**Server Code (For All 3 Servers)**

Each server listens for connections, receives messages, and responds.

**Create server1.py**

import socket

HOST = "127.0.0.1"

PORT = 5001 # Unique port for Server 1

def start\_server():

server = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

server.bind((HOST, PORT))

server.listen()

print(f"[SERVER 1] Listening on {HOST}:{PORT}")

while True:

conn, addr = server.accept()

data = conn.recv(1024).decode()

print(f"[SERVER 1] Received: {data}")

conn.send(f"Server 1 Response: {data}".encode())

start\_server()

**Create server2.py**

import socket

HOST = "127.0.0.1"

PORT = 5002 # Unique port for Server 2

def start\_server():

server = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

server.bind((HOST, PORT))

server.listen()

print(f"[SERVER 2] Listening on {HOST}:{PORT}")

while True:

conn, addr = server.accept()

data = conn.recv(1024).decode()

print(f"[SERVER 2] Received: {data}")

conn.send(f"Server 2 Response: {data}".encode())

start\_server()

**Create server3.py**

import socket

HOST = "127.0.0.1"

PORT = 5003 # Unique port for Server 3

def start\_server():

server = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

server.bind((HOST, PORT))

server.listen()

print(f"[SERVER 3] Listening on {HOST}:{PORT}")

while True:

conn, addr = server.accept()

data = conn.recv(1024).decode()

print(f"[SERVER 3] Received: {data}")

conn.send(f"Server 3 Response: {data}".encode())

start\_server()

**📌 Client Code (client.py)**

This client connects to all three servers and sends a "Hello" message.

import socket

# Server addresses and ports

SERVERS = [

("127.0.0.1", 5001),

("127.0.0.1", 5002),

("127.0.0.1", 5003)

]

MESSAGE = "Hello from Client"

def send\_message(server\_host, server\_port):

"""Connect to a server and send a message."""

client = socket.socket(socket.AF\_INET, socket.SOCK\_STREAM)

try:

client.connect((server\_host, server\_port))

client.send(MESSAGE.encode())

response = client.recv(1024).decode()

print(f"Response from {server\_host}:{server\_port} -> {response}")

except ConnectionRefusedError:

print(f"Could not connect to {server\_host}:{server\_port}")

finally:

client.close()

# Send message to all servers

for host, port in SERVERS:

send\_message(host, port)

**How to Run?**

python server1.py

python server2.py

python server3.py

python client.py