

Ex No: 2

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## 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:

```
o  
Microsoft Windows [Version 10.0.26100.4652]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Users\ramyadhivya>cd C:\Users\ramyadhivya\OneDrive\Documents  
  
C:\Users\ramyadhivya\OneDrive\Documents>python client.py  
Enter your message:Hello Dhivya  
Message Received from Server: Hello Dhivya  
  
C:\Users\ramyadhivya\OneDrive\Documents>
```

#### OUTPUT:

```
Microsoft Windows [Version 10.0.26100.4652]
(c) Microsoft Corporation. All rights reserved.

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

C:\Users\ramyadhivya\OneDrive\Documents>python server.py
Socket Created
Waiting for connections
Connected with ('127.0.0.1', 54680)
Message Received from Client: Hello Dhivya
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.