

CN LAB WEEK8

NAME: T. LOHITH SRINIVAS

SRN: PES2UG19CS203

SECTION:D

HOST HA:

Apply a display filter ... <Ctrl-/>						
No.	Time	Source	Destination	Protocol	Length	Info
439	182.398811285	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=54/13824, ttl=62 (request...
440	183.398959982	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=55/14080, ttl=64 (reply i...
441	183.399798209	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=55/14080, ttl=62 (request...
442	183.421843840	Tp-LinkT 00:81:a7		ARP	62	Who has 172.16.10.1? Tell 172.16.10.201
443	183.421868956	Dell a2:84:73		ARP	44	172.16.10.1 is at 00:4e:01:a2:84:73
444	184.409022596	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=56/14336, ttl=64 (reply i...
445	184.402905774	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=56/14336, ttl=62 (request...
446	185.401265981	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=57/14592, ttl=64 (reply i...
447	185.403138241	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=57/14592, ttl=62 (request...
448	186.403260737	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=58/14848, ttl=64 (reply i...
449	186.405154643	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=58/14848, ttl=62 (request...
450	187.404563516	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=59/15104, ttl=64 (reply i...
451	187.406526608	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=59/15104, ttl=62 (request...
452	188.405647036	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=60/15360, ttl=64 (reply i...
453	188.407587301	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=60/15360, ttl=62 (request...
454	189.406707841	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=61/15616, ttl=64 (reply i...
455	189.408627508	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=61/15616, ttl=62 (request...
456	110.408627473	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=62/15872, ttl=64 (reply i...
457	110.410615987	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=62/15872, ttl=62 (request...
458	111.409864600	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=63/16128, ttl=64 (reply i...
459	111.411798205	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=63/16128, ttl=62 (request...
460	112.411045168	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=64/16384, ttl=64 (reply i...
461	112.413011297	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=64/16384, ttl=62 (request...
462	113.412195772	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=65/16640, ttl=64 (reply i...
463	113.414130321	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=65/16640, ttl=62 (request...
464	114.413368482	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=66/16896, ttl=64 (reply i...
465	114.415365529	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=66/16896, ttl=62 (request...
466	115.414610159	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=67/17152, ttl=64 (reply i...
467	115.416500182	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=67/17152, ttl=62 (request...
468	116.415704141	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=68/17408, ttl=64 (reply i...
469	116.417629220	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=68/17408, ttl=62 (request...
470	116.608831252	Dell a2:84:73		ARP	44	Who has 172.16.10.201? Tell 172.16.10.1
471	116.609516426	Tp-LinkT 00:81:a7		ARP	62	172.16.10.201 is at 28:ee:52:00:81:a7
472	117.416806875	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=69/17664, ttl=64 (reply i...
473	117.418590697	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=69/17664, ttl=62 (request...
474	118.418985031	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=70/17920, ttl=64 (reply i...
475	118.420415323	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=70/17920, ttl=62 (request...
476	119.420597927	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0000, seq=71/18176, ttl=64 (reply i...
477	119.422554756	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0000, seq=71/18176, ttl=62 (request...

HOST HD:

Apply a display filter ... <Ctrl-/>						
No.	Time	Source	Destination	Protocol	Length	Info
520	128.387979193	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=54/13824, ttl=64 (request...)
521	129.388996932	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=55/14080, ttl=62 (reply i...
522	129.389036151	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=55/14080, ttl=64 (request...)
523	130.391130062	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=56/14336, ttl=62 (reply i...
524	130.391170075	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=56/14336, ttl=64 (request...)
525	131.392381959	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=57/14592, ttl=62 (reply i...
526	131.392402041	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=57/14592, ttl=64 (request...)
527	132.394272102	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=58/14848, ttl=62 (reply i...
528	132.394311712	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=58/14848, ttl=64 (request...)
529	133.395648951	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=59/15104, ttl=62 (reply i...
530	133.395687752	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=59/15104, ttl=64 (request...)
531	134.396703583	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=60/15360, ttl=62 (reply i...
532	134.396742680	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=60/15360, ttl=64 (request...)
533	135.397727977	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=61/15616, ttl=62 (reply i...
534	135.397767297	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=61/15616, ttl=64 (request...)
535	136.399701552	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=62/15872, ttl=62 (reply i...
536	136.399740309	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=62/15872, ttl=64 (request...)
537	137.400928629	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=63/16128, ttl=62 (reply i...
538	137.400967687	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=63/16128, ttl=64 (request...)
539	138.402086570	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=64/16384, ttl=62 (reply i...
540	138.402126042	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=64/16384, ttl=64 (request...)
541	139.403228878	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=65/16640, ttl=62 (reply i...
542	139.403268093	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=65/16640, ttl=64 (request...)
543	140.404439638	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=66/16896, ttl=62 (reply i...
544	140.404478723	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=66/16896, ttl=64 (request...)
545	141.405654424	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=67/17152, ttl=62 (reply i...
546	141.405694353	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=67/17152, ttl=64 (request...)
547	142.406621424	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=68/17408, ttl=62 (reply i...
548	142.406660956	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=68/17408, ttl=64 (request...)
549	143.407761414	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=69/17664, ttl=62 (reply i...
550	143.407800823	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=69/17664, ttl=64 (request...)
551	144.409582304	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=70/17920, ttl=62 (reply i...
552	144.409621742	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=70/17920, ttl=64 (request...)

NOTE: FOR ROUTERS PART ,WE HAVE CAPTURED ANY INTERFACE BY MISTAKE.

(FOR PROOF THAT WE HAVE CONFIGURED THE ROUTERS ,WE HAVE ATTACHED THE NECESSARY SCREENSHOTS)

ROUTER A:

Capturing from any						
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help						
Apply a display filter ... <Ctrl-/>						
No.	Time	Source	Destination	Protocol	Length	Info
1198	211.873363223	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=130/33280, ttl=63 (request...)
1199	211.873385229	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=130/33280, ttl=62 (request...)
1200	212.873955881	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=131/33536, ttl=64 (no res...)
1201	212.873979457	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=131/33536, ttl=63 (reply ...)
1202	212.875436191	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=131/33536, ttl=63 (request...)
1203	212.875458509	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=131/33536, ttl=62 (request...)
1204	213.875119259	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=132/33792, ttl=64 (no res...)
1205	213.875142619	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=132/33792, ttl=63 (reply ...)
1206	213.876441856	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=132/33792, ttl=63 (request...)
1207	213.876464506	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=132/33792, ttl=62 (request...)
1208	214.876259334	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=133/34048, ttl=64 (no res...)
1209	214.876282317	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=133/34048, ttl=63 (reply ...)
1210	214.877728103	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=133/34048, ttl=63 (request...)
1211	214.877750081	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=133/34048, ttl=62 (request...)
1212	215.877494143	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=134/34304, ttl=64 (no res...)
1213	215.877517278	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=134/34304, ttl=63 (reply ...)
1214	215.878971306	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=134/34304, ttl=63 (request...)
1215	215.878993908	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=134/34304, ttl=62 (request...)
1216	216.878853367	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=135/34560, ttl=64 (no res...)
1217	216.878876770	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=135/34560, ttl=63 (reply ...)
1218	216.880093761	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=135/34560, ttl=63 (request...)
1219	216.880116185	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=135/34560, ttl=62 (request...)
1220	217.881072598	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=136/34816, ttl=64 (no res...)
1221	217.881095665	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=136/34816, ttl=63 (reply ...)
1222	217.882546192	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=136/34816, ttl=63 (request...)
1223	217.882568442	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=136/34816, ttl=62 (request...)
1224	218.882644113	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=137/35072, ttl=64 (no res...)
1225	218.882665451	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=137/35072, ttl=63 (reply ...)
1226	218.884017783	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=137/35072, ttl=63 (request...)
1227	218.884030569	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=137/35072, ttl=62 (request...)
1228	219.884016822	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=138/35328, ttl=64 (no res...)
1229	219.884040327	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping) request id=0x0008, seq=138/35328, ttl=63 (reply ...)
1230	219.885256480	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=138/35328, ttl=63 (request...)
1231	219.885272480	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping) reply id=0x0008, seq=138/35328, ttl=62 (request...)

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Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
    RX packets 20 bytes 6760 (6.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
    RX packets 47 bytes 6819 (6.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 97 bytes 15423 (15.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 842 bytes 62742 (62.7 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
[sudo] password for student:
Cannot find device "enx28ee520081a7"

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
    RX packets 20 bytes 6760 (6.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
    RX packets 49 bytes 6965 (6.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 107 bytes 16498 (16.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
    RX packets 47 bytes 6819 (6.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 97 bytes 15423 (15.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 842 bytes 62742 (62.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
[sudo] password for student:
Cannot find device "enx28ee520081a7"

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
    RX packets 20 bytes 6760 (6.7 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
    RX packets 49 bytes 6965 (6.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 107 bytes 16498 (16.4 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1083 bytes 79855 (79.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

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Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 842 bytes 62742 (62.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 842 bytes 62742 (62.7 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee52001a7
[sudo] password for student:
Cannot find device "enx28ee52001a7"
student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 49 bytes 6965 (6.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 107 bytes 16498 (16.4 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1083 bytes 79855 (79.8 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1083 bytes 79855 (79.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
TX packets 12 bytes 1284 (1.2 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 50 bytes 7038 (7.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 111 bytes 16893 (16.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
Cannot find device "enx28ee52001a7"
student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.10.201/24 dev enx28ee520081a7
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 49 bytes 6965 (6.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 107 bytes 16498 (16.4 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1083 bytes 79855 (79.8 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1083 bytes 79855 (79.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
TX packets 12 bytes 1284 (1.2 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 50 bytes 7038 (7.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 111 bytes 16893 (16.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 0 bytes 0 (0.0 B)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 49 bytes 6965 (6.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 107 bytes 16498 (16.4 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1083 bytes 79855 (79.8 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1083 bytes 79855 (79.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 1284 (1.2 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 50 bytes 7038 (7.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 111 bytes 16893 (16.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1083 bytes 79855 (79.8 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1083 bytes 79855 (79.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 1284 (1.2 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 50 bytes 7038 (7.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 111 bytes 16893 (16.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1165 bytes 85771 (85.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1165 bytes 85771 (85.7 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.conf.all.send_redirects=0
net.ipv4.conf.all.send_redirects = 0
student@pesu-OptiPlex-3070:~$ sysctl net.ipv4.ip_forward
net.ipv4.ip_forward = 0
student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.ip_forward=1
net.ipv4.ip_forward = 1
```



```
Activities Terminal Mar 31 12:19 student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~ student@pesu-OptiPlex-3070: ~
inet 172.16.11.1 netmask 255.255.255.0 broadcast 0.0.0.0
ether 00:4e:01:a2:94:78 txqueuelen 1000 (Ethernet)
RX packets 20 bytes 6760 (6.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 1284 (1.2 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee520081a7: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
inet 172.16.10.201 netmask 255.255.255.0 broadcast 0.0.0.0
ether 28:ee:52:00:81:a7 txqueuelen 1000 (Ethernet)
RX packets 50 bytes 7038 (7.0 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 111 bytes 16893 (16.8 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
inet 127.0.0.1 netmask 255.0.0.0
inet6 ::1 prefixlen 128 scopeid 0x10<host>
loop txqueuelen 1000 (Local Loopback)
RX packets 1165 bytes 85771 (85.7 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 1165 bytes 85771 (85.7 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.conf.all.send_redirects=0
net.ipv4.conf.all.send_redirects = 0
student@pesu-OptiPlex-3070:~$ sysctl net.ipv4.ip_forward
net.ipv4.ip_forward = 0
student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.ip_forward=1
net.ipv4.ip_forward = 1
student@pesu-OptiPlex-3070:~$ sudo ip route add 172.16.12.0/24 via 172.16.11.201
student@pesu-OptiPlex-3070:~$ ip route show
169.254.0.0/16 dev enx28ee520081a7 scope link metric 1000
172.16.10.0/24 dev enx28ee520081a7 proto kernel scope link src 172.16.10.201
172.16.11.0/24 dev enp1s0 proto kernel scope link src 172.16.11.1
172.16.12.0/24 via 172.16.11.201 dev enp1s0
student@pesu-OptiPlex-3070:~$ ping 172.16.11.201
PING 172.16.11.201 (172.16.11.201) 56(84) bytes of data:
64 bytes from 172.16.11.201: icmp_seq=1 ttl=64 time=0.578 ms
64 bytes from 172.16.11.201: icmp_seq=2 ttl=64 time=0.730 ms
64 bytes from 172.16.11.201: icmp_seq=3 ttl=64 time=0.731 ms
^C
--- 172.16.11.201 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2038ms
rtt min/avg/max/mdev = 0.578/0.679/0.731/0.071 ms
student@pesu-OptiPlex-3070:~$ ip route show
169.254.0.0/16 dev enx28ee520081a7 scope link metric 1000
172.16.10.0/24 dev enx28ee520081a7 proto kernel scope link src 172.16.10.201
172.16.11.0/24 dev enp1s0 proto kernel scope link src 172.16.11.1
172.16.12.0/24 via 172.16.11.201 dev enp1s0
student@pesu-OptiPlex-3070:~$ sudo ip route add 172.16.10.0/24 via 172.16.10.1
RTNETLINK answers: File exists
student@pesu-OptiPlex-3070:~$
```

ROUTER B:

<div></div> <div>a display filter ... <Ctrl-/></div>									
Time	Source	Destination	Protocol	Length	Info				
95.727846928	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=44/11264,	ttl=64	(request...
95.727869942	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=44/11264,	ttl=63	
96.728866181	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=45/11520,	ttl=63	(no resp...
96.728890841	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=45/11520,	ttl=62	(reply i...
96.729564617	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=45/11520,	ttl=64	(request...
96.729587444	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=45/11520,	ttl=63	
97.730633883	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=46/11776,	ttl=63	(no resp...
97.730658183	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=46/11776,	ttl=62	(reply i...
97.731352530	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=46/11776,	ttl=64	(request...
97.731375648	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=46/11776,	ttl=63	
98.732428682	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=47/12032,	ttl=63	(no resp...
98.732453336	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=47/12032,	ttl=62	(reply i...
98.733143494	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=47/12032,	ttl=64	(request...
98.733166301	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=47/12032,	ttl=63	
99.734201927	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=48/12288,	ttl=63	(no resp...
99.734226317	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=48/12288,	ttl=62	(reply i...
99.734907379	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=48/12288,	ttl=64	(request...
99.734930012	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=48/12288,	ttl=63	
100.735909922	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=49/12544,	ttl=63	(no resp...
100.735934400	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=49/12544,	ttl=62	(reply i...
100.736519576	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=49/12544,	ttl=64	(request...
100.736542627	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=49/12544,	ttl=63	
101.737497993	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=50/12800,	ttl=63	(no resp...
101.737522553	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=50/12800,	ttl=62	(reply i...
101.738082120	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=50/12800,	ttl=64	(request...
101.738104571	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=50/12800,	ttl=63	
102.739122100	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=51/13056,	ttl=63	(no resp...
102.739153794	172.16.10.1	172.16.12.201	ICMP	100	Echo (ping)	request	id=0x0008, seq=51/13056,	ttl=62	(reply i...
102.739812854	172.16.12.201	172.16.10.1	ICMP	100	Echo (ping)	reply	id=0x0008, seq=51/13056,	ttl=64	(request...

```
Activities Terminal Mar 31 12:18 student@pesu-OptiPlex-3070: -
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 00:4e:01:a2:82:bb txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee52006902: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 28:ee:52:00:69:02 txqueuelen 1000 (Ethernet)
    RX packets 15 bytes 1347 (1.3 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 89 bytes 14557 (14.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2212 bytes 159980 (159.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2212 bytes 159980 (159.9 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.201/24 dev enx28ee52006902
[sudo] password for student:
student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.12.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.12.1 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 00:4e:01:a2:82:bb txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 9 bytes 978 (978.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee52006902: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.11.201 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 28:ee:52:00:69:02 txqueuelen 1000 (Ethernet)
    RX packets 17 bytes 1500 (1.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 103 bytes 16086 (16.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0

Activities Terminal Mar 31 12:18 student@pesu-OptiPlex-3070: -
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee52006902: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    ether 28:ee:52:00:69:02 txqueuelen 1000 (Ethernet)
    RX packets 15 bytes 1347 (1.3 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 89 bytes 14557 (14.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2212 bytes 159980 (159.9 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2212 bytes 159980 (159.9 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.201/24 dev enx28ee52006902
[sudo] password for student:
student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.12.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.12.1 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 00:4e:01:a2:82:bb txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 9 bytes 978 (978.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee52006902: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.11.201 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 28:ee:52:00:69:02 txqueuelen 1000 (Ethernet)
    RX packets 17 bytes 1500 (1.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 103 bytes 16086 (16.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2301 bytes 167532 (167.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
```



```
Activities Terminal Mar 31 12:18 student@pesu-OptiPlex-3070: -
RX packets 2212 bytes 159980 (159.9 KB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 2212 bytes 159980 (159.9 KB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.11.201/24 dev enx28ee52006902
[sudo] password for student:
student@pesu-OptiPlex-3070:~$ sudo ip addr add 172.16.12.1/24 dev enp1s0
student@pesu-OptiPlex-3070:~$ ifconfig
enp1s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.12.1 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 00:4e:01:a2:82:bb txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 9 bytes 978 (978.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enx28ee52006902: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.11.201 netmask 255.255.255.0 broadcast 0.0.0.0
    ether 28:ee:52:00:69:02 txqueuelen 1000 (Ethernet)
    RX packets 17 bytes 1500 (1.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 103 bytes 16086 (16.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 2301 bytes 167532 (167.5 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2301 bytes 167532 (167.5 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

student@pesu-OptiPlex-3070:~$ ping 172.16.12.201
PING 172.16.12.201 (172.16.12.201) 56(84) bytes of data:
64 bytes from 172.16.12.201: icmp_seq=1 ttl=64 time=1.06 ms
64 bytes from 172.16.12.201: icmp_seq=2 ttl=64 time=0.699 ms
64 bytes from 172.16.12.201: icmp_seq=3 ttl=64 time=0.730 ms
64 bytes from 172.16.12.201: icmp_seq=4 ttl=64 time=0.644 ms
64 bytes from 172.16.12.201: icmp_seq=5 ttl=64 time=0.699 ms
64 bytes from 172.16.12.201: icmp_seq=6 ttl=64 time=0.710 ms
64 bytes from 172.16.12.201: icmp_seq=7 ttl=64 time=0.698 ms
^C
--- 172.16.12.201 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 6115ms

Activities Terminal Mar 31 12:18 student@pesu-OptiPlex-3070: -
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

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rtt min/avg/max/mdev = 0.644/0.748/1.059/0.129 ms
student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.conf.all.send_redirects=0
net.ipv4.conf.all.send_redirects = 0
student@pesu-OptiPlex-3070:~$ sudo sysctl -w net.ipv4.ip_forward=1
net.ipv4.ip_forward = 1
student@pesu-OptiPlex-3070:~$ sudo ip route add 172.16.10.0/24 via 172.16.11.1
student@pesu-OptiPlex-3070:~$ ip route show
169.254.0.0/16 dev enx28ee52006902 scope link metric 1000
172.16.10.0/24 via 172.16.11.1 dev enx28ee52006902
172.16.11.0/24 dev enx28ee52006902 proto kernel scope link src 172.16.11.201
172.16.12.0/24 dev enp1s0 proto kernel scope link src 172.16.12.1
student@pesu-OptiPlex-3070:~$ sudo ip route add 172.16.10.0/24 via 172.16.11.1
RTNETLINK answers: File exists
student@pesu-OptiPlex-3070:~$ ip route show
169.254.0.0/16 dev enx28ee52006902 scope link metric 1000
```

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```