

Computer Network Lab

CSE-325

Assignment - 7

Submitted by -

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CSE 1

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To write a Socket Program to implement CHAT between client & server

I implemented a chat program on the UDP protocol. The client enters the IP address and the port number of the server it wants to chat to.

Chat Server

```
1  import os
2  import socket
3  import sys
4  import threading
5  import datetime
6
7  class UDPChatServer:
8      def __init__(self, name, client_addr=None, client_port=None) -> None:
9          self.socket = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
10         self.socket.bind(('127.0.0.1', 1234))
11         self.name = name
12         self.client_addr = "127.0.0.1"
13         self.client_port = 1235
14
15     def send(self):
16         while True:
17             message = input('>> ')
18             if (message=='exit'):
19                 break
20             message = f'{self.name} [{datetime.datetime.now()}]: {message}'
21             self.socket.sendto(message.encode(), (self.client_addr,
self.client_port))
22         self.socket.close()
23         sys.exit(0)
24
25     def recieve(self):
26         while True:
27             data, addr = self.socket.recvfrom(1024)
28             print(data.decode())
29             print("\n>> ", end="")
```

```

30
31
32
33 if __name__ == '__main__':
34     name = input("Enter your name: ")
35     server = UDPChatServer(name)
36     x1 = threading.Thread(target=server.send)
37     x2 = threading.Thread(target=server.recieve)
38     x1.start()
39     x2.start()

```

Chat Client

```

1  import os
2  import socket
3  import sys
4  import threading
5  import datetime
6
7  class UDPChatClient:
8      def __init__(self, name, client_addr, client_port) -> None:
9          self.socket = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
10         self.socket.bind(('127.0.0.1', 1235))
11         self.name = name
12         self.client_addr = client_addr
13         self.client_port = client_port
14
15     def send(self):
16         while True:
17             message = input('>> ')
18             if (message=='exit'):
19                 break
20             message = f'{self.name} [{datetime.datetime.now()}]: {message}'
21             self.socket.sendto(message.encode(), (self.client_addr,
self.client_port))
22             self.socket.close()
23             sys.exit(0)
24
25     def recieve(self):
26         while True:
27             data, addr = self.socket.recvfrom(1024)
28             print(data.decode())
29             print("\n>> ", end="")
30
31
32
33 if __name__ == '__main__':
34     name = input("Enter your name: ")
35     server = UDPChatClient(name, "127.0.0.1", 1234)
36     x1 = threading.Thread(target=server.send)
37     x2 = threading.Thread(target=server.recieve)
38     x1.start()
39     x2.start()

```

Output

```
In ▢ D:\Books\sem 6\networks\labs\lab7 python server.py
Enter your name: gyannn
>> albbbb [2022-02-24 20:55:42.618484]: hello!!

>> hi, my name is gyan
>> albbbb [2022-02-24 20:56:13.814814]: this is a message from client to the server

>> oooh nice!
>> a message from server to the client application
>> this is computer networks assignment 7
>> albbbb [2022-02-24 20:56:57.850013]: 7th? dang niceee

>> this program is made in python
>> albbbb [2022-02-24 20:57:18.661656]: python? isn't that slow?

>> yeah
>> but gets the work done
>> albbbb [2022-02-24 20:57:43.922148]: yeah that is true

>> albbbb [2022-02-24 20:57:58.429588]: also, this program is multithreaded

>> yeahh
>> albbbb [2022-02-24 20:58:12.966457]: its getting late now,,

>> yeah, let's talk later
>> albbbb [2022-02-24 20:58:28.678258]: yup! bye

>> exit
```

Fig: Chat Server

```
In ▢ D:\Books\sem 6\networks\labs\lab7 python client.py
Enter your name: albbbb
>> hello!!
>> gyannn [2022-02-24 20:55:53.243695]: hi, my name is gyan

>> this is a message from client to the server
>> gyannn [2022-02-24 20:56:24.956935]: oooh nice!

>> gyannn [2022-02-24 20:56:33.648784]: a message from server to the client application

>> gyannn [2022-02-24 20:56:50.968440]: this is computer networks assignment 7

>> 7th? dang niceee
>> gyannn [2022-02-24 20:57:09.906309]: this program is made in python

>> python? isn't that slow?
>> gyannn [2022-02-24 20:57:23.071198]: yeah

>> gyannn [2022-02-24 20:57:27.123467]: but gets the work done

>> yeah that is true
>> also, this program is multithreaded
>> gyannn [2022-02-24 20:58:05.570661]: yeahh

>> its getting late now,,
>> gyannn [2022-02-24 20:58:22.594984]: yeah, let's talk later

>> yup! bye
>> exit
```

Fig: Chat Client

