

Challenge 2 / Week 4

Group 10 - Network Programming IUP

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1. Client May Input Server IP and Port on **client.py**

```
# Challenge 2 - No.1
serverIP = input("server IP: ")
serverPORT = input("server PORT: ")
message = input("enter message: ")
```

Use the **input** function to start a user prompt on the terminal

2. Server Store the log of each message from client. Format: Timestamp, IP Client, Port Client, Message.

#server.py

```
# Challenge 2 - No.2
f = open("log.txt", "a")
log_content = "\n" + str(ts) + "\n" + str(client_socket) + "\n" + str(data)
f.writelines(str(log_content))
f.close()
```

Open/Create the file **log.txt** with the append mode so that each new logs are appended. Log format is formed in **log_content**

3. Every time client send the message, server will send acknowledgement message back (Timestamp, IP Client, Port Client, Message) to client. Then client will print it to the screen so the user can see it.

#client.py

```
# Challenge 2 - No.3
data = client_socket.recv(1024).decode()
print(str(data))
```

#server.py

```
# Challenge 2 - No.3
client_socket.send(log_content.encode())
```

On the server after doing everything else, the server will resend the data it collected, in which the client will receive it and print it out.

4. When Client send "asklog" message, the server will send all of the log file content to the client in which the client print out the log.

#client.py

```
# Challenge 2 - No.4
if(str(message) == "asklog"):
```

```
print("asking for log")
data = client_socket.recv(1024).decode()
print(str(data))
```

#server.py

```
# Challenge 2 - No.4
if(str(data) == "asklog"):
    print("asked for log.txt")
    f = open("log.txt", "r")
    asklog_content = str(f.readlines())
    client_socket.send(asklog_content.encode())
```

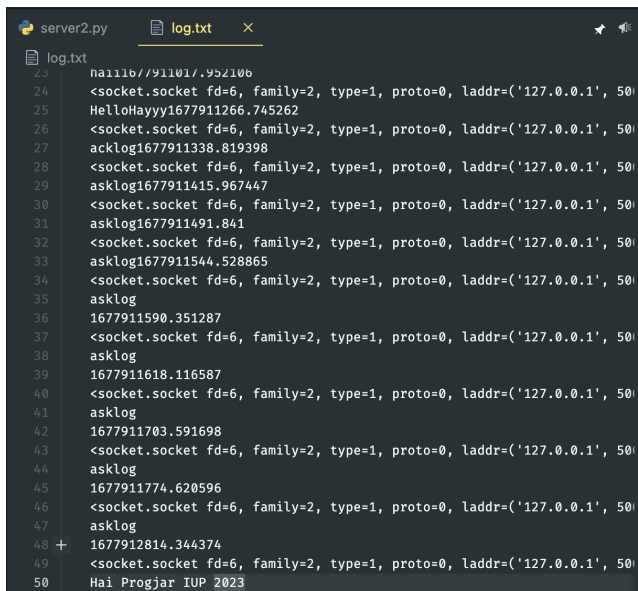
When a “asklog” prompt is inputted, the client will wait for an additional data to receives, while the server will open the **log.txt** back with read mode, then proceed to copy all of the log content then put it in a string format which are sent to the client, where at last the client prints it all into the screen.

Screenshot of result

Number 1

```
/Volumes/DentaData/Vs Code/progjarIUPW4
/opt/homebrew/bin/python3 "/Volumes/DentaData/Vs Code/progjarIUPW4/client1.py"
server IP: localhost
server PORT: 5002
enter message: Hai Progjar IUP 2023
```

Number 2



```
server2.py  log.txt
log.txt
23  ha11b/91101/.952106
24  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
25  HelloHayyy1677911266.745262
26  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
27  acklog1677911338.819398
28  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
29  asklog1677911415.967447
30  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
31  asklog1677911491.841
32  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
33  asklog1677911544.528865
34  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
35  asklog
36  1677911590.351287
37  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
38  asklog
39  1677911618.116587
40  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
41  asklog
42  1677911703.591698
43  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
44  asklog
45  1677911774.620596
46  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
47  asklog
48  1677912814.344374
49  <socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 5002)
50  Hai Progjar IUP 2023
```

Number 3

```
/Volumes/DentaData/Vs Code/progjariUPW4
/opt/homebrew/bin/python3 "/Volumes/DentaData/Vs Code/progjariUPW4/client1.py"
server IP: localhost
server PORT: 5002
enter message: Hai Progjar IUP 2023

1677912814.344374
<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5002), raddr=('127.0.0.1', 51848)>
Hai Progjar IUP 2023
```

Number 4

```
/Volumes/DentaData/Vs Code/progjariUPW4
/opt/homebrew/bin/python3 "/Volumes/DentaData/Vs Code/progjariUPW4/client1.py"
server IP: localhost
server PORT: 5002
enter message: asklog
asking for log
['1677724205.362235\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5001), raddr=('127.0.0.1', 60153)>\n", 'Hi...1677724891.806322\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5001), raddr=('127.0.0.1', 60240)>\n", 'Hello kelompok 101677909677.646784\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5001), raddr=('127.0.0.1', 51372)>\n", 'hello1677909740.918946\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5001), raddr=('127.0.0.1', 51378)>\n", 'Dentaa1677910346.750805\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51437)>\n", 'fatih1677910379.247077\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51440)>\n", 'fatih1677910435.808439\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51448)>\n", 'Hello Fatih1677910470.16099\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51457)>\n", 'HelloDen1677910596.463399\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51471)>\n", 'helloooguy1677910666.940428\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51481)>\n", 'Dentaygy1677910862.543453\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51501)>\n", 'hai1677911017.952100\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51529)>\n", 'HelloHayvy1677911266.745262\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51600)>\n", 'acklog1677911338.819398\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 51610)>\n", 'asklog1677911415.967447\n', "<socket.socket fd=6, family=2, type=1, proto=0, laddr=('127.0.0.1', 5005), raddr=('127.0.0.1', 5005)>\n"]
```