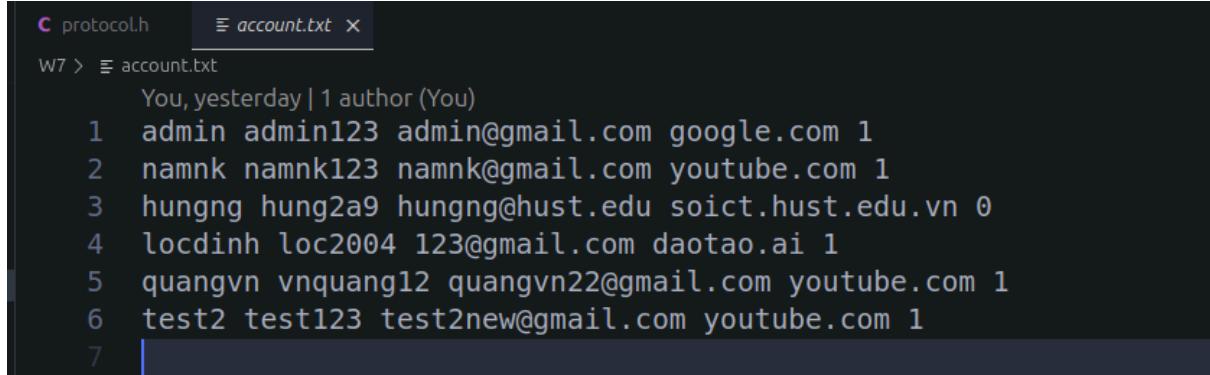


Báo cáo Week 7 - Thực hành Lập trình mạng - Kỳ 2025.1

Nguyễn Khánh Nam - 20225749

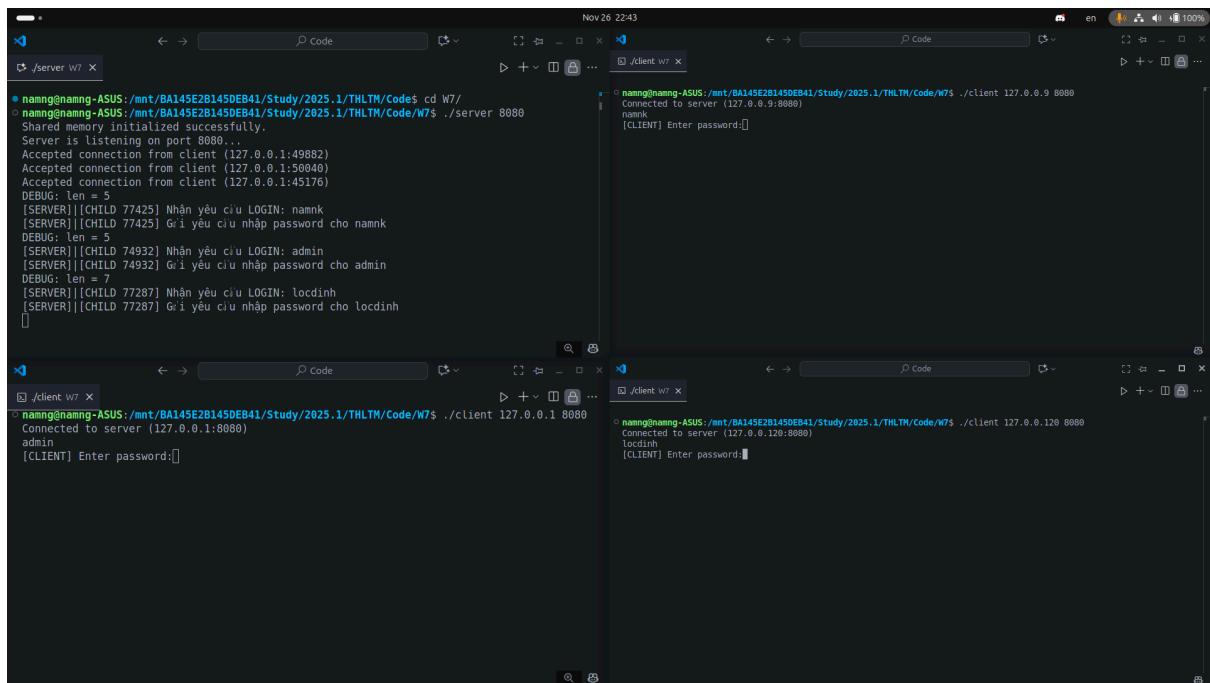
Github: https://github.com/nammannam/IT4062_Network_Programming

File account.txt:



```
protocol.h  account.txt x
W7 > account.txt
You, yesterday | 1 author (You)
1 admin admin123 admin@gmail.com google.com 1
2 namnk namnk123 namnk@gmail.com youtube.com 1
3 hungng hung2a9 hungng@hust.edu soict.hust.edu.vn 0
4 locdinh loc2004 123@gmail.com daotao.ai 1
5 quangvn vnquang12 quangvn22@gmail.com youtube.com 1
6 test2 test123 test2new@gmail.com youtube.com 1
7 |
```

Kết quả: Mô hình 1 Server - 3 Clients



```
Nov 26 22:43
server w7
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud... cd W7/
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud... ./server 8080
Shared memory initialized successfully.
Server is listening on port 8080...
Accepted connection from client (127.0.0.1:49882)
Accepted connection from client (127.0.0.1:50040)
Accepted connection from client (127.0.0.1:49176)
DEBUG: len = 5
[SERVER] [[CHILD 77425]] Nhận yêu cầu LOGIN: namnk
[SERVER] [[CHILD 77425]] Gửi yêu cầu nhập password cho namnk
DEBUG: len = 5
[SERVER] [[CHILD 74932]] Nhận yêu cầu LOGIN: admin
[SERVER] [[CHILD 74932]] Gửi yêu cầu nhập password cho admin
DEBUG: len = 5
[SERVER] [[CHILD 77287]] Nhận yêu cầu LOGIN: locdinh
[SERVER] [[CHILD 77287]] Gửi yêu cầu nhập password cho locdinh

/client w7
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud... ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
admin
[CLIENT] Enter password:[]

/client w7
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud... ./client 127.0.0.120 8080
Connected to server (127.0.0.120:8080)
locdinh
[CLIENT] Enter password:[]
```

Nov 26 22:43

```

Shared MEMORY initialized successfully.
DEBUG: len = 8
[SERVER] [[CHILD 74932]] Nhận password cho username: admin
[SHARED MEM] Added client: admin (PID: 74932)
[SERVER] [[CHILD 74932]] Đăng nhập thành công: admin
[AUTH LOG] Login success: admin from 127.0.0.1:49882
DEBUG: len = 3
[SERVER] [[CHILD 77287]] Nhận password cho username: locdinh
[SERVER] [[CHILD 77287]] Password sai cho: locdinh (Attempts: 1/3)
[AUTH LOG] Login failed: locdinh from 127.0.0.1:50040 - wrong password
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận yêu cầu LOGIN: locdinh
[SERVER] [[CHILD 77287]] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận password cho username: locdinh
[SHARED MEM] Added client: locdinh (PID: 77287)
[SERVER] [[CHILD 77287]] Đăng nhập thành công: locdinh
[AUTH LOG] Login success: locdinh from 127.0.0.1:50040

```



```

namng@namng-ASUS:/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
admin
[CLIENT] Enter password:admin123
[CLIENT] Server CONFIRM (0x11): admin

```

+ Lệnh who, help

Nov 26 22:44

```

Shared MEMORY initialized successfully.
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận yêu cầu LOGIN: locdinh
[SERVER] [[CHILD 77287]] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận password cho username: locdinh
[SHARED MEM] Added client: locdinh (PID: 77287)
[SERVER] [[CHILD 77287]] Đăng nhập thành công: locdinh
[AUTH LOG] Login success: locdinh from 127.0.0.1:50040
DEBUG: len = 0
[SERVER] [[CHILD 77425]] Nhận yêu cầu WHO từ [namnk]
[SERVER] [[CHILD 77425]] Gửi danh sách: namnk, admin, locdinh
DEBUG: len = 0
[SERVER] [[CHILD 74932]] Nhận yêu cầu HELP từ [admin]
[SERVER] [[CHILD 74932]] Gửi HELP message
DEBUG: len = 0
[SERVER] [[CHILD 77287]] Nhận yêu cầu WHO từ [locdinh]
[SERVER] [[CHILD 77287]] Gửi danh sách: namnk, admin, locdinh

```



```

namng@namng-ASUS:/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./Client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
admin
[CLIENT] Enter password:admin123
[CLIENT] Server CONFIRM (0x11): admin
help
[CLIENT] Server CONFIRM (0x11):
== AVAILABLE COMMANDS ==
who   Display list of logged-in users
help  . Display this help message
bye   . Logout and disconnect
=====
```

+ Dang xuat he thong

The screenshot shows three terminal windows. The top window is titled '/server w7' and displays log messages from a server process. It includes details about shared memory initialization, message exchange between 'namk' and 'locdinh' users, and a successful logout. The middle window is titled '/client w7' and shows a client connecting to the server, entering a password, and receiving a deny response due to incorrect input. The bottom window is also titled '/client w7' and shows another client attempting to log in with the same password, also receiving a deny response.

```
Shared memory initialized successfully.
[SERVER] [[CHILD 77287]] Gửi danh sách: namk, admin, locdinh
DEBUG: len = 3
[SERVER] [[CHILD 77287]] Nhận TEXT từ [locdinh] : bye
Received message from locdinh: Type=0x10, Length=3, Value="bye"
[SERVER] [[CHILD 77287]] Gửi phản hồi: CONFIRM sau khi lưu log
[CHILD 77287] Client (127.0.0.1:50840) sent bye command.
[AUTH LOG] Logout: locdinh from 127.0.0.1:50840
[SHARED MEM] Removed client: locdinh (PID: 77287)
No user is currently logged in.
DEBUG: len = 3
[SERVER] [[CHILD 77425]] Nhận TEXT từ [namk] : bye
Received message from namk: Type=0x10, Length=3, Value="bye"
[SERVER] [[CHILD 77425]] Gửi phản hồi: CONFIRM sau khi lưu log
[CHILD 77425] Client (127.0.0.1:45176) sent bye command.
[AUTH LOG] Logout: namk from 127.0.0.1:45176
[SHARED MEM] Removed client: namk (PID: 77425)
No user is currently logged in.

namng@namng-ASUS:~/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
admin
[CLIENT] Enter password:admin123
[CLIENT] Server CONFIRM (0x11): admin
help
[CLIENT] Server CONFIRM (0x11):
== AVAILABLE COMMANDS ==
who - Display list of logged-in users
help - Display this help message
bye - Logout and disconnect
=====
namng@namng-ASUS:~/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
locdinh
[CLIENT] Enter password:loc
[CLIENT] Server DENY (0x00): ERROR: Incorrect password. Attempt 1/3. Warning: Account will be locked after 3 failed attempts.
locdinh
[CLIENT] Enter password:loc2004
[CLIENT] Server CONFIRM (0x11): locdinh
who
[CLIENT] Logged-in users: namk, admin, locdinh
bye
[CLIENT] Server CONFIRM (0x11): locdinh
[]
```

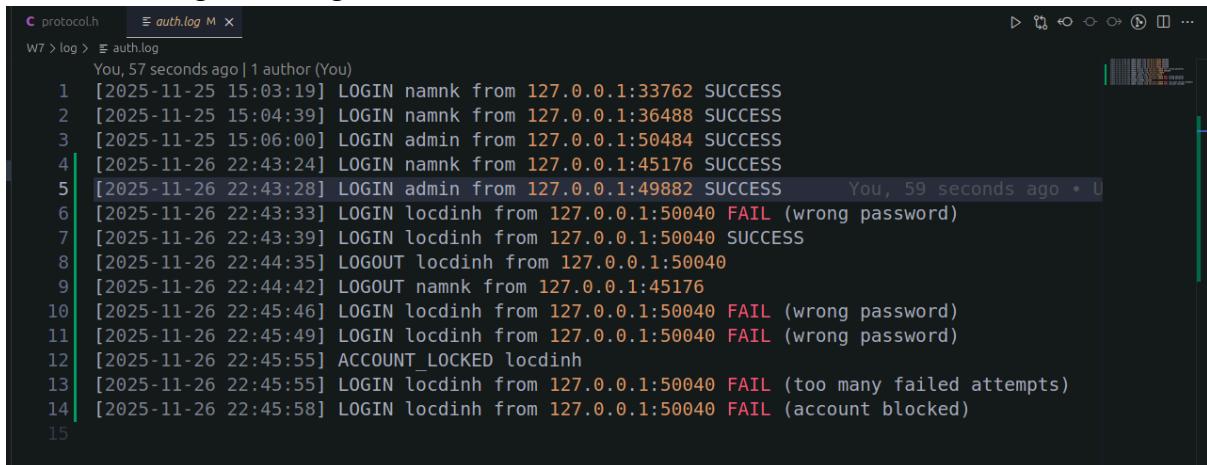
+ Khoa tai khoan

The screenshot shows three terminal windows. The top window is titled '/server w7' and displays log messages from a server process. It includes details about shared memory initialization, password attempts for 'locdinh' (incorrect), account locking (status 0), and a failed login attempt for 'locdinh'. The middle window is titled '/client w7' and shows a client connecting to the server, entering a password, and receiving a deny response due to incorrect input. The bottom window is also titled '/client w7' and shows another client attempting to log in with the same password, also receiving a deny response.

```
Shared memory initialized successfully.
[SERVER] [[CHILD 77287]] Password sai cho: locdinh (Attempts: 2/3)
[AUTH LOG] Login failed: locdinh from 127.0.0.1:50840 - wrong password
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận yêu cầu LOGIN: locdinh
[SERVER] [[CHILD 77287]] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 3
[SERVER] [[CHILD 77287]] Nhận password cho username: locdinh
[SERVER] [[CHILD 77287]] Password sai cho: locdinh (Attempts: 3/3)
[LOCK ACCOUNT] Locked account: locdinh (changed status to 0)
[LOCK ACCOUNT IN LIST] Locked account in memory: locdinh (status = 0)
[SERVER] [[CHILD 77287]] Tài khoản bị khóa do đăng nhập sai quá 3 lần: locdinh
[AUTH LOG] Account locked: locdinh
[AUTH LOG] Login failed: locdinh from 127.0.0.1:50840 - too many failed attempts
DEBUG: len = 7
[SERVER] [[CHILD 77287]] Nhận yêu cầu LOGIN: locdinh
[SERVER] [[CHILD 77287]] Tài khoản bị khóa: locdinh
[AUTH LOG] Login failed: locdinh from 127.0.0.1:50840 - account blocked
[]

namng@namng-ASUS:~/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
admin
[CLIENT] Enter password:admin123
[CLIENT] Server CONFIRM (0x11): admin
help
[CLIENT] Server CONFIRM (0x11):
== AVAILABLE COMMANDS ==
who - Display list of logged-in users
help - Display this help message
bye - Logout and disconnect
=====
namng@namng-ASUS:~/mnt/BA145E2B145DEB41/Study/2025.1/THLTW/Code/W7$ ./client 127.0.0.1 8080
Connected to server (127.0.0.1:8080)
locdinh
[CLIENT] Enter password:loc
[CLIENT] Server DENY (0x00): ERROR: Incorrect password. Attempt 1/3. Warning: Account will be locked after 3 failed attempts.
locdinh
[CLIENT] Enter password:loc2004
[CLIENT] Server CONFIRM (0x11): locdinh
who
[CLIENT] Logged-in users: namk, admin, locdinh
bye
[CLIENT] Server CONFIRM (0x11): locdinh
[CLIENT] Enter password:loc
[CLIENT] Server DENY (0x00): ERROR: Incorrect password. Attempt 2/3. Warning: Account will be locked after 3 failed attempts.
locdinh
[CLIENT] Enter password:loc
[CLIENT] Server DENY (0x00): ERROR: Account locked due to too many failed login attempts.
locdinh
[CLIENT] Server DENY (0x00): ERROR: Account is blocked.
[]
```

- File log auth.log:



The screenshot shows a terminal window with the title bar "protocol.h" and the tab "auth.log". The log file contains the following entries:

```
You, 57 seconds ago | 1 author (You)
1 [2025-11-25 15:03:19] LOGIN namnk from 127.0.0.1:33762 SUCCESS
2 [2025-11-25 15:04:39] LOGIN namnk from 127.0.0.1:36488 SUCCESS
3 [2025-11-25 15:06:00] LOGIN admin from 127.0.0.1:50484 SUCCESS
4 [2025-11-26 22:43:24] LOGIN namnk from 127.0.0.1:45176 SUCCESS
5 [2025-11-26 22:43:28] LOGIN admin from 127.0.0.1:49882 SUCCESS You, 59 seconds ago • U
6 [2025-11-26 22:43:33] LOGIN locdinh from 127.0.0.1:50040 FAIL (wrong password)
7 [2025-11-26 22:43:39] LOGIN locdinh from 127.0.0.1:50040 SUCCESS
8 [2025-11-26 22:44:35] LOGOUT locdinh from 127.0.0.1:50040
9 [2025-11-26 22:44:42] LOGOUT namnk from 127.0.0.1:45176
10 [2025-11-26 22:45:46] LOGIN locdinh from 127.0.0.1:50040 FAIL (wrong password)
11 [2025-11-26 22:45:49] LOGIN locdinh from 127.0.0.1:50040 FAIL (wrong password)
12 [2025-11-26 22:45:55] ACCOUNT_LOCKED locdinh
13 [2025-11-26 22:45:55] LOGIN locdinh from 127.0.0.1:50040 FAIL (too many failed attempts)
14 [2025-11-26 22:45:58] LOGIN locdinh from 127.0.0.1:50040 FAIL (account blocked)
15
```