

Exp:no:3

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UDP CLIENT -SERVER COMMUNICATION USING SOCKET PROGRAMMING IN PYTHON

AIM:

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

ALGORITHM:

Server:

- 1.Create a socket using `socket.socket()`.
- 2.Bind the socket to IP and port using `bind()`.
- 3.Receive message using `recvfrom()`.
- 4.Send response using `sendto()`.
- 5.Close connection.

Client:

- 1.Create a socket using `socket.socket()`.
- 2.Send message to server using `sendto()`.
- 3.Receive response using `recvfrom()`.
- 4.Close connection.

PROGRAM:

Server:

```
import socket

sockfd = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)

print("UDP socket created")

sockfd.bind(("localhost", 55555))

print("Waiting for messages...")

while True:

    data, addr = sockfd.recvfrom(1024) # receive data

    receivedMsg = data.decode()

    print("Received message from", addr)

    print("Message:", receivedMsg)

    sockfd.sendto(data, addr)

    print("Message reply sent to client!")

    choice = input("Do you want to continue (y/n): ")

    if choice.lower() == 'n':

        break

sockfd.close()
```

Client:

```
import socket

clientfd = socket.socket(socket.AF_INET, socket.SOCK_DGRAM)

server_address = ("localhost", 55555)

name = input("Enter your message: ")
```

```
clientfd.sendto(name.encode(), server_address)

data, _ = clientfd.recvfrom(1024)

print("Message received from server:", data.decode())

clientfd.close()
```

OUTPUT:

Server:

```
Windows PowerShell
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PS C:\Users\user> cd C:\Users\user\OneDrive\Documents
PS C:\Users\user\OneDrive\Documents> python server.py
Server is listening...
Connected by ('127.0.0.1', 65189)
Client says: Hello UDP Server
PS C:\Users\user\OneDrive\Documents> |
```

Client:

```
Windows PowerShell
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PS C:\Users\user> cd C:\Users\user\OneDrive\Documents
PS C:\Users\user\OneDrive\Documents> python client.py
Enter message to send to server: Hello UDP Server
Server says: Server received your message
PS C:\Users\user\OneDrive\Documents> |
```

RESULT:

Thus , UDP client-server communication was successfully implemented using python.