Wireshark

1.Захват и анализ Ethernet-кадров

1) Source: b4:69:21:af:c4:4f

```
Frame 44: 479 bytes on wire (3832 bits), 479 bytes captured (3832 bits) on interface wlo1, id 0

Ethernet II, Src: IntelCor_af:c4:4f (b4:69:21:af:c4:4f), Dst: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70)

- Destination: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70)

- Source: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)

- Type: IPv4 (0x0800)

- Internet Protocol Version 4, Src: 192.168.0.104, Dst: 128.119.245.12

- Transmission Control Protocol, Src Port: 44704, Dst Port: 80, Seq: 1, Ack: 1, Len: 413

- Hypertext Transfer Protocol
```

- 2) Это соответствует адресу моего сетевого адаптера
- 3) Source: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70). Соответствует роутеру сервера

```
Frame 47: 4927 bytes on wire (39416 bits), 4927 bytes captured (39416 bits) on interface wlo1, id 0

Ethernet II, Src: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70), Dst: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)

Destination: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)

Source: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70)

Type: IPv4 (0x0800)

Internet Protocol Version 4, Src: 128.119.245.12, Dst: 192.168.0.104

Transmission Control Protocol, Src Port: 80, Dst Port: 44704, Seq: 1, Ack: 414, Len: 4861

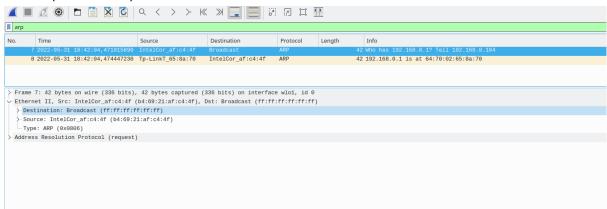
Hypertext Transfer Protocol

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

4) Destination: b4:69:21:af:c4:4f, это Ethernet-адрес моего компьютера

2. ARP-протокол

1) Source: IntelCor_af:c4:4f (b4:69:21:af:c4:4f), Destination: Broadcast (ff:ff:ff:ff:ff)



2) Да, в поле Sender IP address

```
- Opcode: request (1)
- Sender MAC address: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)
- Sender IP address: 192.168.0.104
- Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
- Target IP address: 192.168.0.1
```

3) Есть поле Target MAC address, он установлен в ноль, так как нам неизвестен Ethernet-адрес машины, чей IP мы запросили.

```
- Opcode: request (1)
- Sender MAC address: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)
- Sender IP address: 192.168.0.104
- Target MAC address: 00:00:00_00:00:00 (00:00:00:00:00:00)
- Target IP address: 192.168.0.1
```

4) В поле Sender MAC address

```
- Opcode: reply (2)
- Sender MAC address: Tp-LinkT_65:8a:70 (64:70:02:65:8a:70)
- Sender IP address: 192.168.0.1
- Target MAC address: IntelCor_af:c4:4f (b4:69:21:af:c4:4f)
- Target IP address: 192.168.0.104
```