

Indian Institute of Information Technology, Allahabad.

Course: Computer Networks (CNE532)

Batch: B.Tech (IT) Section 2

Lab Assignment #2

Lab Sessions: 14.08.2019

Deadline: 21.08.2019

1. You need to build a very simple client-server operation using the Stream capabilities. You are to build a client and server pair, to implement your own little directory service. Suppose that the server has the following database

**0 Bob
3 Anne
5 Barb
7 Ray
9 Denbigh
10 Terri
104 John**

This can be in a file that is read. The client is to read a request, which is a numeric address to be sent to the server. The servers look up the matching name and send it back to the client to be printed out. If the address isn't found, the server should send back an error message. For example, "Address not found".

2. (Simple File Transfer) Write a client server application in which client request a file to server and server send requested file to client using stream socket. Design a suitable protocol for message exchange as above as suggested in the problem 1 above, so that client and server can communicate efficiently and server can ask different option to the client.
3. Write a concurrent server application in which multiple clients can request files to server and server send requested file to client using stream socket. Design a suitable protocol for message exchange as above as suggested in the Assignment #2, so that client and server can communicate efficiently and server can ask different option to the client. (Hint: Use fork() system call).
4. Write a client-server program that provides voice chat facility using datagram socket. Your application allows a user on one machine to talk to a user on another machine. Your application should provide non blocking chat facility to the users. This means, user can send its message at any time without waiting for replay from the other side. (Hint: Use fork() system call).

CAUTION: DO NOT LEAVE PROCESSES RUNNING THAT ARE UNNECESSARY!!

Use the kill command to kill processes. If you don't know the pid, use the ps command to get a list of currently running processes.