Mawlana Bhashani Science & Technology University

Lab report no : 07

Lab report on : Echo server and client using tcp & udp

Course Code : ICT3208

Course Title : Computer Network Lab

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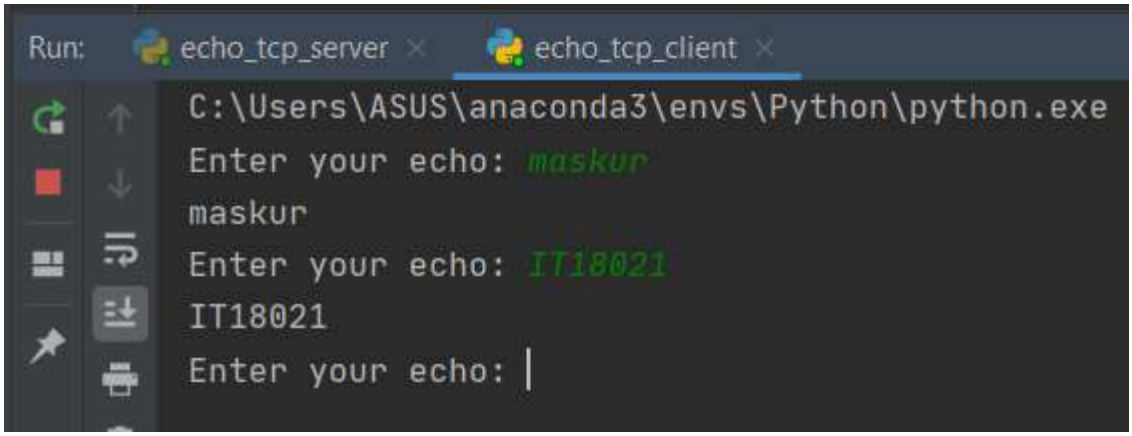
Echo_tcp_server code :

```
#echo server
import socket
server = socket.socket()
server.bind(('localhost',23423))
server.listen()
con,address=server.accept()
while True:
    mes=con.recv(1024).decode()
    if not mes: break
    print(mes)
    con.send(mes.encode())
con.close()
```

Echo Tcp client Code :

```
#echo client
import socket
client = socket.socket()
client.connect(('localhost',23423))
while True:
    mess = input("Enter your echo: ")
    client.send(mess.encode())
    mess=client.recv(1024).decode()
    print(mess)
```

Output :



Echo udp _server Code:

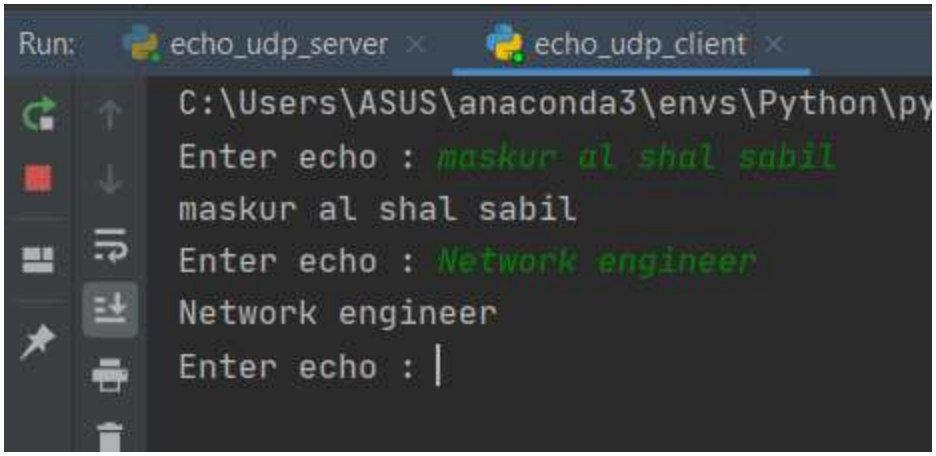
```
import  socket
udp_ip_address = "127.0.0.1"
udp_port_no=6789
serversocket=socket.socket(socket.AF_INET,socket.SOCK_DGRAM)
serversocket.bind((udp_ip_address,udp_port_no))
while True:
    data,address=serversocket.recvfrom(1024)
    print("Send echo: ",data.decode())
    serversocket.sendto(data,address)
```

Echo udp_client Code :

```
import socket
udp_ip_address="127.0.0.1"
udp_port_no=6789
while True:

    message = input("Enter echo : ")
    clientsocket= socket.socket(socket.AF_INET,socket.SOCK_DGRAM)
    clientsocket.sendto(message.encode(),(udp_ip_address,udp_port_no))
    mes,address=clientsocket.recvfrom(1024)
    print(mes.decode())
```

Output :



Conclusion :

Echo _using tcp:

The first example demonstrate the echo code using tcp protocol . where it use the socket.AF_INET which is the IPV4 and sock_stream for tcp protocol. Then it bind the server and waiting for the client request . Then it accept the message from client and then send the same message as the reply to the client .

On the client side the client accept the data send by server. Thus the echo successfully done.

Echo using _udp :

The second example demonstrate the echo example using udp protocol . where the server use the sock.DGRAM instead of sock_STREAM in the bind method. Then it accepts the data send by the client and reply the same message using sendto() method. Here udp doesn't wait for connection. In udp data send directly . which is connection less.

To do this exercise I'm taking help from : realpython.com, besides the book : Foundation of python network programming.