

EE 533 – Laboratory #1

Instructor: Young H. Cho

Students: Jiansong Li

Github link: <https://github.com/JiansongL/EE533/tree/main/lab1>

In this lab, I set up two virtual machine nodes running Ubuntu:

```
moliusha@moliusha:~/EE533/lab1$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 24.04.3 LTS
Release:        24.04
Codename:       noble
```

```
jackson@moliusha:~/EE533/lab1$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 24.04.3 LTS
Release:        24.04
Codename:       noble
```

I run the provided socket code to show it works:

```
jackson@moliusha:~/EE533/lab1$ ./server 51717
Here is the message: hello
```

```
moliusha@moliusha:~/EE533/lab1$ ./client 192.168.191.20 51717
Please enter the message: hello
I got your message
moliusha@moliusha:~/EE533/lab1$ █
```

This shows the simple server/client process.

Enhancements to the server code

I emphasized the enhancement of the server code to keep the host listening to the client all the time:

```

moliusha@moliusha:~/EE533/lab1$ ./client 192.168.191.20 51717
Please enter the message: hello
I got your message
moliusha@moliusha:~/EE533/lab1$ ./client 192.168.191.20 51717
Please enter the message: this is lab1
I got your message
moliusha@moliusha:~/EE533/lab1$ this is the demo of the enhancement to the server code
Command 'this' not found, did you mean:
  command 'thin' from deb thin (1.8.1-2ubuntu1)
Try: sudo apt install <deb name>
moliusha@moliusha:~/EE533/lab1$ ./client 192.168.191.20 51717
Please enter the message: this is the demo of the enhancement to the server code
I got your message
moliusha@moliusha:~/EE533/lab1$ █

```

```

jackson@moliusha:~/EE533/lab1_server$ ./server 51717
Here is the message: hello

Here is the message: this is lab1

Here is the message: this is the demo of the enhancement to the server code
█

```

Alternative types of sockets

UDP server and Client:

```

moliusha@moliusha:~/EE533/lab1_client$ ./UDP_client 192.168.191.20 51717
Please enter the message: hello
Got an ack: Got your message
moliusha@moliusha:~/EE533/lab1_client$ ./UDP_client 192.168.191.20 51717
Please enter the message: here is the UDP message
Got an ack: Got your message
moliusha@moliusha:~/EE533/lab1_client$ ./UDP_client 192.168.191.20 51717
Please enter the message: bye
Got an ack: Got your message
moliusha@moliusha:~/EE533/lab1_client$ █

```

```

jackson@moliusha:~/EE533/lab1_server$ ./UDP_server 51717
Received a datagram: hello
Received a datagram: here is the UDP message
Received a datagram: bye
█

```

Sockets in the Unix Domain

```

jackson@moliusha:~/EE533/lab1_server$ ./Unix_server /tmp/unix_socket
A connection has been established
hello

```

```
jackson@moliusha:~/EE533/lab1_server$ ./Unix_client /tmp/unix_socket
Please enter your message: hello
The return message was
I got your message
```