ASSIGNMENT-6

Topology Code :

```
from mininet.net import Mininet
from mininet.node import Controller, OVSController
from mininet.cli import CLI
from mininet.link import TCLink
from mininet.log import setLogLevel, info

net = Mininet()

h1 = net.addHost( 'h1' )
h2 = net.addHost( 'h2' )
h3 = net.addHost( 'h3' )
h4 = net.addHost( 'h4' )

s1 = net.addSwitch( 's1' )
s2 = net.addSwitch( 's2' )

net.addLink( h1, s1, bw=20, delay='10ms' )
net.addLink( h2, s1, bw=20, delay='10ms' )
net.addLink( h3, s2, bw=20, delay='10ms' )
net.addLink( h4, s2, bw=20, delay='10ms' )
net.addLink( s1, s2, bw=50, delay='10ms' )


net.start()
CLI( net )
net.stop()
```

Server Code :

```
import socket

HOST = '10.0.0.'
PORT = 5000

hostlist = ['1', '2']
hst = input("Which host to serve? [1, 2]    ")

while (hst not in hostlist):
    hst = input("Which host to serve? [1, 2]    ")

HOST += hst
print("Listening at ", HOST, ":", PORT)

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
    s.bind((HOST, PORT))
    s.listen()
    conn, addr = s.accept()
    with conn:
        while True:
            data = conn.recv(1024).decode()
            print("\n[Client] : ", data, "\n")
            message = input("Type a message: ")
            conn.sendall(message.encode())
```

Client Code :

```python
import socket

HOST = '10.0.0.'
PORT = 5000

hostlist = ['1', '2']
hst = input("Which host to connect? [1, 2]  ")

while (hst not in hostlist):
    hst = input("Which host to connect? [1, 2]  ")

HOST += hst
print("Connecting to ", HOST, ":", PORT)

with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
    s.connect((HOST, PORT))
    while True:
        message = input("Type a message: ")
        s.sendall(message.encode())
        data = s.recv(1024).decode()
        print("\n[Server] : ", data, "\n")
```

Output Screenshot with terminal code and Xterms for H1 and H2 :