

EE533 Network Processor Design & Programming

Lab #1: Familiarity with VM & Sockets

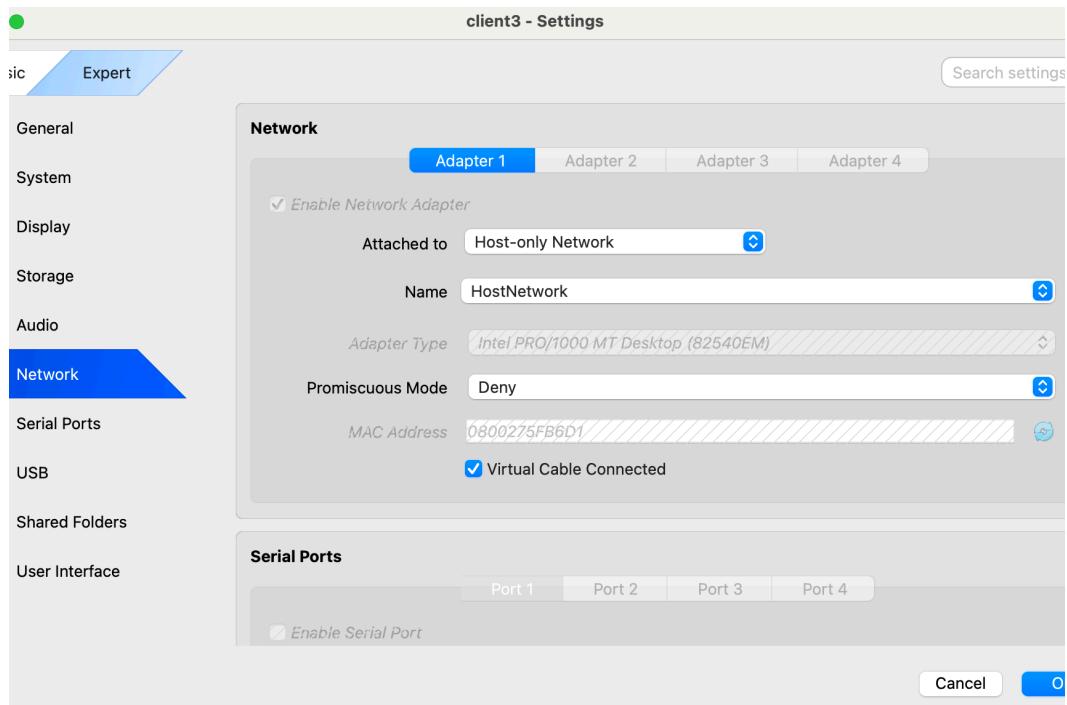
Instructor: Prof. Young Cho

Name: Prathamesh Giriraj Hirekodi

GITHUB LINK to my REPOSITORY

GITHUB: <https://github.com/prathamesh-hirekodi/EE533/tree/main/LAB1>

- A. Environment: Virtual box using Ubuntu 22.04 Arm 64 iso image
 B. Host OS: Mac OS
 Networking: **1) Two VMs for Internet domain**



Selected Host only Network

The screenshot shows the 'Host Only Networks' tab in the VirtualBox Manager. On the left is a tree view with icons for Host Only, Bridged Adapter, and NAT Adapter. The main area displays a table of host-only networks:

Name	Mask	Lower Bound	Upper Bound
HostNetwork	255.255.255.0	192.168.56.1	192.168.56.199

At the bottom, there are input fields for 'Name:' (HostNetwork) and 'Mask:' (255.255.255.0).

Added Host Network

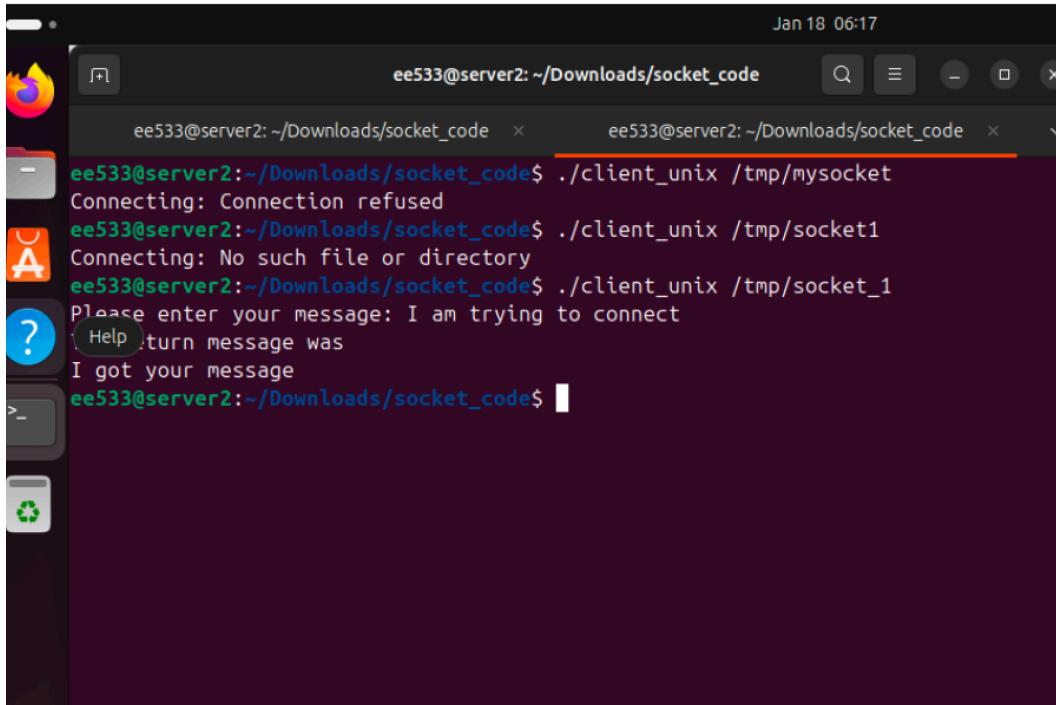
```
ee533@server2:~/Downloads/socket_code$ ./server 51515
Here is the message: I am trying to connect
ee533@server2:~/Downloads/socket_code$
```

Server Side

```
ee533@client3:~/Downloads/socket_code$ ./client 192.168.56.2 51515
Please enter the message: I am trying to connect
I got your message
ee533@client3:~/Downloads/socket_code$
```

Client Side

2) Single VM for Unix domain



ee533@server2:~/Downloads/socket_code\$./client_unix /tmp/mysocket
Connecting: Connection refused
ee533@server2:~/Downloads/socket_code\$./client_unix /tmp/socket1
Connecting: No such file or directory
ee533@server2:~/Downloads/socket_code\$./client_unix /tmp/socket_1
Please enter your message: I am trying to connect
The return message was
I got your message
ee533@server2:~/Downloads/socket_code\$

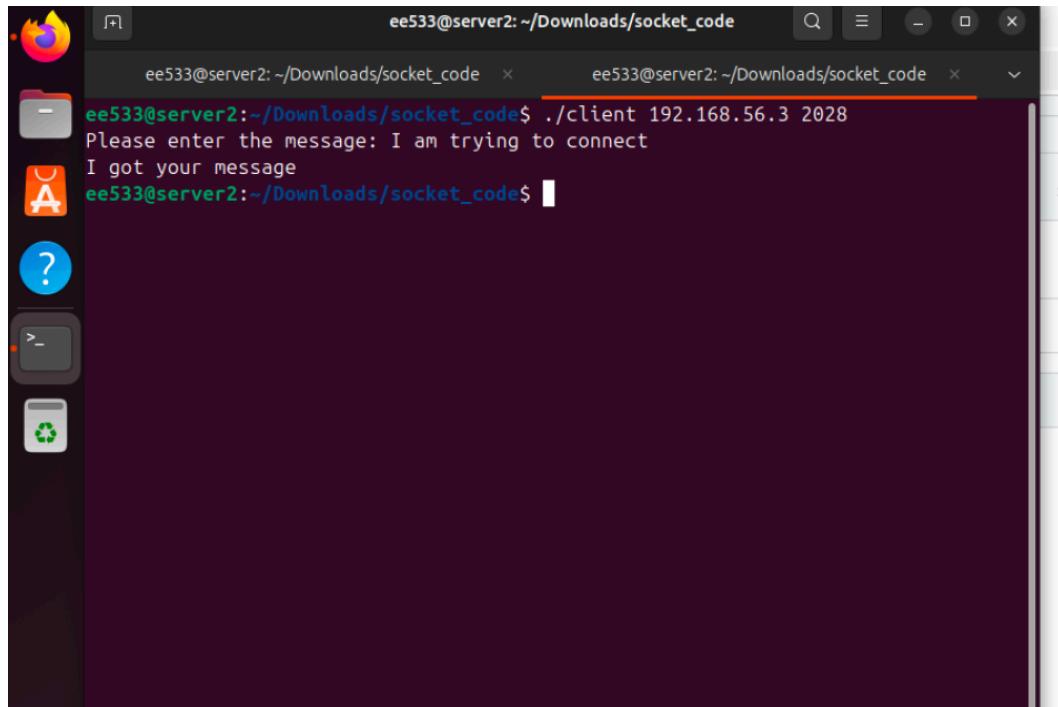
Server Side

```
Connecting: No such file or directory  
ee533@server2:~/Downloads/socket_code$ ./client_unix /tmp/my_socket3  
Please enter your message: I am trying to connect  
The return message was  
I got your message  
ee533@server2:~/Downloads/socket_code$
```

Client Side

3) Multi Client Server Enhanced - Internet Domain communication [Between two VMs]

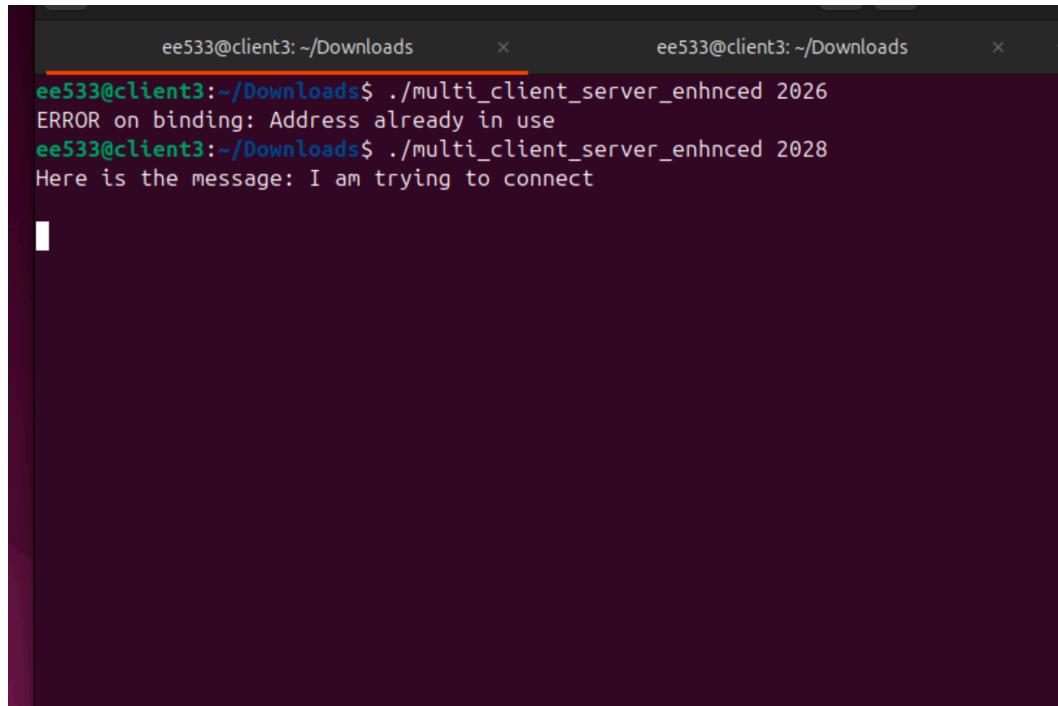
There are multiple requests from client side like the one below, couldnt capture screenshot.



A terminal window titled "ee533@server2: ~/Downloads/socket_code". It contains the following text:

```
ee533@server2:~/Downloads/socket_code$ ./client 192.168.56.3 2028
Please enter the message: I am trying to connect
I got your message
ee533@server2:~/Downloads/socket_code$
```

Client Side



A terminal window titled "ee533@client3: ~/Downloads". It contains the following text:

```
ee533@client3:~/Downloads$ ./multi_client_server_enhncd 2026
ERROR on binding: Address already in use
ee533@client3:~/Downloads$ ./multi_client_server_enhncd 2028
Here is the message: I am trying to connect
```

Server Side