

Tölvusamskipti T-409-TSAM

Project 1

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1.a

```
Activities Terminal f0s 12:07 sindri@sindri-Surface-Book-2: ~  
File Edit View Search Terminal Help  
[sudo] password for sindri:  
tcpdump: en0: No such device exists  
(SIOCGIFHWADDR: No such device)  
sindri@sindri-Surface-Book-2:~$ sudo tcpdump -X -i host 130.208.243.61 on host 4021  
tcpdump: host: No such device exists  
(SIOCGIFHWADDR: No such device)  
sindri@sindri-Surface-Book-2:~$ sudo tcpdump -X -i host 130.208.243.61 and port 4021  
tcpdump: host: No such device exists  
(SIOCGIFHWADDR: No such device)  
sindri@sindri-Surface-Book-2:~$ sudo tcpdump -X -i any host 130.208.243.61 and port 4021  
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode  
listening on any, link-type LINUX_SLL (Linux cooked), capture size 262144 bytes  
12:06:16.572334 IP sindri-Surface-Book-2.49512 > 130.208.243.61.4021: Flags [P.], seq 86  
ack 1638287350, win 582, options [nop,nop,TS val 2005578278 ecr 988411157], length 8  
0x0000: 4500 003c 40ad 4000 4006 c237 c0a8 0121 E..<@.@..7...!  
0x0010: 82d0 f33d c168 0fb5 04ca ee42 61a6 47f6 ...=h.....Ba.G.  
0x0020: 0018 01f6 e083 0000 0101 000a 778a b21e .....W...  
0x0030: 3ae9 f515 5359 5320 7768 6f0a ...SYS.who.  
12:06:16.578164 IP 130.208.243.61.4021 > sindri-Surface-Book-2.49512: Flags [.], ack 8,  
[nop,nop,TS val 989813863 ecr 2005578278], length 0  
0x0000: 4500 0034 8445 4000 3606 88a7 82d0 f33d E..4.E@.6.....=  
0x0010: c0a8 0121 0fb5 c168 61a6 47f6 04ca ee4a ...!...ha.G....J  
0x0020: 0018 00e3 4430 0000 0101 000a 3af3 2767 ....00.....:.'g  
0x0030: 778a b21e W...  
sindri@sindri-Surface-Book-2:~$ ncat 130.208.243.61 4021  
SYS who  
SYS who  
[  
.  
thormundur15 pts/25 2019-08-23 10:12 (81-15-108-199.du.xdsl.is)  
asdisw17 pts/26 2019-08-23 11:55 (10.2.17.43)  
aegir19 pts/28 2019-08-23 11:49 (10.3.27.176)  
annah19 pts/29 2019-08-23 10:21 (10.2.16.61)  
sandrarrj pts/31 2019-08-20 21:34 (85-220-111-223.dsl.dynamic.sinet.is)  
karlotta14 pts/32 2019-08-23 10:26 (mobile-194-144-177-5.3g.internet.is)  
egills19 pts/34 2019-08-23 10:22 (10.2.16.44)  
arnar17 pts/35 2019-08-23 11:31 (194-144-110-197.du.xdsl.is)  
baldurk11 pts/36 2019-08-23 11:24 (10.2.17.172)  
reynir18 pts/37 2019-08-21 10:13 (vel-919.unak.is)  
thorduratl17 pts/38 2019-08-22 20:28 (89.17.153.18)  
dantelbi6 pts/40 2019-08-23 10:30 (10.2.17.143)  
thorsteinn17 pts/41 2019-08-23 11:38 (212.30.192.231)  
veronikas19 pts/43 2019-08-23 10:36 (10.2.26.110)  
jan19 pts/44 2019-08-23 10:39 (10.3.37.229)  
hafsteinn16 pts/46 2019-08-23 11:25 (10.6.16.117)  
margreta19 pts/47 2019-08-23 11:43 (10.3.17.134)  
alexanderr19 pts/48 2019-08-23 11:50 (10.6.16.119)  
baldurk11 pts/50 2019-08-23 10:59 (10.2.17.172)  
heidrunh17 pts/52 2019-08-23 11:57 (10.3.36.149)  
alexanders19 pts/53 2019-08-23 11:51 (eduroan.nat.ru.is)  
arigr19 pts/54 2019-08-23 11:09 (10.1.17.192)  
hermannh19 pts/55 2019-08-23 11:10 (10.1.17.57)  
thorgrimurs19 pts/56 2019-08-23 11:52 (10.3.17.179)  
sigurdur017 pts/57 2019-08-23 11:14 (10.1.16.6)  
illugl17 pts/58 2019-08-23 11:14 (10.6.26.192)  
arnir16 pts/59 2019-08-23 11:17 (10.2.26.101)  
hildurg17 pts/60 2019-08-23 11:52 (10.2.37.98)  
jonj16 pts/61 2019-08-23 11:17 (10.2.26.103)  
iriss16 pts/62 2019-08-23 11:30 (79-134-17-89.ftber.hringdu.is)  
hafsteinn16 pts/63 2019-08-23 11:27 (10.6.16.117)  
brynjart16 pts/65 2019-08-23 11:30 (10.1.16.12)  
annanij17 pts/67 2019-08-23 11:34 (10.3.37.5)  
brynjart16 pts/68 2019-08-23 11:31 (10.1.16.12)  
kumasi19 pts/70 2019-08-23 11:34 (10.1.17.164)  
baldurk11 pts/71 2019-08-23 11:56 (10.2.17.172)  
emilk18 pts/72 2019-08-23 11:43 (10.3.17.16)  
kristofer16 pts/69 2019-08-23 11:32 (10.3.26.119)  
elias19 pts/74 2019-08-23 12:00 (10.2.27.53)
```

The image shows a Kali Linux desktop environment. The top panel displays the system clock as 16:45 and the language as 'en'. The desktop background is a dark, abstract pattern. A terminal window is open, showing a C++ server-client program. The server is running on port 4021 and the client is running on port 4021. The terminal output shows the server listening for connections and the client sending data. The social media contact list on the right includes names like Hallgrim Snow, Garðar Helgi Magnússon, Stan Garðarsson, The Groom, Guðrún Guðlaugsdóttir, Guðrún Margrét ívansdóttir, and PokeSquad. The bottom panel shows the taskbar with various application icons.

16:45:44.273591 IP skel.ru.is.4021 > sindri-Surface-Book-2.60934: Flags [.], ack 14, win 227, options [nop,nop,TS val 1092181583 ecr 3460728419], length 0

Also see screenshot above with the TCPDUMP

3.c

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sindri@sinidri-Surface-Book-2: ~/Documents/TSAM/project1
File Edit View Search Terminal Help
sindri@sinidri-Surface-Book-2:~/Documents/TSAM/project1$ ./server 4021
Listening on port: 4021
(range of available ports on skel.ru is 4000-4100)
Client connected on server
SYS who
sindri :0 2019-08-25 18:31 (:0)
SYS ls
A1-TSAM-3.pdf
client
client.cpp
client_from_online.c
listi
Makefile
piclient.cpp
project1.odt
README.txt
server
server-3.cpp
SindriTest
[]

sindri@sinidri-Surface-Book-2: ~/Documents/TSAM/project1
File Edit View Search Terminal Help
sindri@sinidri-Surface-Book-2:~/Documents/TSAM/project1$ ./client 127.0.0.1 4021
Enter q to quit message loop!
msg to server: SYS who
From SERVER: sindri :0 2019-08-25 18:31 (:0)

msg to server: SYS ls
From SERVER: A1-TSAM-3.pdf
client
client.cpp
client_from_online.c
listi
Makefile
piclient.cpp
project1.odt
README.txt
server
server-3.cpp
SindriTest
[]
msg to server: []

```

Copy of TCPDUMP:

sindri@sinidri-Surface-Book-2:~/Documents/TSAM/project1\$ sudo tcpdump -X -i any host 127.0.0.1 and port 4021

tcpdump: verbose output suppressed, use -v or -vv for full protocol decode

listening on any, link-type LINUX_SLL (Linux cooked), capture size 262144 bytes

20:38:06.952625 IP localhost.53992 > localhost.4021: Flags [P.], seq 3274875668:3274875676, ack 2496674947, win 512, options [nop,nop,TS val 3951197305 ecr 3951179955], length 8

0x0000: 4500 003c 1c8e 4000 4006 202c 7f00 0001 E..<..@.@.....

0x0010: 7f00 0001 d2e8 0fb5 c332 a314 94d0 3c832....<.

0x0020: 8018 0200 fe30 0000 0101 080a eb82 7c790.....|y

0x0030: eb82 38b3 5359 5320 7768 6f00 ..8.SYS.who.

20:38:06.952672 IP localhost.4021 > localhost.53992: Flags [.], ack 8, win 512, options [nop,nop,TS val 3951197305 ecr 3951197305], length 0

0x0000: 4500 0034 831c 4000 4006 b9a5 7f00 0001 E..4..@.@.....

0x0010: 7f00 0001 0fb5 d2e8 94d0 3c83 c332 a31c<..2..

0x0020: 8010 0200 fe28 0000 0101 080a eb82 7c79(.....|y

0x0030: eb82 7c79 ..|y

20:38:06.957665 IP localhost.4021 > localhost.53992: Flags [P.], seq 1:45, ack 8, win 512, options [nop,nop,TS val 3951197310 ecr 3951197305], length 44

0x0000: 4500 0060 831d 4000 4006 b978 7f00 0001 E..`..@.@..x....

0x0010: 7f00 0001 0fb5 d2e8 94d0 3c83 c332 a31c<..2..

0x0020: 8018 0200 fe54 0000 0101 080a eb82 7c7eT.....|~

0x0030: eb82 7c79 7369 6e64 7269 2020 203a 3020 ..|ysindri...:0.

0x0040: 2020 2020 2020 2020 2020 3230 3139 2d302019-0

0x0050: 382d 3235 2031 383a 3331 2028 3a30 290a 8-25.18:31.(:0).

20:38:06.957699 IP localhost.53992 > localhost.4021: Flags [.], ack 45, win 512, options [nop,nop,TS val 3951197310 ecr 3951197310], length 0

```

0x0000: 4500 0034 1c8f 4000 4006 2033 7f00 0001 E..4..@.@..3...
0x0010: 7f00 0001 d2e8 0fb5 c332 a31c 94d0 3caf .....2....<.
0x0020: 8010 0200 fe28 0000 0101 080a eb82 7c7e .....(.....|~
0x0030: eb82 7c7e ..|~
20:38:11.152698 IP localhost.53992 > localhost.4021: Flags [P.], seq 8:15, ack 45, win 512, options
[nop,nop,TS val 3951201505 ecr 3951197310], length 7
0x0000: 4500 003b 1c90 4000 4006 202b 7f00 0001 E.,;..@.@..+....
0x0010: 7f00 0001 d2e8 0fb5 c332 a31c 94d0 3caf .....2....<.
0x0020: 8018 0200 fe2f 0000 0101 080a eb82 8ce1 ...../.....
0x0030: eb82 7c7e 5359 5320 6c73 00 ..|~SYS.ls.
20:38:11.152738 IP localhost.4021 > localhost.53992: Flags [.] , ack 15, win 512, options
[nop,nop,TS val 3951201505 ecr 3951201505], length 0
0x0000: 4500 0034 831e 4000 4006 b9a3 7f00 0001 E..4..@.@.....
0x0010: 7f00 0001 0fb5 d2e8 94d0 3caf c332 a323 .....<..2.#
0x0020: 8010 0200 fe28 0000 0101 080a eb82 8ce1 .....(.....
0x0030: eb82 8ce1 ....
20:38:11.158976 IP localhost.4021 > localhost.53992: Flags [P.], seq 45:181, ack 15, win 512,
options [nop,nop,TS val 3951201511 ecr 3951201505], length 136
0x0000: 4500 00bc 831f 4000 4006 b91a 7f00 0001 E.....@.@.....
0x0010: 7f00 0001 0fb5 d2e8 94d0 3caf c332 a323 .....<..2.#
0x0020: 8018 0200 feb0 0000 0101 080a eb82 8ce7 .....
0x0030: eb82 8ce1 4131 2d54 5341 4d2d 332e 7064 ....A1-TSAM-3.pd
0x0040: 660a 636c 6965 6e74 0a63 6c69 656e 742e f.client.client.
0x0050: 6370 700a 636c 6965 6e74 5f66 726f 6d5f cpp.client_from_
0x0060: 6f6e 6c69 6e65 2e63 0a6c 6973 7469 0a4d online.c.listi.M
0x0070: 616b 6566 696c 650a 7031 636c 6965 6e74 akefile.p1client
0x0080: 2e63 7070 0a70 726f 6a65 6374 312e 6f64 .cpp.project1.od
0x0090: 740a 5245 4144 4d45 2e74 7874 0a73 6572 t.README.txt.ser
0x00a0: 7665 720a 7365 7276 6572 2d33 2e63 7070 ver.server-3.cpp
0x00b0: 0a53 696e 6472 6954 6573 740a .SindriTest.
20:38:11.159008 IP localhost.53992 > localhost.4021: Flags [.] , ack 181, win 511, options
[nop,nop,TS val 3951201512 ecr 3951201511], length 0
0x0000: 4500 0034 1c91 4000 4006 2031 7f00 0001 E..4..@.@..1....
0x0010: 7f00 0001 d2e8 0fb5 c332 a323 94d0 3d37 .....2.#..=7
0x0020: 8010 01ff fe28 0000 0101 080a eb82 8ce8 .....(.....
0x0030: eb82 8ce7 ....

```

^C

8 packets captured

16 packets received by filter

0 packets dropped by kernel