

Using TCP/IP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

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Lab-10

Aim: Using TCP/IP sockets, write a client -server program to make client sending the filename and server to send back the contents of requested file if present.

Procedure:-

Server:-

- ① Open IDLE shell and create a new file.
- ② Now, write the python code for the server.
Server is provided with the Server name, and Server port.
- ③ Server has bind() method which binds to specific IP, through listen() method it will be in listening mode to listen to incoming connections. then at last server has accept() & close() method.
- ④ First of all, we import socket & make socket object & reserved a port on our pc.
- ⑤ We put server into listening mode. 5 means 5 connections are kept waiting if server is busy if 6th socket tries to connect it will be returned.
- ⑥ In the while loop, it accept all connections & close those connections after the message.
- ⑦ If we save the file & run the server will be ready to connect to server.

Client:- Now, run client.py

Program:-

Server.py

```
from socket import *
ServerName = "127.0.0.1"
ServerPort = 12000
```

```

ServerSocket = socket (AF_INET, SOCK_STREAM)
ServerSocket.bind ((serverName, serverPort))
ServerSocket.listen (1)

while (1):
    print ("The server is ready to receive")
    connectionSocket, addr = ServerSocket.accept()
    sentence = connectionSocket.recv (1024).decode()
    file = open (sentence, "r")
    l = file.read (1024)
    connectionSocket.send (l.encode())
    print ("Sent contents of " + sentence)
    file.close()
    connectionSocket.close()

```

Client.py :-

```

from socket import *
serverName = '127.0.0.1'
serverPort = 12000
clientSocket = socket (AF_INET, SOCK_STREAM)
clientSocket.connect ((serverName, serverPort))

sentence = input ("Enter file name : ")
clientSocket.send (sentence.encode())
filecontents = clientSocket.recv (1024).decode()
print ('From Server : \n' + filecontents)
print (filecontents)
clientSocket.close()

```

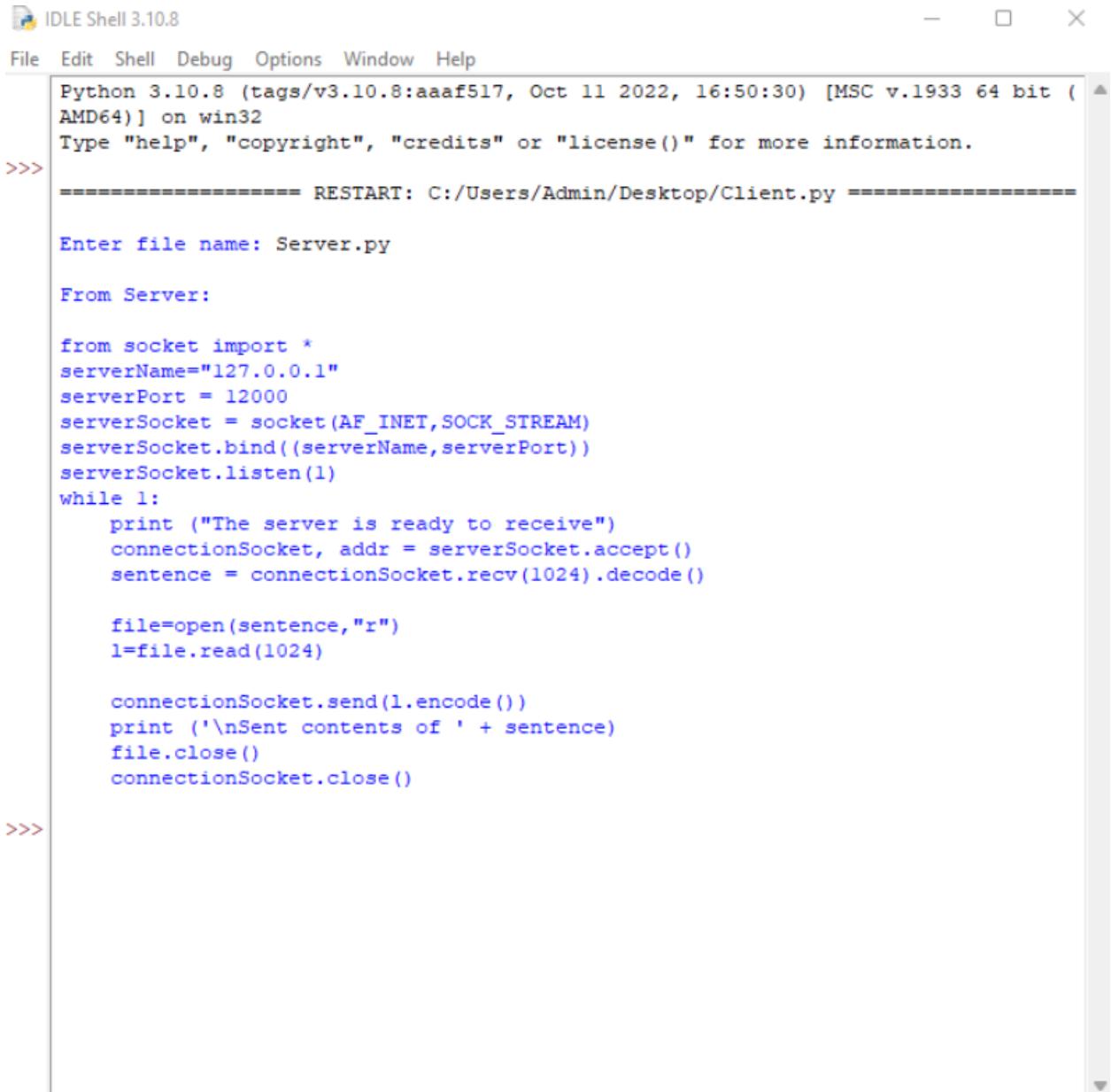
Observation:-

The client will be connected to server, & it will read the contents of the file.

Client Output:-
Enter file name : Server.py
contents of file shown

Server Output:-

The server is ready to receive
Sent contents of server.py



IDLE Shell 3.10.8

File Edit Shell Debug Options Window Help

```
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> ===== RESTART: C:/Users/Admin/Desktop/Client.py =====

Enter file name: Server.py

From Server:

from socket import *
serverName="127.0.0.1"
serverPort = 12000
serverSocket = socket(AF_INET,SOCK_STREAM)
serverSocket.bind((serverName,serverPort))
serverSocket.listen(1)
while 1:
    print ("The server is ready to receive")
    connectionSocket, addr = serverSocket.accept()
    sentence = connectionSocket.recv(1024).decode()

    file=open(sentence,"r")
    l=file.read(1024)

    connectionSocket.send(l.encode())
    print ('\nSent contents of ' + sentence)
    file.close()
    connectionSocket.close()

>>>
```

IDLE Shell 3.10.8

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```
Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>> ===== RESTART: C:/Users/Admin/Desktop/UDP/server.py =====
The server is ready to receive

Sent contents of server.py
```

Ln: 5 Col: 0

Using UDP sockets, write a client-server program to make client sending the file name and the server to send back the contents of the requested file if present.

Aim: Using UDP sockets, write a client-server program to make client sending the file name & server to send back the contents of requested file if present.

Program:-

Server.py.

```
from socket import *
servePort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", servePort))
print("The server is ready to receive")
while 1:
    sentence, clientAddress = serverSocket.recvfrom(2048)
    sentence = sentence.decode("utf-8")
    file = open(sentence, "r")
    con = file.read(2048)
    serverSocket.sendto(bytes(con, "utf-8"), clientAddress)
    print("\nSent contents of", end = ':')
    print(sentence)
    file.close()
```

Client.py

```
from socket import *
serverName = "127.0.0.1"
servePort = 12000
clientSocket = socket(AF_INET, SOCK_DGRAM)
sentence = input("In Enter file name: ")
clientSocket.sendto(sentence.encode("utf-8"), (serverName, servePort))
```

```
filecontents, serverAddress = clientSocket.recvfrom(2048)
print('In Reply from Server : \n')
print(filecontents.decode("utf-8"))
clientSocket.close()
clientSocket.close()
```

Observation:-

The client will be connected with the server.
Client will send the filename & Server will
Send the contents of requested file.

Output:

Client output :-

```
Enter the file name : server.py
# Contents of server file shown
```

Server output:-

```
The server is ready to receive
Sent contents of server.py
```

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```
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Python 3.10.8 (tags/v3.10.8:aaaf517, Oct 11 2022, 16:50:30) [MSC v.1933 64 bit (AMD64)] on win32
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>>> ===== RESTART: C:/Users/Admin/Desktop/UDP/client.py =====

Enter file name: server.py

Reply from Server:

from socket import *
serverPort = 12000
serverSocket = socket(AF_INET, SOCK_DGRAM)
serverSocket.bind(("127.0.0.1", serverPort))
print ("The server is ready to receive")
while 1:
    sentence, clientAddress = serverSocket.recvfrom(2048)
    sentence = sentence.decode("utf-8")
    file=open(sentence,"r")
    con=file.read(2048)

    serverSocket.sendto(bytes(con,"utf-8"),clientAddress)

    print ('\nSent contents of ', end = ' ')
    print (sentence)
#   for i in sentence:
#       print (str(i), end = '')
    file.close()

>>>

Ln: 29 Col: 0
```

IDLE Shell 3.10.8

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```
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Type "help", "copyright", "credits" or "license()" for more information.

>>> ===== RESTART: C:/Users/Admin/Desktop/Server.py =====
The server is ready to receive

Sent contents of Server.py
The server is ready to receive
```