

Computer Networks, Fall 2022

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Lab 1: A simple TCP client-server application

Finish by: Feb 11 Part-I and Feb 18 Part-II

In this lab, you will gain familiarity with socket programming by modifying the a simple client-server code provided in the textbook. *This lab is to be done individually.*

1 Part - I

1.1 Running the sample code - 30%

Save the client-server code of Section 1.4.2, `client.c` and `server.c`, in separate folders (helpful for doing Part-II). Compile and test the client-server code. For compiling, you can invoke:

```
gcc srcfilename -o execfilename
```

Use the client-server program to chat with your neighbor! We will announce the address of a test server that we'll be running in the lab. To get credit for this part, send from your client your name to the test server.

1.2 Make the client connect to a specified address - 30%

Modify the server code so that it binds to a specified address instead of `INADDR_ANY`. Test the code using your IP address. You can find out your IP address by issuing `ifconfig -a`.

2 Part-II

Requesting and receiving files - 40%

Modify the code to support the following sequence of instructions:

1. Client establishes connection
2. The server sends "Hello"
3. The client may send any number of file requests. The client makes the requests by sending a filename, one at a time.
4. If the server has the file, it sends "OK" followed by the file. Otherwise, it sends "File not found" message. The server should keep displaying all requests and sent messages on the terminal.
5. The client terminates the session by sending "Bye"

Submission and demo Show your Part-I work to TA. For Part-II, submit your code by 2 PM on the respective due dates. For demo, have the following two files ready to be sent by your server:

1. File `name.txt` that contains your name, AU ID and email address
2. Your photo in a file named `photo.jpg`