תקשורת

מטלה 1

WIRESHARK INTRO

1) List 3 different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 above.

2)How long did it take from when the HTTP GET message was sent until the HTTP OK reply was received? (By default, the value of the Time column in the packet-listing window is the amount of time, in seconds, since Wireshark tracing began. To display the Time field in time-of-day format, select the Wireshark View pull down menu, then select Time Display Format, then select Time-of-day.)

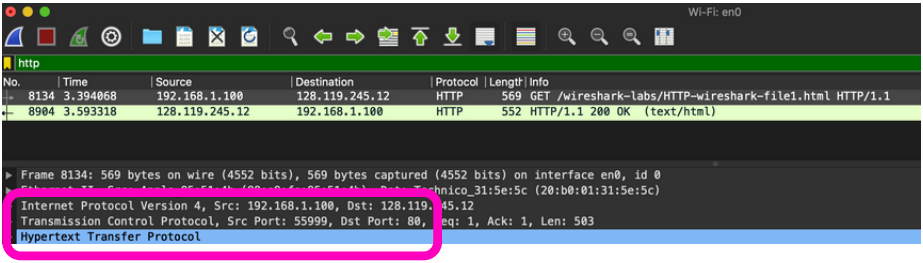
3). What is the Internet address of the gaia.cs.umass.edu (also known as www-net.cs.umass.edu)? What is the Internet address of your computer?)

4). Print the two HTTP messages (GET and OK) referred to in question 2 above. To do so, select Print from the Wireshark File command menu, and select the "Selected Packet Only" and "Print as displayed" radial buttons, and then click OK.

Question 1

List 3 different protocols that appear in the protocol column in the unfiltered packet-listing window in step 7 above.

Answer 1



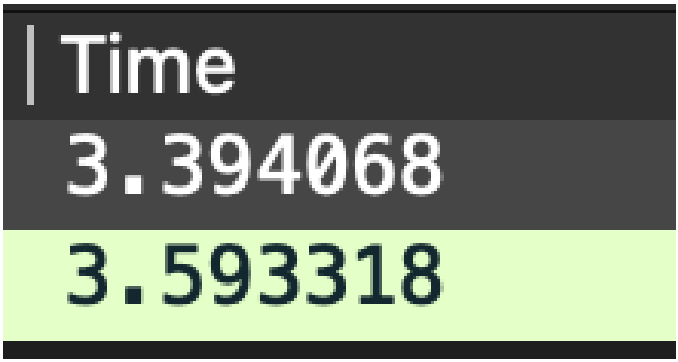
Here we can clearly see 3 different protocoles

- Internet Protocol Version 4. "**IPV4**"
- Transmission Control Protocol "**TCP**"
- Hypertext Transfer Protocol "**HTTP**"

Question 2

How long did it take from when the HTTP GET message was sent until the HTTP
OK reply was received? (By default, the value of the Time column in the packet-
listing window is the amount of time, in seconds, since Wireshark tracing began.
To display the Time field in time-of-day format, select the Wireshark View pull
down menu, then select Time Display Format, then select Time-of-day.)

Answer 2

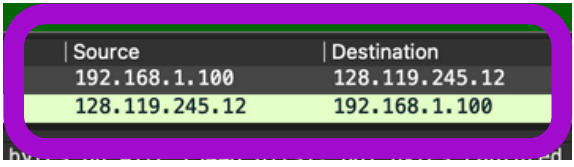


Time To execute 3.394068

Question 3

3). What is the Internet address of the gaia.cs.umass.edu (also known as www-net.cs.umass.edu)?
What is the Internet address of your computer?

Answer 3



Computer Internet address :

- Source Address "**192.168.1.100**"

gaia.cs.umass.edu Internet address :

- Destination Address "**128.119.245.12**"

Question 4

**Print the two HTTP messages (GET and OK) referred to in question 2 above. To
do so, select Print from the Wireshark File command menu, and select the "Selected Packet Only" and "Print as displayed" radial buttons, and then click
OK.**

Answer 4

/var/folders/2h/_cqkmpms0k91t9rl27l22nph0000gn/T/wireshark_Wi-Fi2QIJU0.pcapng 14279 total packets, 2 shown

```
No.     Time           Source                Destination           Protocol Length Info
   8134 3.394068       192.168.1.100         128.119.245.12        HTTP     569    GET /
wireshark-labs/HTTP-wireshark-file1.html HTTP/1.1
Frame 8134: 569 bytes on wire (4552 bits), 569 bytes captured (4552 bits) on interface en0, id
0
Ethernet II, Src: Apple_85:51:4b (88:e9:fe:85:51:4b), Dst: Technico_31:5e:5c (20:b0:01:31:5e:
5c)
Internet Protocol Version 4, Src: 192.168.1.100, Dst: 128.119.245.12
Transmission Control Protocol, Src Port: 55999, Dst Port: 80, Seq: 1, Ack: 1, Len: 503
Hypertext Transfer Protocol
```

WIRESHARK
HTTP

1. Is your browser running HTTP version 1.0 or 1.1? What version of HTTP is the server running?
2. What languages (if any) does your browser indicate that it can accept to the server?
3. What is the IP address of your computer? Of the gaia.cs.umass.edu server?
4. What is the status code returned from the server to your browser?
5. When was the HTML file that you are retrieving last modified at the server?
6. How many bytes of content are being returned to your browser?
7. By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one.
8. Inspect the contents of the first HTTP GET request from your browser to the server. Do you see an "IF-MODIFIED-SINCE" line in the HTTP GET?
9. Inspect the contents of the server response. Did the server explicitly return the contents of the file? How can you tell?
10. Now inspect the contents of the second HTTP GET request from your browser to the server. Do you see an "IF-MODIFIED-SINCE:" line in the HTTP GET? If so, what information follows the "IF-MODIFIED-SINCE:" header?
11. What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain.
12. How many HTTP GET request messages did your browser send? Which packet number in the trace contains the GET message for the Bill or Rights?
13. Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?
14. What is the status code and phrase in the response?
15. How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?
16. How many HTTP GET request messages did your browser send? To which Internet addresses were these GET requests sent?
17. Can you tell whether your browser downloaded the two images serially, or whether they were downloaded from the two web sites in parallel? Explain.
18. What is the server's response (status code and phrase) in response to the initial HTTP GET message from your browser?
19. When your browser's sends the HTTP GET message for the second time, what new field is included in the HTTP GET message?

Question 1

Is your browser running HTTP version 1.0 or 1.1? What version of HTTP is the server running?

Answer 1

```
552 HTTP/1.1 200 OK  (text/html)
```

My browser running HTTP version 1.1

Question 2

What languages (if any) does your browser indicate that it can accept to the server?

Answer 2

```
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,
Accept-Encoding: gzip, deflate\r\n
Accept-Language: fr-FR,fr;q=0.9,en-US;q=0.8,en;q=0.7\r\n
```

French & English (US)

Question 3

What is the IP address of your computer? Of the gaia.cs.umass.edu server?

Answer 3

Source	Destination
192.168.1.100	128.119.245.12

Computer Internet address :

- Source Address "**192.168.1.100**"

gaia.cs.umass.edu Internet address :

- Destination Address "**128.119.245.12**"

Question 4

What is the status code returned from the server to your browser?

Answer 4

```
552 HTTP/1.1 200 OK  (text/html)
```

200 OK

Question 5

When was the HTML file that you are retrieving last modified at the server?

Answer 5

```
Last-Modified: Sat, 14 Nov 2020 06:59:02 GMT\r\
```

Saturday 14 Novembre 2020 at 06:59:02

Question 6

How many bytes of content are being returned to your browser?

Answer 6

Content-Length 128 Bytes

Question 7

By inspecting the raw data in the packet content window, do you see any headers within the data that are not displayed in the packet-listing window? If so, name one. No. The raw data appears to match up exactly with what is shown in the packet-listing window.

Answer 7

No, i don't see any header

Question 8

Inspect the contents of the first HTTP GET request from your browser to the
server. Do you see an “IF-MODIFIED-SINCE” line in the HTTP GET?

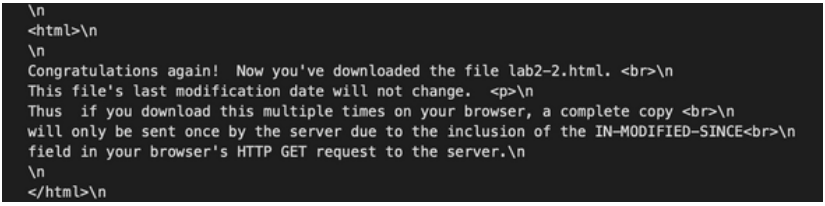
Answer 8

No, i don't see any "IF-MODIFIED-SINCE

Question 9

Inspect the contents of the server response. Did the server explicitly return the
contents of the file? How can you tell?

Answer 9

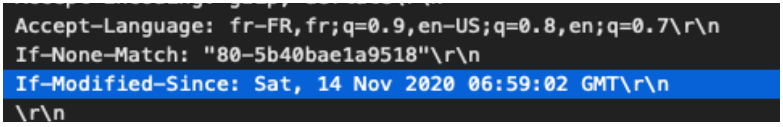


Yes i can clearly see the contain html :
"Congratulation. Again! ..."

Question 10

Now inspect the contents of the second HTTP GET request from your browser to
the server. Do you see an “IF-MODIFIED-SINCE:” line in the HTTP GET? If
so, what information follows the “IF-MODIFIED-SINCE:” header?

Answer 10

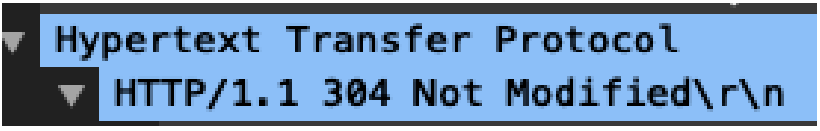


Sat, 14 Nov 2020 06:59:02

Question 11

What is the HTTP status code and phrase returned from the server in response to this second HTTP GET? Did the server explicitly return the contents of the file? Explain.

Answer 11



The second HTTP GET returned 304 Not Modified because the request don't have to be renew the cash well know this adress so it can be signified that nothing was modified since my last request .

Question 12

How many HTTP GET request messages did your browser send? Which packet number in the trace contains the GET message for the Bill or Rights?

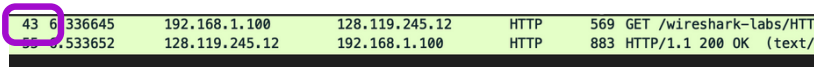
Answer 12

My browser send 1 HTTP GET request message

Question 13

Which packet number in the trace contains the status code and phrase associated with the response to the HTTP GET request?

Answer 13

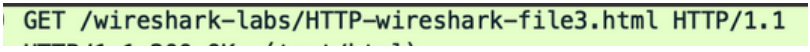


No. 43

Question 14

What is the status code and phrase in the response?

Answer 14

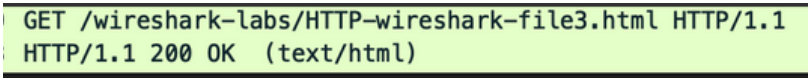


GET /wireshark-labs/HTPP-wireshark-file3.html HTTP/1.1

Question 15

How many data-containing TCP segments were needed to carry the single HTTP response and the text of the Bill of Rights?

Answer 15

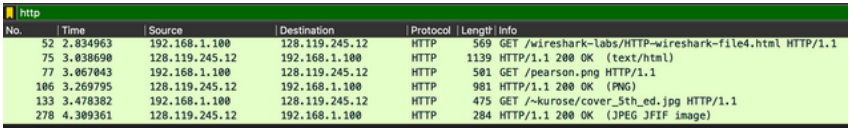


2 TCP segments (1GET)(1 OK).

Question 16

How many HTTP GET request messages did your browser send? To which Internet addresses were these GET requests sent?

Answer 16



http

No.	Time	Source	Destination	Protocol	Length	Info
52	2.834963	192.168.1.100	128.119.245.12	HTTP	569	GET /wireshark-labs/HTTP-wireshark-file4.html HTTP/1.1
75	3.038690	128.119.245.12	192.168.1.100	HTTP	1139	HTTP/1.1 200 OK (text/html)
77	3.067043	192.168.1.100	128.119.245.12	HTTP	501	GET /pearson.png HTTP/1.1
106	3.269795	128.119.245.12	192.168.1.100	HTTP	981	HTTP/1.1 200 OK (PNG)
133	3.478382	192.168.1.100	128.119.245.12	HTTP	475	GET /~kurose/cover_5th_ed.jpg HTTP/1.1
278	4.309361	128.119.245.12	192.168.1.100	HTTP	284	HTTP/1.1 200 OK (JPEG JFIF image)

1 destinations :

- *128.119.245.12*

Question 17

Can you tell whether your browser downloaded the two images serially, orwhether they were downloaded from the two web sites in parallel? Explain.

Answer 17

Picture 1

[3 Reassembled TCP Segments (3611 bytes): #103(1348), #104(1348), #106(915)]

Picture 2

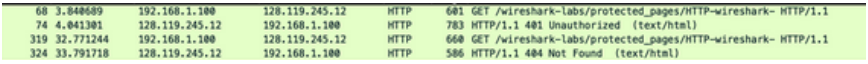
▶ [77 Reassembled TCP Segments (101318 bytes): #137(1348), #138(1348

both images have been downloaded in series

Question 18

What is the server's response (status code and phrase) in response to the initial HTTP GET message from your browser?

Answer 18



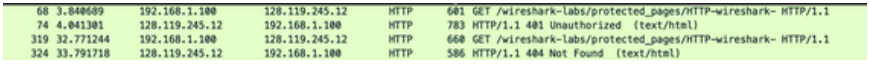
68	3.840689	192.168.1.100	128.119.245.12	HTTP	601 GET /wireshark-labs/protected_pages/HTTP-wireshark- HTTP/1.1
74	4.041301	128.119.245.12	192.168.1.100	HTTP	783 HTTP/1.1 401 Unauthorized (text/html)
319	32.771244	192.168.1.100	128.119.245.12	HTTP	660 GET /wireshark-labs/protected_pages/HTTP-wireshark- HTTP/1.1
324	33.791718	128.119.245.12	192.168.1.100	HTTP	586 HTTP/1.1 404 Not Found (text/html)

The server's response in the initial HTTP GET is the N°68 GET/wireshark-labs/protected_pages/HTTP-wireshark-HTTP/1.1

Question 19

When your browser's sends the HTTP GET message for the second time, what new field is included in the HTTP GET message?

Answer 19



68	3.840689	192.168.1.100	128.119.245.12	HTTP	601 GET /wireshark-labs/protected_pages/HTTP-wireshark- HTTP/1.1
74	4.041301	128.119.245.12	192.168.1.100	HTTP	783 HTTP/1.1 401 Unauthorized (text/html)
319	32.771244	192.168.1.100	128.119.245.12	HTTP	660 GET /wireshark-labs/protected_pages/HTTP-wireshark- HTTP/1.1
324	33.791718	128.119.245.12	192.168.1.100	HTTP	586 HTTP/1.1 404 Not Found (text/html)

Unauthorized

תקשורת

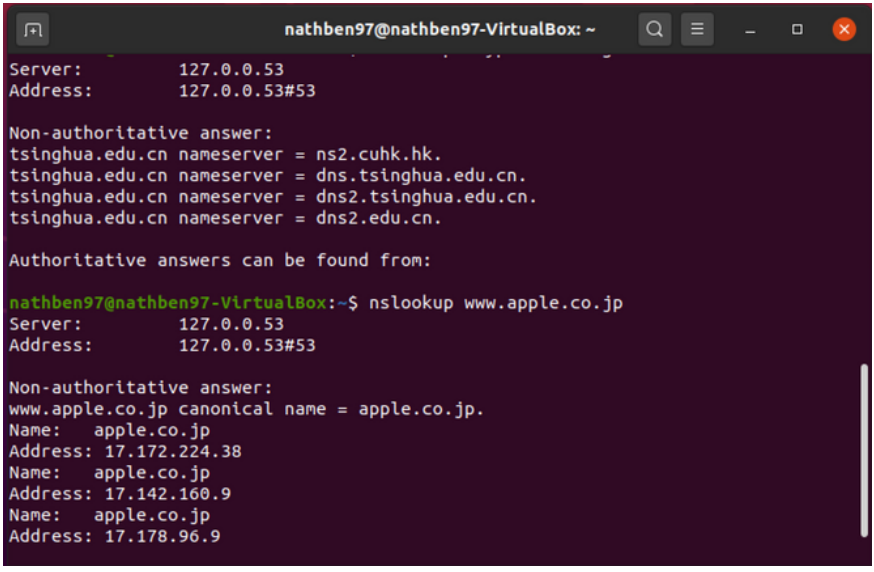
מטלה 1

Nathanael Benichou

WIRESHARK

DNS

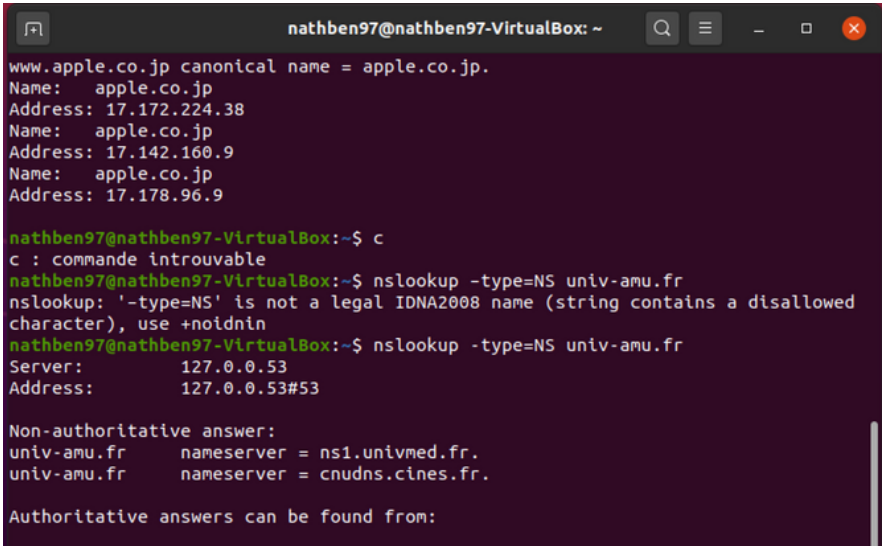
1. Run nslookup to obtain the IP address of a Web server in Asia. What is the IP address of that server?



Adresses :

- 17.172.224.38
- 17.142.160.9
- 17.178.96.9

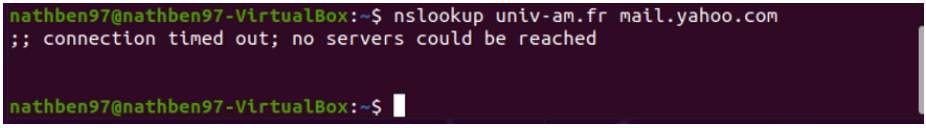
2. Run nslookup to determine the authoritative DNS servers for a university in Europe.



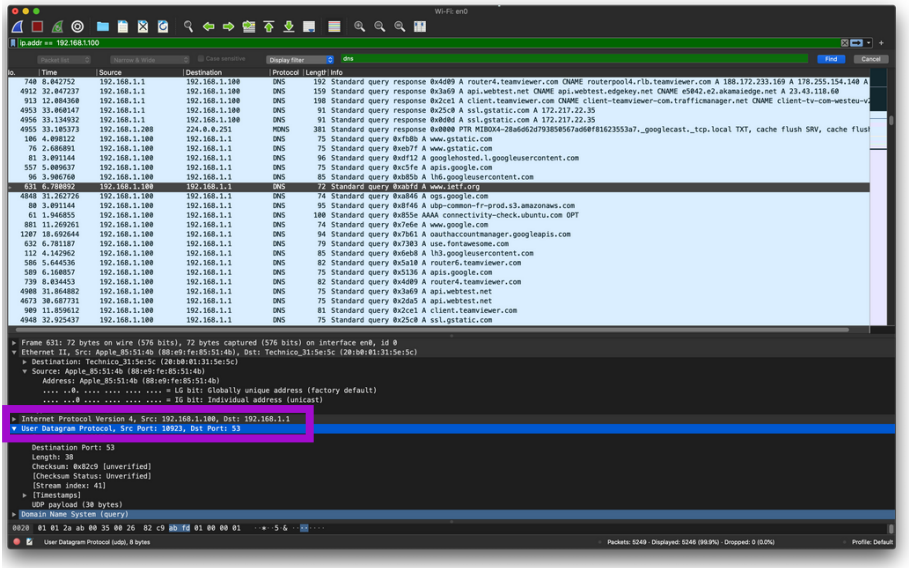
Servers :

- ns1.univmed.fr
- cnudns.cines.fr

3.Run nslookup so that one of the DNS servers obtained in Question 2 is queried for the mail servers for Yahoo! mail. What is its IP address?



Connection timed out no servers could be reached



4.Locate the DNS query and response messages. Are then sent over UDP or TCP?

UDP

5.What is the destination port for the DNS query message? What is the source port of DNS response message?

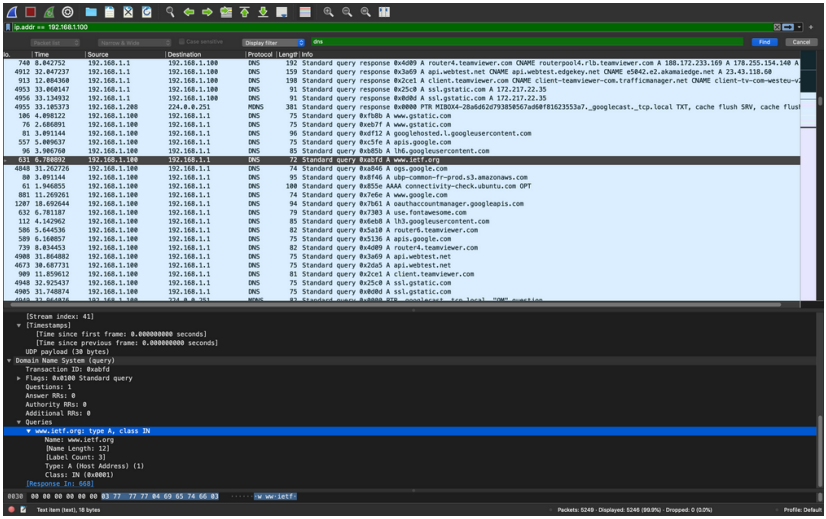
- Source port :10923
- Destination port :53

6 .To what IP address is the DNS query message sent? Use ipconfig to determine the
IP address of your local DNS server. Are these two IP addresses the same?

- Source :192.168.1.100
- Destination :192.168.1.1

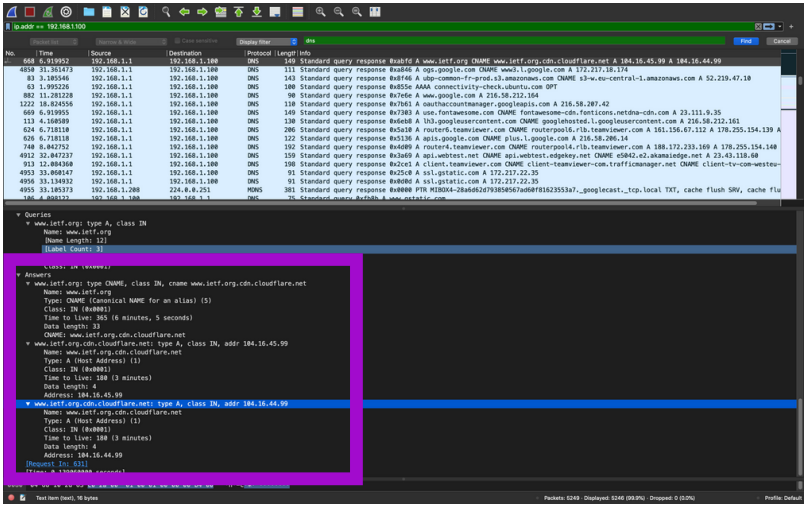
The MacOs (ipconfig /all) is "ifconfig" the inet show us that the. destination feet with our DNS answer 192.168.100

7.Examine the DNS query message. What “Type” of DNS query is it? Does the query message contain any “answers”?



Standard Query ;
Type of DNS Query : A;
no answer.

8. Examine the DNS response message. How many “answers” are provided? What do each of these answers contain?



Answers :

3 answers contains :

(name, type, class, time to live, data ,length ,adress)

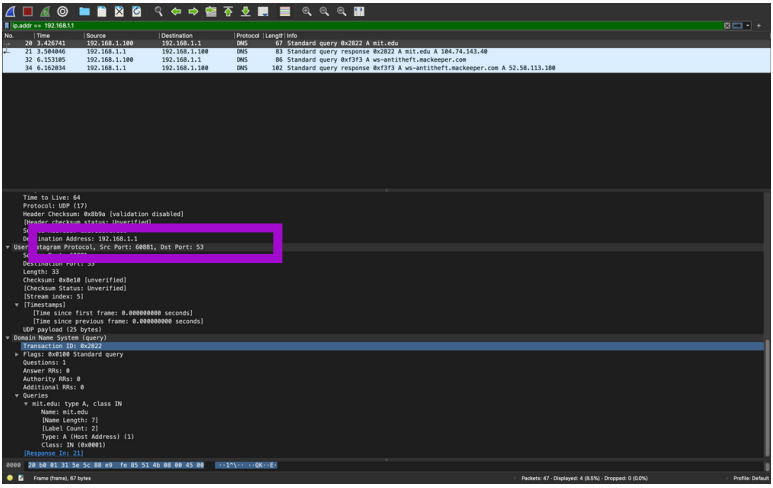
9. Consider the subsequent TCP SYN packet sent by your host. Does the destination IP address of the SYN packet correspond to any of the IP addresses provided in the DNS response message?

Answer : adresse of provided by the DNS server of ietf.org is 104.16.44.99 as seen in the last screenshot

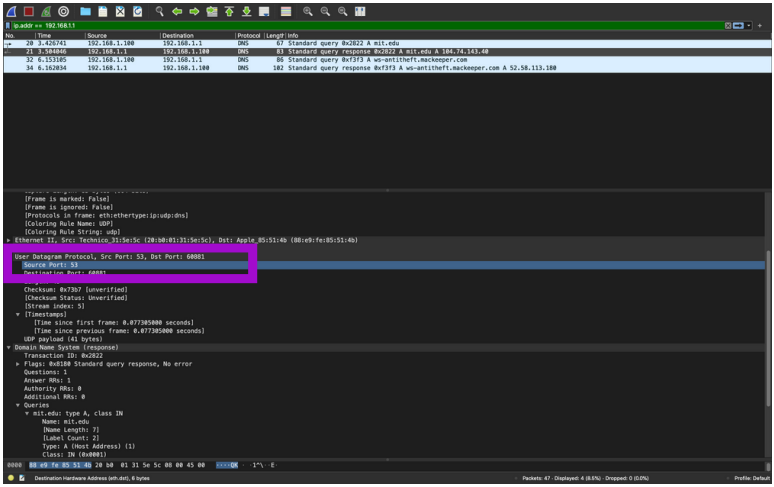
10. This web page contains images. Before retrieving each image, does your host issue new DNS queries?

All the images coming from ietf.org so no need to use a new DNS queries

11. What is the destination port for the DNS query message? What is the source port of DNS response message?

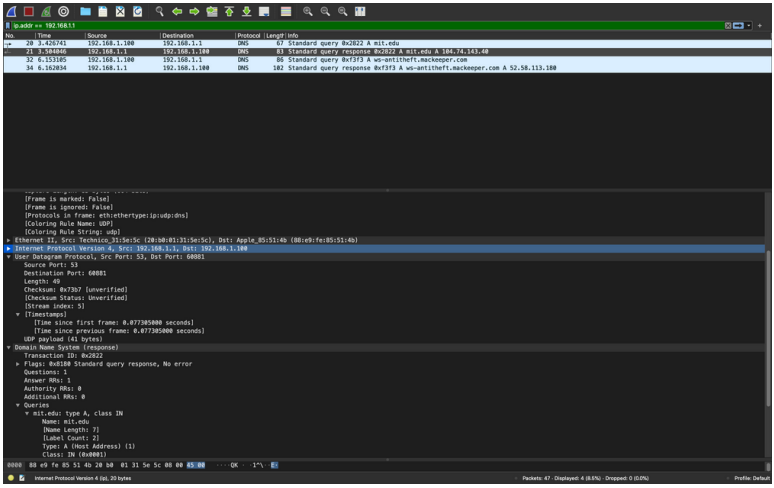


Request port 53

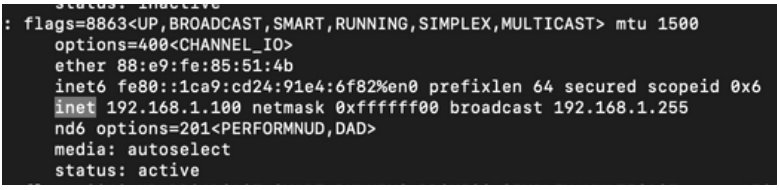


Answer port 53

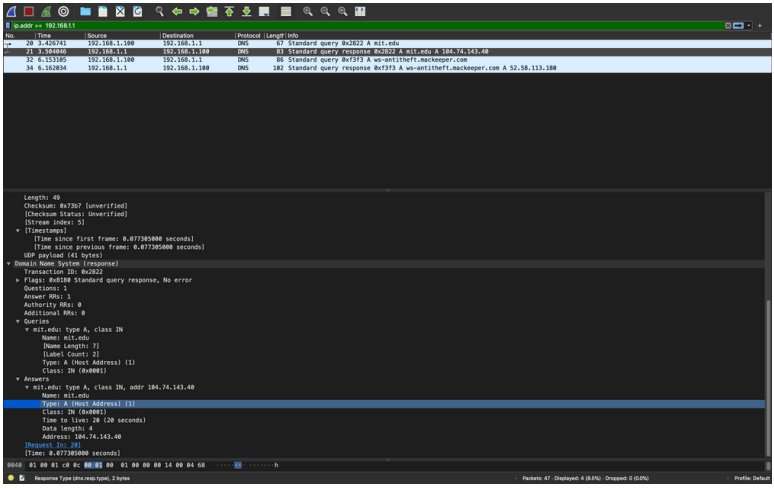
12. To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server?



Destination is 192.168.1.100 its my Dns default ip as seen in the ifconfig screenshot



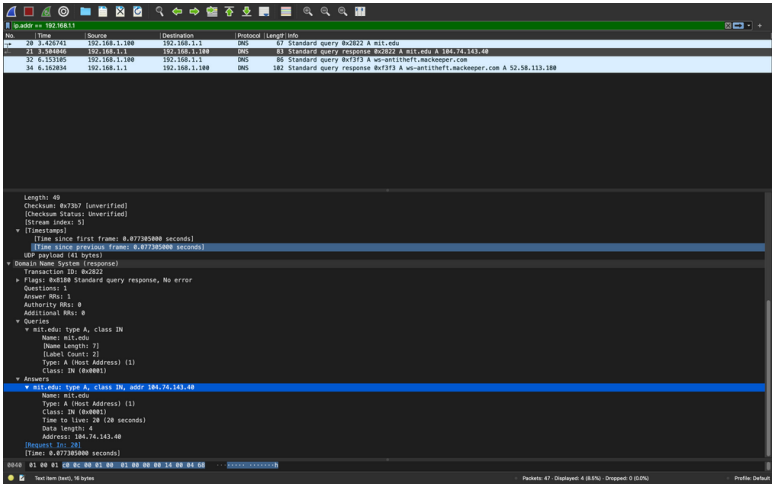
13. Examine the DNS query message. What “Type” of DNS query is it? Does the query message contain any “answers”?



No answer /DNS type :A

14. Examine the DNS response message. How many “answers” are provided? What do each of these answers contain?

15.ScreenShot

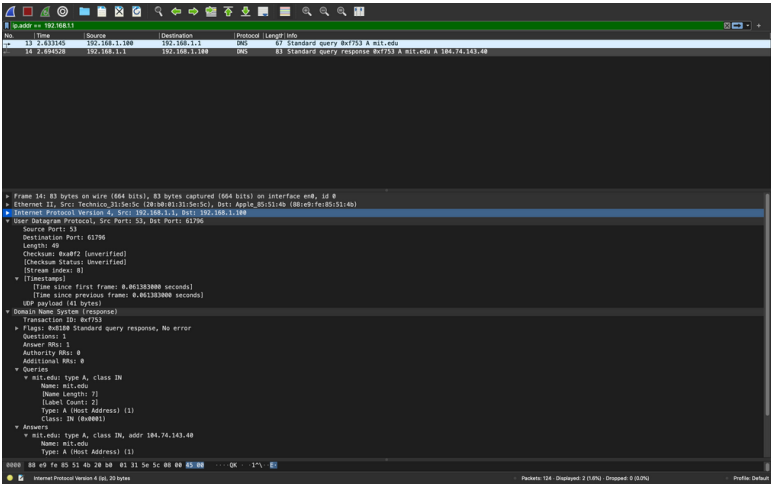


Answers :

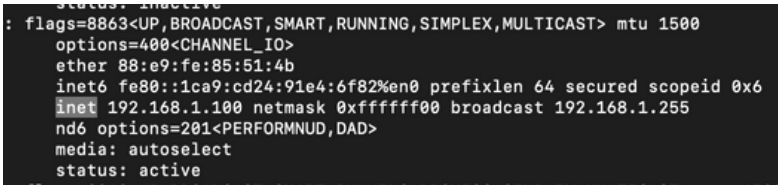
1 answers contains :

(name, type, class, time to live, data ,length ,adress)

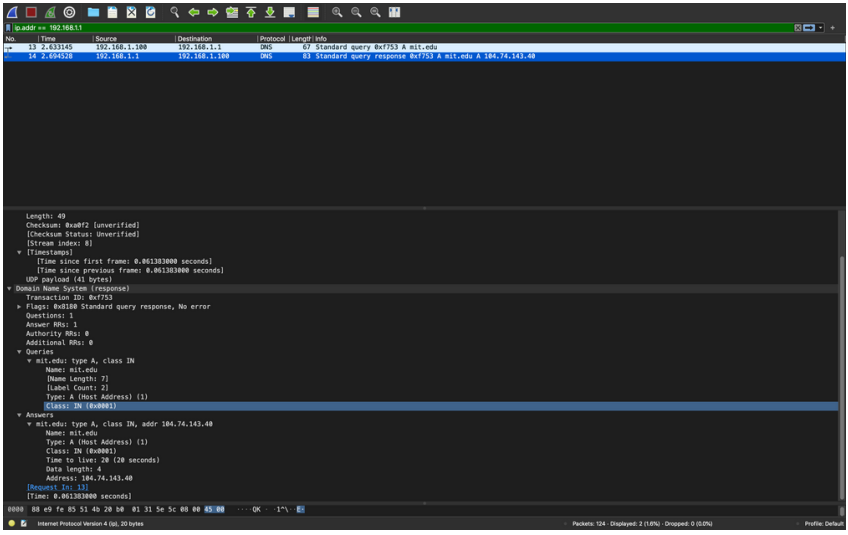
16.To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server?



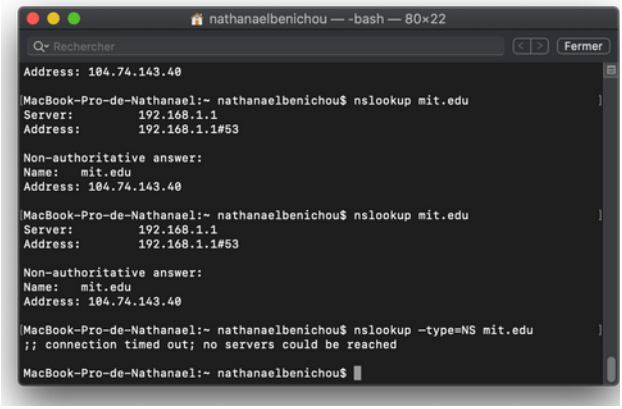
Destination is 192.168.1.100 its my Dns default ip as seen in the ifconfig screenshot



17. Examine the DNS query message. What “Type” of DNS query is it? Does the query message contain any “answers”?

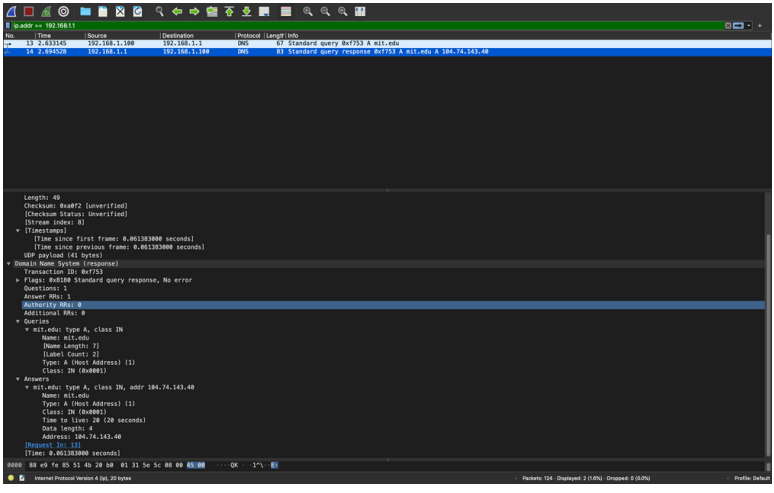


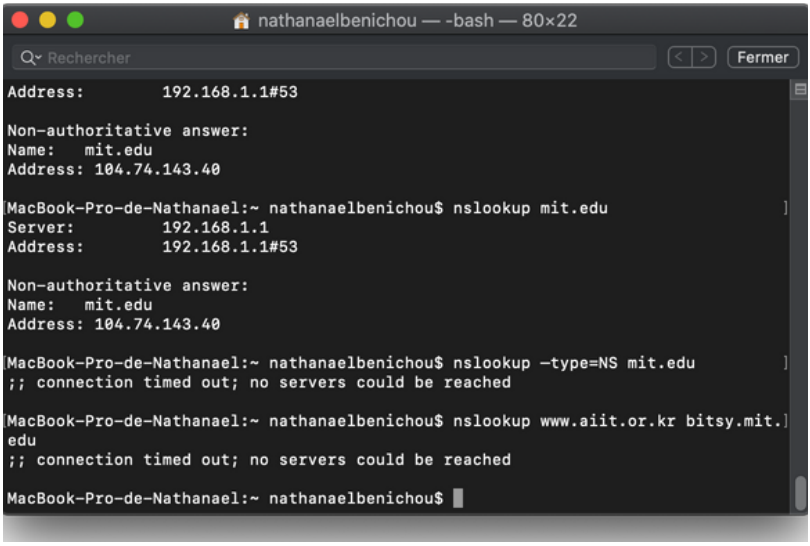
Answer: Type A query, and no answer



18. Examine the DNS response message. What MIT nameservers does the response message provide? Does this response message also provide the IP addresses of the MIT namesers?

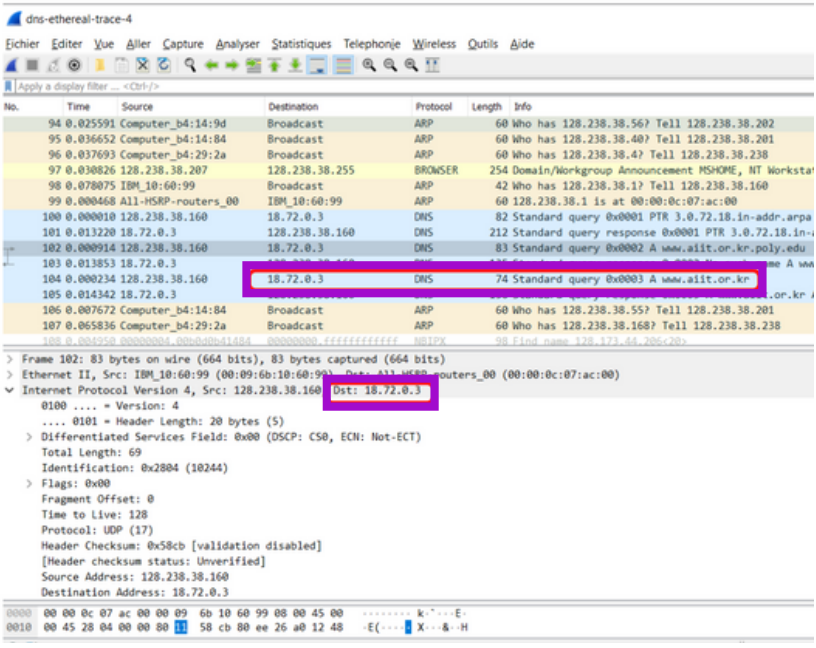
19. Provide a screenshot.





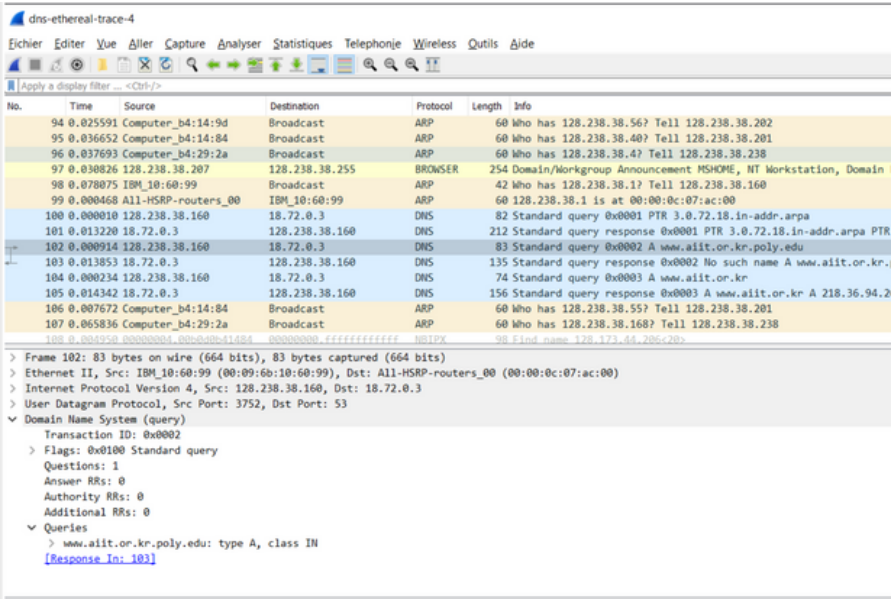
Doesn't work so i used the given pdf in this case

20. To what IP address is the DNS query message sent? Is this the IP address of your default local DNS server? If not, what does the IP address correspond to?



Answer: DNS send to 18.72.0.3
the IP address of the wait response sender.

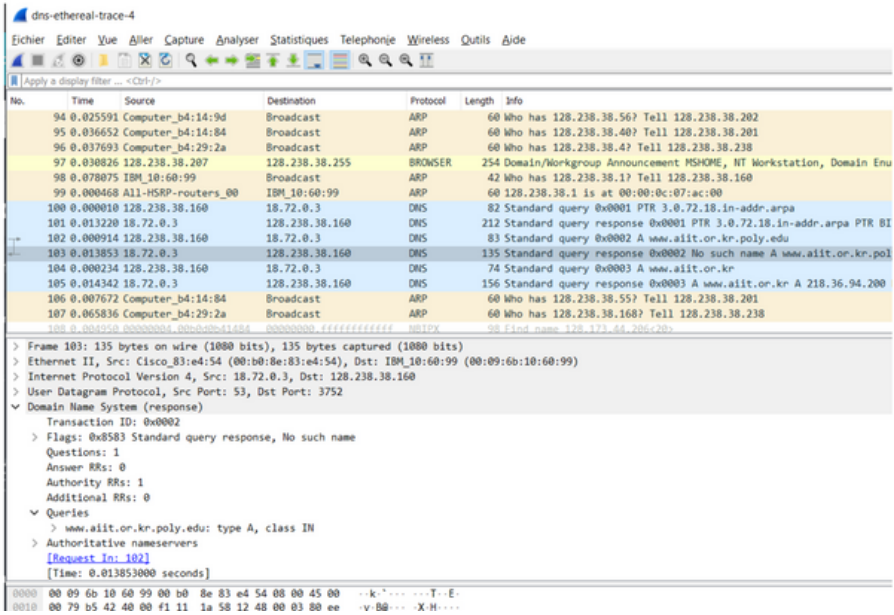
21. Examine the DNS query message. What “Type” of DNS query is it? Does the query message contain any “answers”?



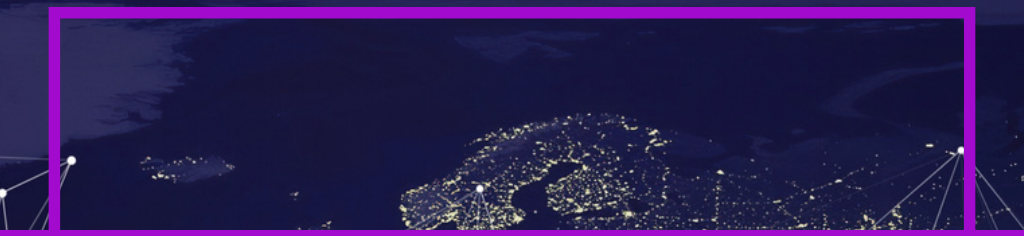
Answer: Type of DNS : A
Standard query
no answer

22. Examine the DNS response message. How many "answers" are provided? What does each of these answers contain?

23.Provide a Screenshot:



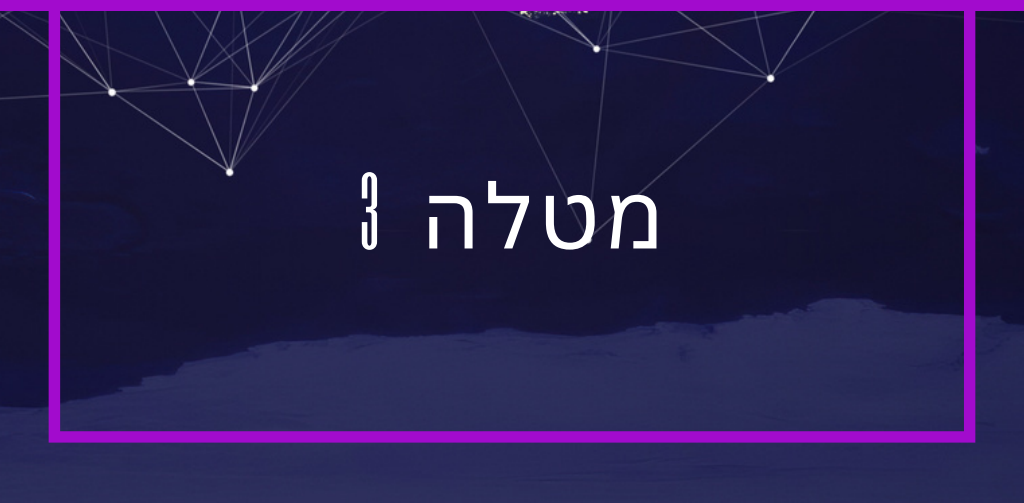
Answer: Type of DNS : A
Standard query
no answer



תקשורת

Nathanael Benichou

JORDAN PEREZ



מטלה 3

PART I

Question 1

הציגו יתרון אחד לשימוש ב-DoH והסבירו אותו
(כמובן, מעבר לעובדה שהוא מאובטח ומוצפן)

Answer 1

מעבר להצפנת הנתונים, ל- DOH יש יתרון
בהגדלת הביצועים, גם במקרה של אובדן חבילות,
הוא מהיר יותר בשליחת מידע.

Question 2

הציגו והסבירו על שני חסרונות לשימוש בשיטת DoH לעומת DNS הרגיל

Answer 2

א)

DoH מונע מעקב אחר משתמשים.
בחינת שאילתות DNS יכולה להיות חושפנית מאוד וניתן להשתמש בה לטובה (גילוי פעילות של תוכנות זדוניות) או לרוע (לאתר מי מבקר באיזה אתר). שוב, זו המטרה המפורשת של DoH להקשות על הניטור.

לפיכך, מפעילי רשתות אינם יכולים לסנן את התוכן של אתרים לא רצויים מכיוון שמי שמשתמש ב- DOH עוקף את רשת האבטחה הנ"ל, ומסכן את המשתמש.

ב)

השימוש ב- DOH הופך את הרשת לאיטית ופחות יעילה מכיוון שהמידע עובר ברשת מרוחקת

Question 3

בחרו אחד מהחסרונות משאלה (2), הציעו דרך למתן\לעקוף\לפתור חיסרון זה והסבירו אותה.

Answer 3

השימוש ב- GEODNS יכול להפוך את השימוש ב- DOH לאיטי פחות, GeoDns משפר את חיפוש שמות הדומיינים על ידי רזולוציית כתובת בהתבסס על המיקום הגיאוגרפי של הלקוח.

Answer 4

א) יישום ה- DoH ברמת היישום

יתרונות: ניתן ליישם את פרוטוקול ה- DNS ביישומים הנתמכים.

חסרון - אם המשתמש מתעלם מבקשות, היישום לא יוכל להציג את המשתמש שהתעלם ממנו.

ב) יישום DoH ברמת שרת ה- Proxy * ברשת -

יתרון (אנונימיות): ה- proxy הוא נתיב המאפשר להפוך לאנונימי. שימוש זה נותן אפשרות למשתמש כי ה- IP שלהם, ולכן זהותו, נותר לא ידוע.

חסרון - למשתמשים שכנים המזוהים עם אותה רשת יש גישה למידע.

ג) יישום DoH של שרת ה- proxy המקומי -

יתרון
גם אם המשתמשים מחוברים לאותה רשת הבקשות יוצפנו ולכן ההתקפה תהיה קשה יותר.

חסרון אייקון
התקנה כללית, באופן מקומי, עלולה ליצור עומס.

ד) התקן תוסף המיישם את DoH:

יתרונות:
בניגוד ל- Proxy, בהיותו מודול תוסף, אין צורך להתקין אותו בכל המכונות בנפרד.

חִסָרוֹן:
לא כל מערכות ההפעלה תומכות בתוסף

מסקנות

נראה שהכי טוב הוא לחסוך זמן ולהימנע מכל סוג של עומס, הפתרון המועיל ביותר נראה לי הפלאגין.

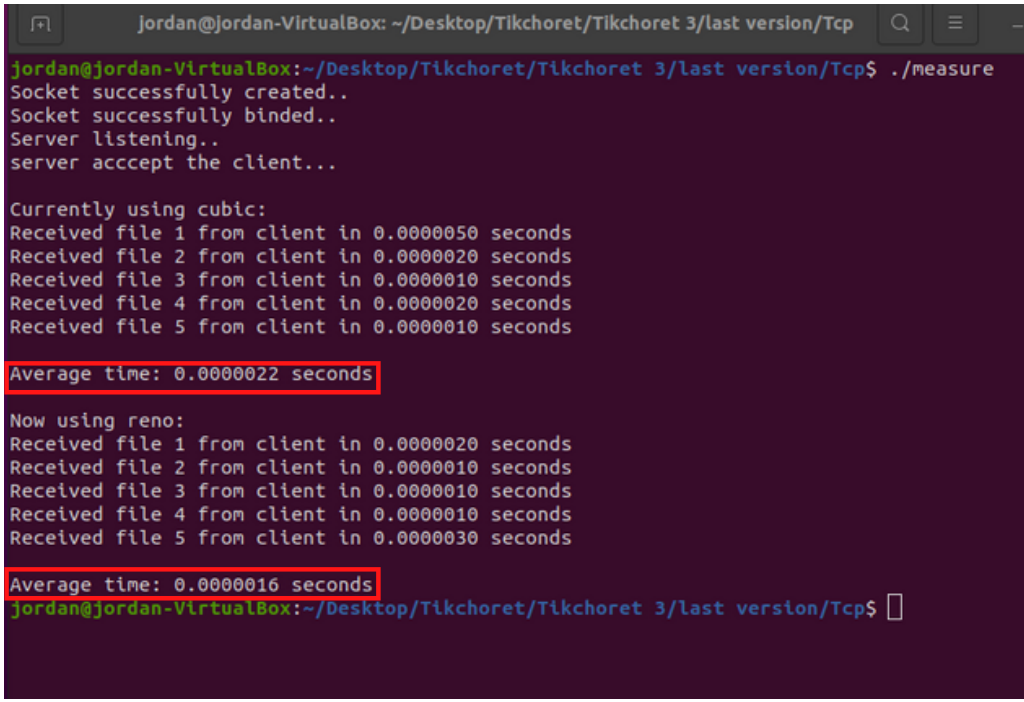
Question 5

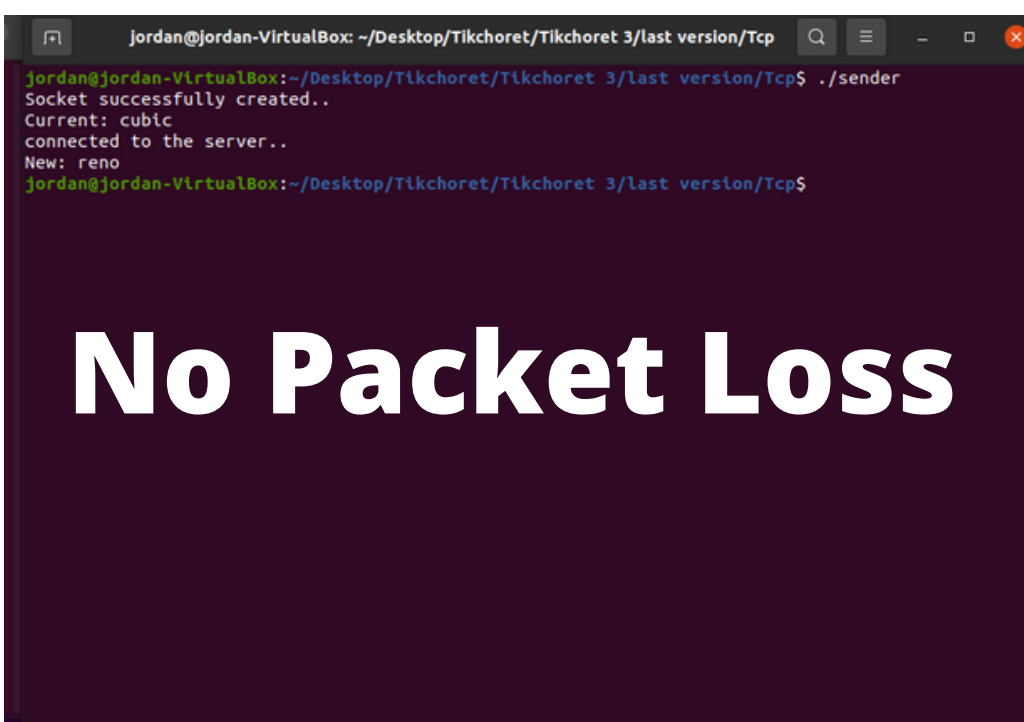
נניח שאנו ברשת שקיים בה איבוד פקטות (packet loss) באחוז לא ידוע ואנו רוצים לטעון דף שצריך 25 שאילתות כדי לבקש את כל המשאבים שבו. הציגו יתרון ברור שיש ל-DoH לעומת Do53. (רמז: מנגנון הקיים ב-TCP)

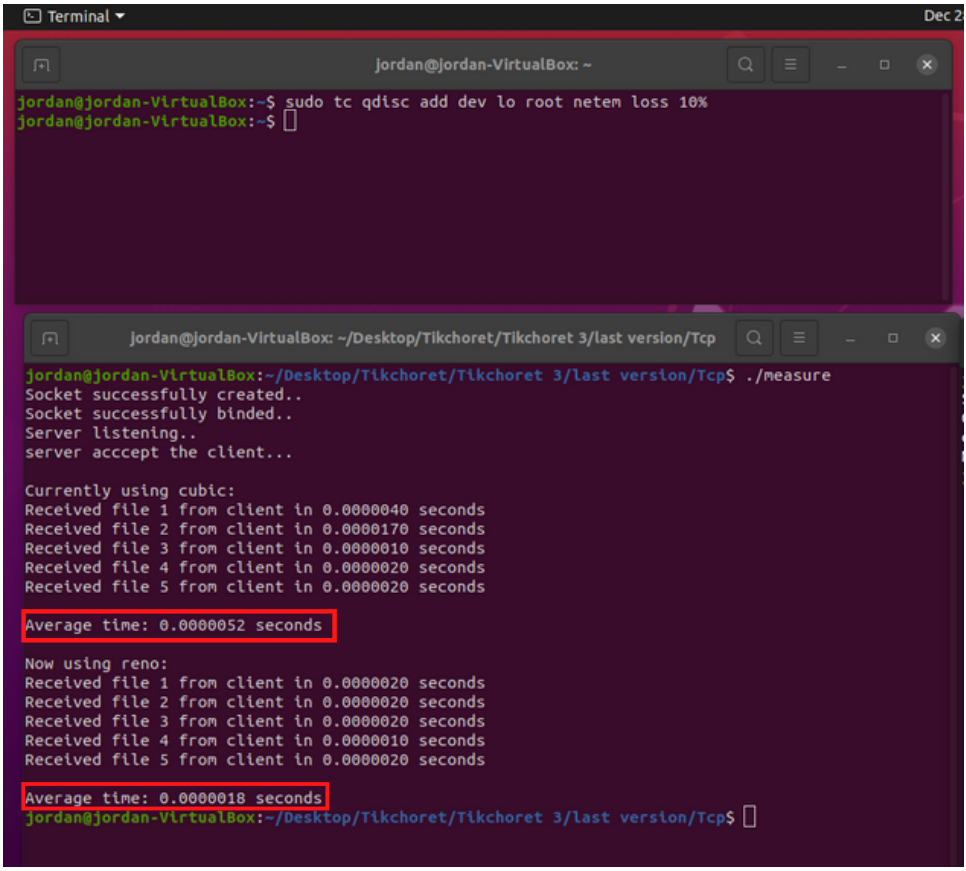
Answer 5

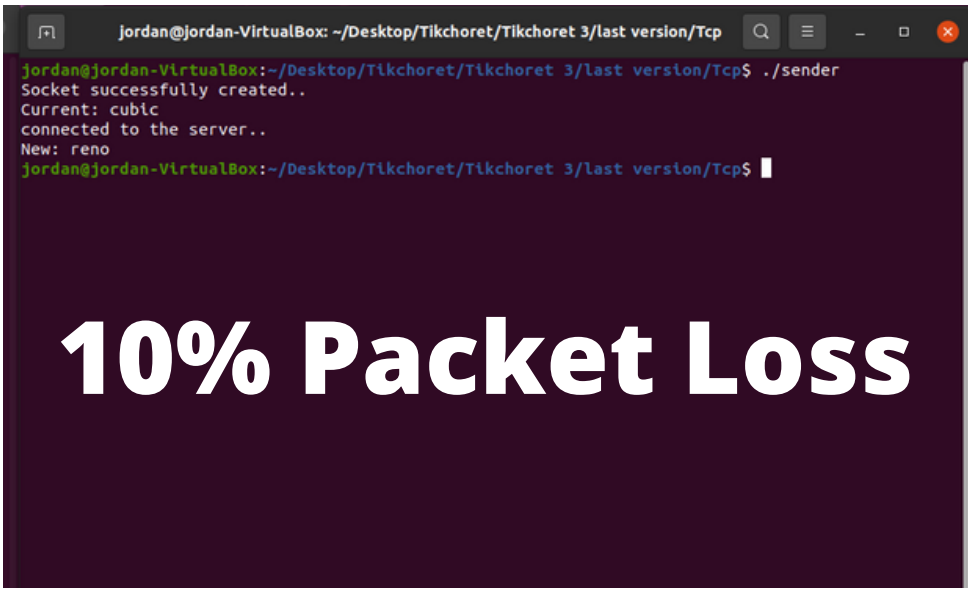
בתהליך Do53 משתמשים בפרוטוקול UDP.
אין לו את אותם המאפיינים.
כאשר משתמשים ב- DoH במהלך אובדן מנות, מנגנון שולח signal, מים לחבילה לפני זה שאבד, ולכן ניתן יהיה לשלוח אותו שוב ללא בעיה.

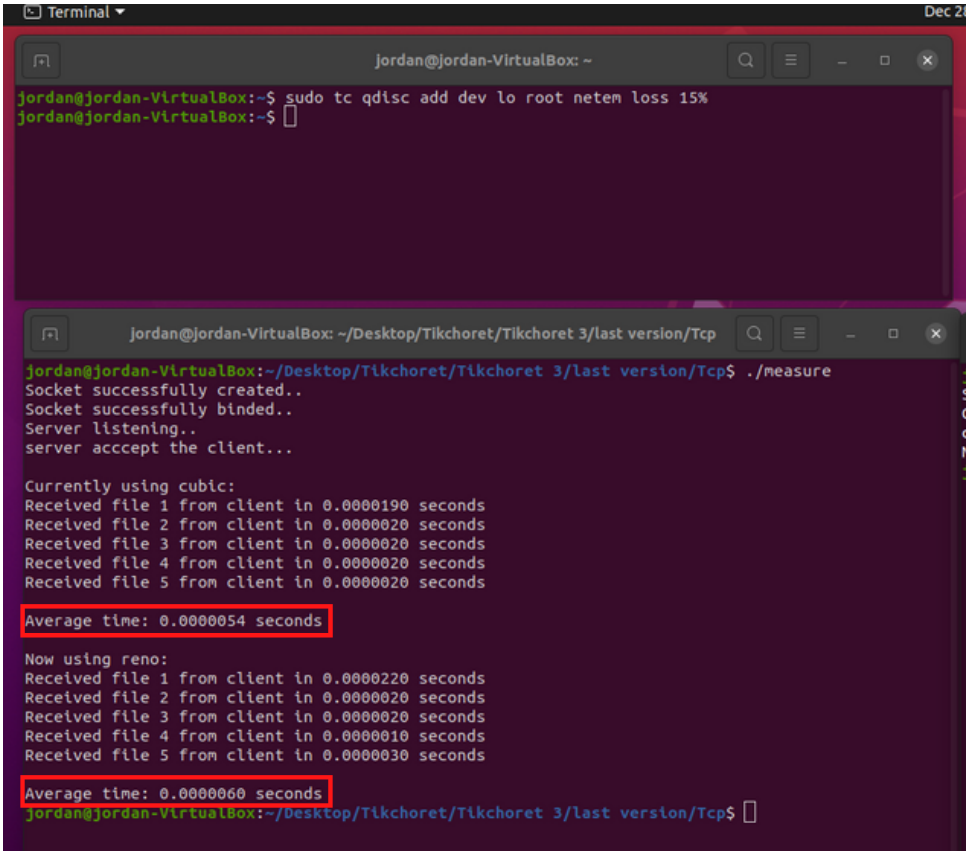
PART II

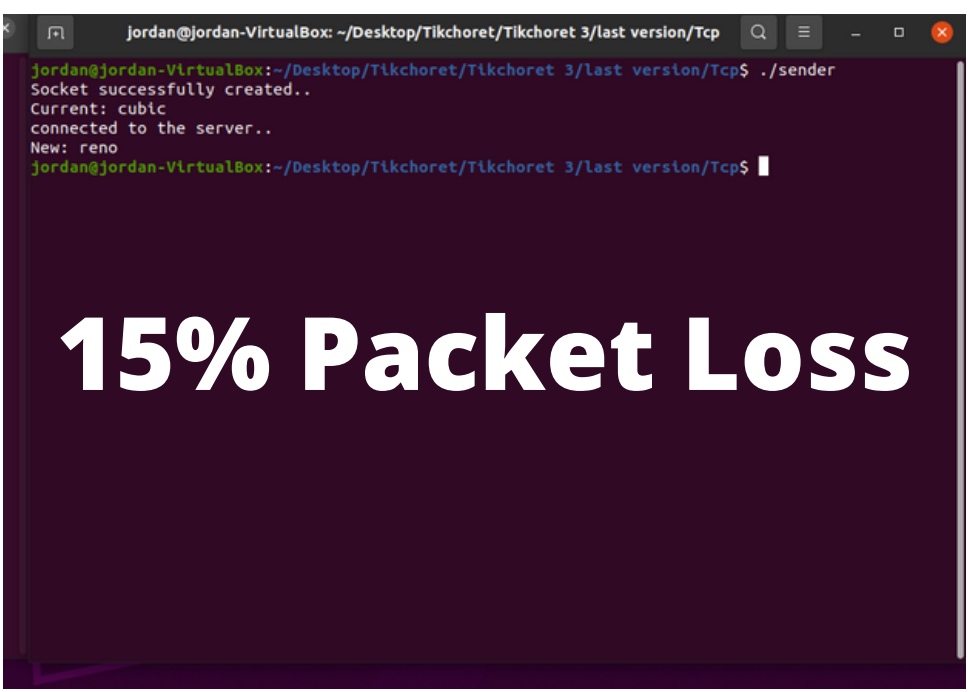

jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./measure
Socket successfully created..
Socket successfully binded..
Server listening..
server acccept the client...
Currently using cubic:
Received file 1 from client in 0.0000050 seconds
Received file 2 from client in 0.0000020 seconds
Received file 3 from client in 0.0000010 seconds
Received file 4 from client in 0.0000020 seconds
Received file 5 from client in 0.0000010 seconds
Average time: 0.0000022 seconds
Now using reno:
Received file 1 from client in 0.0000020 seconds
Received file 2 from client in 0.0000010 seconds
Received file 3 from client in 0.0000010 seconds
Received file 4 from client in 0.0000010 seconds
Received file 5 from client in 0.0000030 seconds
Average time: 0.0000016 seconds
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$

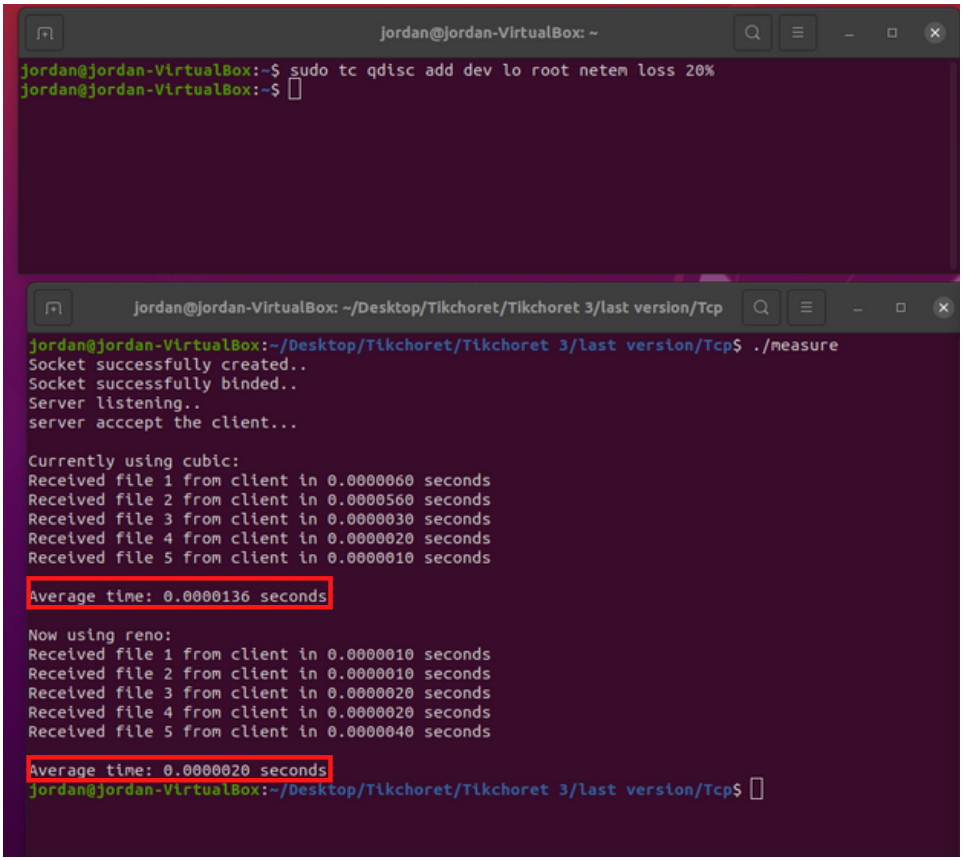

jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./sender
Socket successfully created..
Current: cubic
connected to the server..
New: reno
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$
No Packet Loss

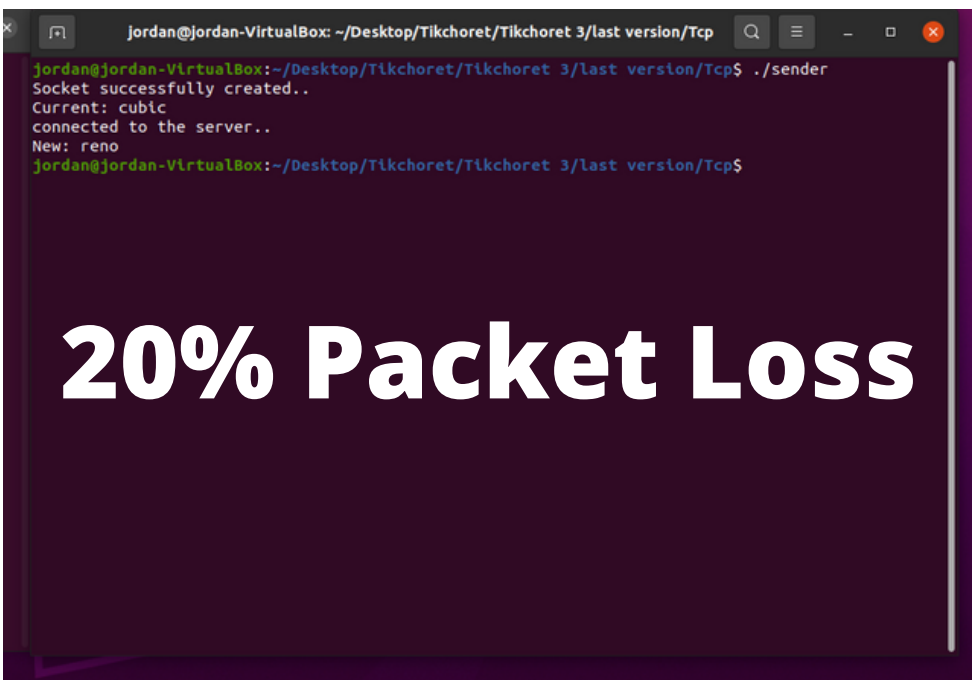

Terminal
Dec 2
jordan@jordan-VirtualBox: ~
jordan@jordan-VirtualBox:~$ sudo tc qdisc add dev lo root netem loss 10%
jordan@jordan-VirtualBox:~$
jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./measure
Socket successfully created..
Socket successfully binded..
Server listening..
server acccept the client...
Currently using cubic:
Received file 1 from client in 0.0000040 seconds
Received file 2 from client in 0.0000170 seconds
Received file 3 from client in 0.0000010 seconds
Received file 4 from client in 0.0000020 seconds
Received file 5 from client in 0.0000020 seconds
Average time: 0.0000052 seconds
Now using reno:
Received file 1 from client in 0.0000020 seconds
Received file 2 from client in 0.0000020 seconds
Received file 3 from client in 0.0000020 seconds
Received file 4 from client in 0.0000010 seconds
Received file 5 from client in 0.0000020 seconds
Average time: 0.0000018 seconds
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$

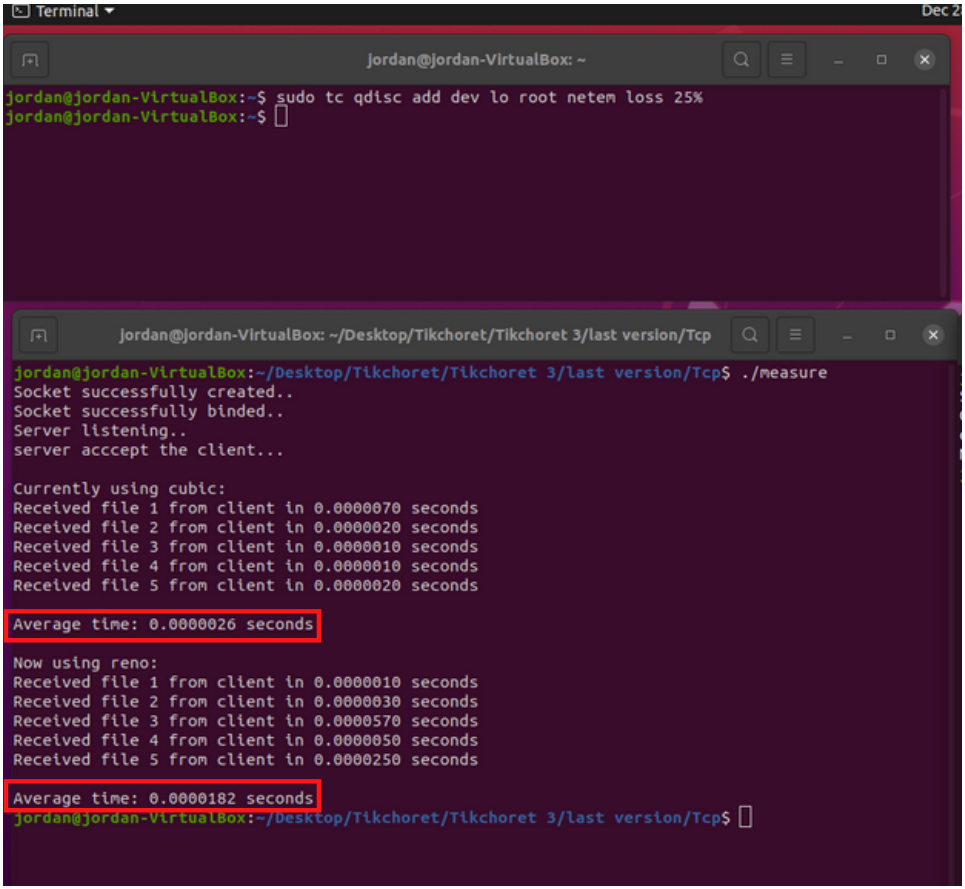

jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./sender
Socket successfully created..
Current: cubic
connected to the server..
New: reno
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$
10% Packet Loss

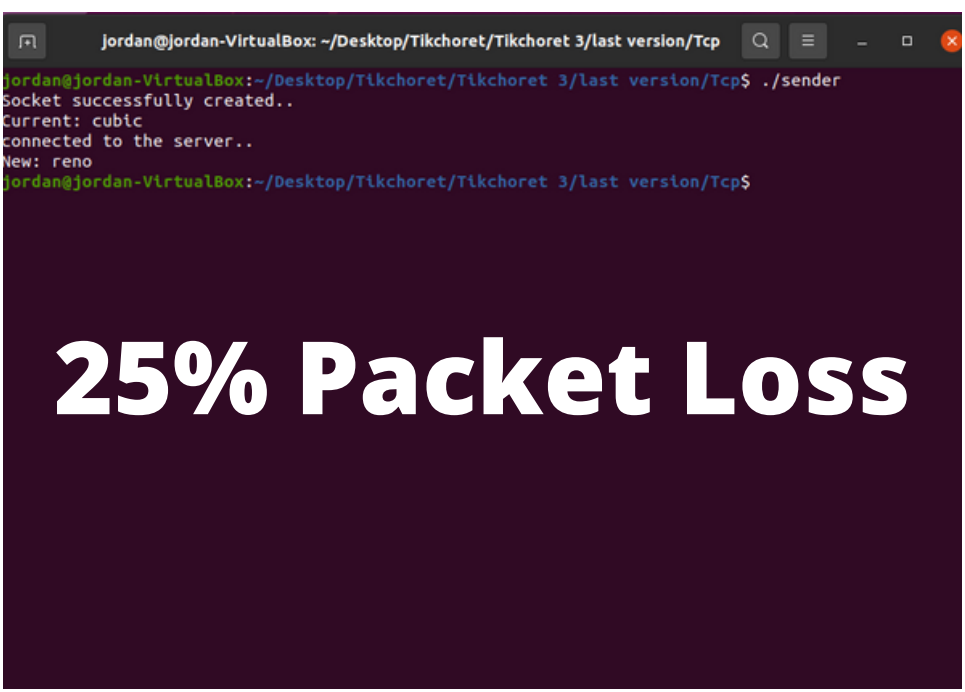

Terminal
jordan@jordan-VirtualBox: ~
jordan@jordan-VirtualBox:~$ sudo tc qdisc add dev lo root netem loss 15%
jordan@jordan-VirtualBox:~$
jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./measure
Socket successfully created..
Socket successfully binded..
Server listening..
server acccept the client...
Currently using cubic:
Received file 1 from client in 0.0000190 seconds
Received file 2 from client in 0.0000020 seconds
Received file 3 from client in 0.0000020 seconds
Received file 4 from client in 0.0000020 seconds
Received file 5 from client in 0.0000020 seconds
Average time: 0.0000054 seconds
Now using reno:
Received file 1 from client in 0.0000220 seconds
Received file 2 from client in 0.0000020 seconds
Received file 3 from client in 0.0000020 seconds
Received file 4 from client in 0.0000010 seconds
Received file 5 from client in 0.0000030 seconds
Average time: 0.0000060 seconds
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$


jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./sender
Socket successfully created..
Current: cubic
connected to the server..
New: reno
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$
15% Packet Loss

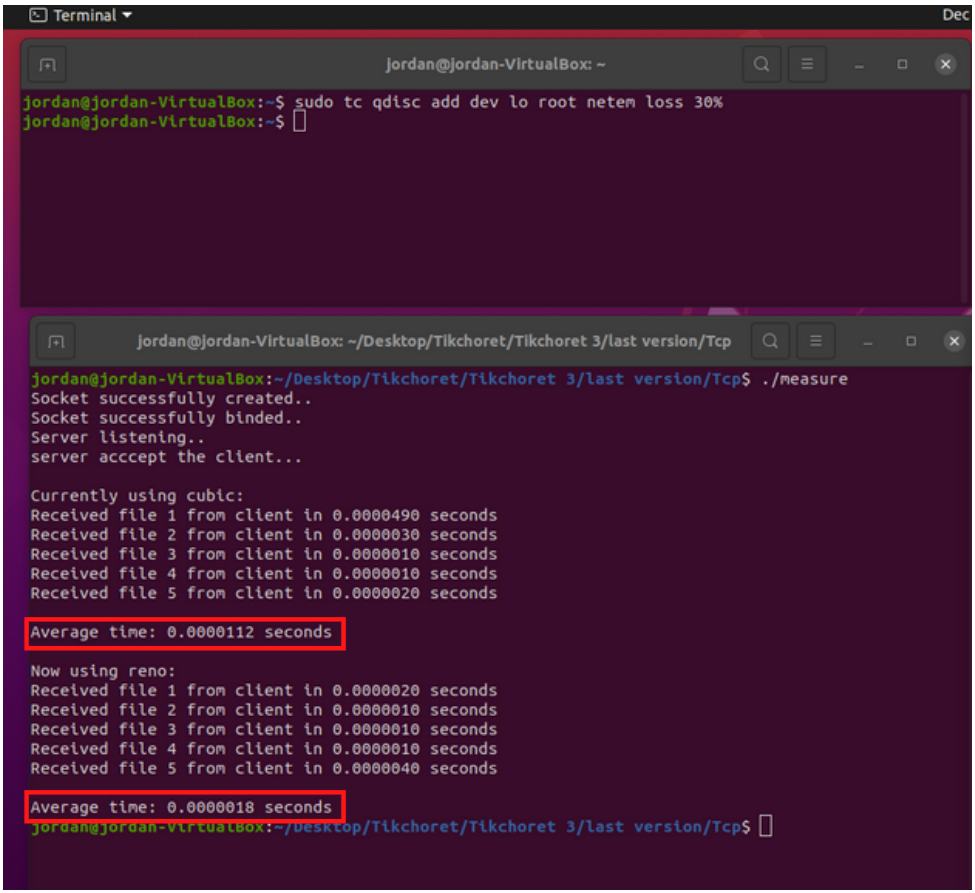

jordan@jordan-VirtualBox: ~
jordan@jordan-VirtualBox:~$ sudo tc qdisc add dev lo root netem loss 20%
jordan@jordan-VirtualBox:~$
jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./measure
Socket successfully created..
Socket successfully binded..
Server listening..
server acccept the client...
Currently using cubic:
Received file 1 from client in 0.0000060 seconds
Received file 2 from client in 0.0000560 seconds
Received file 3 from client in 0.0000030 seconds
Received file 4 from client in 0.0000020 seconds
Received file 5 from client in 0.0000010 seconds
Average time: 0.0000136 seconds
Now using reno:
Received file 1 from client in 0.0000010 seconds
Received file 2 from client in 0.0000010 seconds
Received file 3 from client in 0.0000020 seconds
Received file 4 from client in 0.0000020 seconds
Received file 5 from client in 0.0000040 seconds
Average time: 0.0000020 seconds
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$

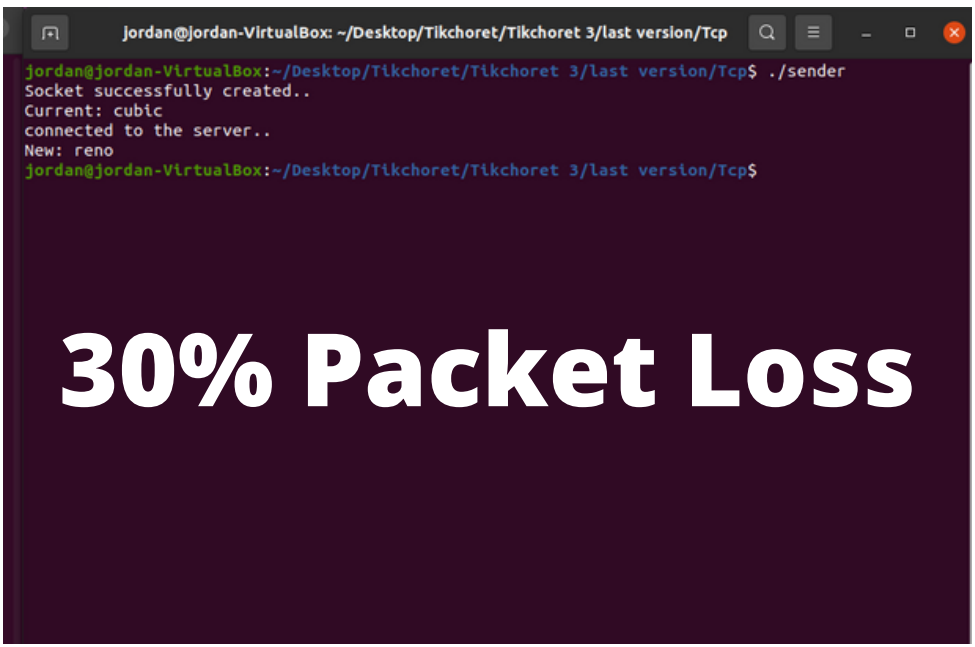

jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$ ./sender
Socket successfully created..
Current: cubic
connected to the server..
New: reno
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 3/last version/Tcp$
20% Packet Loss





25% Packet Loss





30% Packet Loss

תקשורת

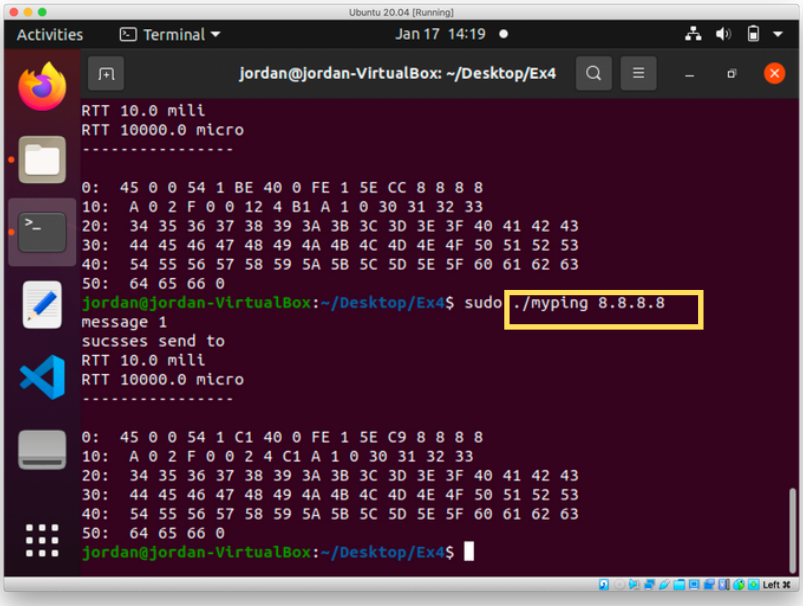
מטלה 4

Nathanael Benichou-Jordan Perez

PARTIE 1

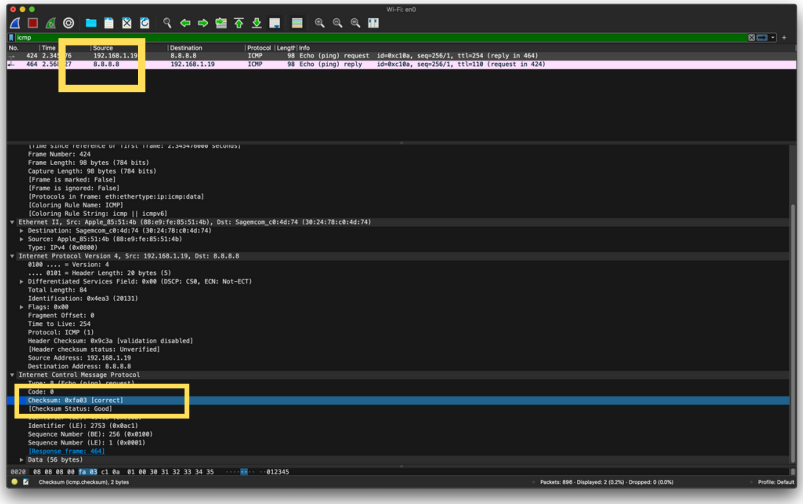
חלק א' - *myping*

Send Ping with myping.c



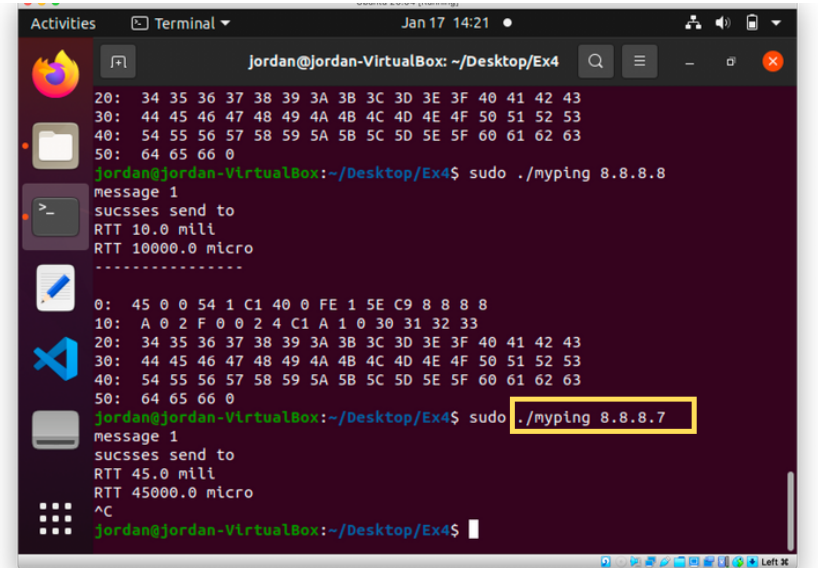
Send ping to 8.8.8.8

Capture pacquets with WireShark

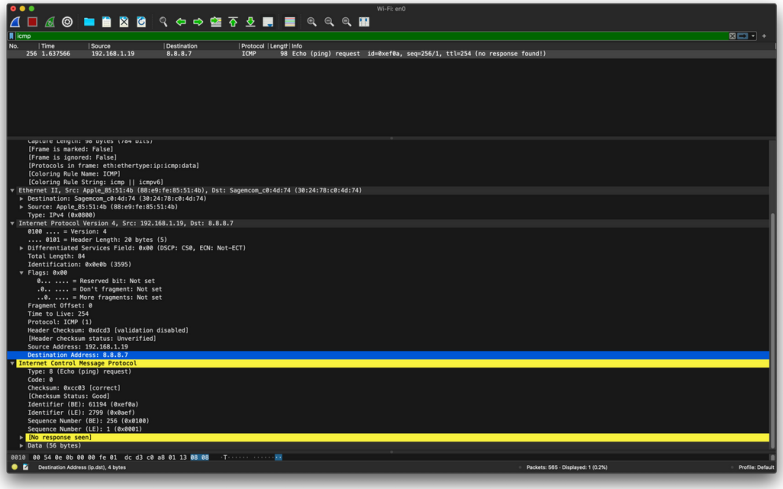


Paquets ICMP well sniffed , CheckSum Correct ,Destination is 8.8.8.8

Send Ping (Another try)



Send ping to 8.8.8.7

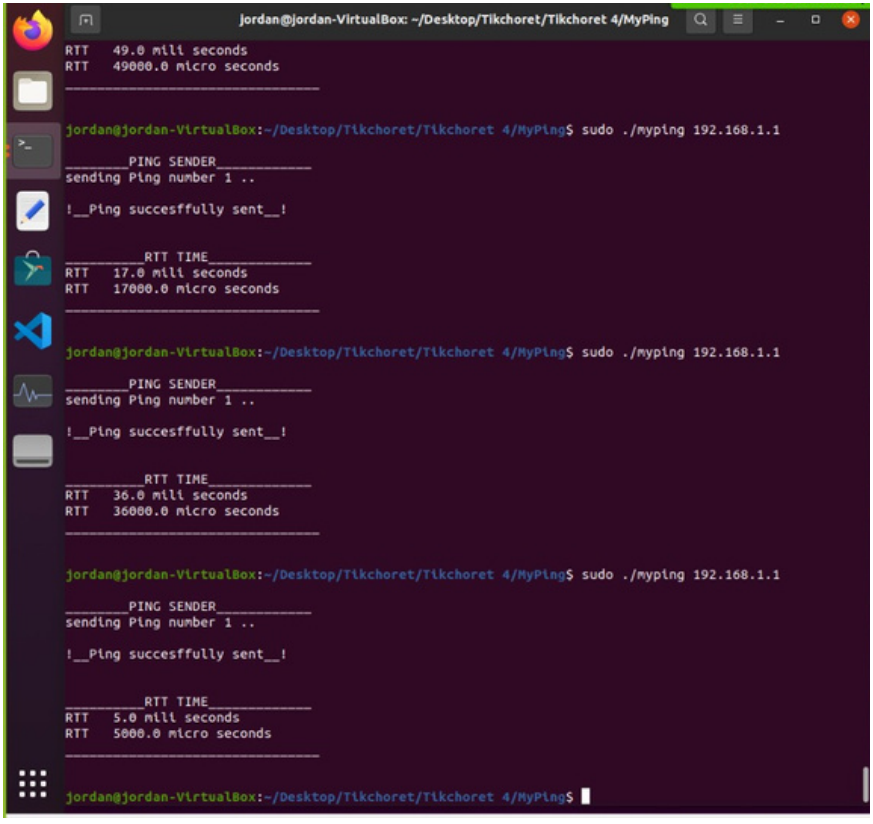


Well Recieved

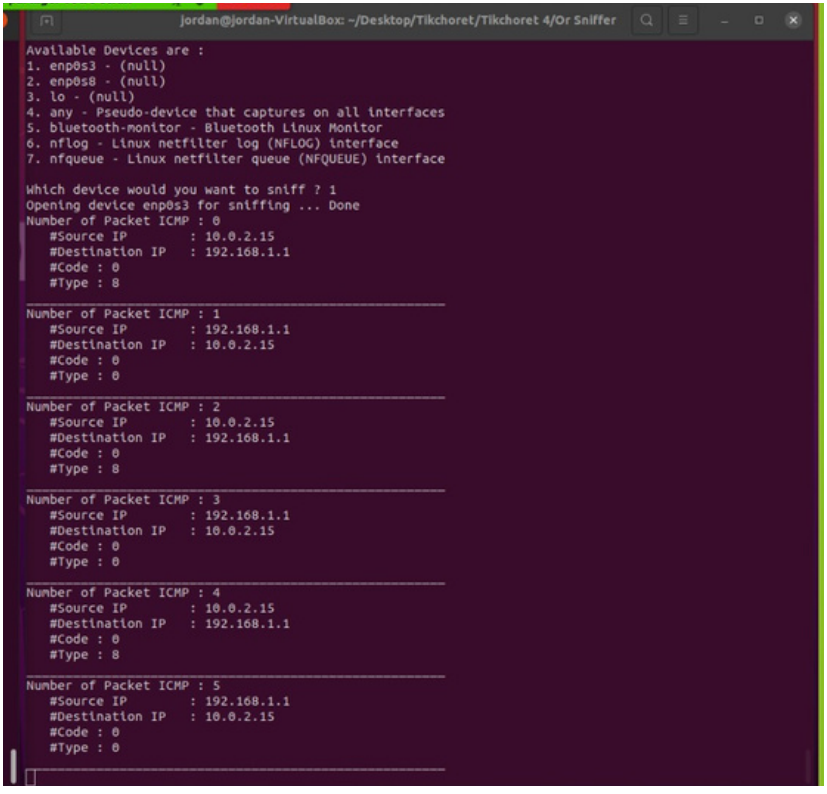
PARTIE 2

חלקן ב' – Sniffing

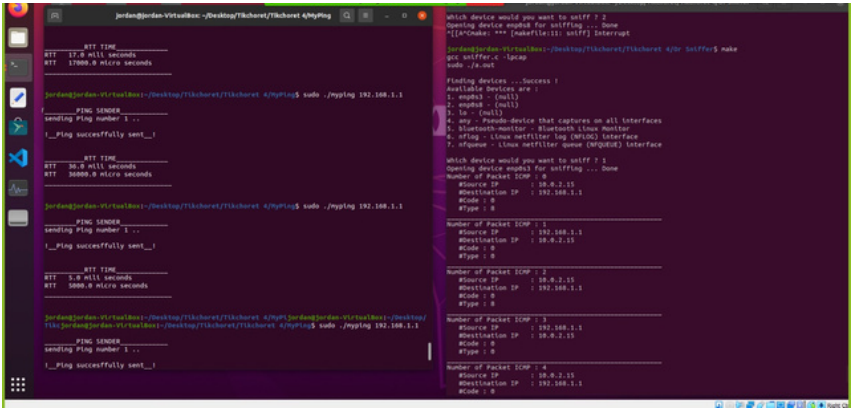
Send 7 Ping to the Same Adress



Sniff The Ping Sent with Sniffer.c



Compare My Sniffer And WireShark



Send 4 Ping to the Same Adresse Sniffe With sniffer.c & WireShark