

Design File

Title and Authors

- Phase 1
- Benjamin Dearden

Purpose of the Phase

This phase's purpose is to transfer a message from a UDP client to a UDP server and ECHO the message back and forth.

Execution Example

server.py • udpcient.py

server.py > ...

```
1 import socket
2
3 #Create a UDP socket
4 sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
5
6 #Bind the socket to port and address
7
8 server_address = (socket.gethostname(socket.gethostname()), 12000)
9
10 sock.bind(server_address)
11
12 while True:
13     print("\nWaiting to receive message") # Wait for a message from the client
14     data, address = sock.recvfrom(4096)
15
16     print("Received %s bytes from %s" % (len(data), address)) # Print the message received from the client
17     print("Data: %s" % data)
18
19     if data:
20         sent = sock.sendto(data, address) # Send the message back to the client
21         print("Sent %s bytes back to %s" % (sent, address))
22
```

Run Code Ctrl+Alt+N
Run Python File
Run Python File in Dedicated Terminal
Run Current File in Interactive Window
Python Debugger: Debug Python File
Python Debugger: Debug using launch.json

server.py • udpcient.py

udpcient.py > ...

```
1 import socket
2
3 #create a socket object
4 sock = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
5
6 server_address = (socket.gethostname(socket.gethostname()), 12000)
7 message = b'HELLO'
8
9 try:
10     #send data
11     print("Sending %s" % message)
12     sent = sock.sendto(message, server_address) # Send the message to the server
13
14     #receive response
15     print("Waiting to receive")
16     data, server = sock.recvfrom(4096) # Wait for a response from the server
17     print("Received %s" % data) # Print the response received from the server
18
19 finally:
20     print("Closing socket")
21     sock.close()
```

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS

PS C:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode> & 'c:\Users\btdmi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\btdmi\.vscode\extensions\ms-python.debugpy-2024.6.0-win32-x64\bundle\libs\debugpy\adapter\..\..\debugpy\launcher' '63910' '--' 'c:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode\server.py'

Waiting to receive message
Received 5 bytes from ('192.168.1.6', 62773)
Data: b'HELLO'
Sent 5 bytes back to ('192.168.1.6', 62773)

Waiting to receive message
PS C:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode>

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS

PS C:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode> & 'c:\Users\btdmi\AppData\Local\Programs\Python\Python310\python.exe' 'c:\Users\btdmi\.vscode\extensions\ms-python.debugpy-2024.6.0-win32-x64\bundle\libs\debugpy\adapter\..\..\debugpy\launcher' '63935' '--' 'c:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode\udpcclient.py'

Sending b'HELLO'
Waiting to receive
Received b'HELLO'
Closing socket
PS C:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode> python
PS C:\Users\btdmi\OneDrive - UMass Lowell\Summer 2024\EECE 4830 Network Design\Week 1\Project Phase 1\SocketProgram\vsCode>

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