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sohel796 Update week03.md

bd61a89 · 1 minute ago



189 lines (106 loc) · 6.94 KB

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## Week 03 Tutorial

### Task 01 Knowledge Test

The following is a screenshot of my knowledge Test Score:

 QUIZ

## KNOWLEDGE TEST: WEEK 3 LECTURE

Started on	Tuesday, 23 July 2024, 3:15 PM
State	Finished
Completed on	Tuesday, 23 July 2024, 3:24 PM
Time taken	9 mins 44 secs
Grade	8.50 out of 10.00 (85%)

### Task 02 : View your Addresses

```
C:\Program Files\WindowsAp X + v
PS C:\Windows\System32> Get-NetAdapter.physical
Get-NetAdapter.physical: The term 'Get-NetAdapter.physical' is not recognized as a name of a cmdlet, function, script fi
le, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
PS C:\Windows\System32> Get-NetAdapter-physical
Get-NetAdapter-physical: The term 'Get-NetAdapter-physical' is not recognized as a name of a cmdlet, function, script fi
le, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
PS C:\Windows\System32> Get-NetAdapter - physical
Get-NetAdapter: A positional parameter cannot be found that accepts argument 'physical'.
PS C:\Windows\System32> Get-NetAdapter -Physical

Name                           InterfaceDescription           ifIndex  Status   MacAddress           LinkSpeed
-----                           -
Ethernet                        Intel(R) Ethernet Connection (11) I219...  14      Up      A4-BB-6D-C6-69-A1    1 Gbps

PS C:\Windows\System32> Get-NetAdapter

Name                           InterfaceDescription           ifIndex  Status   MacAddress           LinkSpeed
-----                           -
Ethernet                        Intel(R) Ethernet Connection (11) I219...  14      Up      A4-BB-6D-C6-69-A1    1 Gbps
Ethernet 2                      VirtualBox Host-Only Ethernet Adapter  13      Up      0A-00-27-00-00-0D    1 Gbps

PS C:\Windows\System32> Get-NetAdapter -Physical

Name                           InterfaceDescription           ifIndex  Status   MacAddress           LinkSpeed
-----                           -
Ethernet                        Intel(R) Ethernet Connection (11) I219...  14      Up      A4-BB-6D-C6-69-A1    1 Gbps

PS C:\Windows\System32>
```

Here in task 2 it shows the various connection types and for getting those i used the command:

## Get-NetAdapter

it shows that my pc is connected to two networks, one is through Ethernet and other one is Ethernet 2. In Ethernet it is connected physically but with Ethernet 2 it is connected Virtually. For getting the more details about the connected type i used the command:

## Get-NetAdapter -Physical

It shows the below details-

For Ethernet- 1)IfIndex Status: 14up 2) Mac Address: A4-BB-6D-C6-69-A1

and For Ethernet 2:

1. IfIndex Status: 13up
2. Mac-address: 0A-00-27-00-00-0D
3. LinkSpeed: 1Gbps

It shows the physical connection status like:

1. IfIndex status: 14up

2. Mac Address: A4-BB-6D-C6-69-A1

3. LinkSpeed: 1Gbps

## Task 03 : Ping your local router

```
C:\Program Files\WindowsApps\Microsoft.PowerShell_7.4.4.0_x64__8wekyb3d8bbwe\powershell.exe
PowerShell 7.4.4
PS C:\Windows\System32> Get-NetIPAddress

InterfaceIndex : 9
InterfaceAlias  : Ethernet 2
AddressFamily   : IPv4
Type            : Unicast
PrefixLength    : 64
PrefixOrigin    : WellKnown
SuffixOrigin     : Link
AddressState     : Preferred
ValidLifetime    : Infinite ([TimeSpan]::MaxValue)
PreferredLifetime : Infinite ([TimeSpan]::MaxValue)
SkipAsSource     : False
PolicyStore     : ActiveStore

InterfaceIndex : 10
InterfaceAlias  : Ethernet
AddressFamily   : IPv4
Type            : Unicast
PrefixLength    : 64
PrefixOrigin    : WellKnown
SuffixOrigin     : Link
AddressState     : Preferred
ValidLifetime    : Infinite ([TimeSpan]::MaxValue)
PreferredLifetime : Infinite ([TimeSpan]::MaxValue)
SkipAsSource     : False
PolicyStore     : ActiveStore

InterfaceIndex : 12
InterfaceAlias  : Teredo Tunneling Pseudo-Interface
AddressFamily   : IPv6
Type            : Unicast
PrefixLength    : 64
PrefixOrigin    : WellKnown
SuffixOrigin     : Link
AddressState     : Preferred
ValidLifetime    : Infinite ([TimeSpan]::MaxValue)
PreferredLifetime : Infinite ([TimeSpan]::MaxValue)
SkipAsSource     : False
PolicyStore     : ActiveStore

InterfaceIndex : 12
InterfaceAlias  : Teredo Tunneling Pseudo-Interface
AddressFamily   : IPv6
Type            : Unicast
PrefixLength    : 64
PrefixOrigin    : RouterAdvertisement
SuffixOrigin     : Link
AddressState     : Preferred
ValidLifetime    : Infinite ([TimeSpan]::MaxValue)
PreferredLifetime : Infinite ([TimeSpan]::MaxValue)
SkipAsSource     : False
PolicyStore     : ActiveStore
```

My PC is connected to other networks, one via Ethernet and the other using Ethernet 2. Ethernet allows for a physical connection, but Ethernet 2 allows for a virtual connection.

```
C:\Program Files\WindowsApps\Microsoft.PowerShell_7.4.4.0_x64__8wekyb3d8bbwe\powershell.exe
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
PS C:\Windows\System32> Get-NetAdapter -Physical

Name                InterfaceDescription          ifIndex Status      MacAddress          LinkSpeed
----                -
Ethernet            Intel(R) Ethernet Connection (11) I219... 10 Up         A4-BB-6D-C6-6C-16  1 Gbps

PS C:\Windows\System32> Get-NetIPConfiguration - ifIndex 10
Get-NetIPConfiguration: A positional parameter cannot be found that accepts argument 'ifIndex'.
PS C:\Windows\System32> Get-NetIPConfiguration -ifIndex 10

InterfaceAlias      : Ethernet
InterfaceIndex      : 10
InterfaceDescription : Intel(R) Ethernet Connection (11) I219-LM
NetProfile.Name      : ad.cqu.edu.au
IPv4Address         : 10.162.33.56
IPv6DefaultGateway  :
IPv4DefaultGateway  : 10.162.32.1
DNSServer           : 10.8.0.25
                   : 10.8.0.26
                   : 138.77.5.15
                   : 138.77.5.19

PS C:\Windows\System32>
```

here i am giving the command:

## Get-NetIPConfiguration -ifIndex 10

By using this command in powershell i want to see the details of InterfaceIndex number 10 which is InterfaceAlias "Ethernet" connection details.like-

1. IPv4 Address: 10.162.32.1
2. IPv4 Default Gateway: 10.162.32.1
3. DNS Server: 10.8.0.25

```
C:\Program Files\WindowsApps\Microsoft.PowerShell_7.4.4.0_x64_8wekyb3d8bbwe\pwsh.exe

PS C:\Windows\System32> Test-Connection -ComputerName 192.168.1.1 -Count 10
>>

    Destination: 192.168.1.1
    .
Ping Source                Address                Latency BufferSize Status
-----
1 CQU006878                192.168.1.1            27      32 Success
2 CQU006878                192.168.1.1            27      32 Success
3 CQU006878                192.168.1.1            27      32 Success
4 CQU006878                192.168.1.1            27      32 Success
5 CQU006878                192.168.1.1            27      32 Success
6 CQU006878                192.168.1.1            27      32 Success
7 CQU006878                192.168.1.1            27      32 Success
8 CQU006878                192.168.1.1            27      32 Success
9 CQU006878                192.168.1.1            27      32 Success
10 CQU006878               192.168.1.1            27      32 Success

PS C:\Windows\System32>
```

Here, i try to ping my local computer to another one, and tried to see that is they are able to make any connections or not? For this i used the command-

## Test-Connection 192.168.1.1 -count 10

here, at first my computer will try to connect with the destination IP address 192.168.1.1. After the connection establishment i give the command to transfer 10 data packets to 192.168.1.1 when it finished the transferring it shows the below details-

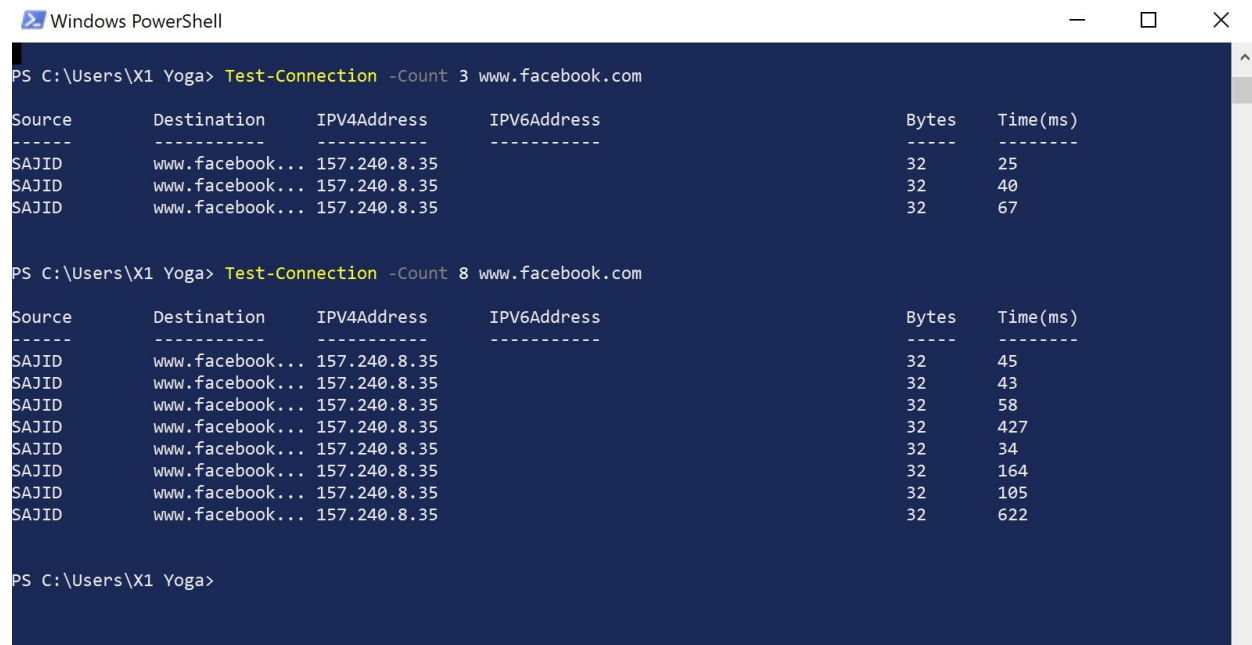
1. Ping source: CQU006878
2. Addresses: 192.168.1.1
3. Latency(ms) : 27
4. BufferSize: 32
5. Status: Success

## Task 04 : Ping your OpenWRT Linux Server

For pingg my openWRT linux with windows powershell, at first i run a command:

**Test-Connection -count 3 [www.facebook.com](https://www.facebook.com)**

and it shows that 3 data packets has been transfered.



```
Windows PowerShell
PS C:\Users\X1 Yoga> Test-Connection -Count 3 www.facebook.com

Source      Destination      IPV4Address      IPV6Address      Bytes      Time(ms)
-----
SAJID       www.facebook...  157.240.8.35     -                32         25
SAJID       www.facebook...  157.240.8.35     -                32         40
SAJID       www.facebook...  157.240.8.35     -                32         67

PS C:\Users\X1 Yoga> Test-Connection -Count 8 www.facebook.com

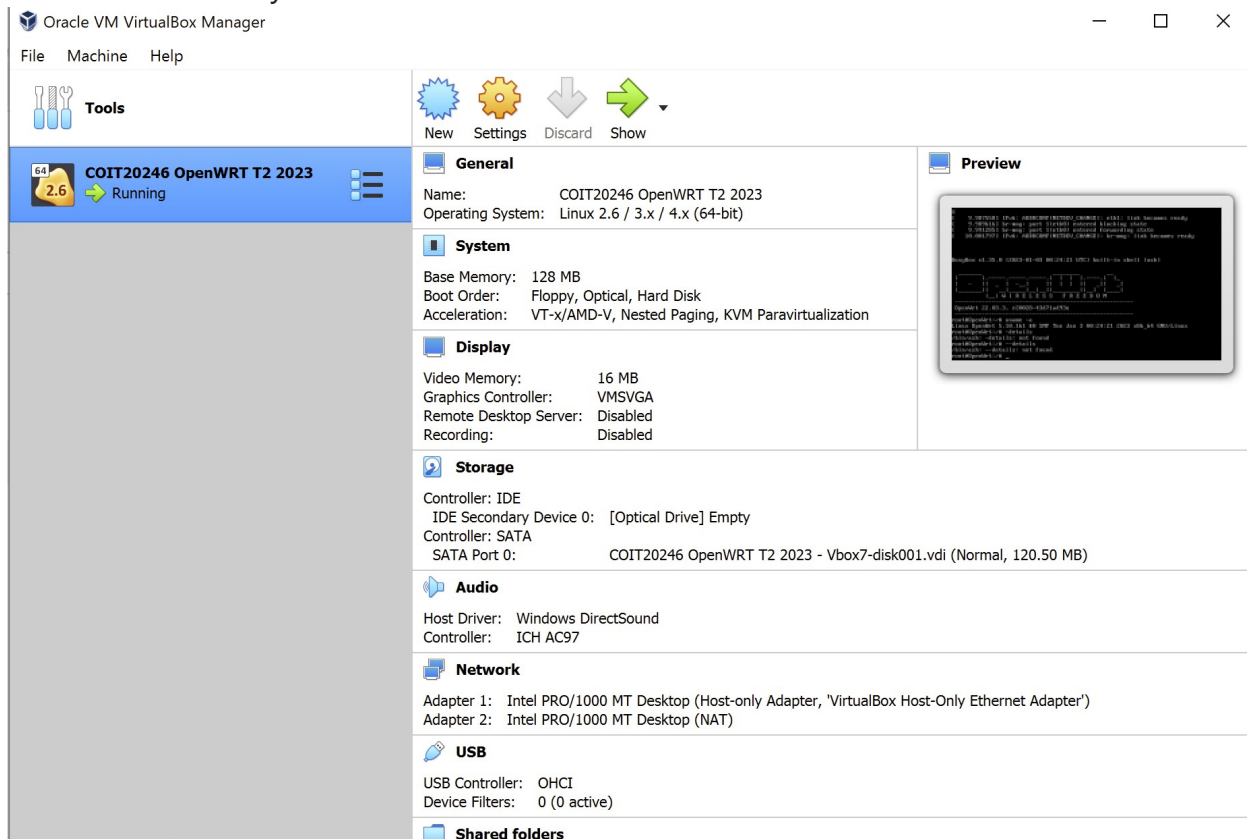
Source      Destination      IPV4Address      IPV6Address      Bytes      Time(ms)
-----
SAJID       www.facebook...  157.240.8.35     -                32         45
SAJID       www.facebook...  157.240.8.35     -                32         43
SAJID       www.facebook...  157.240.8.35     -                32         58
SAJID       www.facebook...  157.240.8.35     -                32         427
SAJID       www.facebook...  157.240.8.35     -                32         34
SAJID       www.facebook...  157.240.8.35     -                32         164
SAJID       www.facebook...  157.240.8.35     -                32         105
SAJID       www.facebook...  157.240.8.35     -                32         622

PS C:\Users\X1 Yoga>
```

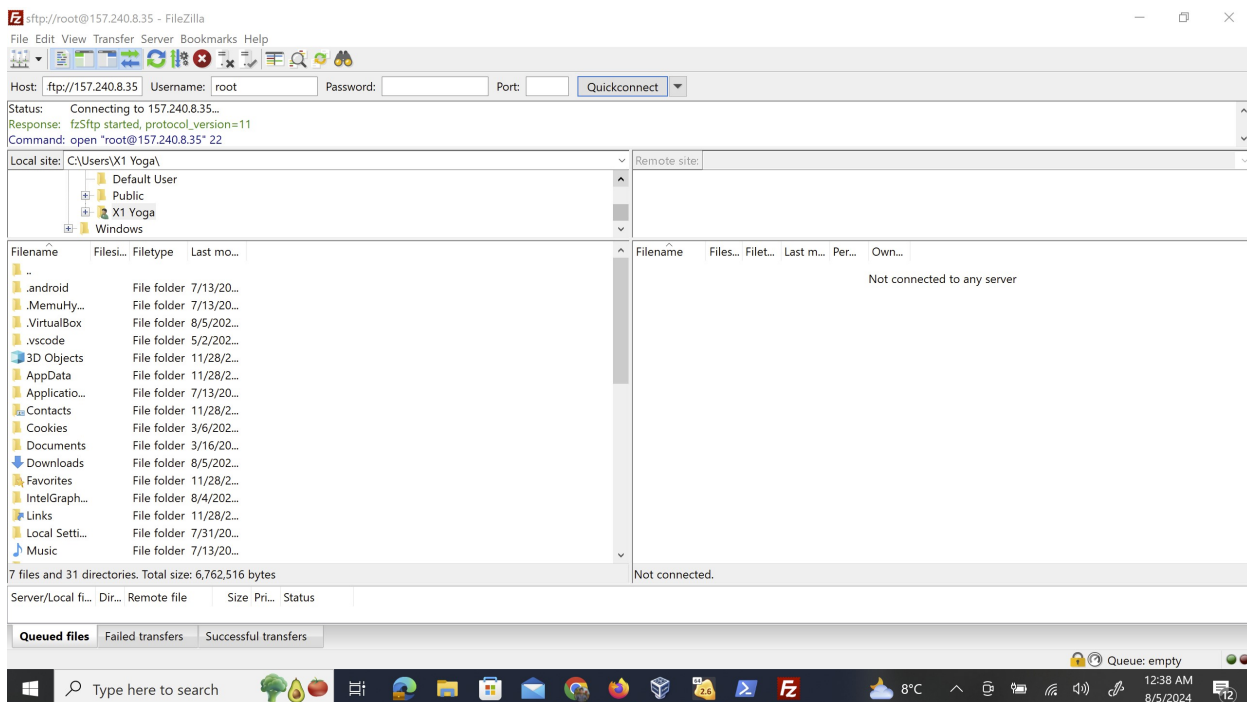
After that i went for VirtualBox VM machine where i run my linux server and i put the command:

**tcpdump -i eth0 -n -w myping.pcap 'arp or icmp'**

via using this command i put the instruction to download myping.pcap file. here in bellow screenshot you can see that.



Then i went to filezilla and tried to trace my downloaded myping.pcap file. below you can see that..



## Task 05 : Academic Integrity Policy



The following is a summary of CQUniversity's Student Academic Integrity Policy:

1. Scope: This policy covers all current and former students, with the exception of research integrity and other policy breaches.
2. Breaches: This policy covers inappropriate conduct (Level 1) to serious misconduct (Level 5), which is assessed by misconduct type, impact, intent, and effect.
3. Revocation: This policy is delayed until the end of the appeal period or until the Academic Appeals Committee review.
4. Reporting: Unlawful conduct is reported to authorities, and contract cheating is reported to TEQSA.
5. Procedural Fairness: This policy ensures that academic integrity is promoted, managed, and reported in a timely manner.
6. Records: These are managed in accordance with University policies and retention schedules.
7. Definitions: Include terms for academic credit, integrity, and decision-making processes.

## Task 06 : Print Github journal Page to PDF

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I have downloaded the pdf file of week 03.

## Task 07 : Find Addresses of a website

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For finding any website i use the powershell command:

**nslookup** [www.facebook.com](https://www.facebook.com)

this command i used for finding out the official website of a popular social media Facebook.com.



```
C:\Program Files\WindowsApps\Microsoft.PowerShell_7.4.4.0_x64__8wekyb3d8bbwe\pwsh.exe
```

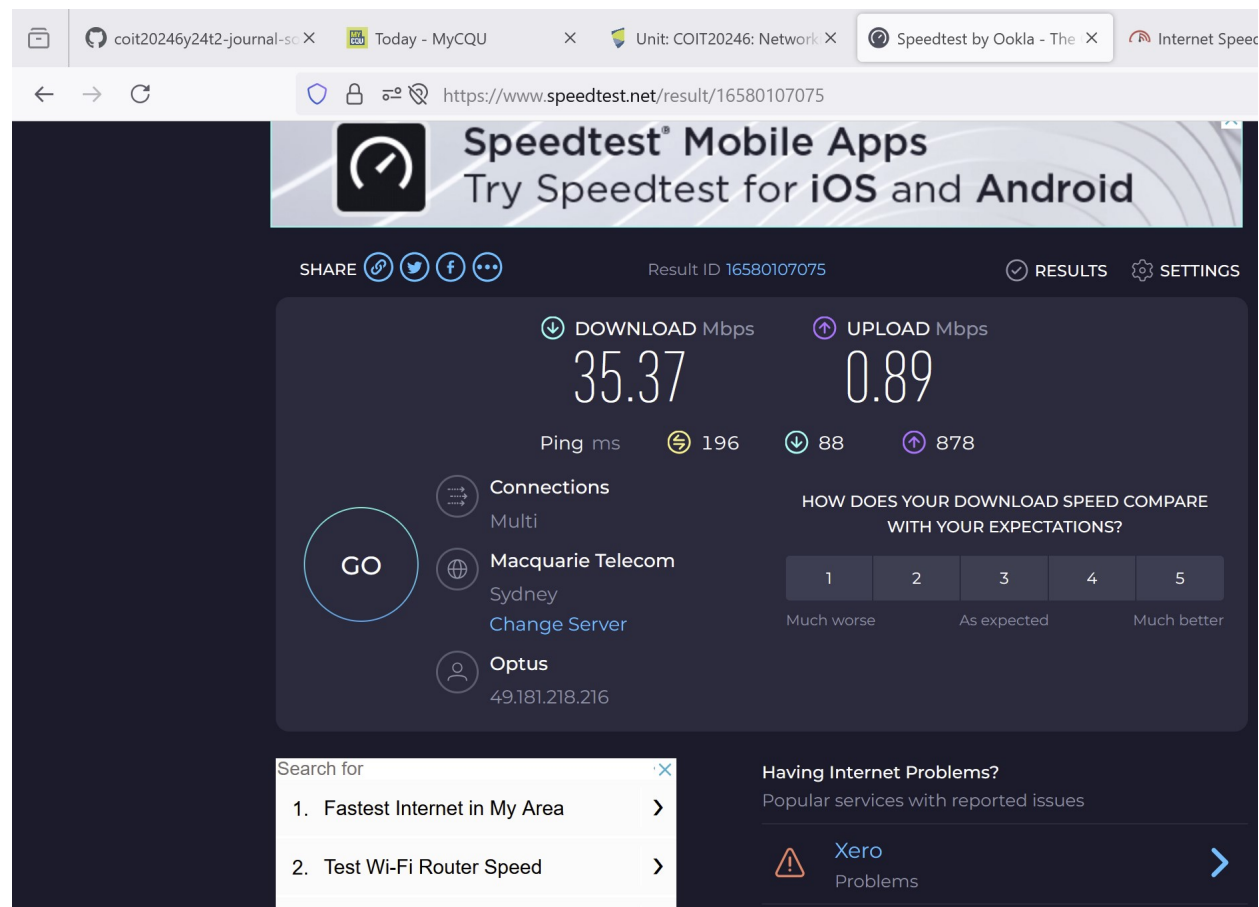
```
PS C:\Windows\System32> nslookup www.facebook.com
Server:  sydeqaddc01.ad.cqu.edu.au
Address:  10.8.0.25

Non-authoritative answer:
Name:     star-mini.c10r.facebook.com
Addresses:  2a03:2880:f119:8083:face:b00c:0:25de
           157.240.8.35
Aliases:  www.facebook.com
```

Here, it shows the addresses of- Server: sydeqaddc01.ad.cqu.edu.au Address: 10.8.0.25

## Task 08 : Home Internet Connection

For testing my home internet connection i took the help of two most popular website help which are Speedtest.com and fast.com. I did this speed Test at the afternoon. At first i will discuss the details what i get from the test result of speedtest.net website.



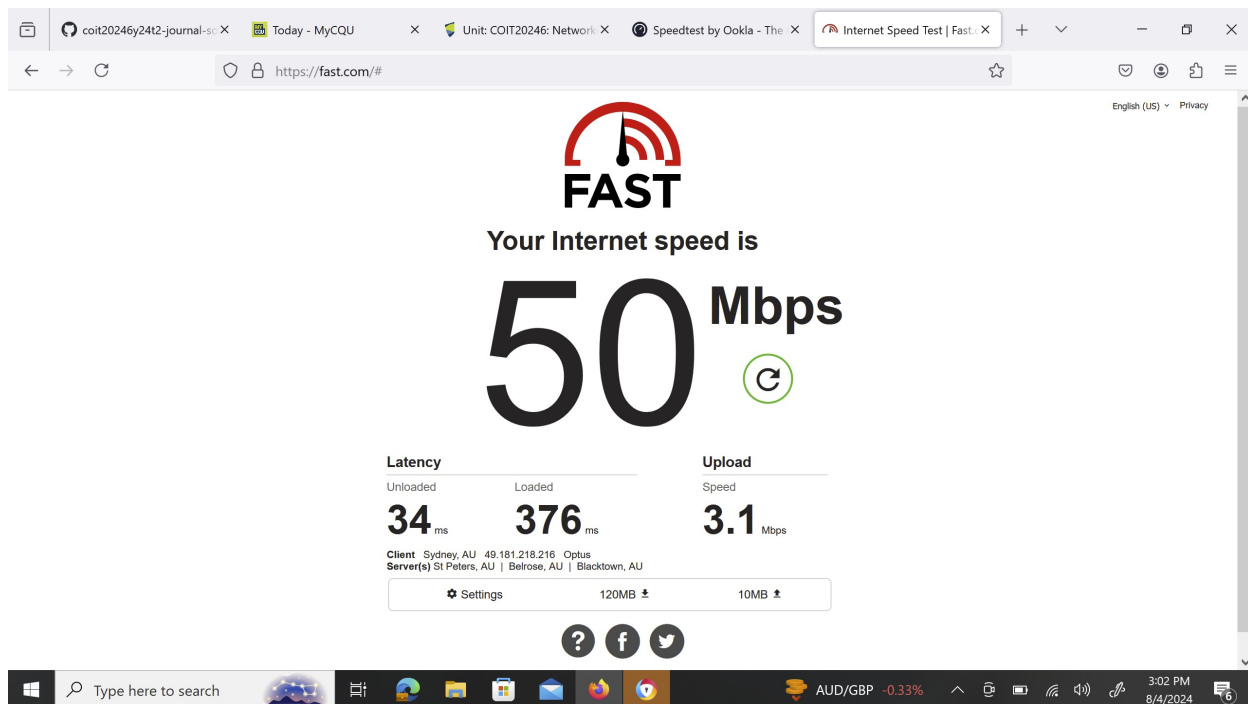
Here, it shows my router details:

- 1)Name: Optus
- 2)Connections: Multi
- 3)Download mbps: 35.37 mbps
- 4)Upload Speed: 0.89 mbps

so, after the analysis it shows that the Download speed is more that upload speed.

Now let's see the test result details from Fast.com





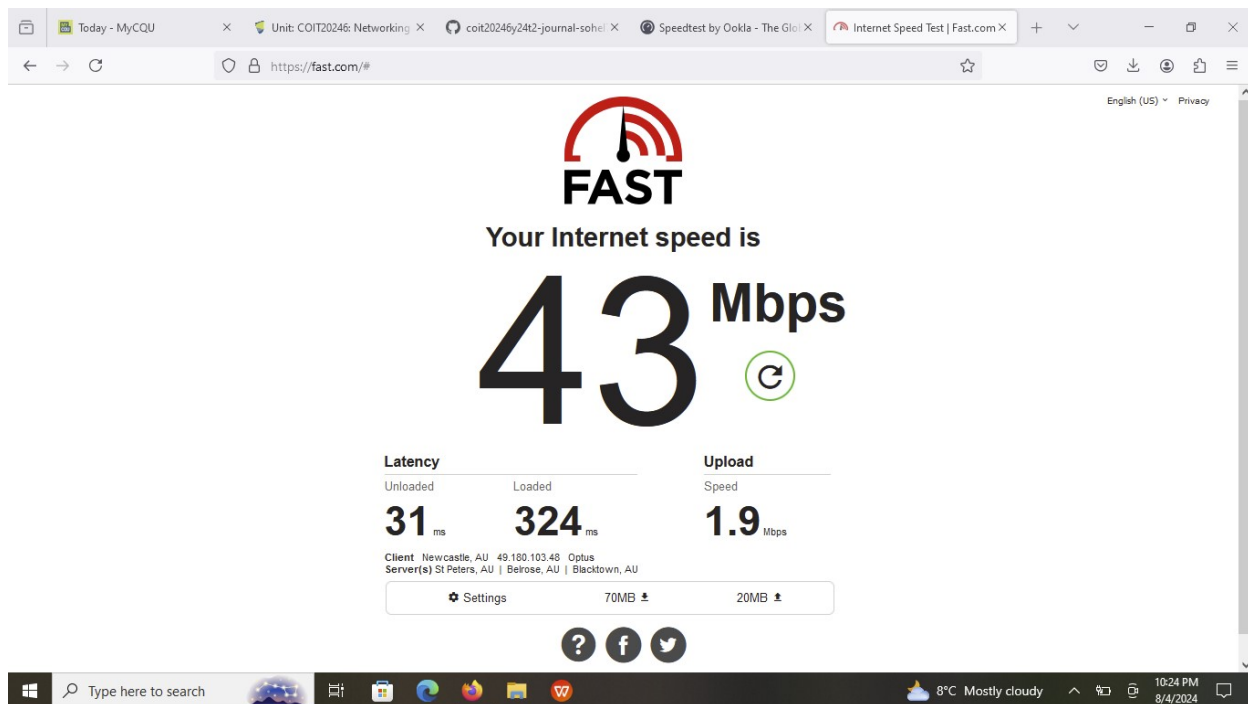
Here, it shows my router details:

- 1)Name: Optus
- 2)Connections: Multi
- 3)Download mbps: 120 mbps
- 4)Upload Speed: 10 mbps
- 5)Latency: Unloaded: 34ms and loaded: 376 ms
- 6)Server: st peters, AU

so, after the analysis it shows that the Download speed is more that upload speed.

## secondly i tried to find out my internet speed at the night

At the night time i test my internet speed via using the Fast.com website and find out this result:



Here, it shows my router details:

- 1)Name: Optus
- 2)Connections: Multi
- 3)Download mbps: 43 mbps
- 4)Upload Speed: 1.9 mbps
- 5)Latency: Unloaded: 31 ms and loaded: 324 ms
- 6)Server: st peters, AU

so, after the analysis it shows that the Download speed is more that upload speed, and also the latency of loaded is more than unloaded.

## Reflection of Week 03

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At first in this particular week i went through the weekly knowledge test, after that i learned how to view my computer addresses via using windows powershell and it's useful commands. Then i learn how to ping my computer to another device and for doing so which commands are necessary, and after pinging how to transfer data packets. Another important term i used to learn in this week is how to ping the windows powershell with Linux machine, and how to transfer data in between of them. In this week the most interesting term that i learn is that how to download a random pcap file in linux and how to decode that pcap file using Filezilla and able how to view that pcap file using the help of wireshark software. In one particular task i able to be aware of the CQ university academic integrity and student policies also. Finding out any website IP address in windows powershell taught me a good lesson with the command nslookup i complete this task. Internet is the most common and useful part in our day to day life, and it's speed is also a concern. In task 8 i able to learn how to view my home internet connection speed, and i am surprised when i just saw that the internet speed varies time to time. I did the speed test in two different times of a day and saw that the speed of download and upload is varying in different times.