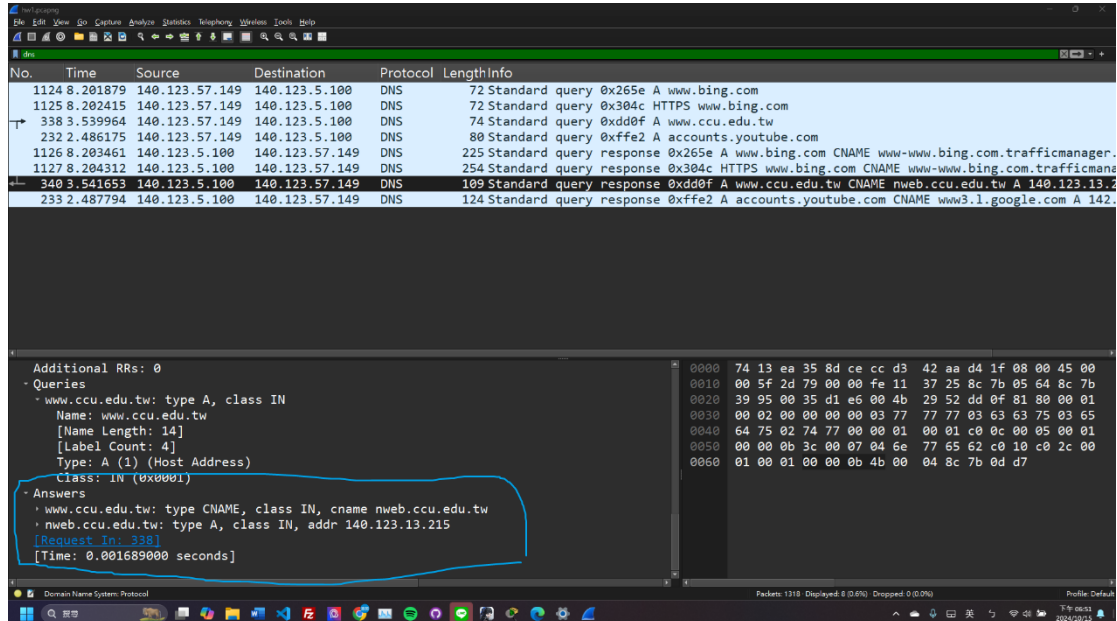


2. Traffic Analysis

Q1: The full TCP stream statistic and total data in bytes for the access session

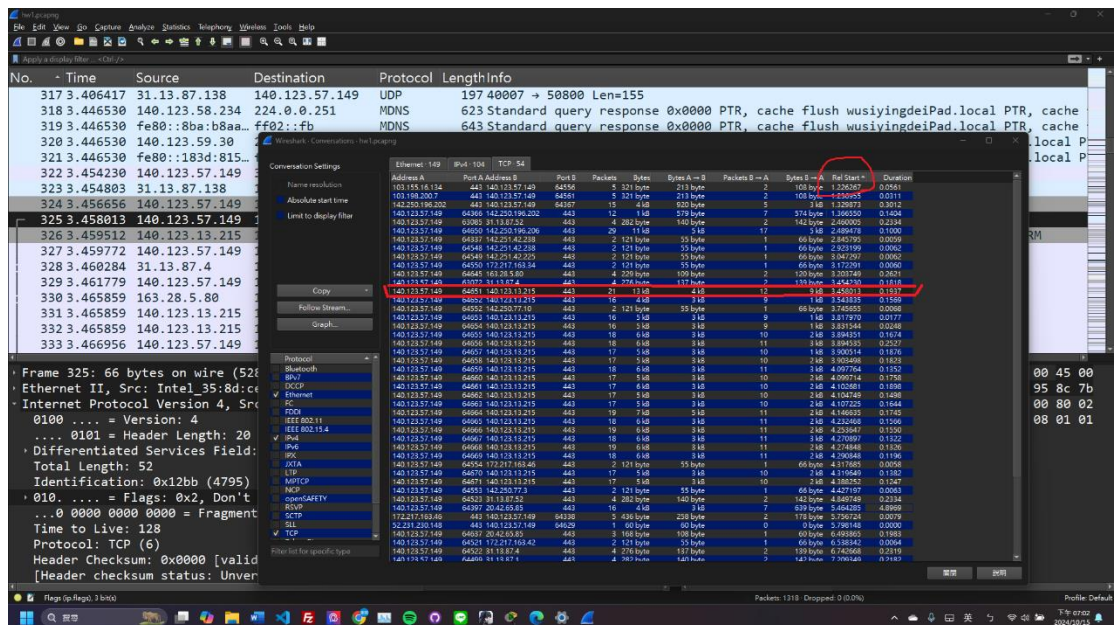
A1:

First we need to know the ip address of ccu.edu.tw



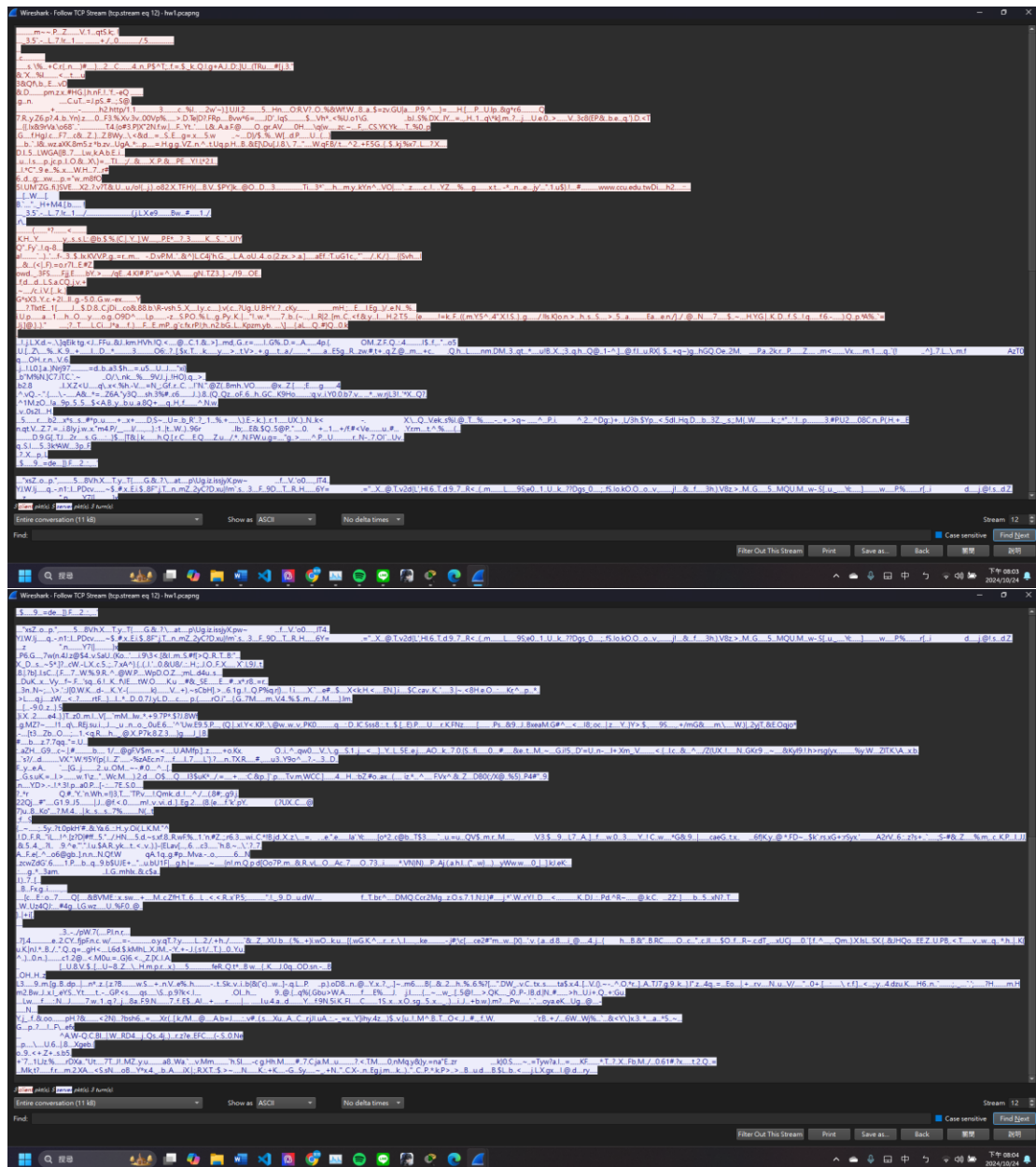
and our ip address(140.123.57.149)

Then we filter 140.123.13.215 and 140.123.57.149, find out the earliest tcp conversation. This is what we want.



So total data in bytes:13 kB.

And below are full TCP stream statistic



Q2: The IP address of the website (DNS resolution)

A2: 140.123.13.215

Wireshark packet capture analysis showing DNS traffic. The packet list displays several queries and responses, including a CNAME record for www.ccu.edu.tw pointing to nweb.ccu.edu.tw.

No.	Time	Source	Destination	Protocol	Length	Info
1124	8.201879	140.123.57.149	140.123.5.100	DNS	72	Standard query 0x265e A www.bing.com
1125	8.202415	140.123.57.149	140.123.5.100	DNS	72	Standard query 0x304c HTTPS www.bing.com
338	3.539964	140.123.57.149	140.123.5.100	DNS	74	Standard query 0xdd0f A www.ccu.edu.tw
232	2.486175	140.123.57.149	140.123.5.100	DNS	80	Standard query 0xffe2 A accounts.youtube.com
1126	8.203461	140.123.5.100	140.123.57.149	DNS	225	Standard query response 0x265e A www.bing.com CNAME www-www.bing.com.trafficmanager.
1127	8.204312	140.123.5.100	140.123.57.149	DNS	254	Standard query response 0x304c HTTPS www.bing.com CNAME www-www.bing.com.trafficmanager.
340	3.541653	140.123.5.100	140.123.57.149	DNS	109	Standard query response 0xdd0f A www.ccu.edu.tw CNAME nweb.ccu.edu.tw A 140.123.13.215
233	2.487794	140.123.5.100	140.123.57.149	DNS	124	Standard query response 0xffe2 A accounts.youtube.com CNAME www3.l.google.com A 142.250.191.100

Packet 340 details (Domain Name System - Protocol):

- Additional RRs: 0
- Queries
 - www.ccu.edu.tw: type A, class IN
 - Name: www.ccu.edu.tw
 - [Name Length: 14]
 - [Label Count: 4]
 - Type: A (1) (Host Address)
 - Class: IN (0x0001)
- Answers
 - www.ccu.edu.tw: type CNAME, class IN, cname nweb.ccu.edu.tw
 - nweb.ccu.edu.tw: type A, class IN, addr 140.123.13.215
- [Request In: 338]
- [Time: 0.001689000 seconds]

Packet 340 hex data (0000-0060):

```
0000 74 13 ea 35 8d ce cc d3 42 aa da 1f 08 00 45 00
0010 00 5f 2d 79 00 00 fe 11 37 25 8c 7b 05 64 8c 7b
0020 39 95 00 35 d1 e6 00 4b 29 52 dd 0f 81 80 00 01
0030 00 02 00 00 00 00 03 77 77 77 03 63 63 75 03 65
0040 64 75 02 74 77 00 00 01 00 01 c0 0c 00 05 00 01
0050 00 00 0b 3c 00 07 04 6e 77 65 62 c0 10 c0 2c 00
0060 01 00 01 00 00 0b 4b 00 04 8c 7b 0d d7
```

3. Fix the network problem

Q1: What are the reasons of when PC1 pings PC2 in the provided pkt, it shows "Request time out"?

A1:

1. At 11:27 in this [video](#), teacher was dealing with pinging to "My PC". But he failed. He modified the RIP settings on two routers. So we checked the RIP settings of NTU Router and CCU Router, we found they were incorrect (Fig. 5). The RIP setting of NTU Router needs to add the section circled in blue, while the RIP setting of CCU Router should include the section circled in orange, as shown in Fig. 6.

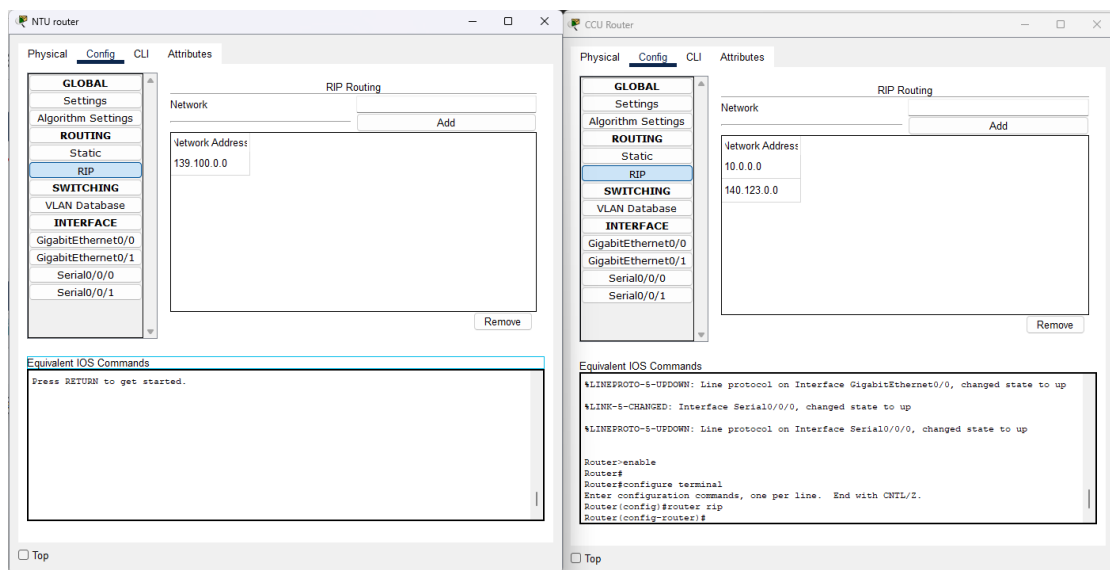


Fig. 5

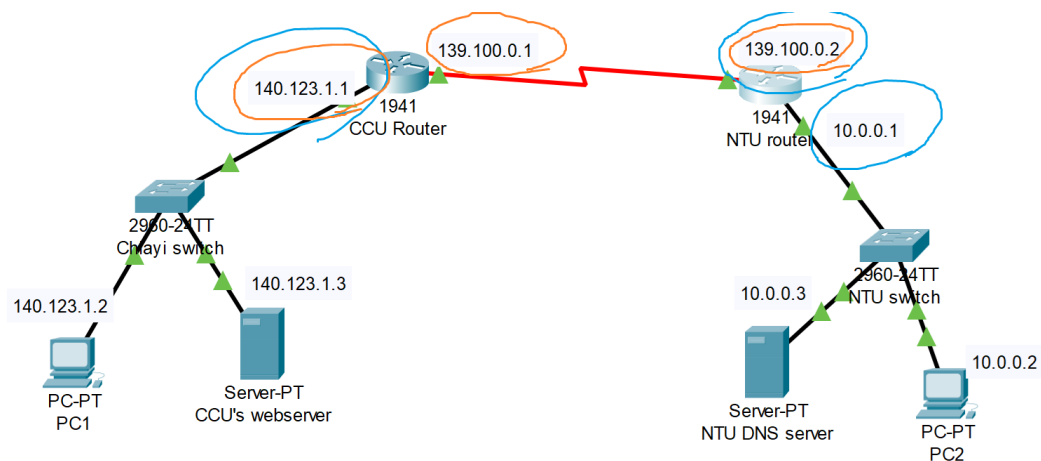
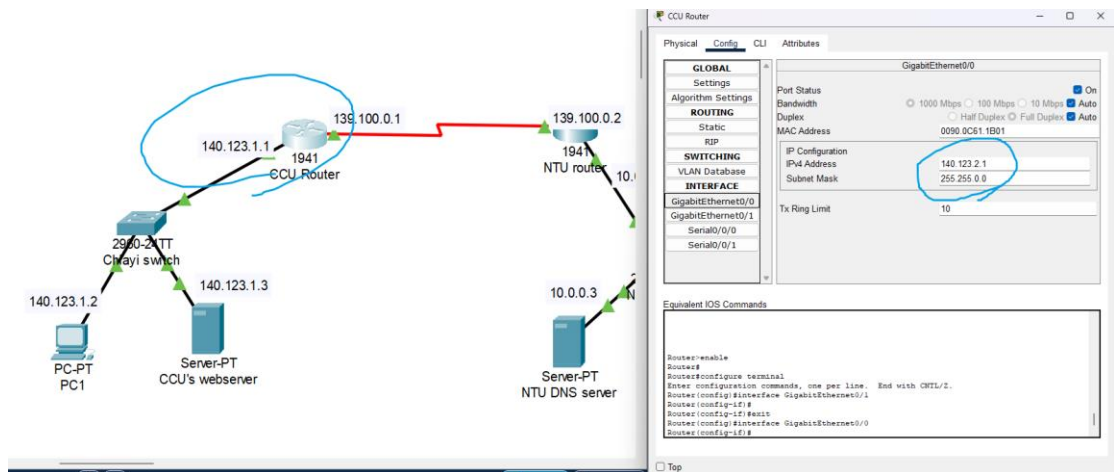


Fig. 6

2. The IP Configuration of CCU Router is wrong(Fig. 7)



(Fig. 7)

Q2: How to fix the above problem? Show screenshots to proof how you fix to let PC1 ping PC2 successfully.

A2: We need to modified two routers. In Figures 8, 9, and 10, the left side shows the configuration before modification, and the right side shows the configuration after modification.

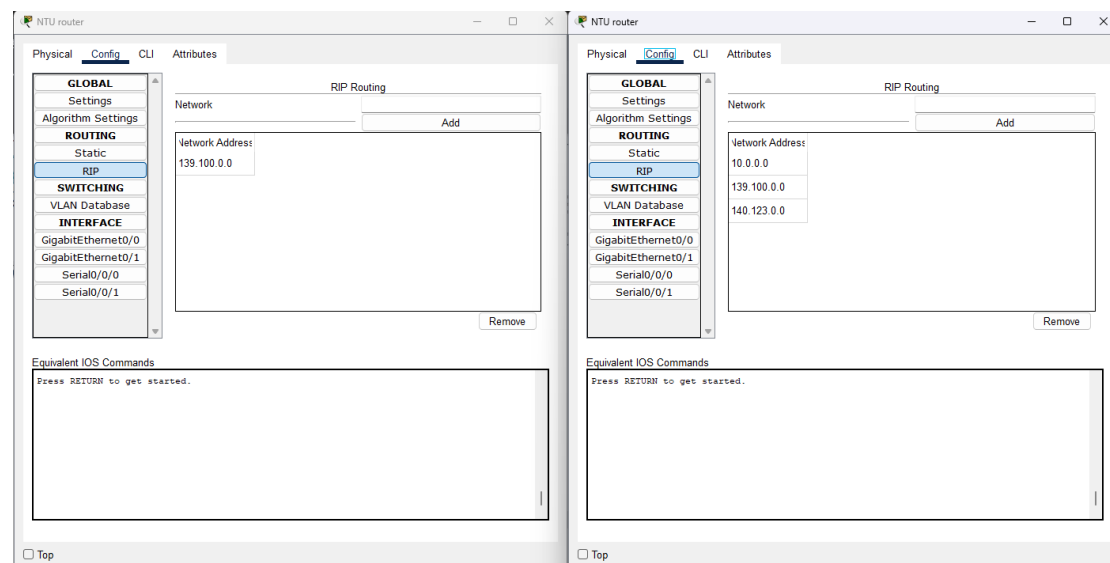


Fig. 8

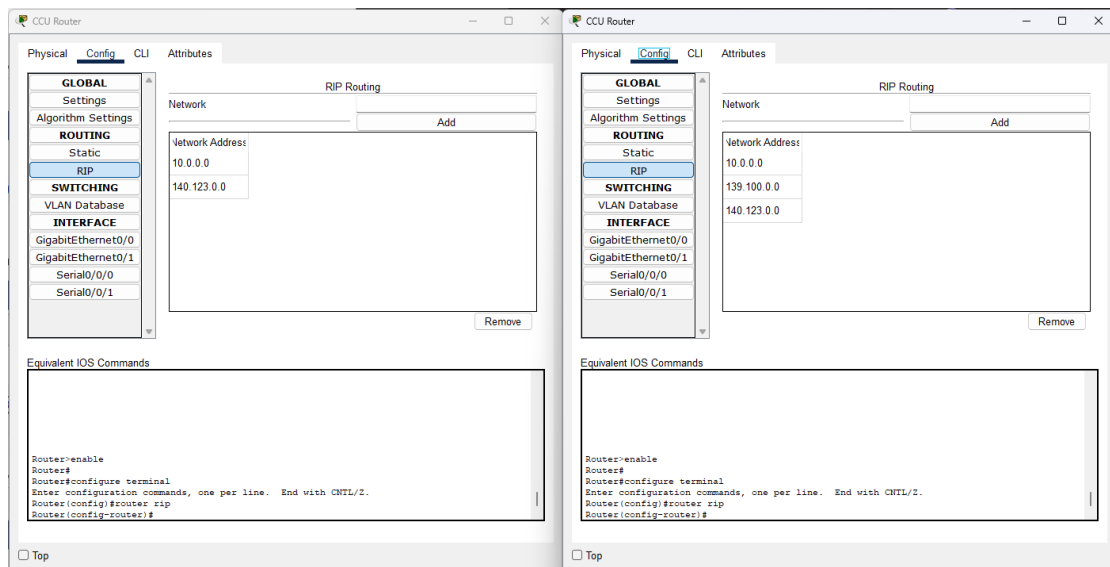


Fig. 9

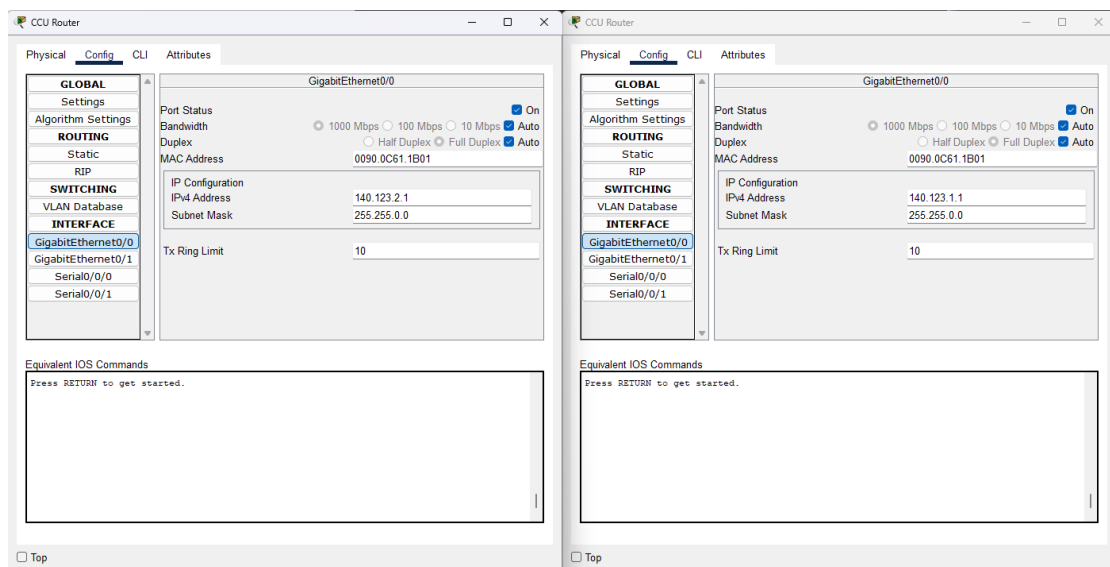
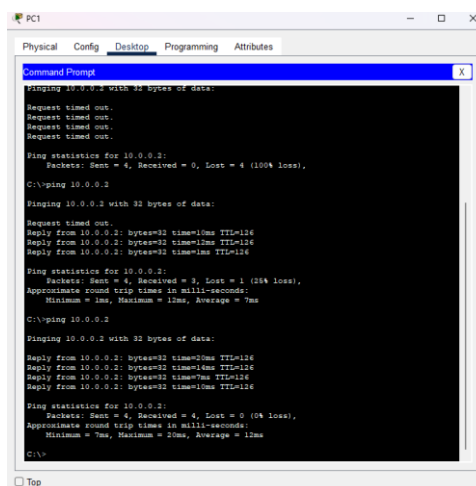


Fig. 10

Now we can use PC1 to ping PC2!



Reference :

<https://www.youtube.com/watch?v=9-sXlykDSs4>

<https://www.youtube.com/watch?v=3f9z-upxqW4&t=12s>

https://www.youtube.com/watch?v=Bl6dZJq_Wc0&t=274s

<https://www.computernetworkingnotes.com/ccna-study-guide/extended-acl-configuration-commands-explained.html>

https://www.cisco.com/c/zh_tw/support/docs/security/ios-firewall/23602-confaccesslists.html

https://support.hpe.com/techhub/eginfolib/networking/docs/switches/RA/15-18/5998-8151_ra_2620_asg/content/ch10s09.html

https://lobotsai.blogspot.com/2012/03/ccna_10.html

<https://www.youtube.com/watch?v=MDW17sP-b48>