

EX.NO:2

TCP CLIENT-SERVER USING SOCKET PROGRAMMING IN PYTHON

AIM:

To implement TCP client-server communication using socket programming in python algorithm.

SERVER:

- 1.Create a socket using `socket.socket()`
- 2.Bind the socket to an IP and port using `bind()`.
- 3.Listen for client connections using `listen()`.
- 4.accept for client connection using `accept()`.
- 5.Receive data using `rev()`.
- 6.Send response using `send()`.
- 7.Close connection.

CLIENT:

- 1.Create a socket using `socket.socket()`.
- 2.Connect to server using `connect()`.
- 3.Send data using `send()`.
- 4.Receive response using `rev()`.
- 5.Close connection.

SERVER PROGRAM:

```
import socket
```

```
sockfd=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

```
print('Socket Created')
```

```
sockfd.bind(('localhost',55555))
```

```
sockfd.listen(3)
```

```
print('Waiting for connections')
```

```
while True:
```

```
    clientfd,addr=sockfd.accept()
```

```
    receivedMsg=clientfd.recv(1024).decode()
```

```
    print("Connected with ",addr)
```

```
    print("Message Received from Client: ",receivedMsg)
```

```
    clientfd.send(bytes(receivedMsg,'utf-8'))
```

```
    print("Message reply sent to Client!")
```

```
    print("Do you want to continue(type y or n):")
```

```
    choice=input()
```

```
    if choice=='n':
```

```
        break
```

CLIENT PROGRAM:

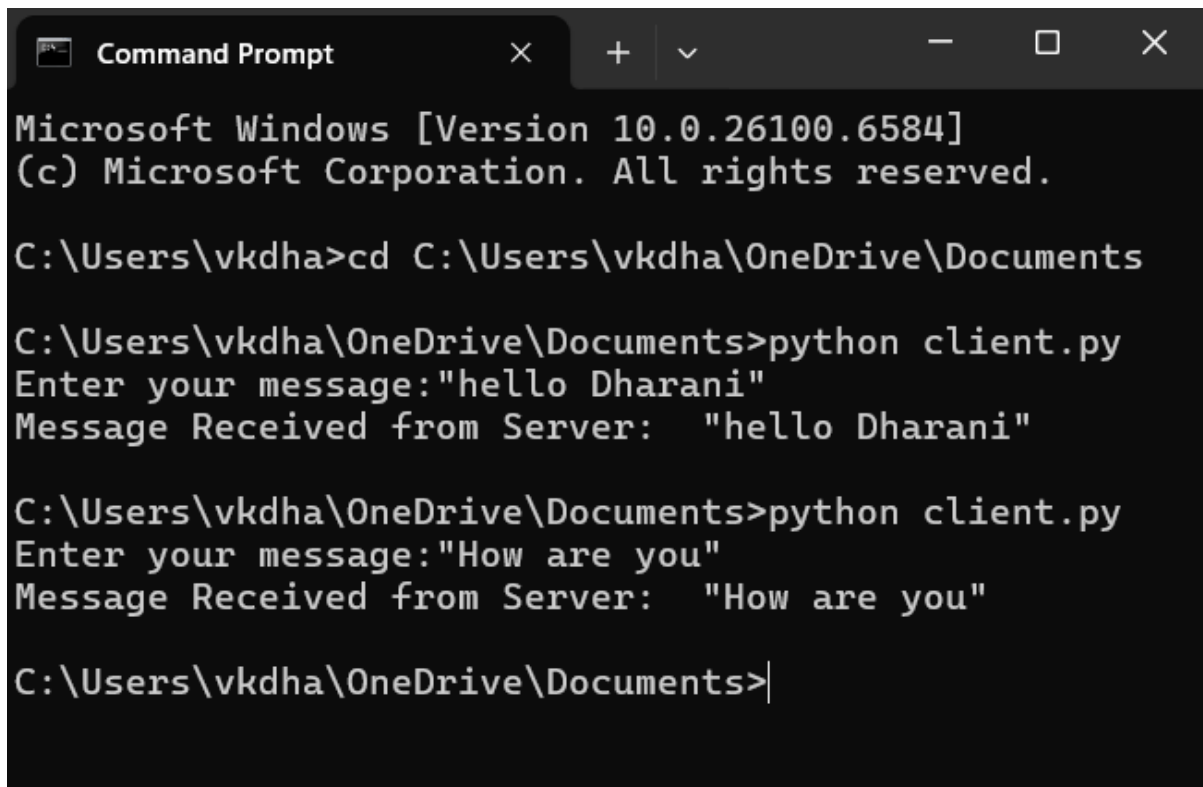
```
import socket
```

```
clientfd=socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

```
clientfd.connect(('localhost',55555))
```

```
name=input("Enter your message:")  
clientfd.send(bytes(name,'utf-8'))  
print("Message Received from Server: ",clientfd.recv(1024).decode())
```

INPUT:

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt" with standard window controls. The text inside shows the user navigating to the directory "C:\Users\vkdha\OneDrive\Documents" and running a Python script named "client.py". The script prompts for a message, and the user enters "hello Dharani" and "How are you". The script then prints the received message from the server, which matches the input.

```
Microsoft Windows [Version 10.0.26100.6584]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\vkdha>cd C:\Users\vkdha\OneDrive\Documents  
  
C:\Users\vkdha\OneDrive\Documents>python client.py  
Enter your message:"hello Dharani"  
Message Received from Server:  "hello Dharani"  
  
C:\Users\vkdha\OneDrive\Documents>python client.py  
Enter your message:"How are you"  
Message Received from Server:  "How are you"  
  
C:\Users\vkdha\OneDrive\Documents>|
```

OUTPUT:

```
Command Prompt - python × + ▾ − □ ×

Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

C:\Users\vkdha>cd C:\Users\vkdha\OneDrive\Documents

C:\Users\vkdha\OneDrive\Documents>python dharani.py
Socket Created
Waiting for connections
Connected with ('127.0.0.1', 63353)
Message Received from Client: "hello Dharani"
Message reply sent to Client!
Do you want to continue(type y or n):
y
Connected with ('127.0.0.1', 63378)
Message Received from Client: "How are you"
Message reply sent to Client!
Do you want to continue(type y or n):
y
|
```

RESULT:

Thus,TCP client-sever communication was successfully implemented using Python.

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