

CSCD 330 – UDP Pinger Client

UDPPingClient.py source code:

```
import sys, time
from socket import *

# Get the server hostname and port as command line arguments
argv = sys.argv
host = argv[1]
port = argv[2]

# Timeout in seconds
timeout = 1

# Create UDP client socket
clientsocket = socket(AF_INET, SOCK_DGRAM)

# Set socket timeout as 1 second
clientsocket.settimeout(1.0)

# Command line argument is a string, change the port into integer
port = int(port)

# Sequence number of the ping message
ptime = 0

# Using ptime ping for 10 times
while ptime < 10:
    ptime += 1

    # Format the message to be sent
    data = "Ping " + str(ptime) + " " + time.asctime()

    try:
        # Sent time
        RTTb = time.time()

        # Send the UDP packet with the ping message
        clientsocket.sendto(data.encode(), (host, port))

        # Receive the server response
        message, address = clientsocket.recvfrom(1024)

        # Received time
        RTTa = time.time()

        # Display the server response as an output. This is a print
        statement
        print("Reply from " + host + ": " + message.decode())
```

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        # Round trip time is the difference between sent and received time
in a print statement
        RTTelapsed = RTTa - RTTb
        print("RTT: " + str(RTTelapsed))

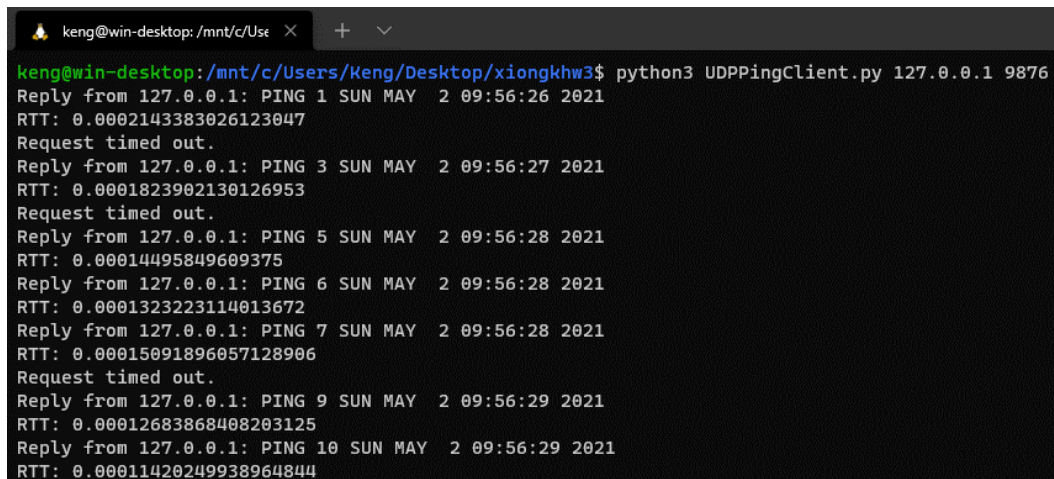
    except:
        # Server does not respond
        # Assume the packet is lost
        print("Request timed out.")
        continue

# Close the client socket
clientsocket.close()
sys.exit()

```

UDPPingClient.py captures:

Capture 1:

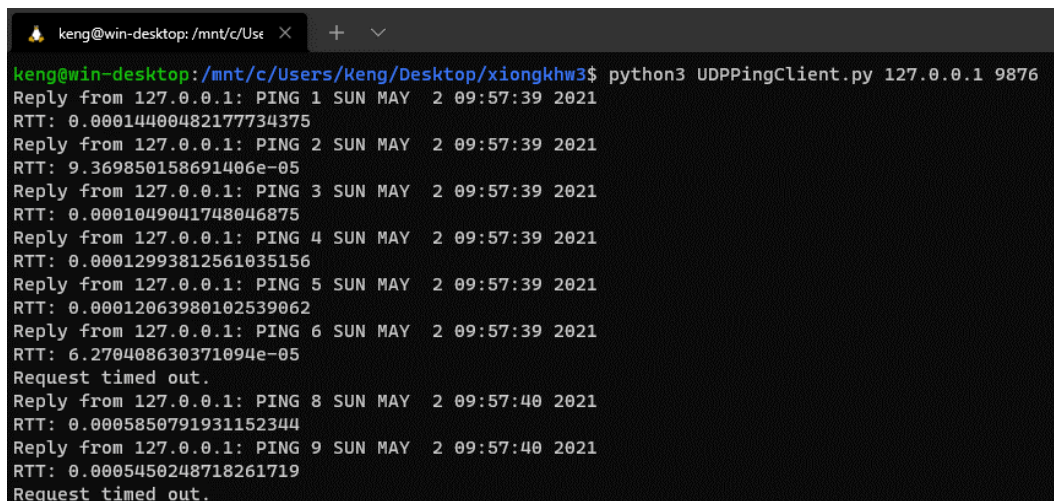


```

keng@win-desktop: /mnt/c/Use  X + v
keng@win-desktop: /mnt/c/Users/Keng/Desktop/xionghw3$ python3 UDPPingClient.py 127.0.0.1 9876
Reply from 127.0.0.1: PING 1 SUN MAY  2 09:56:26 2021
RTT: 0.0002143383026123047
Request timed out.
Reply from 127.0.0.1: PING 3 SUN MAY  2 09:56:27 2021
RTT: 0.0001823902130126953
Request timed out.
Reply from 127.0.0.1: PING 5 SUN MAY  2 09:56:28 2021
RTT: 0.00014495849609375
Reply from 127.0.0.1: PING 6 SUN MAY  2 09:56:28 2021
RTT: 0.0001323223114013672
Reply from 127.0.0.1: PING 7 SUN MAY  2 09:56:28 2021
RTT: 0.00015091896057128906
Request timed out.
Reply from 127.0.0.1: PING 9 SUN MAY  2 09:56:29 2021
RTT: 0.00012683868408203125
Reply from 127.0.0.1: PING 10 SUN MAY  2 09:56:29 2021
RTT: 0.00011420249938964844

```

Capture 2:



```

keng@win-desktop: /mnt/c/Use  X + v
keng@win-desktop: /mnt/c/Users/Keng/Desktop/xionghw3$ python3 UDPPingClient.py 127.0.0.1 9876
Reply from 127.0.0.1: PING 1 SUN MAY  2 09:57:39 2021
RTT: 0.00014400482177734375
Reply from 127.0.0.1: PING 2 SUN MAY  2 09:57:39 2021
RTT: 9.369850158691406e-05
Reply from 127.0.0.1: PING 3 SUN MAY  2 09:57:39 2021
RTT: 0.0001049041748046875
Reply from 127.0.0.1: PING 4 SUN MAY  2 09:57:39 2021
RTT: 0.00012993812561035156
Reply from 127.0.0.1: PING 5 SUN MAY  2 09:57:39 2021
RTT: 0.00012063980102539062
Reply from 127.0.0.1: PING 6 SUN MAY  2 09:57:39 2021
RTT: 6.270408630371094e-05
Request timed out.
Reply from 127.0.0.1: PING 8 SUN MAY  2 09:57:40 2021
RTT: 0.0005850791931152344
Reply from 127.0.0.1: PING 9 SUN MAY  2 09:57:40 2021
RTT: 0.0005450248718261719
Request timed out.

```

Capture 3:

```
keng@win-desktop: /mnt/c/Use  ×  +  ∨  
keng@win-desktop: /mnt/c/Users/Keng/Desktop/xiongkhw3$ python3 UDPPingClient.py 127.0.0.1 9876  
Request timed out.  
Reply from 127.0.0.1: PING 2 SUN MAY  2 09:59:04 2021  
RTT: 0.00013947486877441406  
Reply from 127.0.0.1: PING 3 SUN MAY  2 09:59:04 2021  
RTT: 0.00011873245239257812  
Reply from 127.0.0.1: PING 4 SUN MAY  2 09:59:04 2021  
RTT: 0.00014925003051757812  
Reply from 127.0.0.1: PING 5 SUN MAY  2 09:59:04 2021  
RTT: 0.00030875205993652344  
Reply from 127.0.0.1: PING 6 SUN MAY  2 09:59:04 2021  
RTT: 0.00013136863708496094  
Request timed out.  
Request timed out.  
Reply from 127.0.0.1: PING 9 SUN MAY  2 09:59:06 2021  
RTT: 0.00012135505676269531  
Reply from 127.0.0.1: PING 10 SUN MAY  2 09:59:06 2021  
RTT: 0.00015115737915039062
```