Programming Assignment

Due Date - Jan 31, 2021

Objectives

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1. Learn to create a network client.

2. Learn how packets can be sent over the network.

3. Familiarize you with the concept of sockets.

4. Use packet capture to visually inspect protocols.

Client Specifications

$ client -s <SERVER-IP> -p <PORT> -l LOGFILE

The client takes three arguments:

1.Server IP - The IP address of the server.

2.PORT - The port the server listens on.

2.Log file location - Where you will keep a record of packets you received.

For example:
$ client -s 192.168.2.1 -p 6543 -l LOGFILE

2. The client must parse three command line arguments, server, port, and logfile.

3. The client should connect to the server on the specified port.

4. Send a string to the server.

5. Server is currently hosted on IP "34.75.112.195", Port: "8001". ***The IP may change. If you get a connection refused, notify the instructor.***

6. Receive the server's reply, log the reply, and gracefully shutdown the socket.

8. **Turn in the following as a ZIP file:**
   a. **The client code (60 points)**
   b. **The client's log (20 points)**
   c. **Use TCPDUMP or Wireshark to capture the interactions, turn in the .pcap file (20 points)**

Pseudo code

```
main client class():

      ##you may create separate modules for each of these

      Step 1: #read command line arguments, IP and port
      ##sanity check inputs

      Step 2: #Create a socket object, use TCP socket(SOCK_STREAM)
for this assignment
      ##Check for errors

      Step 3: #Connect to the IP and port read from command line
      ##handle connection failure


      Step 4: #read a message from user


      Step 5: #Send message to the server


      Step 6:#receive message from the server
```

```
#Easter egg: You need to send a specific word to receive a
message. Try to guess. If you can't guess, ask the instructor.


#print message
```