Networking Lab: Networking Assignment #2

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Contents

Problem 1

1.Ping another IP address

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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 10.30.56.107
 This will be captured by wireshark.
 <screen shots>
```

Screenshot:
list arp table and clear 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
sree@sree-HP-Compaq-Pro-6300-MT:~$ sudo ip -s -s neigh flush all
[sudo] password for sree:
10.30.56.1 dev eth0 lladdr 00:1f:9d:f2:bc:c9 ref 35 used 27/27/27 probes 1 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 10.30.56.107
PING 10.30.56.107 (10.30.56.107) 56(84) bytes of data.
64 bytes from 10.30.56.107: icmp_req=1 ttl=64 time=1.47 ms
64 bytes from 10.30.56.107: icmp_req=2 ttl=64 time=0.636 ms
64 bytes from 10.30.56.107: icmp_req=3 ttl=64 time=0.741 ms
64 bytes from 10.30.56.107: icmp_req=4 ttl=64 time=0.639 ms
64 bytes from 10.30.56.107: icmp_req=5 ttl=64 time=0.763 ms
64 bytes from 10.30.56.107: icmp_req=6 ttl=64 time=0.629 ms
64 bytes from 10.30.56.107: icmp_req=7 ttl=64 time=0.791 ms
64 bytes from 10.30.56.107: icmp_req=8 ttl=64 time=0.644 ms
64 bytes from 10.30.56.107: icmp_req=9 ttl=64 time=0.784 ms
64 bytes from 10.30.56.107: icmp_req=10 ttl=64 time=0.635 ms
64 bytes from 10.30.56.107: icmp_req=11 ttl=64 time=0.770 ms
64 bytes from 10.30.56.107: icmp_req=12 ttl=64 time=0.594 ms
64 bytes from 10.30.56.107: icmp_req=13 ttl=64 time=0.772 ms
64 bytes from 10.30.56.107: icmp_req=14 ttl=64 time=0.578 ms
64 bytes from 10.30.56.107: icmp_req=15 ttl=64 time=0.784 ms
64 bytes from 10.30.56.107: icmp_req=16 ttl=64 time=0.589 ms
64 bytes from 10.30.56.107: icmp_req=17 ttl=64 time=0.768 ms
64 bytes from 10.30.56.107: icmp_req=18 ttl=64 time=0.581 ms
```

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
10.30.56.107             ether   6c:3b:e5:31:2f:a8   C                 eth0
```

wireshark:

20 6.870482	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=1/256, ttl=64
21 6.871183	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=1/256, ttl=64
22 7.871305	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=2/512, ttl=64
23 7.871923	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=2/512, ttl=64
24 7.998865	Cisco_7f:1b:2e	Spanning-tree-(for-br	STP	60	Conf. Root = 32768/15/00:0c:31:65:a9:00 Cost = 4 Port = 0x802e
25 8.058311	8.8.8.8	10.30.56.123	DNS	108	Standard query response A 91.189.95.54 A 91.189.95.55
26 8.058333	10.30.56.123	8.8.8.8	ICMP	136	Destination unreachable (Port unreachable)
27 8.692280	74.125.236.125	10.30.56.123	TLSv1	103	Application Data
28 8.692302	10.30.56.123	74.125.236.125	TCP	54	41040 > https [RST] Seq=1 Win=0 Len=0
29 8.870416	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=3/768, ttl=64
30 8.871143	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=3/768, ttl=64
31 8.954618	74.125.236.112	10.30.56.123	TCP	60	https > 43662 [RST] Seq=1 Win=0 Len=0
32 9.870421	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=4/1024, ttl=64
33 9.871041	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=4/1024, ttl=64
34 9.999966	Cisco_7f:1b:2e	Spanning-tree-(for-br	STP	60	Conf. Root = 32768/15/00:0c:31:65:a9:00 Cost = 4 Port = 0x802e
35 10.870418	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=5/1280, ttl=64
36 10.871163	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=5/1280, ttl=64
37 11.534549	74.125.236.125	10.30.56.123	TCP	60	https > 41040 [RST] Seq=1 Win=0 Len=0
38 11.675153	74.125.236.112	10.30.56.123	TCP	60	https > 43662 [RST] Seq=1 Win=0 Len=0
39 11.870422	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=6/1536, ttl=64
40 11.871033	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=6/1536, ttl=64
41 11.878471	6c:3b:e5:31:2f:a8	6c:3b:e5:31:2f:a5	ARP	60	Who has 10.30.56.123? Tell 10.30.56.107
42 11.878486	6c:3b:e5:31:2f:a5	6c:3b:e5:31:2f:a8	ARP	42	10.30.56.123 is at 6c:3b:e5:31:2f:a5
43 11.998879	Cisco_7f:1b:2e	Spanning-tree-(for-br	STP	60	Conf. Root = 32768/15/00:0c:31:65:a9:00 Cost = 4 Port = 0x802e
44 12.870419	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=7/1792, ttl=64
45 12.871192	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=7/1792, ttl=64
46 13.870481	10.30.56.123	10.30.56.107	ICMP	98	Echo (ping) request id=0x16e5, seq=8/2048, ttl=64
47 13.871101	10.30.56.107	10.30.56.123	ICMP	98	Echo (ping) reply id=0x16e5, seq=8/2048, ttl=64

Problem 2

2. Ping google.com

```
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 google.com
 This will be captured by wireshark.
 <screen shots>
```

Screenshot:

Pinging google.com

Wireshark: