Networking Lab: Networking Assignment #2

Sreelakshmy R

Contents

Problem 1

1.Ping another IP address

```
Answer:
 list arp table                : arp -n
 clear the arp table           : sudo ip -s -s neigh flush all

5
 start wirshark and start capturing

 Ping another IP address       : ping 10.30.56.101
 This will be captured by wireshark.
 <screen shots>
```

Screenshot:

list arp table and clear the arp table :

```
sree@sree-HP-Compaq-Pro-6300-MT:~$ sudo ip -s -s neigh flush all
10.30.56.1 dev eth0 lladdr 00:1f:9d:f2:bc:c9 ref 88 used 2/2/2 probes 4 REACHABLE

*** Round 1, deleting 1 entries ***
*** Flush is complete after 1 round ***
sree@sree-HP-Compaq-Pro-6300-MT:~$ arp -n
Address                  HWtype  HWaddress           Flags Mask            Iface
10.30.56.1                       (incomplete)                              eth0
sree@sree-HP-Compaq-Pro-6300-MT:~$ █
```

Pinging another IP address:

```
sree@sree-HP-Compaq-Pro-6300-MT:~$ ping 10.30.56.101
PING 10.30.56.101 (10.30.56.101) 56(84) bytes of data.
64 bytes from 10.30.56.101: icmp_req=1 ttl=64 time=1.32 ms
64 bytes from 10.30.56.101: icmp_req=2 ttl=64 time=0.667 ms
64 bytes from 10.30.56.101: icmp_req=3 ttl=64 time=0.652 ms
^Z
[17]+  Stopped                 ping 10.30.56.101
sree@sree-HP-Compaq-Pro-6300-MT:~$ █
```

lisitng the arp table :

```
sree@sree-HP-Compaq-Pro-6300-MT:~$ arp -n
Address                  HWtype  HWaddress           Flags Mask            Iface
10.30.56.1               ether   00:1f:9d:f2:bc:c9   C                     eth0
10.30.56.101             ether   88:51:fb:42:80:72   C                     eth0
```

wireshark:

No.	Time	Source	Destination	Protocol	Length	Info
5	3.103825	6c:3b:e5:31:2f:a5	Broadcast	ARP	42	Who has 10.30.56.101? Tell 10.30.56.123
6	3.104445	88:51:fb:42:80:72	6c:3b:e5:31:2f:a5	ARP	60	10.30.56.101 is at 88:51:fb:42:80:72
7	3.104457	10.30.56.123	10.30.56.101	ICMP	98	Echo (ping) request id=0x1455, seq=1/256, ttl=64
8	3.105165	10.30.56.101	10.30.56.123	ICMP	98	Echo (ping) reply id=0x1455, seq=1/256, ttl=64
9	3.227444	10.30.56.147	10.30.56.255	NBNS	92	Name query NB IMAGE.JPG<00>
10	3.460883	10.30.56.147	10.30.56.255	NBNS	92	Name query NB PIC.JPG<00>
11	3.836262	Hewlett-_98:d7:a6	Broadcast	ARP	60	Who has 10.30.56.1? Tell 10.30.56.147
12	3.978386	10.30.56.147	10.30.56.255	NBNS	92	Name query NB IMAGE.JPG<00>
13	4.031847	10.30.56.115	224.0.0.1	ICMP	98	Echo (ping) request id=0x0f4d, seq=400/36865, ttl=1
14	4.105283	10.30.56.123	10.30.56.101	ICMP	98	Echo (ping) request id=0x1455, seq=2/512, ttl=64
15	4.105929	10.30.56.101	10.30.56.123	ICMP	98	Echo (ping) reply id=0x1455, seq=2/512, ttl=64
16	4.211552	10.30.56.147	10.30.56.255	NBNS	92	Name query NB PIC.JPG<00>
17	4.728965	10.30.56.147	10.30.56.255	NBNS	92	Name query NB IMAGE.JPG<00>
18	4.961926	10.30.56.147	10.30.56.255	NBNS	92	Name query NB PIC.JPG<00>
19	5.039852	10.30.56.115	224.0.0.1	ICMP	98	Echo (ping) request id=0x0f4d, seq=401/37121, ttl=1
20	5.105901	10.30.56.123	10.30.56.101	ICMP	98	Echo (ping) request id=0x1455, seq=3/768, ttl=64
21	5.106521	10.30.56.101	10.30.56.123	ICMP	98	Echo (ping) reply id=0x1455, seq=3/768, ttl=64
22	6.047975	10.30.56.115	224.0.0.1	ICMP	98	Echo (ping) request id=0x0f4d, seq=402/37377, ttl=1
23	6.105902	10.30.56.123	10.30.56.101	ICMP	98	Echo (ping) request id=0x1455, seq=4/1024, ttl=64
24	6.106530	10.30.56.101	10.30.56.123	ICMP	98	Echo (ping) reply id=0x1455, seq=4/1024, ttl=64

Problem 2

2. Ping 4.2.2.1

```
Answer:
 list arp table              :  arp -n
 clear the arp table         :  sudo ip -s -s neigh flush all

5   start wirshark and start capturing

    Ping another IP address    : ping 4.2.2.1
    This will be captured by wireshark.
    <screen shots>
```

Screenshot:

Pinging 4.2.2.1

Wireshark:

Problem 3

2. Ping 4.2.2.1

```
Answer:
 list arp table                  :  arp -n
 clear the arp table             :  sudo ip -s -s neigh flush all

 start wirshark and start capturing

 Ping another IP address        : ping 224.0.0.1
 This will be captured by wireshark.
 <screen shots>
```

Screenshot:

Pinging multicast 224.0.0.1

Wireshark: