

Lab 7 CS310 Group 13

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DNS Questions

No.	Time	Source	Destination	Protocol	Length	Info
2	0.665127	172.21.184.219	172.21.176.1	DNS	82	Standard query 0xaa6a NS <Root> OPT
4	1.564997	172.21.176.1	172.21.184.219	DNS	1139	Standard query response 0xaa6a NS <Root> NS g.root-servers.net NS j.root-servers.net NS e.root-servers.net NS l.root-servers.net
5	1.568101	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xf740 A g.root-servers.net
6	1.568101	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xb83a AAAA g.root-servers.net
7	1.569159	172.21.176.1	172.21.184.219	DNS	124	Standard query response 0xb83a AAAA g.root-servers.net AAAA 2001:500:12::d8d
8	1.569322	172.21.176.1	172.21.184.219	DNS	112	Standard query response 0xf740 A g.root-servers.net A 192.112.36.4
9	1.569709	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xc27 A j.root-servers.net
10	1.569709	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xb221 AAAA j.root-servers.net
11	1.570101	172.21.176.1	172.21.184.219	DNS	112	Standard query response 0xc27 A j.root-servers.net A 192.58.128.30
12	1.570141	172.21.176.1	172.21.184.219	DNS	124	Standard query response 0xb221 AAAA j.root-servers.net AAAA 2001:503:c27::2:30
13	1.570496	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xae12 A e.root-servers.net
14	1.570496	172.21.184.219	172.21.176.1	DNS	78	Standard query 0x2615 AAAA e.root-servers.net
15	1.571207	172.21.176.1	172.21.184.219	DNS	112	Standard query response 0xae12 A e.root-servers.net A 192.203.230.10
16	1.571346	172.21.176.1	172.21.184.219	DNS	124	Standard query response 0x2615 AAAA e.root-servers.net AAAA 2001:500:a8::e
17	1.571705	172.21.184.219	172.21.176.1	DNS	78	Standard query 0x2970 A l.root-servers.net
18	1.571705	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xfd76 AAAA l.root-servers.net
19	1.572077	172.21.176.1	172.21.184.219	DNS	112	Standard query response 0x2970 A l.root-servers.net A 199.7.83.42
20	1.572208	172.21.176.1	172.21.184.219	DNS	124	Standard query response 0xfd76 AAAA l.root-servers.net AAAA 2001:500:9f::42
21	1.572603	172.21.184.219	172.21.176.1	DNS	78	Standard query 0xbd83 A d.root-servers.net

> Frame 2: 82 bytes on wire (656 bits)	0000	00 15 5d 85 d0 01 00 15 5d 85 d8 82 08 00 45 00	..].....].....E.
▼ Ethernet II, Src: Microsof_85:d8:82	0010	00 44 9d 66 00 00 40 11 1c 3b ac 15 b8 db ac 15	.D.f..@. ;.....
> Destination: Microsof_85:d0:01 (0	0020	b0 01 b5 66 00 35 00 30 b5 19 aa 6a 01 20 00 01	...f.5.0 ...j. ..
> Source: Microsof_85:d8:82 (00:15:	0030	00 00 00 00 00 01 00 00 02 00 01 00 00 29 10 00)....
Type: IPv4 (0x0800)	0040	00 00 80 00 00 0c 00 0a 00 08 ff b7 42 f8 f3 6dB...m
▼ Internet Protocol Version 4, Src: 17	0050	5e de	^.
0100 = Version: 4			
.... 0101 = Header Length: 20 byt			
> Differentiated Services Field: 0x			
Total Length: 68			
Identification: 0x9d66 (40294)			
> 000. = Flags: 0x0			
...0 0000 0000 0000 = Fragment Of			
Time to Live: 64			
Protocol: UDP (17)			
Header Checksum: 0x1c3b [validati			
[Header checksum status: Unverifi			
Source Address: 172.21.184.219			

```
dig +trace www.google.com

<<>> DiG 9.16.1-Ubuntu <<>> +trace www.google.com
; global options: +cmd

31554 IN NS g.root-servers.net.
31554 IN NS j.root-servers.net.
31554 IN NS e.root-servers.net.
31554 IN NS l.root-servers.net.
31554 IN NS d.root-servers.net.
31554 IN NS a.root-servers.net.
31554 IN NS b.root-servers.net.
31554 IN NS i.root-servers.net.
31554 IN NS m.root-servers.net.
31554 IN NS h.root-servers.net.
31554 IN NS c.root-servers.net.
31554 IN NS k.root-servers.net.
31554 IN NS f.root-servers.net.
31554 IN RRSIG NS 8 0 518400 20221114050000 20221101040000 18733 . gHM9jrY3/k
ebZPfWwV/sATTPgus/Dpjsus+gSrsxLI mGmyEbvoRPkcAV nFP29V1k4FNkLm2M+PY3PhyYPcEG/kFTyYrtCGYS0eSLo9K+TDaAQL/o Vj0pMX
hFs9vHG60IP02lT9jk3TED402BvIAzvCFjw2CsDIKkv0sh4t6E z0kjaHKqEzWPQNqjf2E7Y6pp6YBQlucChKrY772n4jp/G8vld0DX3dzq 4k
Kkl9qcJnTpqvVsWRBcncgz+qNSmSJ05zockBPLXafxzCrueVf6dsHL zLt4bckwGiPrQW5aqMc2IJSY+VZ24eUxrqjJb/zRfb58uXpeksgAgM6
z Iv+RwQ==
; Received 1097 bytes from 172.21.176.1#53(172.21.176.1) in 974 ms

com. 172800 IN NS a.gtld-servers.net.
com. 172800 IN NS b.gtld-servers.net.
```

Answers-

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1. UDP
2. Source Port -46438 , Destination Port - 53
3. 172.21.176.1 and 172.21.184.219
4. 1.56 seconds
5. 172.21.184.219
- 6.

LOCATION	
Country	United States (US)
Continent	North America (NA)
Coordinates	37.751 (lat) / -97.822 (long)
Time	2022-11-01 05:50:02 (America/Chicago)
NETWORK	
IP address	72.21.176.1
Hostname	1.176.21.72.ezecastlehosting.com
Provider	ECINET
ASN	14717

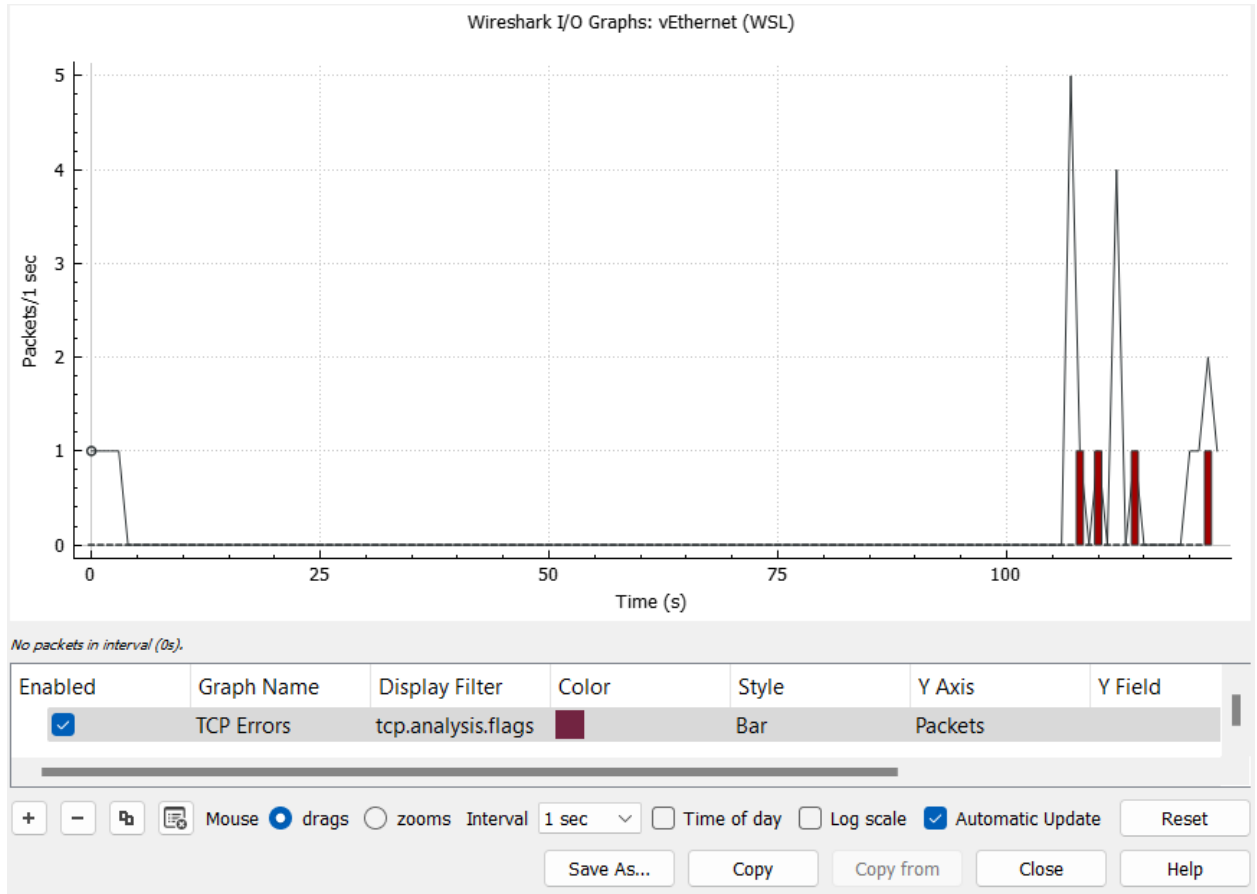
HTTP Questions

1. UDP, TCP, HTTP, DNS
2. 0.0439 sec
3. 04:92:26:20:1f:d0
4. Ethernet II, Src: IntelCor_e3:e6:ee (28:d0:ea:e3:e6:ee), Dst: ASUSTekC_20:1f:d0 (04:92:26:20:1f:d0)

Winget Ping- Answers

1. dev/null is called the blackhole of the linux, everything written in dev/null is considered lost.

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2. Throughput max is 5
3. After setting limit max throughput is 1

Measure latency using Ping

1. 127.0.0.1: 0.044 ms
 www.google.com: 109.404 ms
 www.iitmandi.ac.in: 449.091 ms
2. Relative Ordering: www.iitmandi.ac.in > www.google.com > 127.0.0.1
 Latency is affected by website content, distance, etc.
 Among the three pinged sites the website content usually contributes to the observed result.