

Networks Lab: Assignment-2

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Contents

Problem 1	3
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Problem 1

1. Install wireshark.

`sudo apt-get install wireshark`

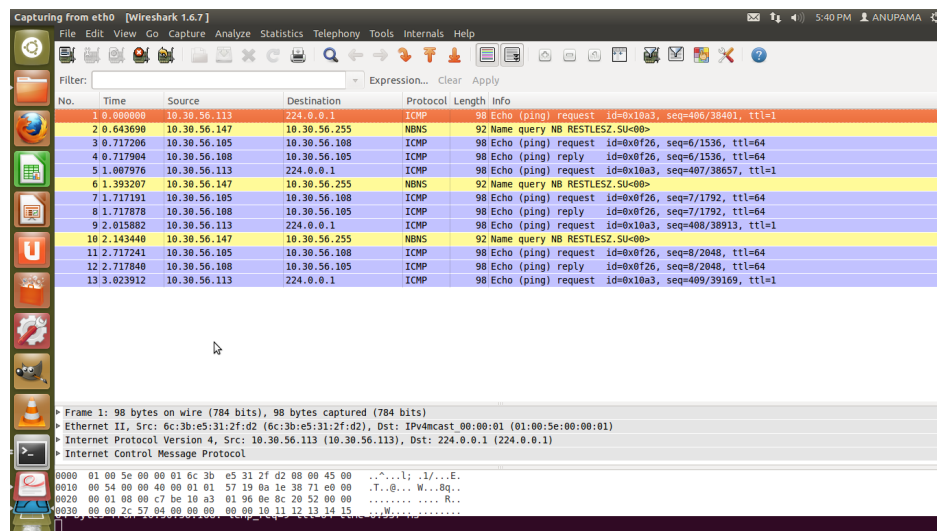
2. Do an ARP flush.

`sudo ip neigh flush all`

```
anupama@anupama-HP-Compaq-Pro-6300-MT:~$ sudo ip neigh flush all
anupama@anupama-HP-Compaq-Pro-6300-MT:~$ arp -n
Address                  HWtype  HWaddress                     Flags Mask                  Iface
10.30.56.113              (incomplete)
10.30.56.108              (incomplete)
10.30.56.1                (incomplete)
```

3. Ping a local machine.

`ping 10.30.56.108`



`arp -n`

```
anupama@anupama-HP-Compaq-Pro-6300-MT:~$ arp -n
Address                  HWtype  HWaddress                     Flags Mask                  Iface
10.30.56.108              ether   ac:16:2d:0e:ea:00           C                          eth0
10.30.56.1                ether   00:1f:9d:f2:bc:c9           C                          eth0
anupama@anupama-HP-Compaq-Pro-6300-MT:~$
```

4. Ping 4.2.2.1

`ping 4.2.2.1`

Capturing from eth0 [Wireshark 1.6.7]

File Edit View Go Capture Analyze Statistics Telephony Tools Internals Help

Filter: Expression... Clear Apply

No.	Time	Source	Destination	Protocol	Length	Info
535	296.031321	10.30.56.147	10.30.56.255	NBNS	92	Name query NB RESTLESZ.SU<00>
536	296.216938	10.30.56.147	10.30.56.255	NBNS	92	Name query NB RESTLESZ.SU<00>
537	296.327382	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=24/6144, ttl=64
538	296.326098	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=24/6144, ttl=55
539	296.782332	10.30.56.147	10.30.56.255	NBNS	92	Name query NB RESTLESZ.SU<00>
540	296.967852	10.30.56.147	10.30.56.255	NBNS	92	Name query NB RESTLESZ.SU<00>
541	297.328555	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=25/6400, ttl=64
542	297.523765	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=25/6400, ttl=55
543	297.847660	10.30.56.147	10.30.56.255	NBNS	92	Name query NB DEVICESTA.RU<00>
544	298.329698	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=26/6656, ttl=64
545	298.326096	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=26/6656, ttl=55
546	298.598028	10.30.56.147	10.30.56.255	NBNS	92	Name query NB DEVICESTA.RU<00>
547	299.331018	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=27/6912, ttl=64
548	299.348644	10.30.56.147	10.30.56.255	NBNS	92	Name query NB DEVICESTA.RU<00>
549	299.526564	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=27/6912, ttl=55
550	300.332485	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=28/7168, ttl=64
551	300.568894	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=28/7168, ttl=55
552	301.333968	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=29/7424, ttl=64
553	301.526376	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=29/7424, ttl=55
554	302.335283	10.30.56.105	4.2.2.1	ICMP	98	Echo (ping) request id=0x0eb3, seq=30/7680, ttl=64
555	302.527718	4.2.2.1	10.30.56.105	ICMP	98	Echo (ping) reply id=0x0eb3, seq=30/7680, ttl=55

Frame 1: 60 bytes on wire (480 bits), 60 bytes captured (480 bits)

Ethernet II, Src: 6c:3b:e5:31:2f:d2 (6c:3b:e5:31:2f:d2), Dst: Broadcast (ff:ff:ff:ff:ff:ff)

Address Resolution Protocol (request)

```

0000  ff ff ff ff ff ff 6c 3b e5 31 2f d2 08 06 00 01  ....l; .1/....
0010  08 00 06 04 00 01 6c 3b e5 31 2f d2 0a 1e 38 71  ....l; .1/...8q
0020  00 00 00 00 00 0a 1e 38 6e 00 00 00 00 00 00  ....8n.....
0030  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  ....

```

5. Determine MAC address values of a)multicast b)broadcast

a)ping 224.0.0.1 MAC address: 33:33:00:00:00:fb

b)MAC address: ff:ff:ff:ff:ff:ff