ADVANCED COMPUTER NETWORKS LAB: ASSIGNMENT

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Contents

Problem 1

Install wireshark to sniffer capture

1) To install wireshark:-

sudo apt-get install wireshark

2) Do ARP Flush:-

sudo ip -s -s neigh flush all

```
parvathy@parvathy-HP-Compaq-6200-Pro-MT-PC:~$ sudo ip -s -s neigh flush all
10.30.56.1 dev eth0 lladdr 00:1f:9d:f2:bc:c9 ref 72 used 1781/4/1781 probes 1 REACHABLE

*** Round 1, deleting 1 entries ***
*** Flush is complete after 1 round ***
parvathy@parvathy-HP-Compaq-6200-Pro-MT-PC:~$ arp -n
Address                  HWtype  HWaddress          Flags Mask        Iface
10.30.56.1               ether   00:1f:9d:f2:bc:c9  C                 eth0
parvathy@parvathy-HP-Compaq-6200-Pro-MT-PC:~$
```

3) Ping local machine:-

ping 10.30.56.109

21	12.899303	10.30.56.114	10.30.56.109	ICMP	98 Echo (ping) request id=0x0de2, seq=3/768, ttl=64
22	12.899916	10.30.56.109	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0de2, seq=3/768, ttl=64
23	13.103830	10.30.56.113	224.0.0.1	ICMP	98 Echo (ping) request id=0x10a3, seq=746/59906, ttl=1
24	13.899337	10.30.56.114	10.30.56.109	ICMP	98 Echo (ping) request id=0x0de2, seq=4/1024, ttl=64
25	13.900057	10.30.56.109	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0de2, seq=4/1024, ttl=64
26	14.111743	10.30.56.113	224.0.0.1	ICMP	98 Echo (ping) request id=0x10a3, seq=747/60162, ttl=1
27	14.899330	10.30.56.114	10.30.56.109	ICMP	98 Echo (ping) request id=0x0de2, seq=5/1280, ttl=64
28	14.899960	10.30.56.109	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0de2, seq=5/1280, ttl=64
29	15.119853	10.30.56.113	224.0.0.1	ICMP	98 Echo (ping) request id=0x10a3, seq=748/60418, ttl=1
30	15.899332	10.30.56.114	10.30.56.109	ICMP	98 Echo (ping) request id=0x0de2, seq=6/1536, ttl=64
31	15.900010	10.30.56.109	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0de2, seq=6/1536, ttl=64
32	15.901441	6c:3b:e5:31:2f:d7	HewlettP_0d:28:f9	ARP	60 Who has 10.30.56.109? Tell 10.30.56.114
33	15.901454	HewlettP_0d:28:f9	6c:3b:e5:31:2f:d7	ARP	42 10.30.56.114 is at ac:16:2d:0d:28:f9
34	16.127722	10.30.56.113	224.0.0.1	ICMP	98 Echo (ping) request id=0x10a3, seq=749/60674, ttl=1
35	16.653017	10.30.56.147	10.30.56.255	NBNS	92 Name query NB RESTLESZ.SU<00>

4)

arp -n

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parvathy@parvathy-HP-Compaq-6200-Pro-MT-PC:~$ arp -n
Address                  HWtype  HWaddress          Flags Mask        Iface
10.30.56.109             ether   6c:3b:e5:31:2f:d7  C                 eth0
10.30.56.1               ether   00:1f:9d:f2:bc:c9  C                 eth0
parvathy@parvathy-HP-Compaq-6200-Pro-MT-PC:~$
```

5) Ping 4.2.2.1

ping 4.2.2.1

79	43.437190	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=2/512, ttl=55
80	44.243128	10.30.56.114	4.2.2.1	ICMP	98 Echo (ping) request id=0x0e6b, seq=3/768, ttl=64
81	44.351624	10.30.56.115	224.0.0.1	ICMP	98 Echo (ping) request id=0x122b, seq=600/22530, ttl=1
82	44.445617	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=3/768, ttl=55
83	45.244529	10.30.56.114	4.2.2.1	ICMP	98 Echo (ping) request id=0x0e6b, seq=4/1024, ttl=64
84	45.359617	10.30.56.115	224.0.0.1	ICMP	98 Echo (ping) request id=0x122b, seq=601/22786, ttl=1
85	45.437221	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=4/1024, ttl=55
86	46.042596	6c:3b:e5:3e:0a:44	Broadcast	ARP	60 Who has 10.30.56.112? Tell 10.30.56.124
87	46.246169	10.30.56.114	4.2.2.1	ICMP	98 Echo (ping) request id=0x0e6b, seq=5/1280, ttl=64
88	46.367656	10.30.56.115	224.0.0.1	ICMP	98 Echo (ping) request id=0x122b, seq=602/23042, ttl=1
89	46.437858	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=5/1280, ttl=55
90	47.247784	10.30.56.114	4.2.2.1	ICMP	98 Echo (ping) request id=0x0e6b, seq=6/1536, ttl=64
91	47.375721	10.30.56.115	224.0.0.1	ICMP	98 Echo (ping) request id=0x122b, seq=603/23298, ttl=1
92	47.452681	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=6/1536, ttl=55
93	48.249573	10.30.56.114	4.2.2.1	ICMP	98 Echo (ping) request id=0x0e6b, seq=7/1792, ttl=64
94	48.383598	10.30.56.115	224.0.0.1	ICMP	98 Echo (ping) request id=0x122b, seq=604/23554, ttl=1
95	48.449698	4.2.2.1	10.30.56.114	ICMP	98 Echo (ping) reply id=0x0e6b, seq=7/1792, ttl=55

```
rame 1: 98 bytes on wire (784 bits), 98 bytes captured (784 bits)
thernet II, Src: 6c:3b:e5:3e:0a:cc (6c:3b:e5:3e:0a:cc), Dst: IPv4mcast_00:00:01 (01:00:5e:00:00:01)
nternet Protocol Version 4, Src: 10.30.56.115 (10.30.56.115), Dst: 224.0.0.1 (224.0.0.1)
nternet Control Message Protocol
```

6) Multicast

ping 224.0.0.1

MAC: 01:00:5e:00:00:01

7) Broadcast

MAC address: ff:ff:ff:ff:ff:ff