



Botnet Screenshots

Tölvusamskipti

13. október, 2019

Dr. Jacky Mallett

Egill Aron Þórisson, Nökkvi Karlsson

Below are screenshots that prove that all our server commands and client commands work as they are described in the README.

CLIENT COMMAND: CONNECT <IP> <PORT>:

The picture below shows a client telling a server(101) to connect to another server(102)

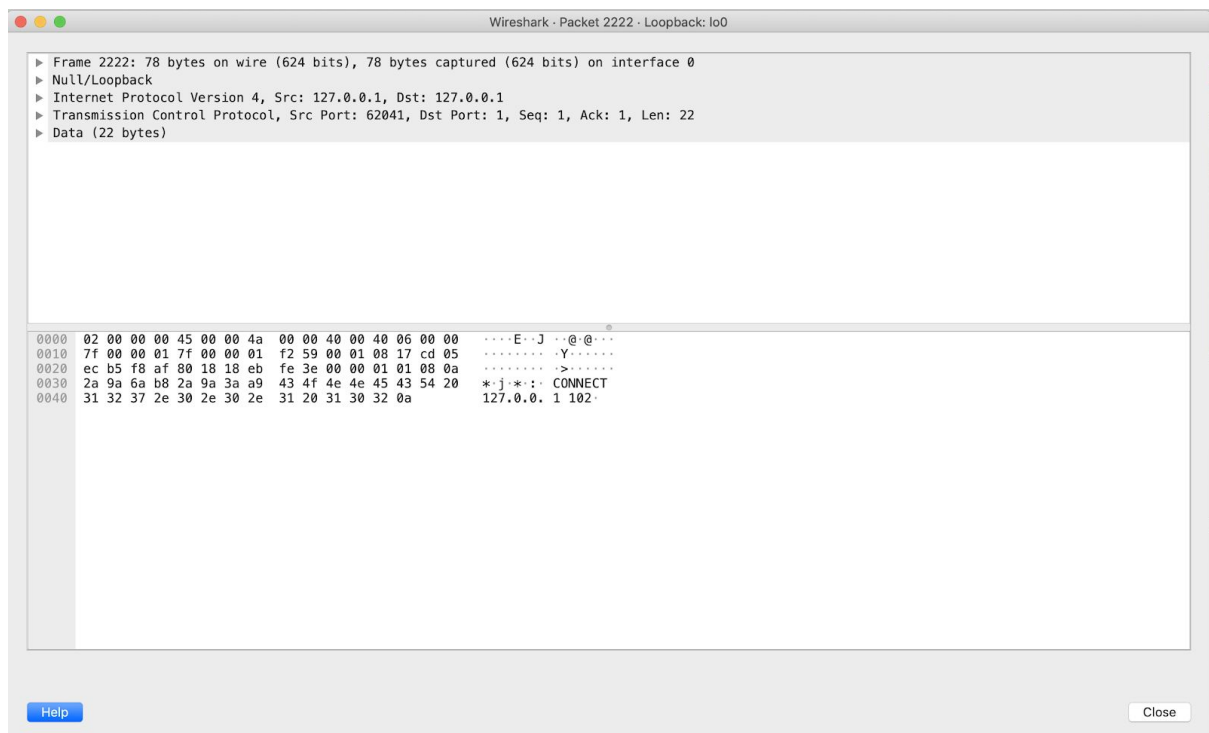
```
Project-3-The-Botnet-Rises---Tolvusamskipti --- tsamvgroup29 101 --- 121x36
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29 101
Listening for servers on port: 101
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
Server Connected
=====Printing out connected servers=====
Name: P3_GROUP_29_102
IP: 10.6.16.134
Port: 102
Sock: 7
-----
^C
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29 101
Listening for servers on port: 101
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
Server Connected
=====Printing out connected servers=====
Name: P3_GROUP_29_102
IP: 10.6.16.134
Port: 102
Sock: 7
-----
[]

Project-3-The-Botnet-Rises---Tolvusamskipti --- client 127.0.0.1 --- 120x33
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(1-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID
CONNECT 127.0.0.1 102
Over and Out
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(1-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID
CONNECT 127.0.0.1 102
[]

Project-3-The-Botnet-Rises---Tolvusamskipti --- exit --- tsamvgroup29 102 --- 116x36
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29 102
Listening for servers on port: 102
Please specify a port to open for client connections: 2
Listening for client on port: 2
THIS IS THE SIZE OF THE MAP: 0
accept***
Server connected on the port: 102
=====Printing out connected servers=====
Name: P3_GROUP_29_101
IP: 10.6.16.134
Port: 101
Sock: 5
-----
Server closed connection:5
^C
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29 102
Listening for servers on port: 102
Please specify a port to open for client connections: 2
Listening for client on port: 2
THIS IS THE SIZE OF THE MAP: 0
accept***
Server connected on the port: 102
=====Printing out connected servers=====
Name: P3_GROUP_29_101
IP: 10.6.16.134
Port: 101
Sock: 5
-----
[]

Project-3-The-Botnet-Rises---Tolvusamskipti --- exit --- bash --- 117x33
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_omn/Team/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ []
```

This is the wireshark trace of the client sending the CONNECT command to the server.



SERVER COMMAND: LISTSERVERS,<MY_GROUP_ID>

The picture below shows the two servers connected after sending a LISTSERVERS,<MY_GROUP_ID> to each other.

The image displays four terminal windows arranged in a 2x2 grid, showing the execution of a botnet framework. The top-left window shows a server (tsamgroup29_101) listening on port 101, receiving a connection from 18.6.16.134, and processing the LISTSERVERS command. The top-right window shows another server (tsamgroup29_102) listening on port 102, receiving a connection from 18.6.16.134, and processing the LISTSERVERS command. The bottom-left window shows a client (127.0.0.1) connecting to the server on port 101 and sending the LISTSERVERS command. The bottom-right window shows the client's output, displaying the list of connected servers.

```
Project-3-The-Botnet-Rises---Tolvasmskipti --- tsamgroup29_101 --- 121x36
n0kvikarlsson@n0kvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasmskipti (master)
$ ./tsamgroup29_101
Listening for servers on port: 101
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
*****
Server Connected
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_102
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_102,18.6.16.134,102;
*****Printing out connected servers*****

Name: P3_GROUP_29_102
IP: 18.6.16.134
Port: 102
Sock: 7
[]

Project-3-The-Botnet-Rises---Tolvasmskipti --- exit --- tsamgroup29_102 --- 116x36
n0kvikarlsson@n0kvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasmskipti (master)
$ ./tsamgroup29_102
Listening for servers on port: 102
Please specify a port to open for client connections: 2
Listening for client on port: 2
accept***
Server connected on the port: 102
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_101
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_101,18.6.16.134,101;
*****Printing out connected servers*****

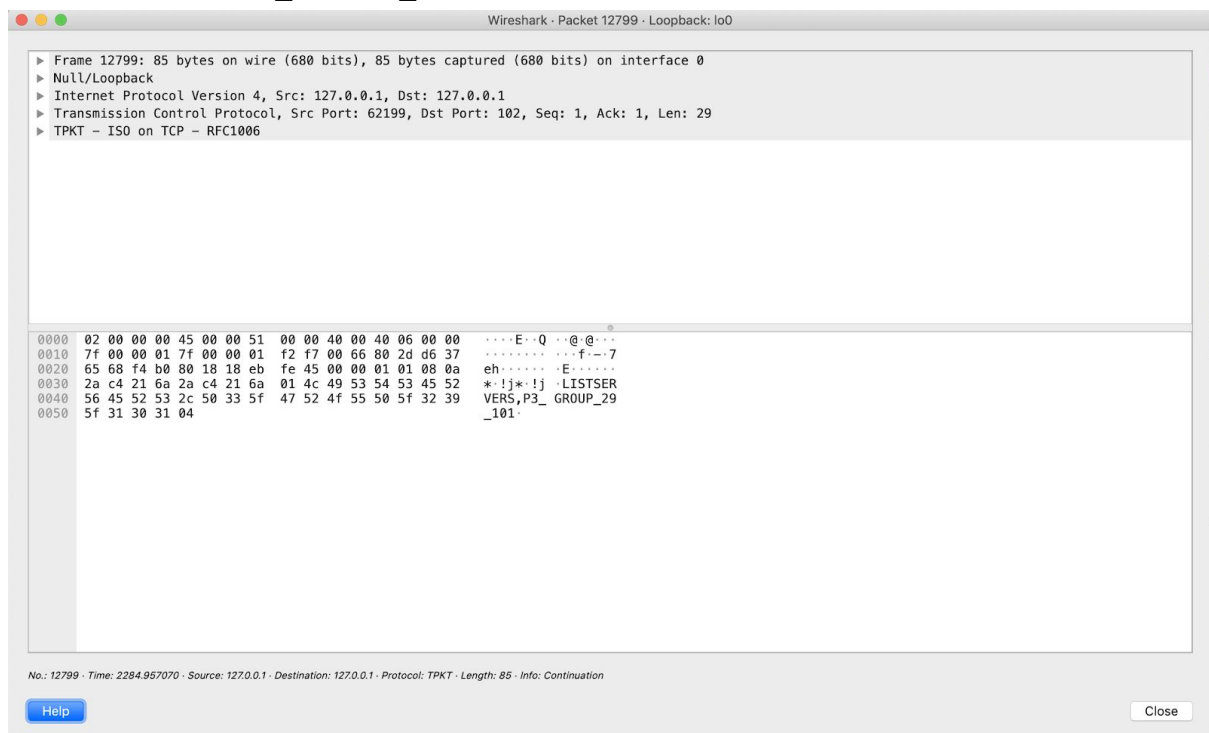
Name: P3_GROUP_29_101
IP: 18.6.16.134
Port: 101
Sock: 5
[]

Project-3-The-Botnet-Rises---Tolvasmskipti --- client 127.0.0.1 --- 120x33
n0kvikarlsson@n0kvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasmskipti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(i-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID

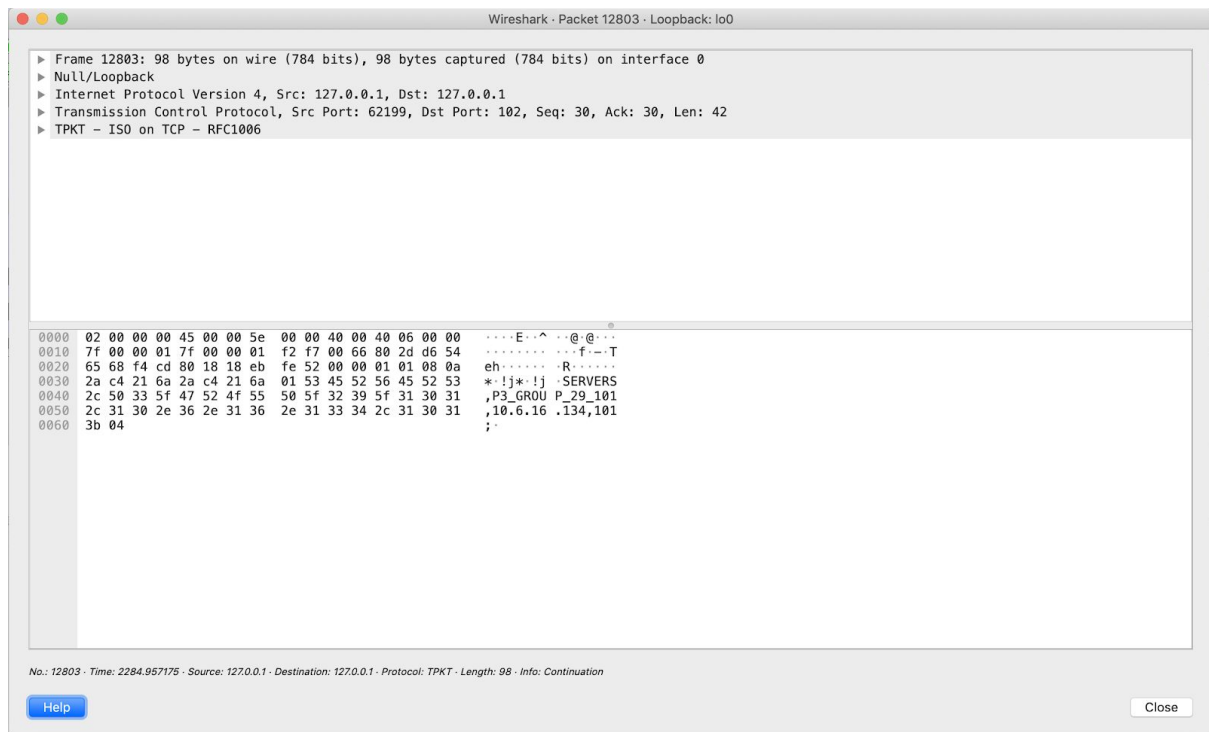
CONNECT 127.0.0.1 102
[]

Project-3-The-Botnet-Rises---Tolvasmskipti --- exit --- tsam --- 117x33
n0kvikarlsson@n0kvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasmskipti (master)
$ []
```

Below is a picture that shows the wireshark trace of one of the servers sending LISTSERVERS,<MY_GROUP_ID> to the other.

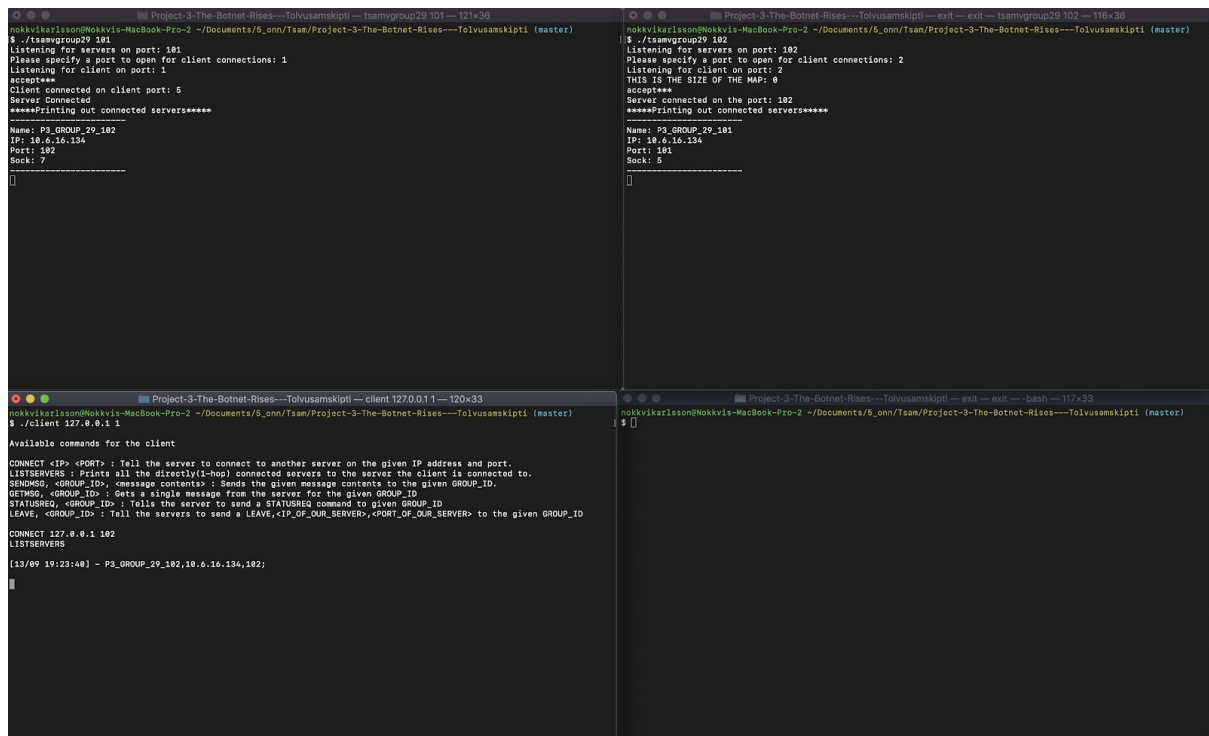


Below is a picture that shows the wireshark trace communication of one of the servers sending the response to LISTSERVERS,<MY_GROUP_ID> which is SERVERS,.....

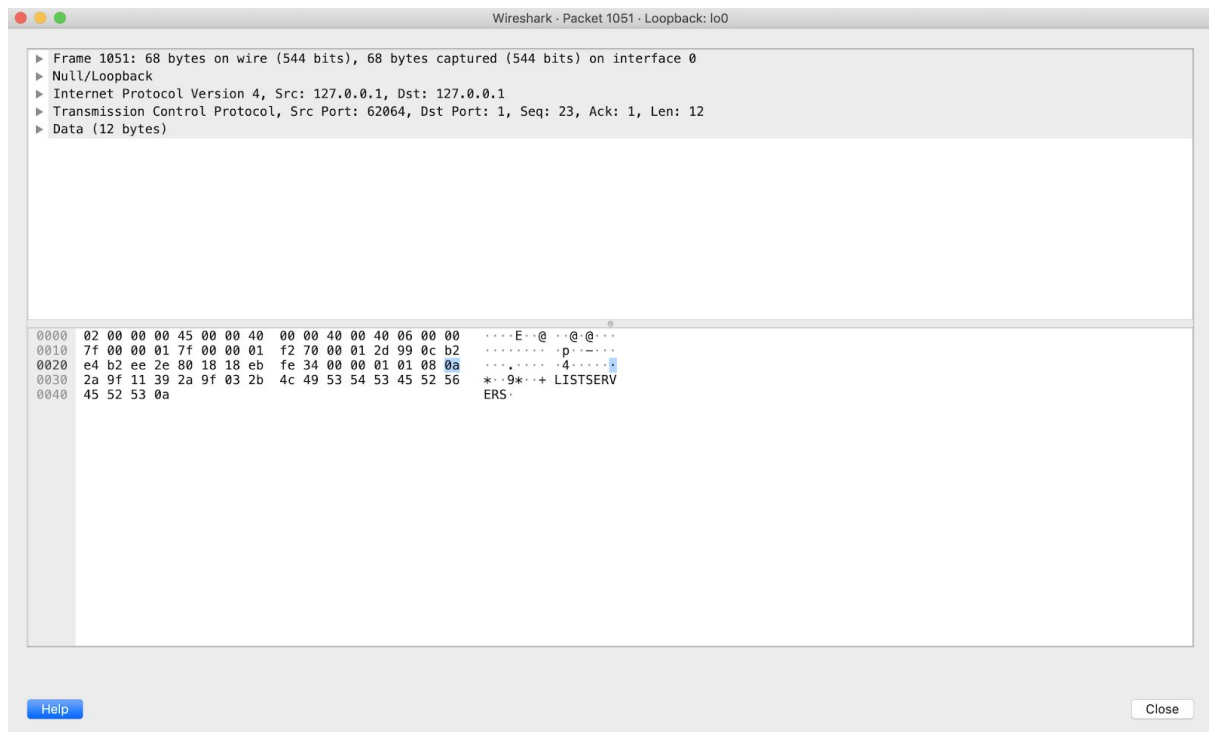


CLIENT COMMAND: LISTSERVERS

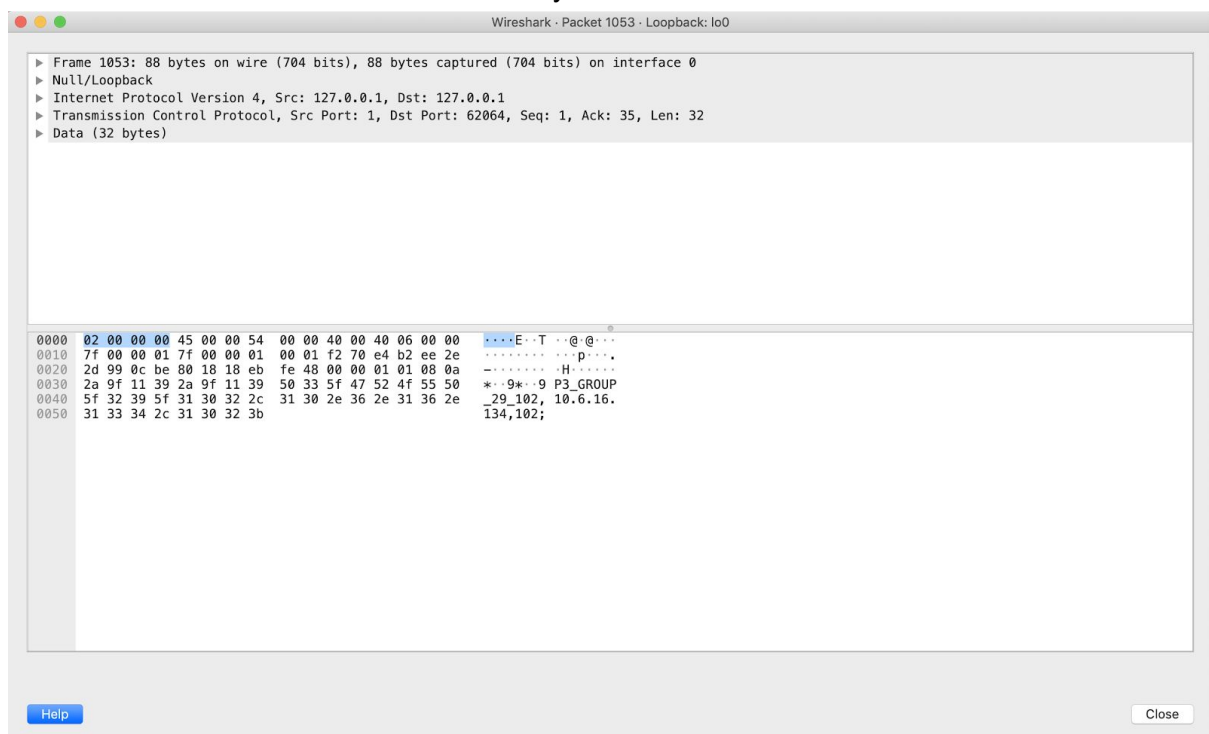
Below is a picture that shows a client sending a LISTSERVERS command to a server he is connected to and the server responds with a list of servers he is directly connected to.



Below we can see the client sending a LISTSERVERS command to the server.



Below we can see the servers responding to the LISTSERVER client command and sending back a list of all the servers that are directly connected to him.



SERVER COMMANDS: KEEPALIVE,<no. messages> & GET_MSG,<GROUP_ID> & SEND_MSG,<FROM_GROUP_ID>,<TO_GROUP_ID>,<No. messages>.

The picture below shows server number 101 sending a KEEPALIVE,<1> to server number 102 and then 102 sends a GET_MSG,<server_number_102> back to server 101 to retrieve the message 101 is storing. When server 101 receives the GET_MSG command he sends a SEND_MSG,<FROM_GROUP_ID>,<TO_GROUP_ID>,<message> back.

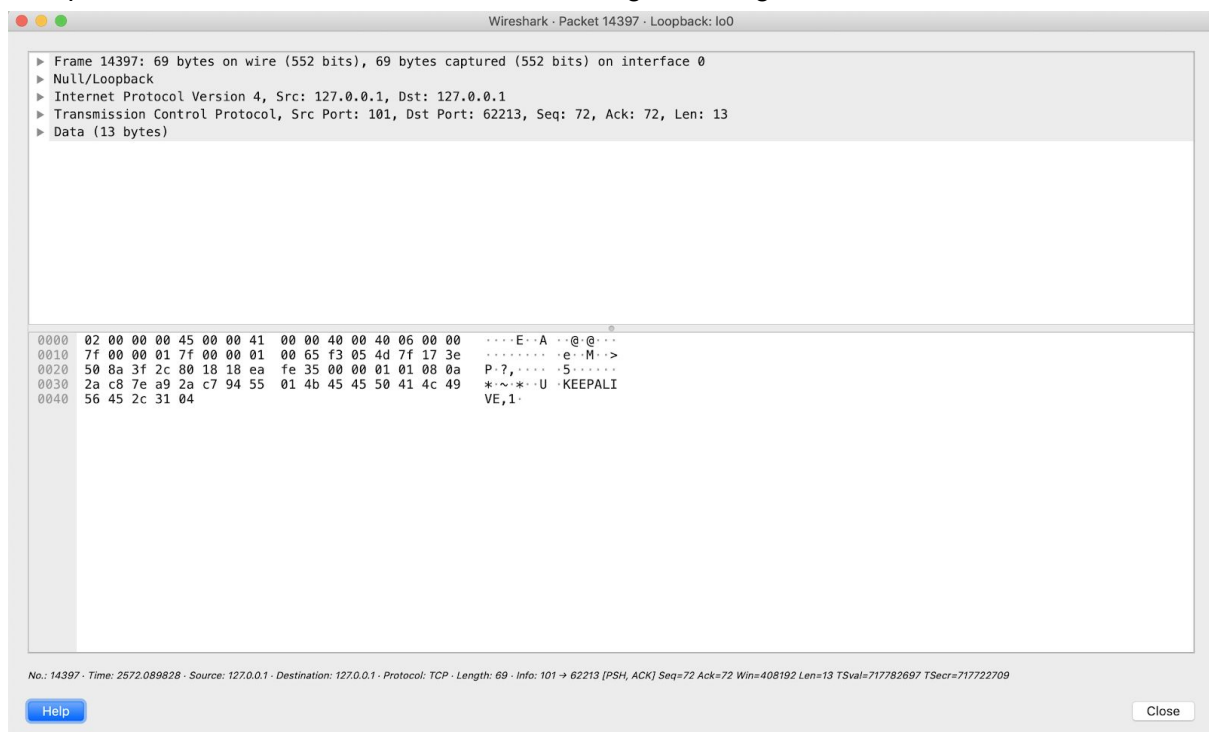
```
Project-3-The-Botnet-Rises---Tolvusamskipiti---Teamgroup29_101---121x36
n0kkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipiti (master)
$ ./tsamgroup29_101
Listening for servers on port: 181
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept=
Client connected on client port: 5
=====
Storing a message for this server: P3_GROUP_29_102, message contents: hello :)
accept=
Server connected on the port: 181
=====
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_102
=====
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_102,18.6.16.134,102;
=====Printing out connected servers=====
Name: P3_GROUP_29_102
IP: 18.6.16.134
Port: 102
Sock: 6
=====
Sending KEEPALIVE to: P3_GROUP_29_102
=====
This is the buffer before processing it in serverCommands: KEEPALIVE,0
=====
KEEPALIVE RECEIVED FROM GROUP: P3_GROUP_29_102
=====
This is the buffer before processing it in serverCommands: GET_MSG,P3_GROUP_29_102
=====TO summit=====
This is the group ID: P3_GROUP_29_101
Sending all stored messages for: P3_GROUP_29_102
P3_GROUP_29_102 has this many messages after sending them: 1
P3_GROUP_29_102 has this many messages after sending them: 0
[]

Project-3-The-Botnet-Rises---Tolvusamskipiti---exit---Teamgroup29_102---116x36
n0kkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipiti (master)
$ ./tsamgroup29_102
Listening for servers on port: 182
Please specify a port to open for client connections: 2
Listening for client on port: 2
accept=
Client connected on client port: 5
=====
Server Connected
=====
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_101
=====
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_101,18.6.16.134,101;
=====Printing out connected servers=====
Name: P3_GROUP_29_101
IP: 18.6.16.134
Port: 101
Sock: 7
=====
Sending KEEPALIVE to: P3_GROUP_29_101
=====
This is the buffer before processing it in serverCommands: KEEPALIVE,1
Sending a GET_MSG, to get my messages.
KEEPALIVE RECEIVED FROM GROUP: P3_GROUP_29_101
=====
This is the buffer before processing it in serverCommands: SEND_MSG,P3_GROUP_29_101,P3_GROUP_29_102,hello :)
Received message from: P3_GROUP_29_101, to: receiverP3_GROUP_29_102, message contents: hello :)
Forwarding the message to this server: P3_GROUP_29_102, message contents: hello :)
[]

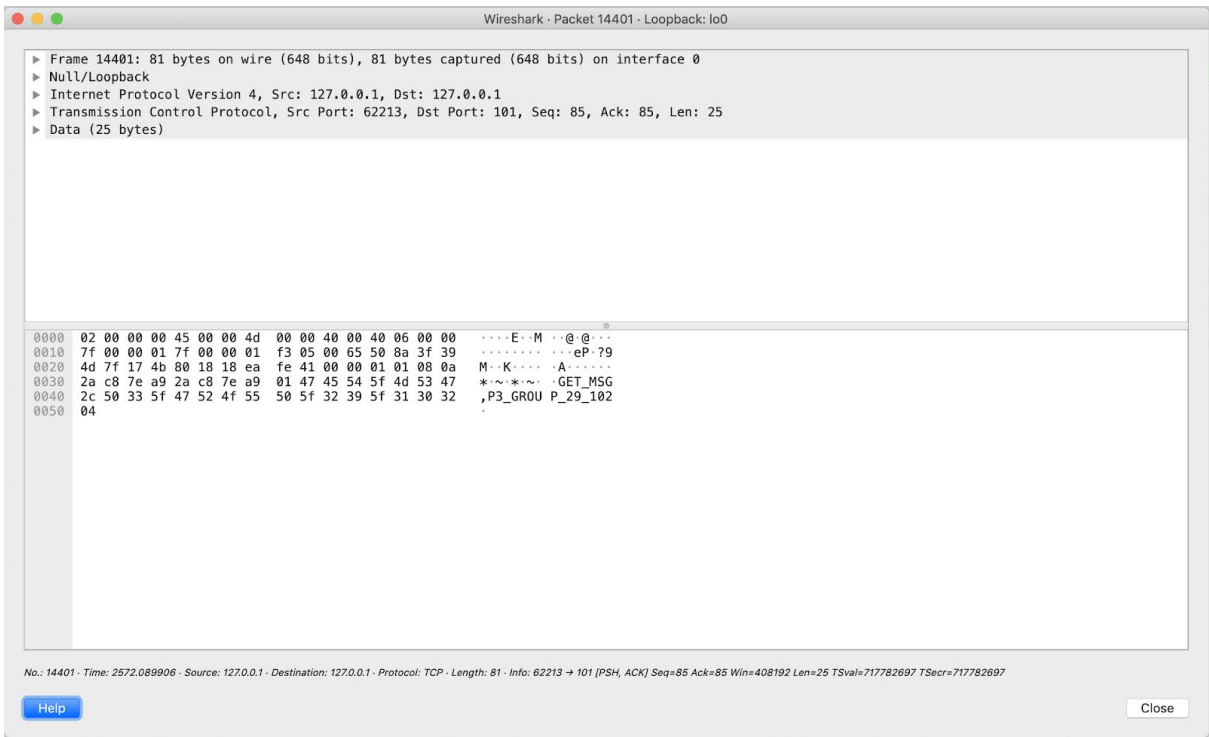
Project-3-The-Botnet-Rises---Tolvusamskipiti---client 127.0.0.1---120x33
n0kkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipiti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(l-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID.
SENDMSG, P3_GROUP_29_102, hello :)
[]

Project-3-The-Botnet-Rises---Tolvusamskipiti---exit---client 127.0.0.1---117x33
n0kkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipiti (master)
$ ./client 127.0.0.1 2
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(l-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID.
CONNECT 127.0.0.1 181
[]
```

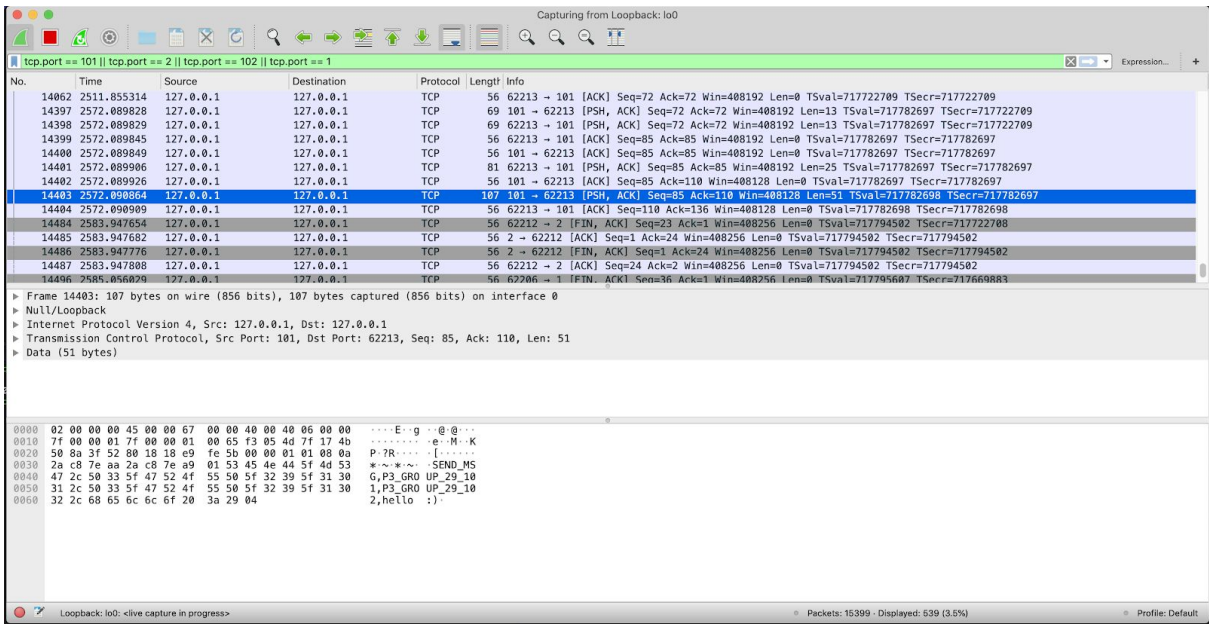
This picture shows the KEEPALIVE,<no. Messages> being sent.



The picture below shows the GET_MSG,<GROUP_ID> command being sent.



The picture below shows the SEND_MSG,<FROM_GROUP_ID>,<TO_GROUP_ID>,<message> command being sent.



CLIENT COMMAND: SENDMSG, <TO_GROUP_ID>, <message>

The picture below shows a client sending SENDMSG, <GROUP_ID_OF_SERVER_102> to server 101 which server 101 sends to server 102.

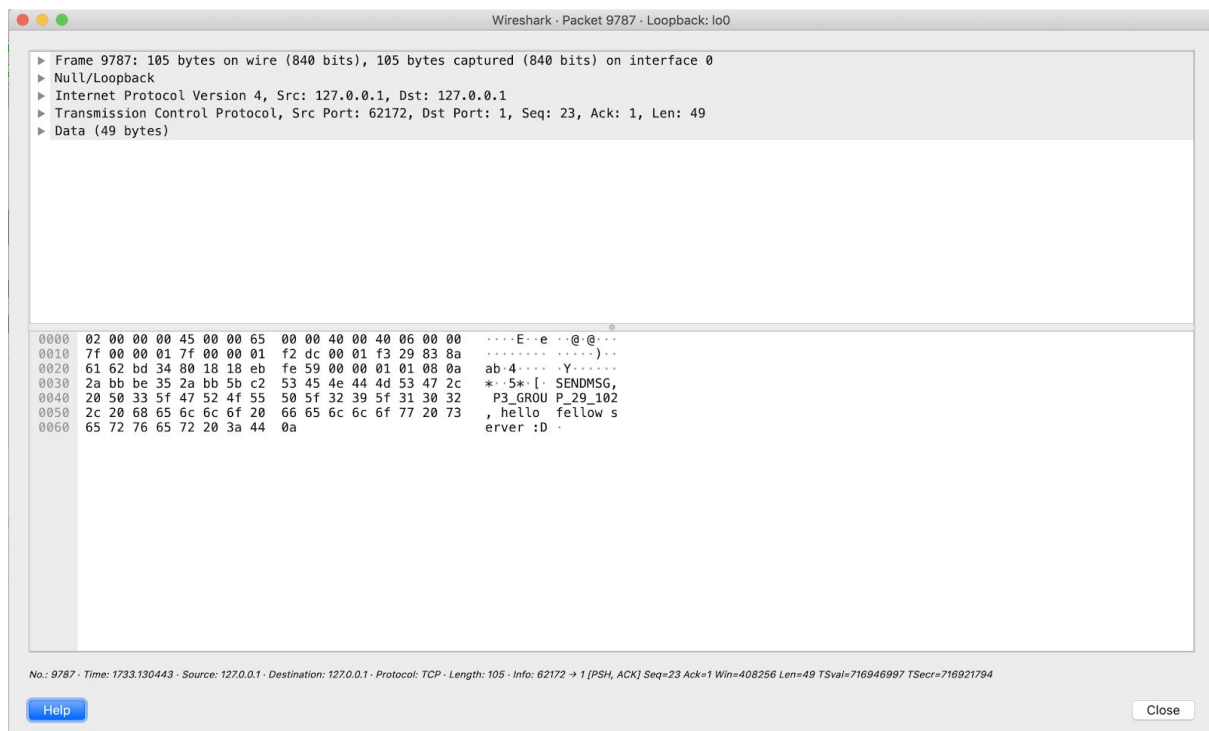
```
Project-3-The-Botnet-Rises---Tolvasamskipti --- tsamvgroup29 101 --- 121x36
n0kvikarlsson@Nokvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasamskipti (master)
$ ./tsamvgroup29 101
Listening for servers on port: 101
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
*****
Server Connected
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_102
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_102,10.6.16.134,102;
*****Printing out connected servers*****
Name: P3_GROUP_29_102
IP: 10.6.16.134
Port: 102
Sock: 7
*****
Sending a message to this server: P3_GROUP_29_102, message contents: hello fellow server :D
[]

Project-3-The-Botnet-Rises---Tolvasamskipti --- tsamvgroup29 102 --- 116x36
n0kvikarlsson@Nokvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasamskipti (master)
$ ./tsamvgroup29 102
Listening for servers on port: 102
Please specify a port to open for client connections: 2
Listening for client on port: 2
accept***
Server connected on the port: 102
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_101
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_101,10.6.16.134,101;
*****Printing out connected servers*****
Name: P3_GROUP_29_101
IP: 10.6.16.134
Port: 101
Sock: 5
*****
This is the buffer before processing it in serverCommands: SENDMSG,P3_GROUP_29_101,P3_GROUP_29_102,hello fellow server :D
Received message from: P3_GROUP_29_101, to: receiverP3_GROUP_29_102, message contents: hello fellow server :D
We are not connected to: P3_GROUP_29_102, we store the message until someone gets it.
P3_GROUP_29_102 has this many messages in our storage: 1
[]

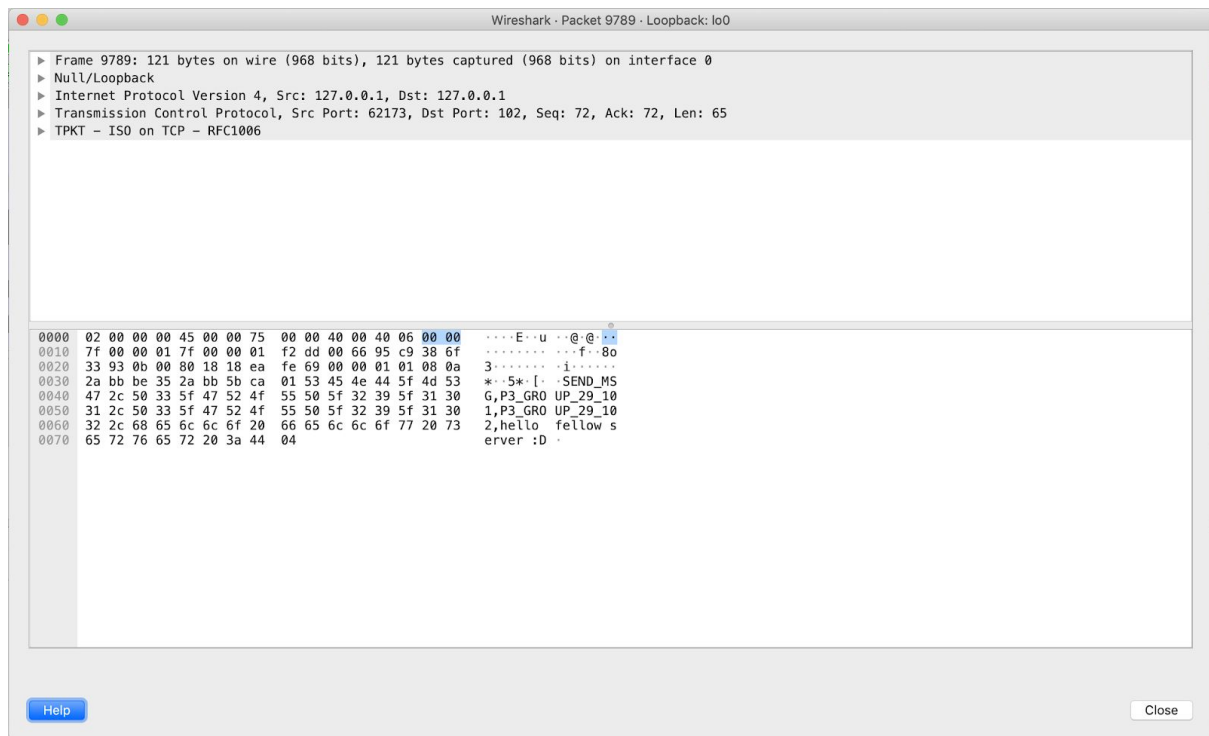
Project-3-The-Botnet-Rises---Tolvasamskipti --- client 127.0.0.1 --- 120x33
n0kvikarlsson@Nokvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasamskipti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(i-hop) connected servers to the server, the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID.
CONNECT 127.0.0.1 102
SENDMSG, P3_GROUP_29_102, hello fellow server :D
[]

Project-3-The-Botnet-Rises---Tolvasamskipti --- exit --- tsam --- 117x33
n0kvikarlsson@Nokvis-MacBook-Pro-2 ~/Documents/5_omn/Tsam/Project-3-The-Botnet-Rises---Tolvasamskipti (master)
$ []
```

This picture shows the SENDMSG, <GROUP_ID_OF_SERVER_102> command being sent from the client to server 101.



The picture below shows server 101 sending the message to 102.



CLIENT COMMAND: GETMSG, <GROUP_ID>

The picture belows shows a client send a GETMSG, <GROUP_ID> to a server and the server sends back a single message back to the client for the given GROUP_ID.

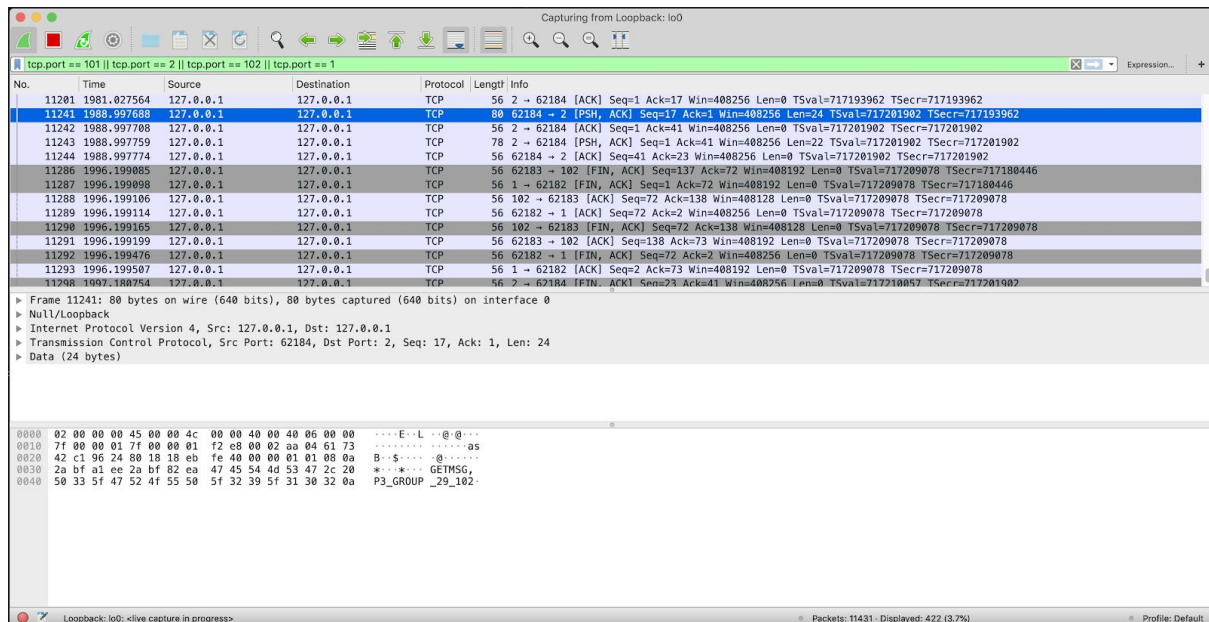
```
Project-3-The-Botnet-Rises---Tolusamskript --- tsamvgroup29 101 --- 121x36
hokkikarlsson@Mokkvis-MacBook-Pro-2 ~/Documents/5_om/Tsam/Project-3-The-Botnet-Rises---Tolusamskript (master)
$ ./tsamvgroup29 101
Listening for servers on port: 101
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
*****
Server Connected
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_102
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_102,10.6.16.134,102;
*****Printing out connected servers*****
Name: P3_GROUP_29_102
IP: 10.6.16.134
Port: 102
Sock: 7
*****
Sending a message to this server: P3_GROUP_29_102, message contents: hello fellow server :D
[]

Project-3-The-Botnet-Rises---Tolusamskript --- tsamvgroup29 102 --- 116x36
hokkikarlsson@Mokkvis-MacBook-Pro-2 ~/Documents/5_om/Tsam/Project-3-The-Botnet-Rises---Tolusamskript (master)
$ ./tsamvgroup29 102
Listening for servers on port: 102
Please specify a port to open for client connections: 2
Listening for client on port: 2
accept***
Server connected on the port: 102
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_101
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_101,10.6.16.134,101;
*****Printing out connected servers*****
Name: P3_GROUP_29_101
IP: 10.6.16.134
Port: 101
Sock: 6
*****
This is the buffer before processing it in serverCommands: SENDMSG,P3_GROUP_29_101,P3_GROUP_29_102,hello fellow server :D
Received message from: P3_GROUP_29_101, to: receiverP3_GROUP_29_102, message contents: hello fellow server :D
We are not connected to: P3_GROUP_29_102, so store the message until someone gets it.
P3_GROUP_29_102 has this many messages in our storage: 1
accept***
Client connected on client port: 6
*****
Unknown command from client:P3_GROUP_29_102
*****
[]

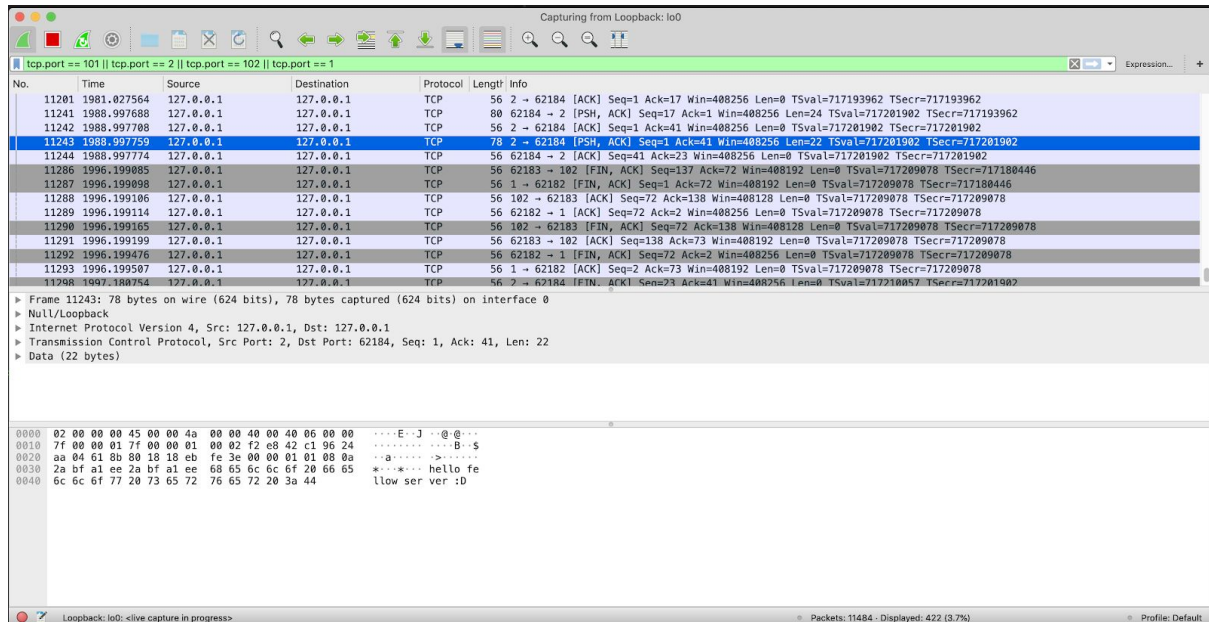
Project-3-The-Botnet-Rises---Tolusamskript --- client 127.0.0.1 --- 120x33
hokkikarlsson@Mokkvis-MacBook-Pro-2 ~/Documents/5_om/Tsam/Project-3-The-Botnet-Rises---Tolusamskript (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(1-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID.
CONNECT 127.0.0.1 102
SENDMSG, P3_GROUP_29_102, hello fellow server :D
[]

Project-3-The-Botnet-Rises---Tolusamskript --- client 127.0.0.1 --- 117x33
hokkikarlsson@Mokkvis-MacBook-Pro-2 ~/Documents/5_om/Tsam/Project-3-The-Botnet-Rises---Tolusamskript (master)
$ ./client 127.0.0.1 2
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(1-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID.
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID.
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>,<PORT_OF_OUR_SERVER> to the given GROUP_ID.
P3_GROUP_29_102
GETMSG, P3_GROUP_29_102
[13/09 20:01:17] - hello fellow server :D
[]
```

Here we can see the GETMSG, <GROUP_ID> being sent.



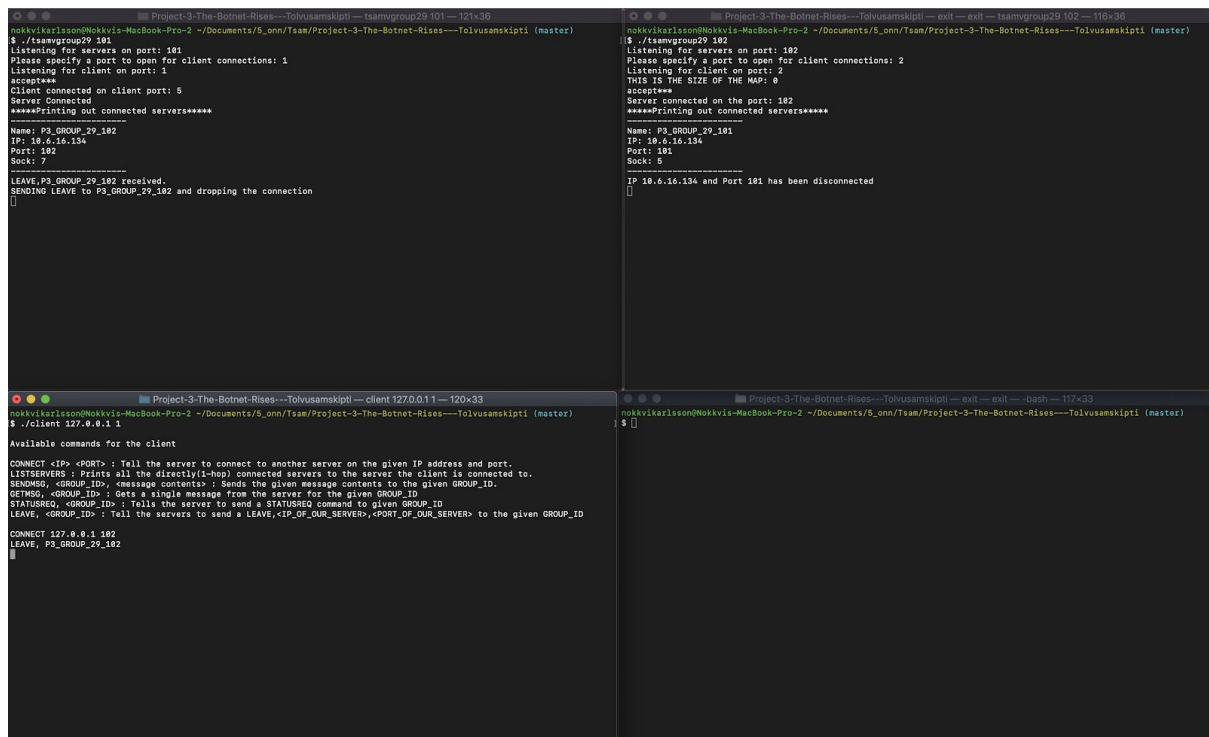
Here we can see the server sending the client a single message for the given GROUP_ID



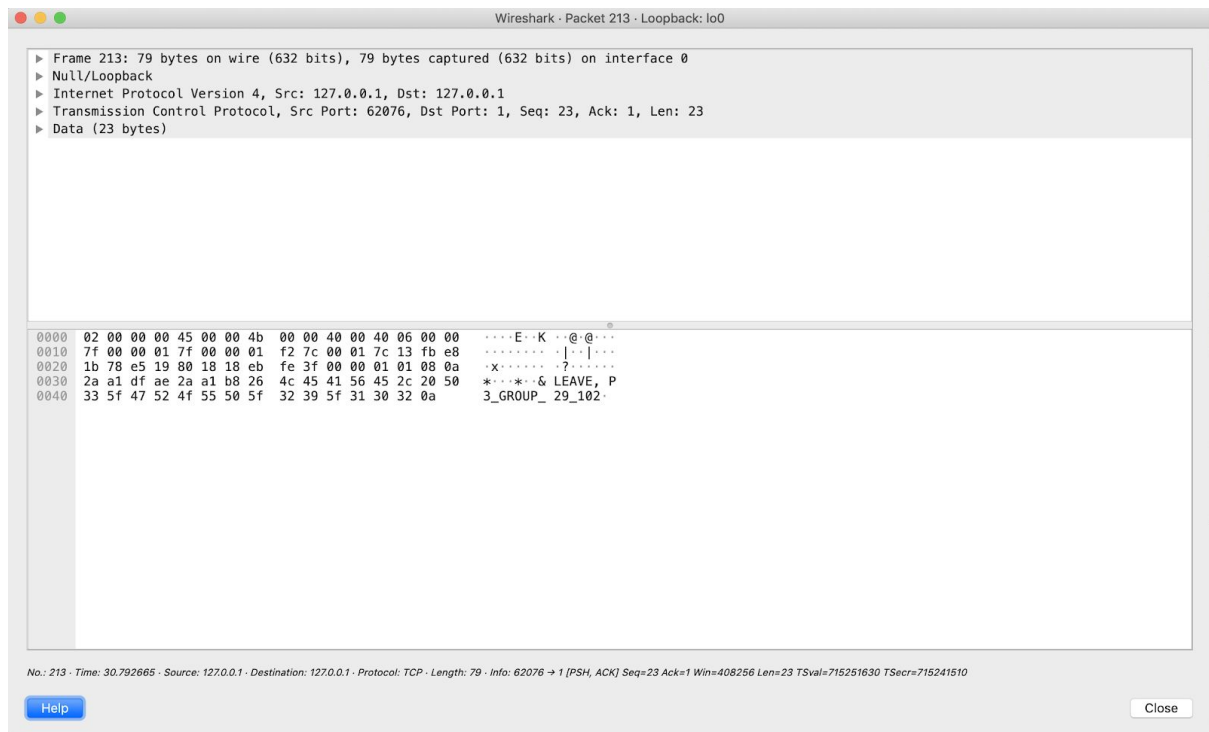
CLIENT COMMAND: LEAVESERVER,<GROUP_ID>

& SERVER COMMAND: LEAVESERVER,<IP>,<PORT>

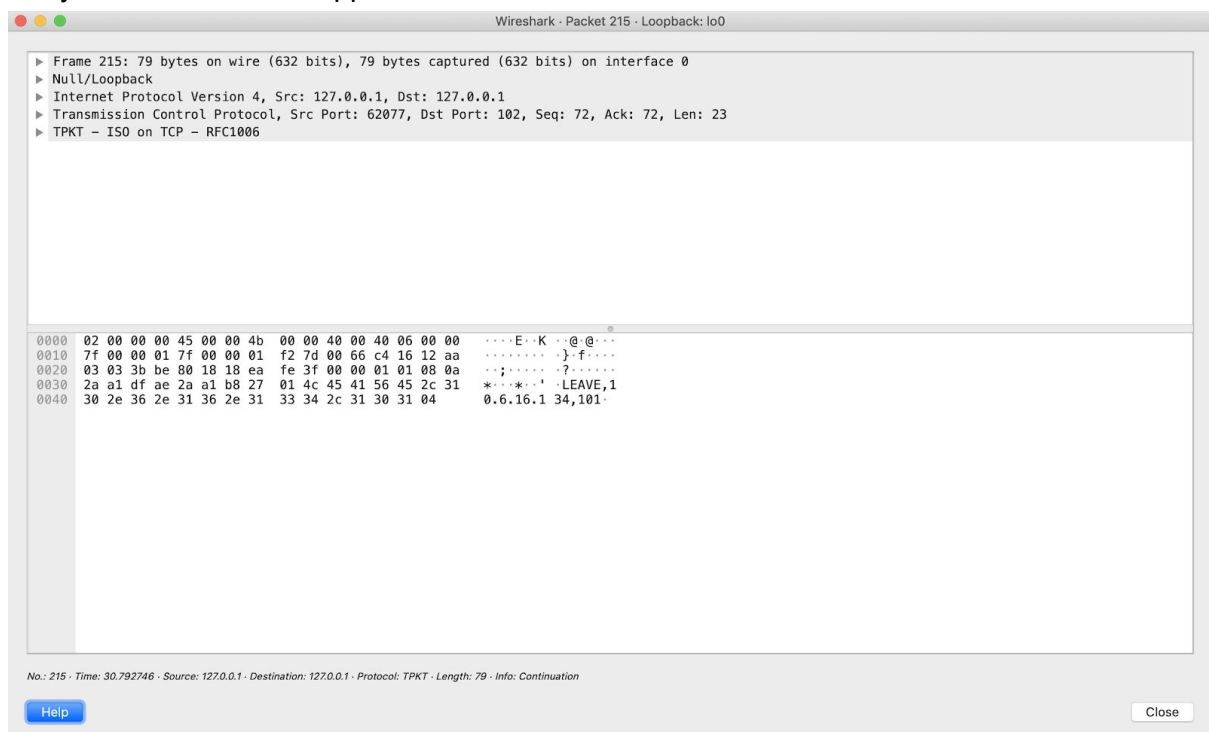
The picture belows shows a client sending a LEAVESERVER,<GROUP_ID> to server 101 telling the server to drop connection to 102 and send him a LEAVESERVER,<SERVER_101_IP>,<SERVER_101_PORT> command to him.



Here we can see the client sending a LEAVESERVER,<GROUP_ID>.



Here we can see the server sending a LEAVESERVER,<IP>,<PORT> to the other server to notify him that he has dropped the connection.



CLIENT COMMAND: STATUSREQ, <GROUP_ID> & SERVER COMMAND: STATUSREQ,<GROUP_ID>

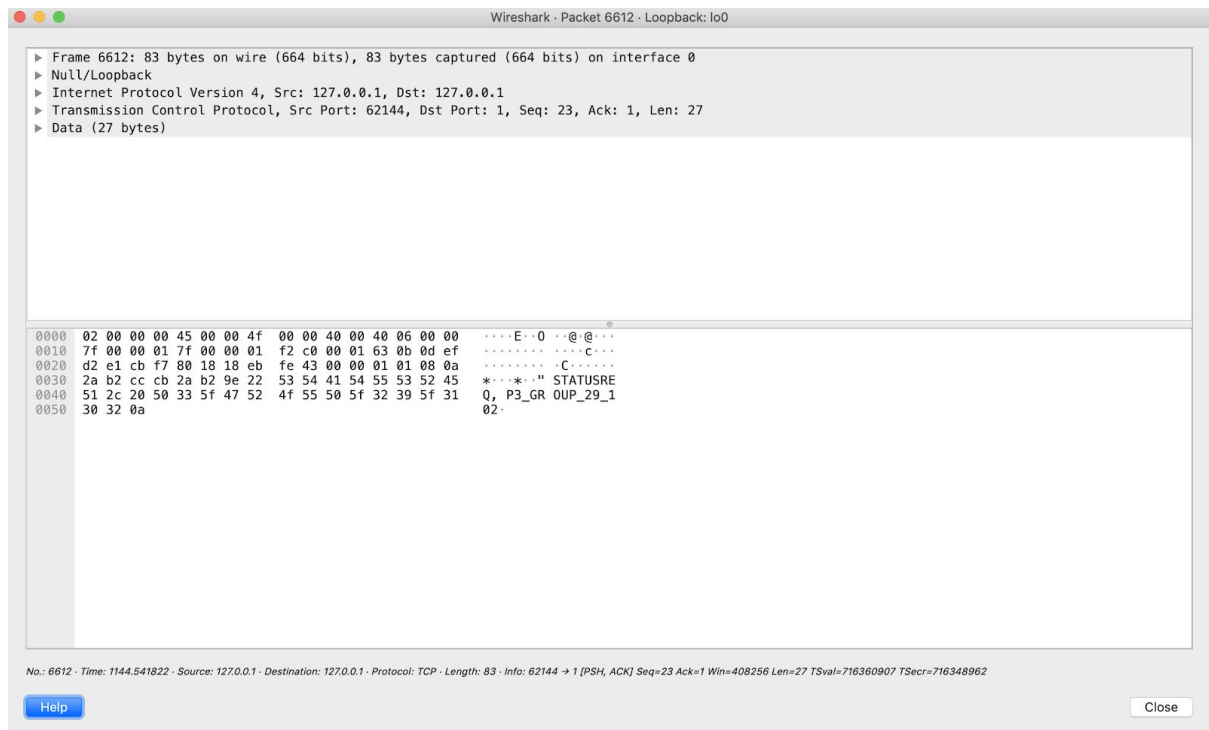
Here below we can see the client send a STATUSREQ, <GROUP_ID> command to server number 101 then he sends STATUSREQ,<GROUP_ID> message to the other server which is number 102. Server number 102 then responds to server number 101 with a STATUSRESP,....

```
Project-3-The-Botnet-Rises---Tolvusamskipti---tsamvgroup29_101---121x36
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29_101
Listening for servers on port: 181
Please specify a port to open for client connections: 1
Listening for client on port: 1
accept***
Client connected on client port: 5
Server Connected
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_102
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_102,18.6.16.134,182;
*****Printing out connected servers*****
Name: P3_GROUP_29_102
IP: 18.6.16.134
Port: 182
Sock: 7
*****
STATUSREQ,P3_GROUP_29_102 received
SENDING STATUSREQ to P3_GROUP_29_102
*****
This is the buffer before processing it in serverCommands: STATUSRESP,P3_GROUP_29_102,P3_GROUP_29_101
STATUSRESP received
STATUSRESP,P3_GROUP_29_102,P3_GROUP_29_101
[

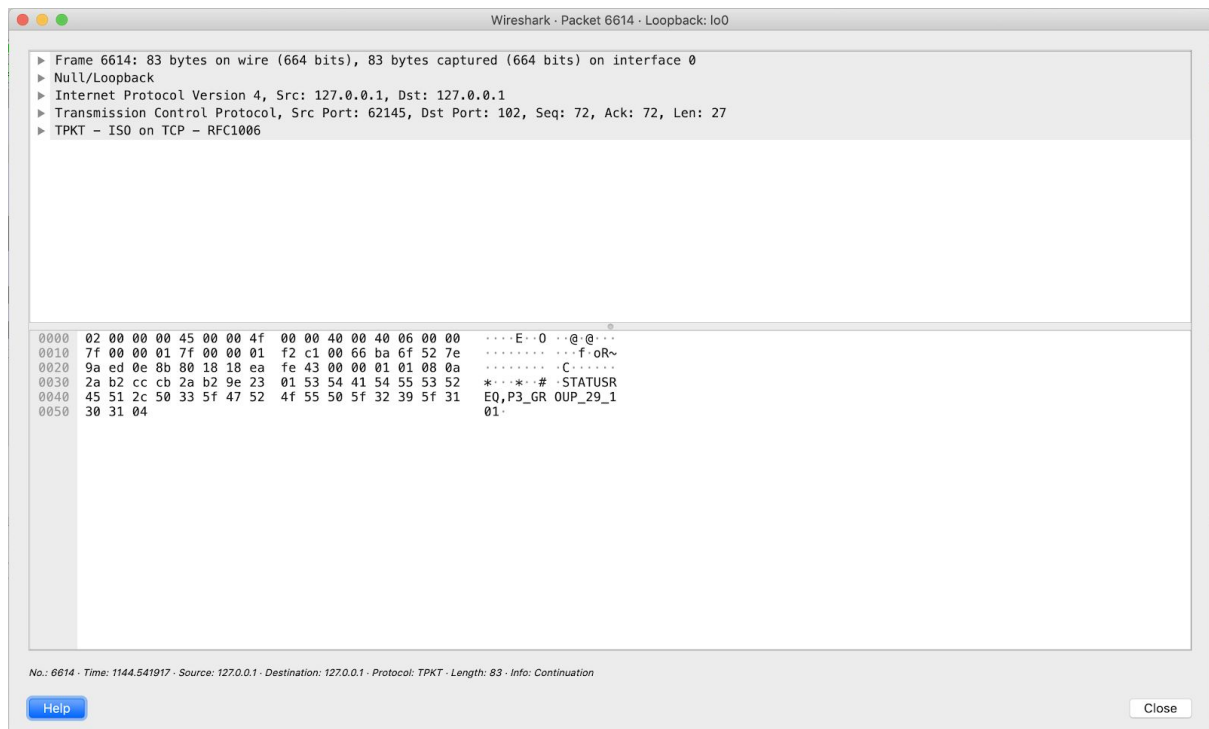
Project-3-The-Botnet-Rises---Tolvusamskipti---exit---exit---tsamvgroup29_102---118x36
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./tsamvgroup29_102
Listening for servers on port: 182
Please specify a port to open for client connections: 2
Listening for client on port: 2
accept***
Server connected on the port: 182
*****
This is the buffer before processing it in serverCommands: LISTSERVERS,P3_GROUP_29_101
*****
This is the buffer before processing it in serverCommands: SERVERS,P3_GROUP_29_101,18.6.16.134,181;
*****Printing out connected servers*****
Name: P3_GROUP_29_101
IP: 18.6.16.134
Port: 181
Sock: 5
*****
This is the buffer before processing it in serverCommands: STATUSREQ,P3_GROUP_29_101
Received STATUSREQ
[

Project-3-The-Botnet-Rises---Tolvusamskipti---client 127.0.0.1---120x33
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ make
g++ -std=c++11 client.cpp -pthread -o client
g++ -std=c++11 tsamvgroup29.cpp -o tsamvgroup29
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ make
g++ -std=c++11 client.cpp -pthread -o client
g++ -std=c++11 tsamvgroup29.cpp -o tsamvgroup29
nokkvikarlsson@Nokkvis-MacBook-Pro-2 ~/Documents/5_onn/Tsam/Project-3-The-Botnet-Rises---Tolvusamskipti (master)
$ ./client 127.0.0.1 1
Available commands for the client
CONNECT <IP> <PORT> : Tell the server to connect to another server on the given IP address and port.
LISTSERVERS : Prints all the directly(1-hop) connected servers to the server the client is connected to.
SENDMSG, <GROUP_ID>, <message contents> : Sends the given message contents to the given GROUP_ID.
GETMSG, <GROUP_ID> : Gets a single message from the server for the given GROUP_ID
STATUSREQ, <GROUP_ID> : Tells the server to send a STATUSREQ command to given GROUP_ID
LEAVE, <GROUP_ID> : Tell the servers to send a LEAVE,<IP_OF_OUR_SERVER>, <PORT_OF_OUR_SERVER> to the given GROUP_ID
CONNECT 127.0.0.1 182
STATUSREQ, P3_GROUP_29_102
[
```

Below we can see the client sending a STATUSREQ, <GROUP_ID> command to server 101.



Here we see server number 101 sending a STATUSREQ,<GROUP_ID> command to server number 102.



Here we see server number 102 send a STATUSRESP,... back to server number 101.

Wireshark - Packet 6616 - Loopback: lo0

▶ Frame 6616: 100 bytes on wire (800 bits), 100 bytes captured (800 bits) on interface 0

▶ Null/Loopback

▶ Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1

▶ Transmission Control Protocol, Src Port: 102, Dst Port: 62145, Seq: 72, Ack: 99, Len: 44

▶ TPKT - ISO on TCP - RFC1006

0000	02 00 00 00 45 00 00 60	00 00 40 00 40 06 00 00E...^..@: @...
0010	7f 00 00 01 7f 00 00 01	00 66 f2 c1 9a ed 0e 8bf.....
0020	ba 6f 52 99 80 18 18 ea	fe 54 00 00 01 01 08 0a	..oR.....T.....
0030	2a b2 cc cb 2a b2 cc cb	01 53 54 41 54 55 53 52	*...*...-STATUSR
0040	45 53 50 2c 50 33 5f 47	52 4f 55 50 5f 32 39 5f	ESP,P3_G ROUP_29_
0050	31 30 32 2c 50 33 5f 47	52 4f 55 50 5f 32 39 5f	102,P3_G ROUP_29_
0060	31 30 31 04		101.

No.: 6616 - Time: 1144.541992 - Source: 127.0.0.1 - Destination: 127.0.0.1 - Protocol: TPKT - Length: 100 - Info: Continuation

Help

Close