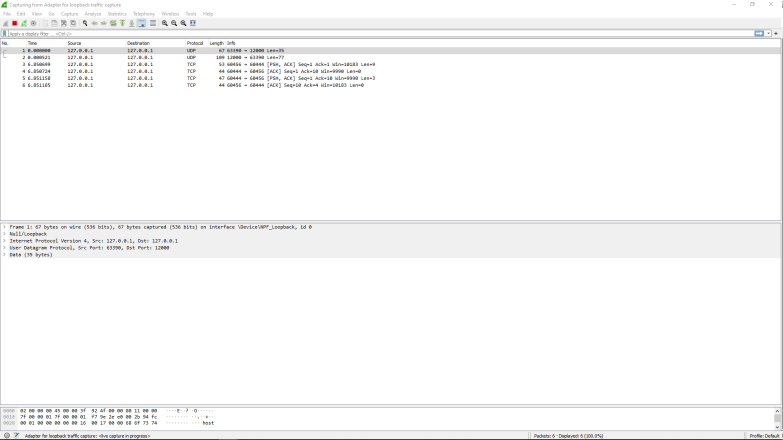
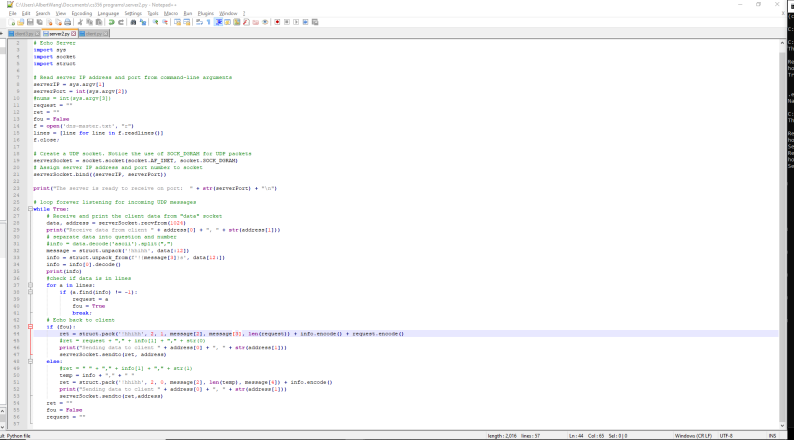
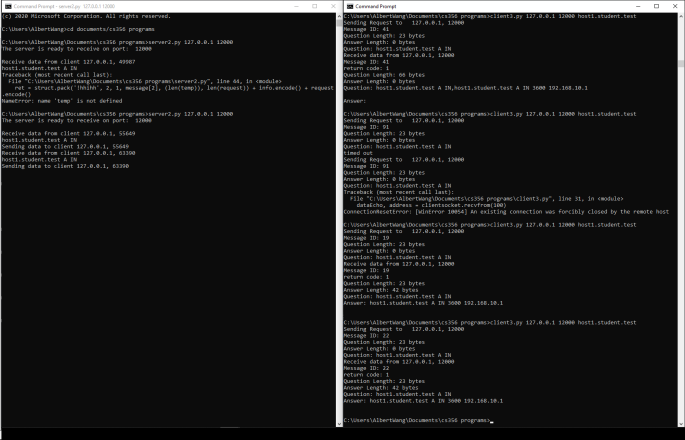

Capturing from Adapter for loopback traffic capture
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
1 0.000000 127.0.0.1 127.0.0.1 UDP 67 61998 → 12000 Len=35
2 0.000521 127.0.0.1 127.0.0.1 UDP 109 12000 → 61998 Len=77
3 4.656609 127.0.0.1 127.0.0.1 TCP 53 50416 → 60446 [FIN, ACK] Seq=1 Ack=1 Win=10183 Len=0
4 4.656724 127.0.0.1 127.0.0.1 TCP 44 60446 → 60456 [ACK] Seq=1 Ack=10 Win=9900 Len=0
5 6.651158 127.0.0.1 127.0.0.1 TCP 47 60444 → 60456 [PSH, ACK] Seq=1 Ack=10 Win=9900 Len=3
6 6.651185 127.0.0.1 127.0.0.1 TCP 44 60456 → 60444 [ACK] Seq=10 Ack=4 Win=10183 Len=0
Frame 1: 67 bytes on wire (536 bits), 67 bytes captured (536 bits) on interface \Device\NPF_Loopback, id 0
Null/Loopback
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
User Datagram Protocol, Src Port: 61998, Dst Port: 12000
Data (35 bytes)
0000 02 00 00 00 45 00 00 3f 92 6f 00 00 80 11 00 00 ····E··? ·o····
0010 7f 00 00 01 7f 00 00 01 f2 2e 2e e0 00 2b 7a 7c ·····+z|
0020 00 01 00 00 00 00 00 10 00 17 00 00 68 6f 73 74 ····host
Adapter for loopback traffic capture: <live capture in progress>
Packets: 6 · Displayed: 6 (100.0%)
Profile: Default


C:\Users\Albertdang\Documents\cs356 programs\server2.py - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
client.py
server2.py
# Echo Server
import sys
import socket
import struct
# Read server IP address and port from command-line arguments
serverIP = sys.argv[1]
serverPort = int(sys.argv[2])
#cuse = int(sys.argv[3])
request = ""
ret = 0
fov = False
f = open('the-server.txt', "r")
lines = [line for line in f.readlines()]
f.close()
# Create a UDP socket. Notice the use of SOCK_DGRAM for UDP packets
serverSocket = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
# Assign server IP address and port number to socket
serverSocket.bind((serverIP, serverPort))
print("The server is ready to receive on port: " + str(serverPort) + "\n")
# loop forever listening for incoming UDP messages
while True:
# Receive and print the client data from "data" socket
data, address = serverSocket.recvfrom(1024)
print("Receive data from client " + address[0] + ", " + str(address[1]))
# separate data into question and number
$info = data.decode('ascii').split(",")
message = struct.unpack('!'+'hhhh', data[:12])
info = struct.unpack_from(f'!{message[3]}s', data[12:])
info = info[0].decode()
print(info)
#check if data is in lines
for a in lines:
if (a.find(info) != -1):
request = a
fov = True
break
# Echo back to client
if (fov):
ret = struct.pack('!hhhh', 2, 1, message[2], message[3], len(request)) + info.encode() + request.encode()
$ret = request + "," + info[1] + "," + str(0)
print("Sending data to client " + address[0] + ", " + str(address[1]))
serverSocket.sendto(ret, address)
else:
$ret = " " + "," + info[1] + "," + str(1)
temp = info + "," + " " "
ret = struct.pack('!hhhh', 2, 0, message[2], len(temp), message[3]) + info.encode()
print("Sending data to client " + address[0] + ", " + str(address[1]))
serverSocket.sendto(ret,address)
ret = ""
fov = False
request = ""
length : 2,016 lines : 57
Ln : 44 Col : 65 Sel : 0 | 0
Windows (CR LF)
UTF-8
INS


Command Prompt - server2.py 127.0.0.1 12000
(c) 2020 Microsoft Corporation. All rights reserved.
C:\Users\Albertdang>cd documents/cs356 programs
C:\Users\Albertdang\Documents\cs356 programs>server2.py 127.0.0.1 12000
The server is ready to receive on port: 12000
Receive data from client 127.0.0.1, 49987
host1.student.test A IN
Traceback (most recent call last):
File "C:\Users\Albertdang\Documents\cs356 programs\server2.py", line 44, in <module>
ret = struct.pack('!hhhh', 2, 1, message[2], (len(temp)), len(request)) + info.encode() + request
.encode()
NameError: name 'temp' is not defined
C:\Users\Albertdang\Documents\cs356 programs>server2.py 127.0.0.1 12000
The server is ready to receive on port: 12000
Receive data from client 127.0.0.1, 55669
host1.student.test A IN
Sending data to client 127.0.0.1, 55669
Receive data from client 127.0.0.1, 63390
host1.student.test A IN
Sending data to client 127.0.0.1, 63390
Command Prompt
C:\Users\Albertdang\Documents\cs356 programs>client3.py 127.0.0.1 12000 host1.student.test
Sending Request to 127.0.0.1, 12000
Message ID: 41
Question Length: 23 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN
Receive data from 127.0.0.1, 12000
Message ID: 41
return code: 1
Question Length: 60 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN,host1.student.test A IN 5000 192.168.10.1
Answer:
C:\Users\Albertdang\Documents\cs356 programs>client3.py 127.0.0.1 12000 host1.student.test
Sending Request to 127.0.0.1, 12000
Message ID: 01
Question Length: 23 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN
Timeout
Sending Request to 127.0.0.1, 12000
Message ID: 01
Question Length: 23 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN
Traceback (most recent call last):
File "C:\Users\Albertdang\Documents\cs356 programs\client3.py", line 31, in <module>
data2hc, address = clientsocket.recvfrom(100)
ConnectionResetError: [WinError 10054] An existing connection was forcibly closed by the remote host
C:\Users\Albertdang\Documents\cs356 programs>client3.py 127.0.0.1 12000 host1.student.test
Sending Request to 127.0.0.1, 12000
Message ID: 19
Question Length: 23 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN
Receive data from 127.0.0.1, 12000
Message ID: 19
return code: 1
Question Length: 23 bytes
Answer Length: 42 bytes
Question: host1.student.test A IN
Answer: host1.student.test A IN 5000 192.168.10.1
C:\Users\Albertdang\Documents\cs356 programs>client3.py 127.0.0.1 12000 host1.student.test
Sending Request to 127.0.0.1, 12000
Message ID: 8
Question Length: 23 bytes
Answer Length: 0 bytes
Question: host1.student.test A IN
Receive data from 127.0.0.1, 12000
Message ID: 22
return code: 1
Question Length: 23 bytes
Answer Length: 42 bytes
Question: host1.student.test A IN
Answer: host1.student.test A IN 5000 192.168.10.1
C:\Users\Albertdang\Documents\cs356 programs>