



תקשרות

מטלה ק

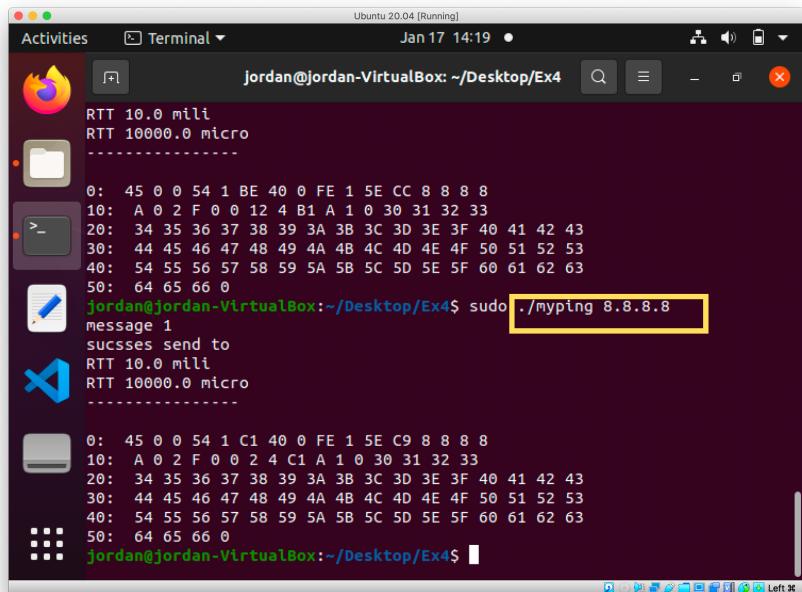
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PARTIE 1

אך חלון - *myping*

Send Ping with myping.c

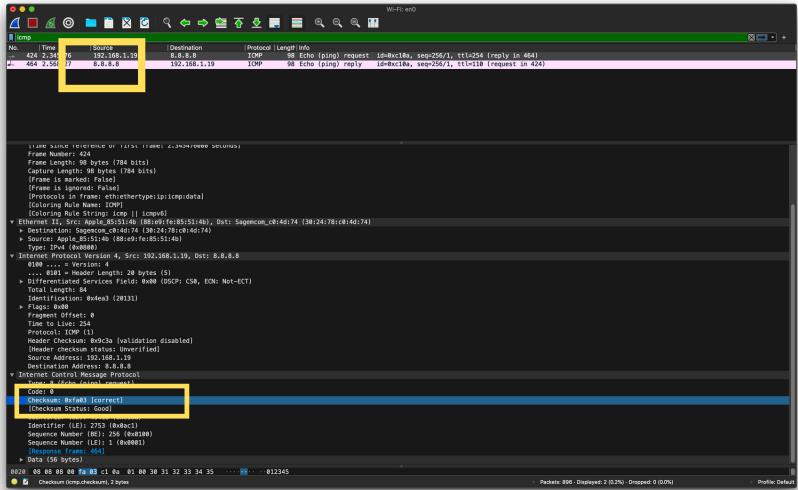


The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Terminal" and the command line shows "jordan@jordan-VirtualBox: ~/Desktop/Ex4\$". The user has run the command "sudo ./myping 8.8.8.8" which is highlighted with a yellow rectangle. The terminal output shows the binary data of the ping message sent to 8.8.8.8.

```
RTT 10.0 mili
RTT 10000.0 micro
-----
0: 45 0 0 54 1 BE 40 0 FE 1 5E CC 8 8 8 8
10: A 0 2 F 0 0 12 4 B1 A 1 0 30 31 32 33
20: 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 40 41 42 43
30: 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53
40: 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F 60 61 62 63
50: 64 65 66 0
jordan@jordan-VirtualBox:~/Desktop/Ex4$ sudo ./myping 8.8.8.8
message 1
succses send to
RTT 10.0 mili
RTT 10000.0 micro
-----
0: 45 0 0 54 1 C1 40 0 FE 1 5E C9 8 8 8 8
10: A 0 2 F 0 0 2 4 C1 A 1 0 30 31 32 33
20: 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 40 41 42 43
30: 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53
40: 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F 60 61 62 63
50: 64 65 66 0
jordan@jordan-VirtualBox:~/Desktop/Ex4$
```

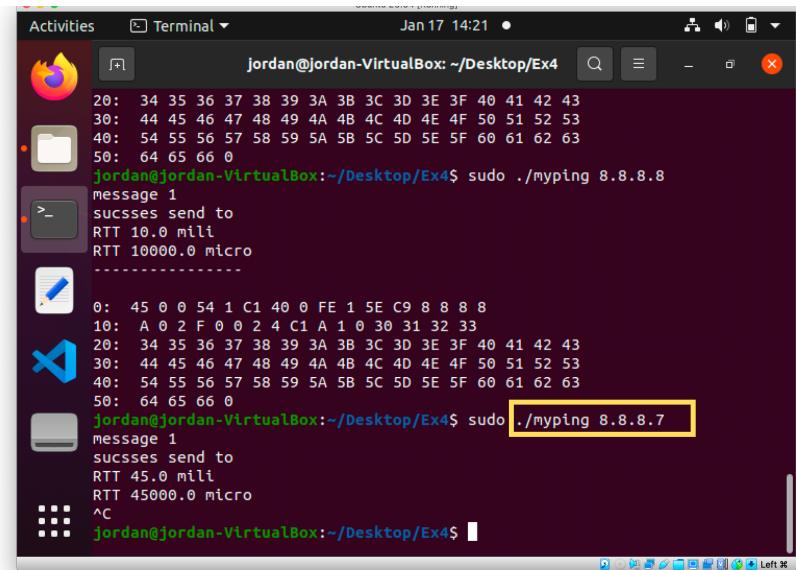
Send ping to 8.8.8.8

Capture pacquets with WireShark



*Paquets ICMP well sniffed , CheckSum
Correct ,Destination is 8.8.8.8*

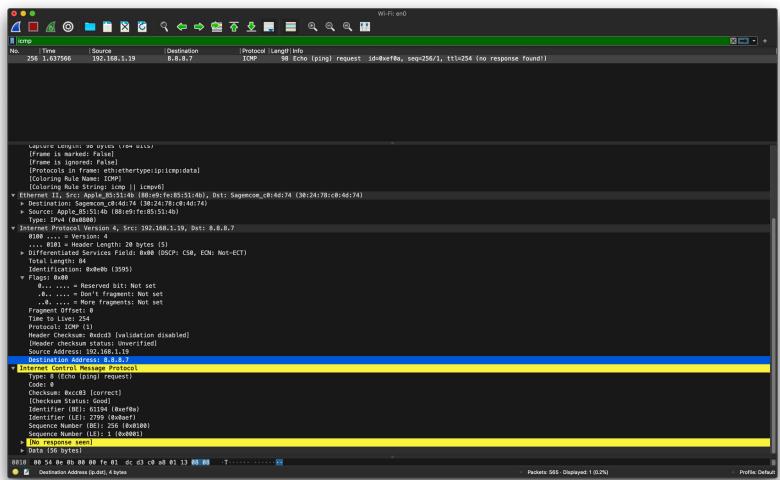
Send Ping (Another try)



A screenshot of a Linux desktop environment showing a terminal window titled "Terminal". The terminal window title bar also shows "Jordan@jordan-VirtualBox: ~/Desktop/Ex4\$". The terminal content is as follows:

```
20: 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 40 41 42 43
30: 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53
40: 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F 60 61 62 63
50: 64 65 66 0
jordan@jordan-VirtualBox:~/Desktop/Ex4$ sudo ./myping 8.8.8.8
Message 1
succses send to
RTT 10.0 mili
RTT 10000.0 micro
-----
0: 45 0 0 54 1 C1 40 0 FE 1 5E C9 8 8 8 8
10: A 0 2 F 0 0 2 4 C1 A 1 0 30 31 32 33
20: 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 40 41 42 43
30: 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53
40: 54 55 56 57 58 59 5A 5B 5C 5D 5E 5F 60 61 62 63
50: 64 65 66 0
jordan@jordan-VirtualBox:~/Desktop/Ex4$ sudo ./myping 8.8.8.7
Message 1
succses send to
RTT 45.0 mili
RTT 45000.0 micro
^C
jordan@jordan-VirtualBox:~/Desktop/Ex4$
```

Send ping to 8.8.8.7



A screenshot of the Wireshark network traffic analyzer. The packet list shows a single ICMP echo request (ping) sent from the local machine (192.168.1.19) to the Google DNS server (8.8.8.7). The packet details and bytes panes are visible, showing the ICMP header and payload.

Selected packet details:

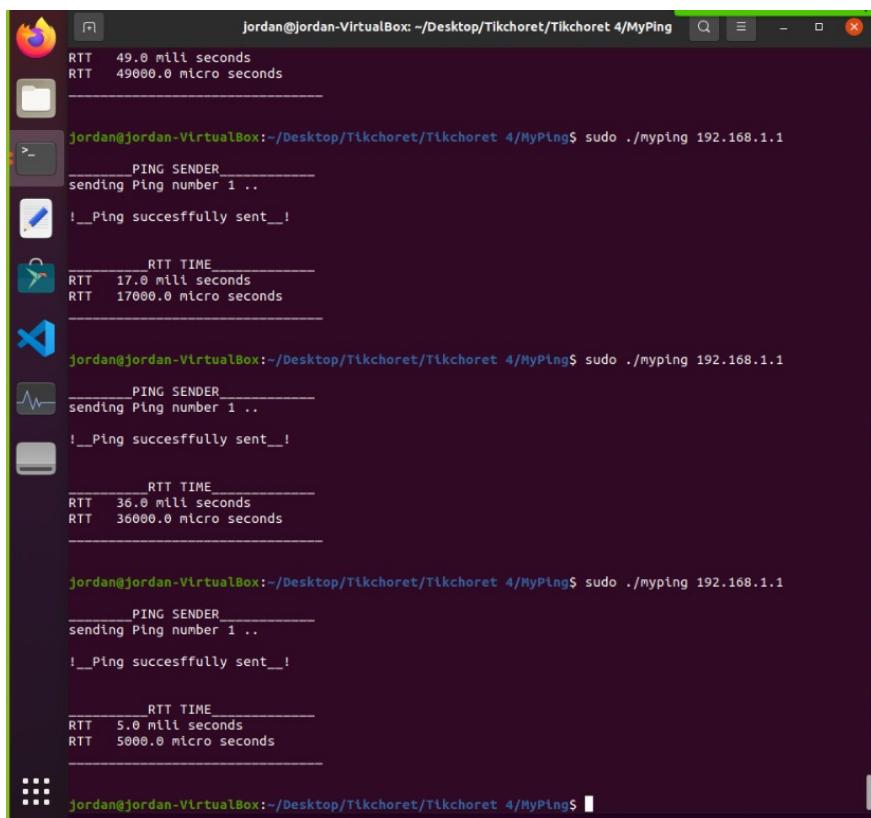
- Protocol: ICMP (1)
- Header Length: 8 bytes (56 bits)
- Type: Echo Request (80)
- Checksum: 0x0000 (0)
- Source IP: 192.168.1.19
- Destination IP: 8.8.8.7
- Sequence Number: 0
- Identifier: 0x0000 (0)
- Fragment Offset: 0
- TTL: 255
- Protocol: ICMP (1)
- Header Length: 8 bytes (56 bits)
- Type: Echo Request (80)
- Checksum: 0x0000 (0)
- Source IP: 192.168.1.19
- Destination IP: 8.8.8.7
- Sequence Number: 0x0001 (1)
- Identifier: 0x0000 (0)
- Fragment Offset: 0
- TTL: 255
- Protocol: ICMP (1)
- Header Length: 8 bytes (56 bits)
- Type: Echo Request (80)
- Checksum: 0x0000 (0)
- Source IP: 192.168.1.19
- Destination IP: 8.8.8.7
- Sequence Number: 0x0002 (2)
- Identifier: 0x0000 (0)
- Fragment Offset: 0
- TTL: 255
- Protocol: ICMP (1)
- Header Length: 8 bytes (56 bits)
- Type: Echo Request (80)
- Checksum: 0x0000 (0)
- Source IP: 192.168.1.19
- Destination IP: 8.8.8.7
- Sequence Number: 0x0003 (3)
- Identifier: 0x0000 (0)
- Fragment Offset: 0
- TTL: 255
- Protocol: ICMP (1)
- Header Length: 8 bytes (56 bits)
- Type: Echo Request (80)
- Checksum: 0x0000 (0)
- Source IP: 192.168.1.19
- Destination IP: 8.8.8.7
- Sequence Number: 0x0004 (4)
- Identifier: 0x0000 (0)
- Fragment Offset: 0
- TTL: 255

Well Received

PARTIE 2

Sniffing – ב'ן

Send 7 Ping to the Same Adress



```
RTT 49.0 mili seconds
RTT 49000.0 micro seconds
_____
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tikchoret 4/MyPing$ sudo ./myping 192.168.1.1
_____
PING SENDER
sending Ping number 1 ..
!_Ping successfully sent_!
_____
RTT 17.0 mili seconds
RTT 17000.0 micro seconds
_____
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tlkchoret 4/MyPing$ sudo ./myping 192.168.1.1
_____
PING SENDER
sending Ping number 1 ..
!_Ping successfully sent_!
_____
RTT 36.0 mill seconds
RTT 36000.0 micro seconds
_____
jordan@jordan-VirtualBox:~/Desktop/Tikchoret/Tlkchoret 4/MyPing$ sudo ./myping 192.168.1.1
_____
PING SENDER
sending Ping number 1 ..
!_Ping successfully sent_!
_____
RTT 5.0 mill seconds
RTT 5000.0 micro seconds
_____
jordan@jordan-VirtualBox:~/Desktop/Tlkchoret/Tlkchoret 4/MyPing$
```

Sniff The Ping Sent with Sniffer.c

```
jordan@jordan-VirtualBox: ~/Desktop/Tikchoret/Tikchoret 4/Or Sniffer
```

Available Devices are :

1. enp0s3 - (null)
2. enp0s8 - (null)
3. lo - (null)
4. any - Pseudo-device that captures on all interfaces
5. bluetooth-monitor - Bluetooth Linux Monitor
6. nflog - Linux netfilter log (NFLOG) interface
7. nfqueue - Linux netfilter queue (NFQUEUE) interface

Which device would you want to sniff ? 1
Opening device enp0s3 for sniffing ... Done

Number of Packet ICMP : 0

```
#Source IP      : 10.0.2.15
#Destination IP : 192.168.1.1
#Code : 0
#Type : 8
```

Number of Packet ICMP : 1

```
#Source IP      : 192.168.1.1
#Destination IP : 10.0.2.15
#Code : 0
#Type : 8
```

Number of Packet ICMP : 2

```
#Source IP      : 10.0.2.15
#Destination IP : 192.168.1.1
#Code : 0
#Type : 8
```

Number of Packet ICMP : 3

```
#Source IP      : 192.168.1.1
#Destination IP : 10.0.2.15
#Code : 0
#Type : 8
```

Number of Packet ICMP : 4

```
#Source IP      : 10.0.2.15
#Destination IP : 192.168.1.1
#Code : 0
#Type : 8
```

Number of Packet ICMP : 5

```
#Source IP      : 192.168.1.1
#Destination IP : 10.0.2.15
#Code : 0
#Type : 8
```

Compare My Sniffer And WireShark



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

Index	Time	Source	Destination	Protocol	Length	Info
688	0.083774	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) request 10->x0001, seq=1558/5638, ttl=254 (request in 689)
689	0.083835	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) reply 10->x0001, seq=1558/5638, ttl=254 (request in 688)
690	0.083855	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) request 10->x0001, seq=1559/5848, ttl=254 (request in 689)
691	0.083875	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) reply 10->x0001, seq=1559/5848, ttl=254 (request in 688)
744	0.087647	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) request 10->x0001, seq=1560/6150, ttl=254 (reply in 745)
745	0.087657	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) reply 10->x0001, seq=1560/6150, ttl=254 (request in 744)
888	0.083835	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) request 10->x0001, seq=1561/6486, ttl=254 (request in 887)
889	0.083835	192.168.1.10	192.168.1.1	ICMP	89	Echo (ping) reply 10->x0001, seq=1561/6486, ttl=254 (request in 887)