 00 00 00 00 00 c0 a8 b2 19 ..... ..
```