

LABORATORIUM PRAKTIKUM INFORMATIKA

Fakultas Informatika
Universitas Telkom

Bandung

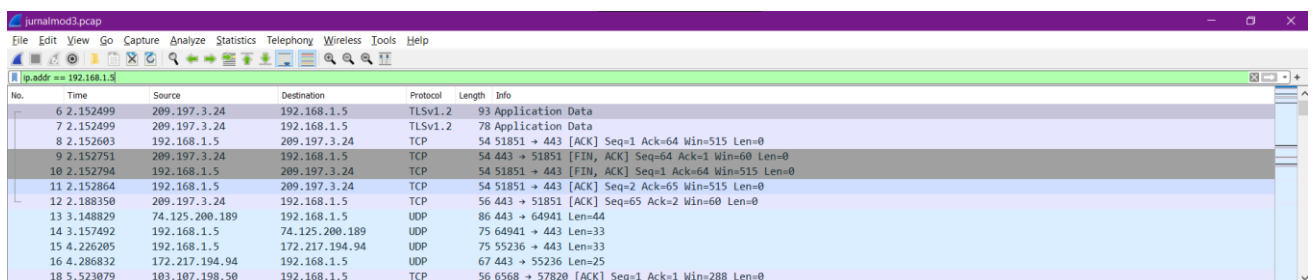
Jurnal Modul 3

1. Apa yang dimaksud dengan ARP? Jelaskan **secara rinci dan cantumkan sumber referensi** yang digunakan. **(10)**

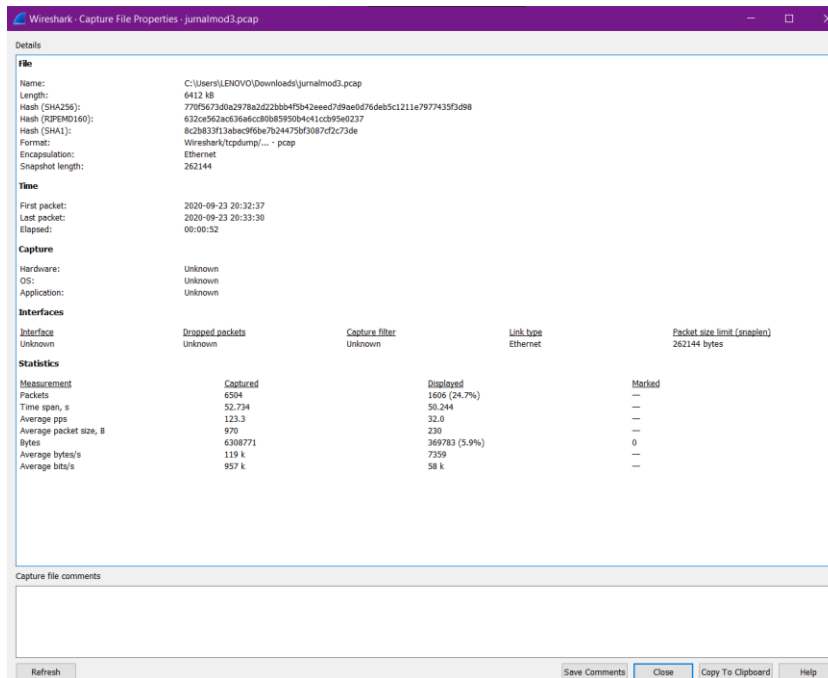
= ARP(*Address Resolution Protocol*) adalah protokol yang digunakan untuk menerjemah alamat IP menjadi alamat MAC pada *Local Area Network*. Sebuah host akan mengirimkan ARP *request* secara broadcast untuk mendapatkan alamat MAC host tujuan. Ketika host menerima alamat ARP *request* yang ditujukan kepadanya, host penerima akan mengirimkan paket ARP *reply* secara *unicast* kepada host pengirim

Source: [https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/5408#:~:text=ARP\(Address%20Resolution%20Protocol\)%20adalah,mendapa%20alamat%20MAC%20host%20tujuan.](https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/5408#:~:text=ARP(Address%20Resolution%20Protocol)%20adalah,mendapa%20alamat%20MAC%20host%20tujuan.)

2. Buka file **jurnalmod3.pcap** pada Wireshark, lalu lakukan Display Filter untuk paket yang memiliki IP Address **192.168.1.5**. Sertakan screenshot hasil dari **filter** dan **Capture File Properties** Anda! **(10)**



No.	Time	Source	Destination	Protocol	Length	Info
6	2.152499	209.197.3.24	192.168.1.5	TLSv1.2	93	Application Data
7	2.152499	209.197.3.24	192.168.1.5	TLSv1.2	78	Application Data
8	2.152603	192.168.1.5	209.197.3.24	TCP	54	51851 → 443 [ACK] Seq=1 Ack=64 Win=515 Len=0
9	2.152751	209.197.3.24	192.168.1.5	TCP	54	443 → 51851 [FIN, ACK] Seq=64 Ack=1 Win=60 Len=0
10	2.152794	192.168.1.5	209.197.3.24	TCP	54	51851 → 443 [FIN, ACK] Seq=1 Ack=64 Win=515 Len=0
11	2.152864	192.168.1.5	209.197.3.24	TCP	54	51851 → 443 [ACK] Seq=2 Ack=65 Win=515 Len=0
12	2.188350	209.197.3.24	192.168.1.5	TCP	56	443 → 51851 [ACK] Seq=65 Ack=2 Win=60 Len=0
13	3.148829	74.125.200.189	192.168.1.5	UDP	86	443 → 64941 Len=44
14	3.157492	192.168.1.5	74.125.200.189	UDP	75	64941 → 443 Len=33
15	4.226205	192.168.1.5	172.217.194.94	UDP	75	55236 → 443 Len=33
16	4.286832	172.217.194.94	192.168.1.5	UDP	67	443 → 55236 Len=25
18	5.523079	103.107.198.50	192.168.1.5	TCP	56	6568 → 57820 [ACK] Seq=1 Ack=1 Win=288 Len=0



3. Hitung atau carilah parameter QoS dibawah ini untuk paket hasil filter pada **nomor 2**.

a. Throughput (bps) **(10)**

$$\begin{aligned} \text{Throughput} &= 6299780 / 50581 \\ &= 124548348 \times 8 \\ &= 996386,785 \end{aligned}$$

b. Packet Loss (%) **(hint. tambahkan filter untuk melihat packet loss) (10)**

No.	Time	Source	Destination	Protocol	Length	Info
19	5.523141	192.168.1.5	103.107.198.50	TCP	54	[TCP ACKed unseen segment] 57820 → 6568 [ACK] Seq=1 Ack=2 Win=513 Len=0
792	15.759918	192.168.1.5	103.107.198.50	TCP	54	[TCP Dup ACK 19#1] [TCP ACKed unseen segment] 57820 → 6568 [ACK] Seq=1 Ack=2 Win=513 Len=0
2603	26.002637	192.168.1.5	103.107.198.50	TCP	54	[TCP Dup ACK 19#2] [TCP ACKed unseen segment] 57820 → 6568 [ACK] Seq=1 Ack=2 Win=513 Len=0
5176	36.236627	192.168.1.5	103.107.198.50	TCP	54	[TCP Dup ACK 19#3] [TCP ACKed unseen segment] 57820 → 6568 [ACK] Seq=1 Ack=2 Win=513 Len=0
5330	39.445605	192.168.1.5	103.107.198.50	TCP	55	[TCP Keep-Alive] [TCP ACKed unseen segment] 57820 → 6568 [ACK] Seq=0 Ack=2 Win=513 Len=1

4. Tuliskan hasil analisis Anda terhadap hasil yang Anda dapatkan di **nomor 3**. Gunakan kategori dibawah ini sebagai acuan analisis. **(15)**

KATEGORI THROUGHPUT

Kategori Throughput	Throughput (bps)	Indeks
Sangat Bagus	100	4
Bagus	75	3
Sedang	50	2
Jelek	< 25	1

(sumber : TIPHON)

KATEGORI PACKET LOSS

Kategori Degradasi	Packet Loss (%)	Indeks
Sangat Bagus	0	4
Bagus	3	3
Sedang	15	2
Jelek	25	1

(sumber : TIPHON)

QoS	Value	Kategori
Throughput	996K	Sangat bagus

Packet Loss

0,77%

Sangat bagus

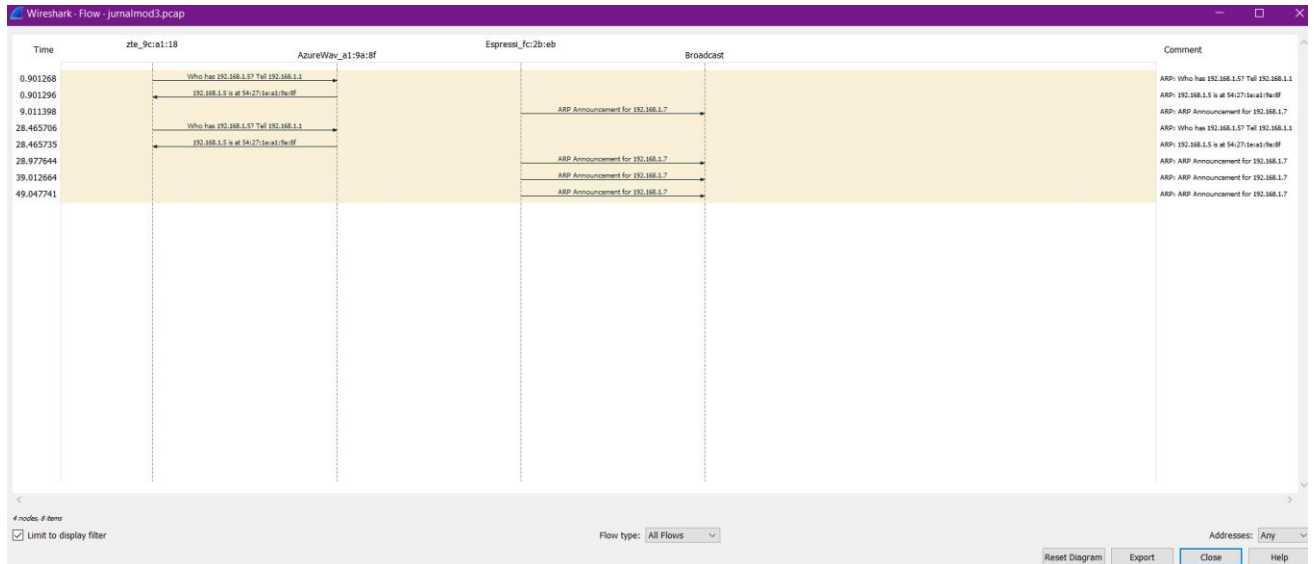
5. Apakah pada file **jurnalmod3.pcap** terdapat ARP? Sertakan screenshot hasil dari **filter** dan **Flow Graph** Anda! **(15)**

jurnalmod3.pcap

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

arp

No.	Time	Source	Destination	Protocol	Length	Info
4	0.901268	zte_9c:a1:18	AzureWav_a1:9a:8f	ARP	42	Who has 192.168.1.5? Tell 192.168.1.1
5	0.901296	AzureWav_a1:9a:8f	zte_9c:a1:18	ARP	42	192.168.1.5 is at 54:27:1e:a1:9a:8f
161	9.011398	Espressi_fc:2b:eb	Broadcast	ARP	42	ARP Announcement for 192.168.1.7
3057	28.465706	zte_9c:a1:18	AzureWav_a1:9a:8f	ARP	42	Who has 192.168.1.5? Tell 192.168.1.1
3058	28.465735	AzureWav_a1:9a:8f	zte_9c:a1:18	ARP	42	192.168.1.5 is at 54:27:1e:a1:9a:8f
3071	28.977644	Espressi_fc:2b:eb	Broadcast	ARP	42	ARP Announcement for 192.168.1.7
5262	39.012664	Espressi_fc:2b:eb	Broadcast	ARP	42	ARP Announcement for 192.168.1.7
6432	49.047741	Espressi_fc:2b:eb	Broadcast	ARP	42	ARP Announcement for 192.168.1.7



===SELAMAT MENGERJAKAN===