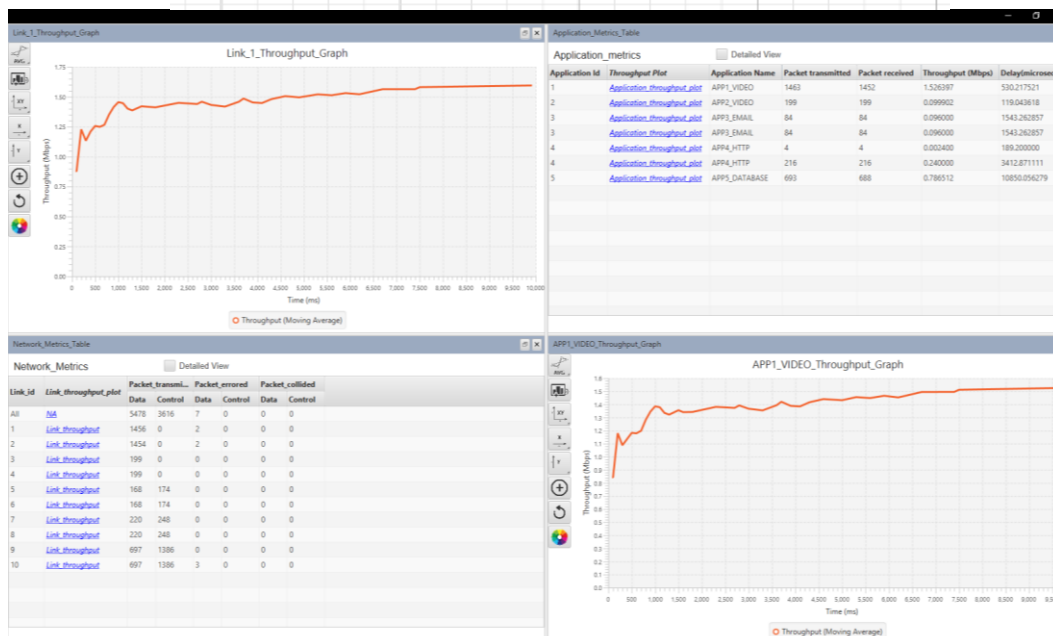
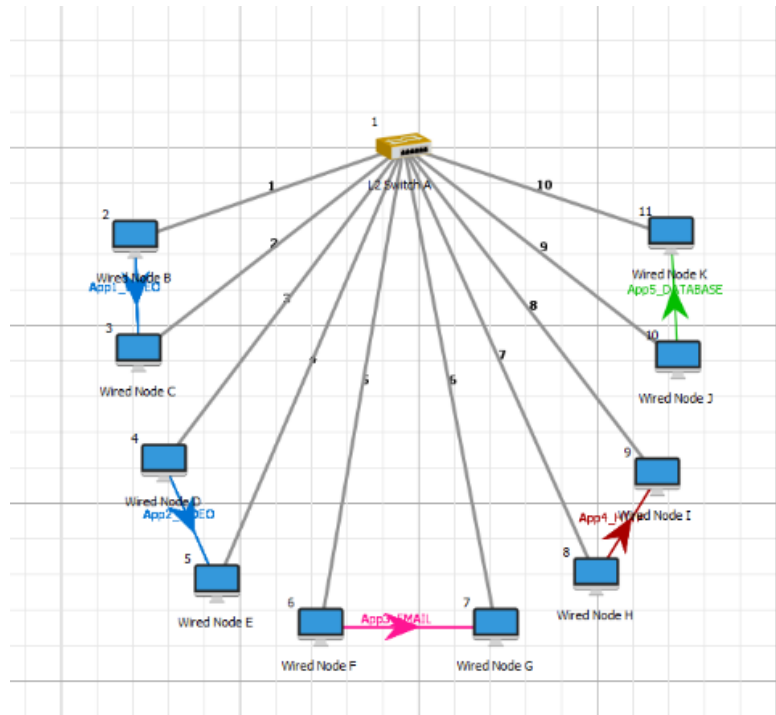


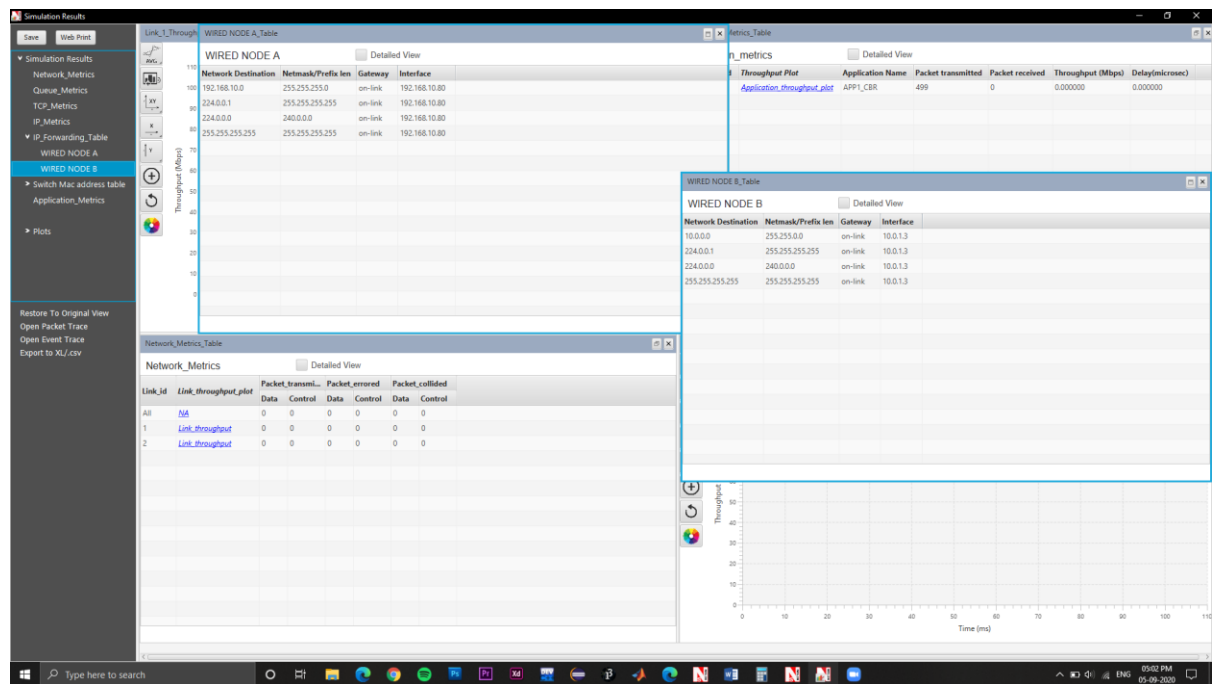
3.1 diagrams



1. HD Video = 1.526397 Mbps
 YouTube = 0.099902 Mbps
 Gmail = 0.096000 Mbps
 Browsing (1) = 0.002400 Mbps
 Browsing (2) = 0.240000 Mbps
 Database = 0.786512 Mbps
- 0.8131495 Mbps
- 0.406774 Mbps

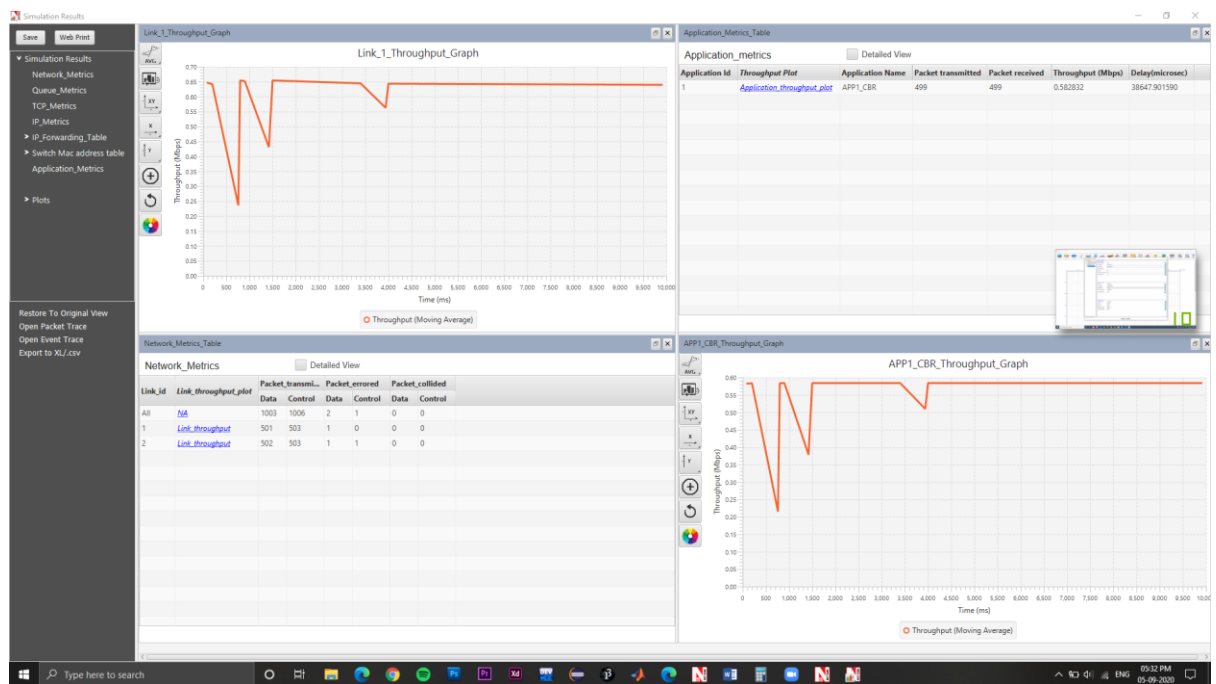
4.3 Diagrams

4.3.1



1. Refer the diagram for the list of IPs
2. 499
3. 0 since the IP range/class is different for both

4.4.1



1. Refer the screenshot
2. 499 because this time the IP range/class is same for both nodes.

5.1

5.1.1

1. Ethernet adapter Ethernet: 0C-9D-92-A4-00-BE
Wireless LAN adapter Local Area Connection* 3: 34-E1-2D-15-59-1F
Wireless LAN adapter Local Area Connection* 12: 36-E1-2D-15-59-1E
Wireless LAN adapter Wi-Fi: 34-E1-2D-15-59-1E
2. I have 4 physical addresses because of 4 NICs working currently
3. IPv4 Address : 192.168.1.9(Preferred)
Subnet Mask : 255.255.255.0

5.2

1. refer the screenshot

```
C:\WINDOWS\system32\cmd.exe

C:\Users\geekSA67>route PRINT
=====
Interface List
13...0c 9d 92 a4 00 be .....Realtek PCIe GBE Family Controller
20...34 e1 2d 15 59 1f .....Microsoft Wi-Fi Direct Virtual Adapter #3
19...36 e1 2d 15 59 1e .....Microsoft Wi-Fi Direct Virtual Adapter #4
12...34 e1 2d 15 59 1e .....Intel(R) Wireless-AC 9560 160MHz
1.....Software Loopback Interface 1
=====

IPv4 Route Table
=====
Active Routes:
Network Destination        Netmask          Gateway           Interface        Metric
0.0.0.0                    0.0.0.0          192.168.1.1       192.168.1.9       40
127.0.0.0                  255.0.0.0        On-link           127.0.0.1         331
127.0.0.1                  255.255.255.255  On-link           127.0.0.1         331
127.255.255.255            255.255.255.255  On-link           127.0.0.1         331
192.168.1.0                255.255.255.0    On-link           192.168.1.9       296
192.168.1.9                255.255.255.255  On-link           192.168.1.9       296
192.168.1.255              255.255.255.255  On-link           192.168.1.9       296
224.0.0.0                  240.0.0.0        On-link           127.0.0.1         331
224.0.0.0                  240.0.0.0        On-link           192.168.1.9       296
255.255.255.255            255.255.255.255  On-link           127.0.0.1         331
255.255.255.255            255.255.255.255  On-link           192.168.1.9       296
=====
Persistent Routes:
None

IPv6 Route Table
=====
Active Routes:
If Metric Network Destination      Gateway
1    331 ::1/128                  On-link
12   296 fe80::/64                On-link
12   296 fe80::6804:9c42:95cc:3a79/128
                                         On-link
1    331 ff00::/8                  On-link
12   296 ff00::/8                  On-link
=====
Persistent Routes:
None

C:\Users\geekSA67>
```

2.

Ping statistics for 104.238.110.159:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 289ms, Maximum = 292ms, Average = 290ms

3.

Ping statistics for 192.168.1.10:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 44ms, Maximum = 96ms, Average = 69ms

4. I pinged my friend's IP connected on the same network and clearly the time taken is less since the physical and network distance are significantly.

5. Tracing route to google.com [216.58.196.206]

over a maximum of 30 hops:

```
  1  1 ms   1 ms   1 ms  192.168.1.1
  2  6 ms   5 ms   6 ms  abts-north-static-070.127.176.122.airtelbroadband.in
    [122.176.127.70]
  3  6 ms   6 ms   5 ms  dsl-ncr-static-001.81.16.125.airtelbroadband.in
    [125.16.81.1]
  4  6 ms   6 ms   6 ms  182.79.149.182
  5  8 ms   8 ms   7 ms  72.14.217.194
  6  7 ms   7 ms   7 ms  172.253.69.191
  7  7 ms   7 ms   7 ms  216.239.47.99
  8  7 ms   7 ms   7 ms  del03s06-in-f14.1e100.net [216.58.196.206]
```

Trace complete.

6. There is a difference because all websites are different their servers and network routes are different and have different amount of traffic so the results will vary accordingly.

Refer the screenshots for outputs.

```
C:\WINDOWS\system32\cmd.exe

C:\Users\geekSA67>tracert daiict.ac.in

Tracing route to daiict.ac.in [104.238.110.159]
over a maximum of 30 hops:
  0  1 ms    1 ms    1 ms    192.168.1.1
  1  6 ms    6 ms    6 ms    abts-north-static-070.127.176.122.airtelbroadband.in [122.176.127.70]
  2  6 ms    6 ms    6 ms    125.19.38.109
  3  160 ms   161 ms  160 ms  182.79.146.216
  4  431 ms   164 ms  164 ms  ldn-b4-link.telvia.net [62.115.162.232]
  5  260 ms   260 ms  263 ms  ldn-bb3-link.telvia.net [62.115.122.188]
  6  *        *        *        Request timed out.
  7  267 ms   267 ms  270 ms  ash-bb2-link.telvia.net [62.115.136.201]
  8  273 ms   268 ms  268 ms  las-b24-link.telvia.net [62.115.121.220]
  9  262 ms   265 ms  262 ms  ae9.ibrsa0107-01.lax1.bb.godaddy.com [62.115.171.243]
 10  321 ms   322 ms  356 ms  148.72.34.34
 11  273 ms   273 ms  273 ms  be39.trmc0215-01.ars.mgmt.phx3.gdg [184.168.0.73]
 12  281 ms   282 ms  350 ms  ip-208-109-112-121.ip.secureserver.net [208.109.112.121]
 13  278 ms   278 ms  278 ms  ip-104-238-110-159.ip.secureserver.net [104.238.110.159]

Trace complete.

C:\Users\geekSA67>tracert amazon.in

Tracing route to amazon.in [54.239.33.92]
over a maximum of 30 hops:
  0  1 ms    1 ms    1 ms    192.168.1.1
  1  6 ms    6 ms    5 ms    abts-north-static-070.127.176.122.airtelbroadband.in [122.176.127.70]
  2  6 ms    6 ms    6 ms    dsl-ncr-static-001.81.16.125.airtelbroadband.in [125.16.81.1]
  3  128 ms   126 ms  125 ms  182.79.142.80
  4  147 ms   147 ms  147 ms  amsix01-ams1.amazon.com [80.249.210.100]
  5  151 ms   148 ms  148 ms  52.93.0.134
  6  149 ms   148 ms  148 ms  52.93.0.139
  7  *        *        *        Request timed out.
  8  *        *        *        Request timed out.
  9  *        *        *        Request timed out.
 10  *        *        *        Request timed out.
 11  *        *        *        Request timed out.
 12  *        *        *        Request timed out.
 13  165 ms   164 ms  164 ms  150.222.240.144
 14  *        *        *        Request timed out.
 15  *        *        *        Request timed out.
 16  *        *        *        Request timed out.
 17  *        *        *        Request timed out.
 18  167 ms   167 ms  167 ms  150.222.248.90
 19  *        *        *        Request timed out.
 20  *        *        *        Request timed out.
 21  *        *        *        Request timed out.
 22  *        *        *        Request timed out.
 23  *        *        *        Request timed out.
 24  *        *        *        Request timed out.
 25  *        *        *        Request timed out.
 26  *        *        *        Request timed out.
 27  *        *        *        Request timed out.
 28  *        *        *        Request timed out.
 29  *        *        *        Request timed out.
 30  *        *        *        Request timed out.

Trace complete.

C:\Users\geekSA67>
```

```
C:\WINDOWS\system32\cmd.exe

C:\Users\geekSA67>tracert facebook.com

Tracing route to facebook.com [157.240.198.35]
over a maximum of 30 hops:
  0  1 ms    1 ms    1 ms    192.168.1.1
  1  6 ms    5 ms    6 ms    abts-north-static-070.127.176.122.airtelbroadband.in [122.176.127.70]
  2  6 ms    5 ms    6 ms    125.19.38.109
  3  7 ms    10 ms   6 ms    182.79.240.81
  4  6 ms    7 ms    6 ms    ae2.pr01.del1.tfbnw.net [157.240.70.152]
  5  6 ms    6 ms    6 ms    po101.psw04.del1.tfbnw.net [157.240.50.159]
  6  7 ms    6 ms    6 ms    157.240.38.229
  7  6 ms    6 ms    6 ms    edge-star-mini-shv-01-del1.facebook.com [157.240.198.35]

Trace complete.

C:\Users\geekSA67>
```