

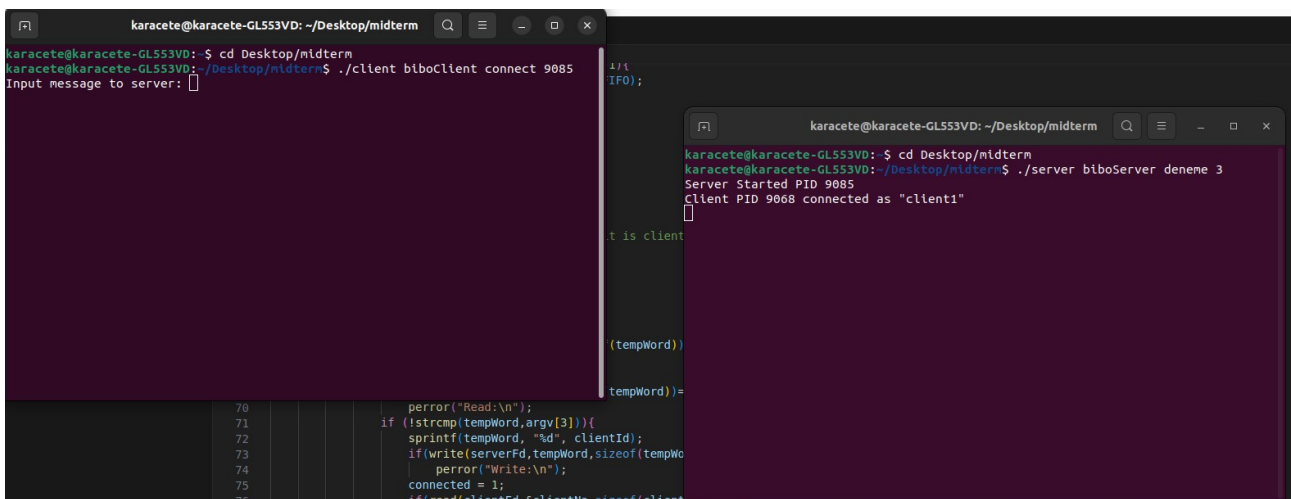
System Programing Midterm

My system design is;

My server has 2 fifos. 1 is serverFd. I use this fifo for read information from clients. And other fifo is clientFd. I used this fifo for write to the client information. All of my clients has own fifos. One is serverFd fifo. I used this fifo for writing to the server. And other fifo is clientFd fifo. User it for communicate with server and read informations from server. We think our server has 2 client slot. If two client connected to server and another client tries to connect to the server with connect command, server push this client to the queue and until one client finish it's job and exit, this client can not communicate with server.

Implementantion details:

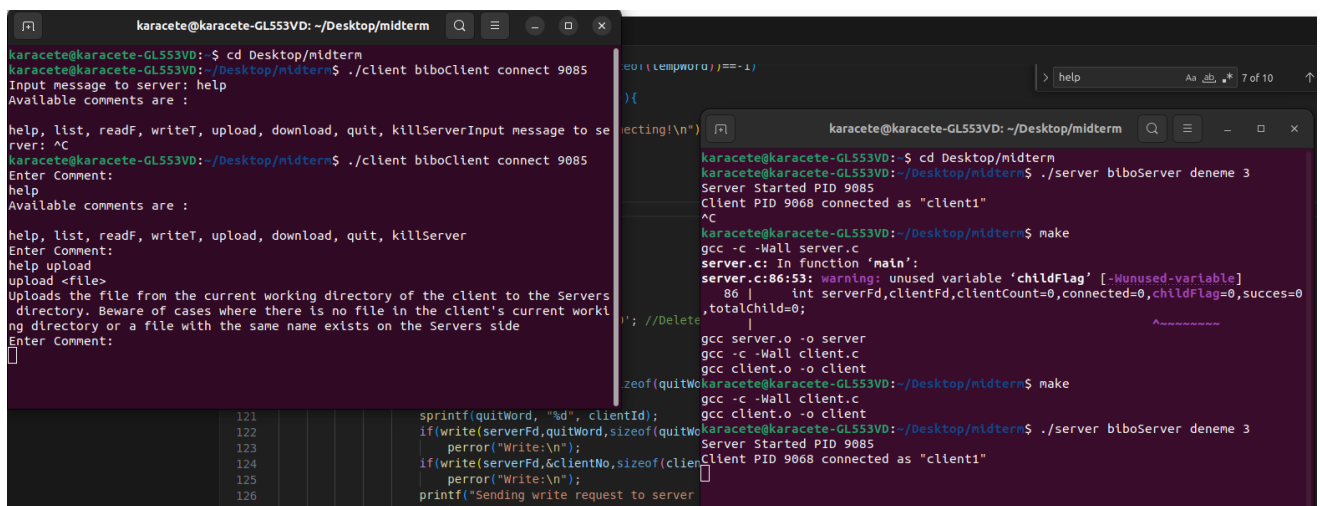
I created fifo.h header for hide paths of client and server fifos. I create a displayCommandDetails function for showing user commands in program. Firstly I am getting my parent's pid and send it to the client. If client joins correct pid it can connect and communicate with server. In this situation I fork server for every connected client. Each client communicates with server's child. Clients only communicate with parent connecting situation. But if client trying to join wrong pid, it gets an error.



The screenshot shows two terminal windows. The left window shows the execution of the biboClient program, which connects to the server at PID 9085. The right window shows the execution of the biboServer program, which starts at PID 9085 and reports that client PID 9068 connected as "client1".

```
karacete@karacete-GL553VD: ~/Desktop/midterm
karacete@karacete-GL553VD: $ cd Desktop/midterm
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./client biboClient connect 9085
Input message to server:

karacete@karacete-GL553VD: ~/Desktop/midterm
karacete@karacete-GL553VD: $ cd Desktop/midterm
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./server biboServer deneme 3
Server Started PID 9085
Client PID 9068 connected as "client1"
```

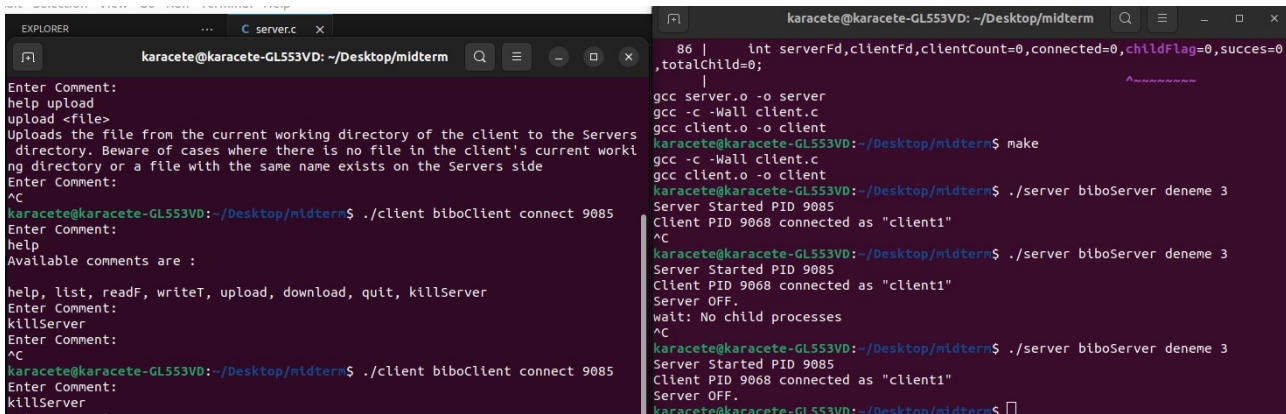


The screenshot shows two terminal windows. The left window shows the execution of the biboClient program, which connects to the server at PID 9085 and displays a list of available commands: help, list, readF, writeF, upload, download, quit, killServer. The right window shows the execution of the biboServer program, which starts at PID 9085 and reports that client PID 9068 connected as "client1".

```
karacete@karacete-GL553VD: ~/Desktop/midterm
karacete@karacete-GL553VD: $ cd Desktop/midterm
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./client biboClient connect 9085
Input message to server: help
Available comments are :
help, list, readF, writeF, upload, download, quit, killServer
Enter Comment: ^C
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./client biboClient connect 9085
help
Available comments are :
help, list, readF, writeF, upload, download, quit, killServer
Enter Comment:
help upload
help upload
upload <file>
Uploads the file from the current working directory of the client to the Servers
directory. Beware of cases where there is no file in the client's current work
ing directory or a file with the same name exists on the Servers side
Enter Comment:
^C

karacete@karacete-GL553VD: ~/Desktop/midterm
karacete@karacete-GL553VD: $ cd Desktop/midterm
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./server biboServer deneme 3
Server Started PID 9085
Client PID 9068 connected as "client1"
^C
karacete@karacete-GL553VD: ~/Desktop/midterm$ make
gcc -c -Wall server.c
server.c: In function 'main':
server.c:86:53: warning: unused variable 'chldFlag' [-Wunused-variable]
86 |         int serverFd, clientFd, clientCount=0, connected=0, chldFlag=0, succes=0
    |                                         ^~~~~~
totalChld=0;
gcc server.o -o server
gcc -c -Wall client.c
gcc client.o -o client
karacete@karacete-GL553VD: ~/Desktop/midterm$ make
gcc -c -Wall client.c
gcc client.o -o client
karacete@karacete-GL553VD: ~/Desktop/midterm$ ./server biboServer deneme 3
Server Started PID 9085
Client PID 9068 connected as "client1"
```

If client send killServer, then server get shutdown.



```
karacete@karacete-GL553VD: ~/Desktop/midterm
Enter Comment:
help upload
upload <file>
Uploads the file from the current working directory of the client to the Servers
directory. Beware of cases where there is no file in the client's current worki
ng directory or a file with the same name exists on the Servers side
Enter Comment:
^C
karacete@karacete-GL553VD:~/Desktop/midterm$ ./client biboClient connect 9085
Enter Comment:
help
Available comments are :
help, list, readF, writeT, upload, download, quit, killServer
Enter Comment:
killServer
Enter Comment:
^C
karacete@karacete-GL553VD:~/Desktop/midterm$ ./client biboClient connect 9085
Enter Comment:
killServer

86 | int serverFd,clientFd,clientCount=0,connected=0,childFlag=0,succes=0
, totalChild=0;
gcc server.o -o server
gcc -c -Wall client.c
gcc client.o -o client
karacete@karacete-GL553VD:~/Desktop/midterm$ make
gcc -c -Wall client.c
gcc client.o -o client
karacete@karacete-GL553VD:~/Desktop/midterm$ ./server biboServer denene 3
Server Started PID 9085
Client PID 9068 connected as "client1"
^C
karacete@karacete-GL553VD:~/Desktop/midterm$ ./server biboServer denene 3
Server Started PID 9085
Client PID 9068 connected as "client1"
Server OFF.
wait: No child processes
^C
karacete@karacete-GL553VD:~/Desktop/midterm$ ./server biboServer denene 3
Server Started PID 9085
Client PID 9068 connected as "client1"
Server OFF.
karacete@karacete-GL553VD:~/Desktop/midterm$
```

I only can do that.