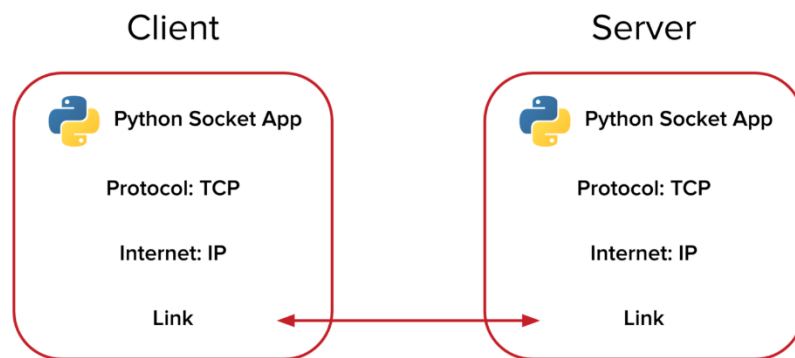


Assignment 09

2023PCS0034

Mohammad Faisal Sayed

Socket - Sockets allow communication between two different processes on the same or different machines. To be more precise, it's a way to talk to other computers using standard Unix file descriptors. In Unix, every I/O action is done by writing or reading a file descriptor. A file descriptor is just an integer associated with an open file and it can be a network connection, a text file, a terminal, or something else.

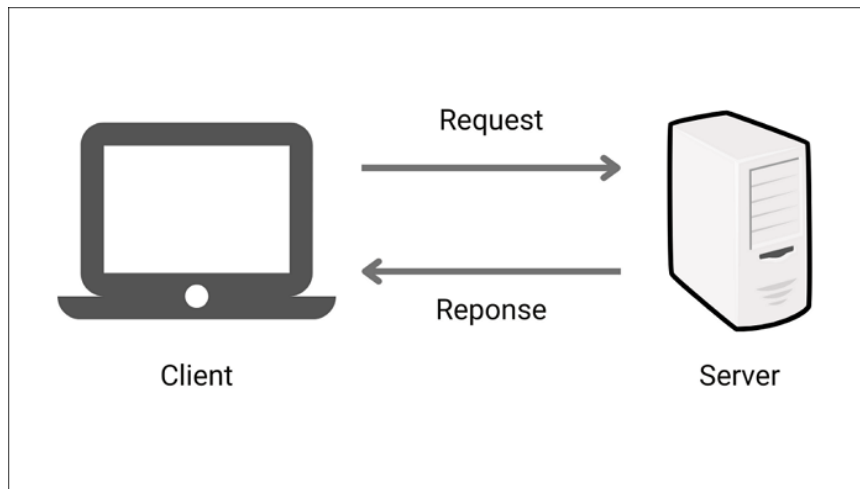


1. Server Implementation

- The server-side program is responsible for:
- Listening on a designated port for incoming client connections.
- Handling multiple client connections concurrently.
- Exchanging messages between the server and clients.
- Restricting the number of simultaneous connections to a defined maximum limit.

2. Client Implementation

- The client-side program allows users to:
- Connect to the server using the server's IP address and port number.
- Send messages to the server and receive responses.



The client-server communication program successfully establishes communication between a server and multiple clients. The server efficiently handles multiple connections while restricting the maximum number of simultaneous connections as specified.

Output:

```
client.py
1 import socket
2

PS D:\M.Tech\Computer-Systems\20230CS0034_Mohd-Faisal-Assignment09> python client.py
Enter message to send: Hi I am client one
Server response: Message received
Enter message to send: Hello client 2
Server response: Message received
Enter message to send:

PS D:\M.Tech\Computer-Systems\20230CS0034_Mohd-Faisal-Assignment09> python server.py
Server is listening...
Connected: 1 clients connected.
Connected: 2 clients connected.
Received from client: Hi I am client one
Received from client: Hi there, I am client 2
Received from client: Hello client 2
Received from client: Hello client 1
```

File Edit Selection View Go Run ...

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server.py client.py x

client.py > ...
1 import socket
2

TERMINAL PROBLEMS OUTPUT DEBUG CONSOLE PORTS

PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment09> ls

Directory: D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment09

Mode	LastWriteTime	Length	Name
-a----	23-11-2023 02:38 PM	467	client.py
-a----	23-11-2023 02:38 PM	1606	server.py

PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment09> python .\server.py
Server is listening...
Connected: 1 clients connected.
Connected: 2 clients connected.
Received from client: Hi I am client one
Received from client: Hi there, I am client 2
Received from client: Hello client 2
Received from client: Hello client 1
Disconnected: 1 clients remaining.
Disconnected: 0 clients remaining.

PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment09> python .\client.py
Enter message to send: Hi I am client one
Server response: Message received
Enter message to send: Hello client 2
Server response: Message received
Enter message to send: Traceback (most recent call last):
File "client.py", line 16, in module
start_client()
File ".\client.py", line 9, in start_client
message = input("Enter message to send: ")
KeyboardInterrupt
PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment09>

PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment08> python .\client.py
Enter message to send: Hi there, I am client 2
Server response: Message received
Enter message to send: Hello client 1
Server response: Message received
Enter message to send: Traceback (most recent call last):
File "client.py", line 16, in module
start_client()
File ".\client.py", line 9, in start_client
message = input("Enter message to send: ")
KeyboardInterrupt
PS D:\M.Tech\Computer-Systems\2023OCS0034_Mohd-Faisal-Assignment08>

Ln 17, Col 1 (447 reflected) Spaces: 4 UTF-8 CRLF Python 3.7.4 32-bit Go Live