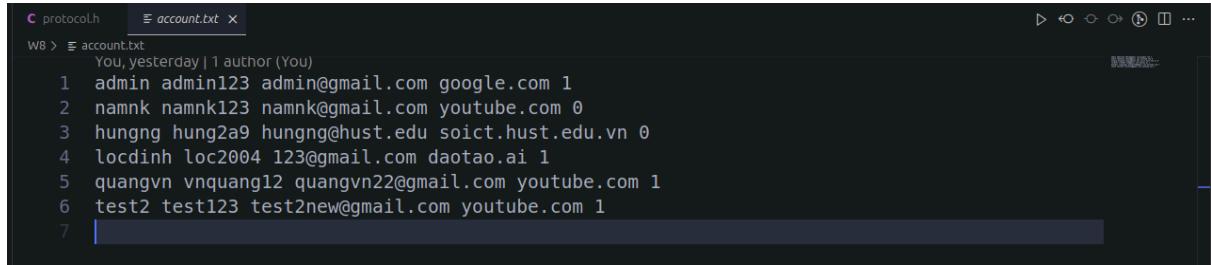


Báo cáo Week 8 - Thực hành Lập trình mạng - Kỳ 2025.1

Nguyễn Khánh Nam - 20225749

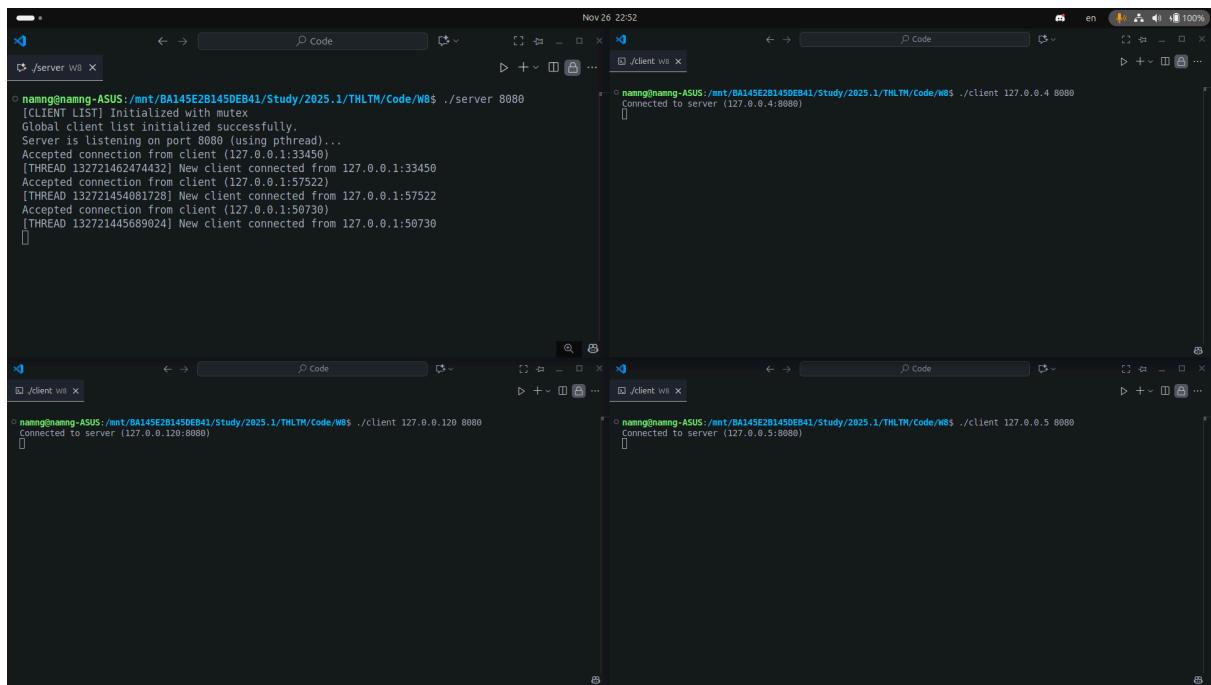
Github: https://github.com/nammannam/IT4062_Network_Programming

File account.txt:



```
c protocolh      account.txt x
W8 > account.txt
You,yesterday | 1 author (You)
1 admin admin123 admin@gmail.com google.com 1
2 namnk namnk123 namnk@gmail.com youtube.com 0
3 hungn 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 22:52
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud.../W8$ ./server 8080
[CLIENT LIST] Initialized with mutex.
Global client list initialized successfully.
Server is listening on port 8080 (using pthread)...
Accepted connection from client (127.0.0.1:33450)
[THREAD 132721462474432] New client connected from 127.0.0.1:33450
Accepted connection from client (127.0.0.1:57522)
[THREAD 132721454081728] New client connected from 127.0.0.1:57522
Accepted connection from Client (127.0.0.1:50730)
[THREAD 13272144569624] New client connected from 127.0.0.1:50730
[]

namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud.../W8$ ./client 127.0.0.4 8080
Connected to server (127.0.0.4:8080)
[]

namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud.../W8$ ./client 127.0.0.120 8080
Connected to server (127.0.0.120:8080)
[]

namng@namng-ASUS:/mnt/BA145E2B145DEB41/Stud.../W8$ ./client 127.0.0.5 8080
Connected to server (127.0.0.5:8080)
[]
```

```
Nov 26 22:54

[CLIEENI LIST] initialized with mutex
DEBUG: len = 5
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: namnk
[SERVER]|||TTHREAD 132721454081728] Tài khoản bị khóa: namnk
[AUTH LOG] Login failed: namnk from 127.0.0.1:5732 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: locdinh
[SERVER]|||TTHREAD 132721454081728] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 5
[SERVER]|||TTHREAD 132721462474432] Nhận yêu cầu LOGIN: admin
[SERVER]|||TTHREAD 132721462474432] Gửi yêu cầu nhập password cho admin
DEBUG: len = 6
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: hungng
[SERVER]|||TTHREAD 132721445689024] Tài khoản bị khóa: hungng
[AUTH LOG] Login failed: hungng From 127.0.0.1:50730 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: quangvn
[SERVER]|||TTHREAD 132721445689024] Gửi yêu cầu nhập password cho quangvn
[]

[CLIEENI LIST] initialized with mutex
DEBUG: len = 5
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: namnk
[SERVER]|||TTHREAD 132721454081728] Tài khoản bị khóa: namnk
[AUTH LOG] Login failed: namnk from 127.0.0.1:5732 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: locdinh
[SERVER]|||TTHREAD 132721454081728] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 5
[SERVER]|||TTHREAD 132721462474432] Nhận yêu cầu LOGIN: admin
[SERVER]|||TTHREAD 132721462474432] Gửi yêu cầu nhập password cho admin
DEBUG: len = 6
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: hungng
[SERVER]|||TTHREAD 132721445689024] Tài khoản bị khóa: hungng
[AUTH LOG] Login failed: hungng From 127.0.0.1:50730 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: quangvn
[SERVER]|||TTHREAD 132721445689024] Gửi yêu cầu nhập password cho quangvn
[]

[CLIEENI LIST] initialized with mutex
DEBUG: len = 5
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: namnk
[SERVER]|||TTHREAD 132721454081728] Tài khoản bị khóa: namnk
[AUTH LOG] Login failed: namnk from 127.0.0.1:5732 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721454081728] Nhận yêu cầu LOGIN: locdinh
[SERVER]|||TTHREAD 132721454081728] Gửi yêu cầu nhập password cho locdinh
DEBUG: len = 5
[SERVER]|||TTHREAD 132721462474432] Nhận yêu cầu LOGIN: admin
[SERVER]|||TTHREAD 132721462474432] Gửi yêu cầu nhập password cho admin
DEBUG: len = 6
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: hungng
[SERVER]|||TTHREAD 132721445689024] Tài khoản bị khóa: hungng
[AUTH LOG] Login failed: hungng From 127.0.0.1:50730 - account blocked
DEBUG: len = 7
[SERVER]|||TTHREAD 132721445689024] Nhận yêu cầu LOGIN: quangvn
[SERVER]|||TTHREAD 132721445689024] Gửi yêu cầu nhập password cho quangvn
[]
```

+ Lenh who, help, bye

The screenshot displays four terminal windows arranged in a 2x2 grid, illustrating a client-server communication between two hosts: **namng@namng-ASUS** and **namng@namng-DEB41**.

Host 1 (namng@namng-ASUS):

- Terminal 1: Shows the server side of the application. It logs client connections from **admin** (Thread: 132721462474432) and **quangvn** (Thread: 132721445689024). It handles password entries and command inputs from both clients.
- Terminal 2: Shows a user session where **quangvn** logs in, receives a help message, and then logs out.

Host 2 (namng@namng-DEB41):

- Terminal 1: Shows the client side of the application connecting to the server at **127.0.0.1:8080**. It logs in as **admin**, enters a password, and sends a **LOGOUT** command.
- Terminal 2: Shows the client side connecting to the server at **127.0.0.1:8080**. It logs in as **quangvn**, receives a help message, and then logs out.

+ Khoa tai khoan

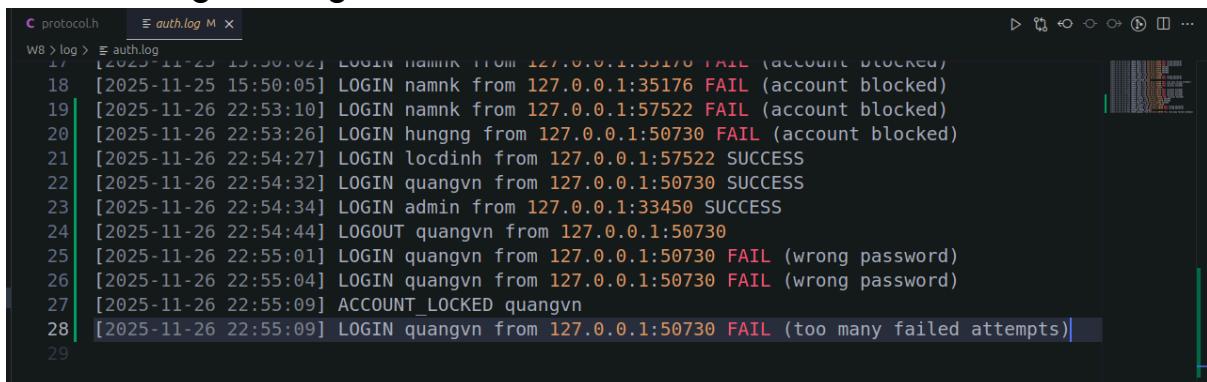
```
Nov 26 22:55

./server WS
[CLIENT LIST] initialized with mutex
[SERVER] [THREAD 132721445689024] Nhận yêu cầu LOGIN: quangvn
[SERVER] [THREAD 132721445689024] Gửi yêu cầu nhập password cho quangvn
DEBUG: len = 5
[SERVER] [THREAD 132721445689024] Nhận password cho username: quangvn
[SERVER] [THREAD 132721445689024] Password sai cho: quangvn (Attempts: 2/3)
[AUTH LOG] Login failed: quangvn from 127.0.0.1:50730 - wrong password
DEBUG: len = 7
[SERVER] [THREAD 132721445689024] Nhận yêu cầu LOGIN: quangvn
[SERVER] [THREAD 132721445689024] Gửi yêu cầu nhập password cho quangvn
DEBUG: len = 10
[SERVER] [THREAD 132721445689024] Nhận password cho username: quangvn
[SERVER] [THREAD 132721445689024] Password sai cho: quangvn (Attempts: 3/3)
[LOCK ACCOUNT] Locked account: quangvn (changed status to 0)
[LOCK ACCOUNT IN LIST] Locked account in memory: quangvn (status = 0)
[SERVER] [THREAD 132721445689024] Tài khoản bị khóa do đăng nhập sai quá 3 lần: quangvn
[AUTH LOG] Account locked: quangvn
[AUTH LOG] Login failed: quangvn from 127.0.0.1:50730 - too many failed attempts
[]

./Client WS
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Study/2025.1/THLTM/Code/WS$ ./client 127.0.0.4 8080
Connected to server (127.0.0.4:8080)
namng
[CLIENT] Enter password:loc2094
[CLIENT] Server DENY (0x00): ERROR: Account is blocked.
[CLIENT] Enter password:loc2094
[CLIENT] Server CONFIRM (0x11): locdinh
who
[CLIENT] Logged-in users: locdinh, quangvn, admin
[]

./Client v11
namng@namng-ASUS:/mnt/BA145E2B145DEB41/Study/2025.1/THLTM/Code/WS$ ./client 127.0.0.5 8080
Connected to server (127.0.0.5:8080)
hum
[CLIENT] Enter password:vnquang12
[CLIENT] Server DENY (0x00): ERROR: Account is blocked.
quangvn
[CLIENT] Enter password:vnquang12
[CLIENT] Server CONFIRM (0x11): quangvn
bye
[CLIENT] Server CONFIRM (0x11): quangvn
quangvn
[CLIENT] Enter password:quangvn
[CLIENT] Server DENY (0x00): ERROR: Incorrect password. Attempt 1/3. Warning: Account will be locked after 3 failed attempts.
quangvn
[CLIENT] Enter password:quangvn
[CLIENT] Server DENY (0x00): ERROR: Incorrect password. Attempt 2/3. Warning: Account will be locked after 3 failed attempts.
quangvn
[CLIENT] Enter password:quangvn123
[CLIENT] Server DENY (0x00): ERROR: Account locked due to too many failed login attempts.
[]
```

- File log auth.log:



The screenshot shows a terminal window with the title bar "auth.log". The window displays a log file with the following content:

```
protocol.h auth.log
w8 > log > auth.log
1 / [2025-11-25 15:50:05] LOGIN namnk from 127.0.0.1:35176 FAIL (account blocked)
18 [2025-11-26 22:53:10] LOGIN namnk from 127.0.0.1:57522 FAIL (account blocked)
19 [2025-11-26 22:53:26] LOGIN hungng from 127.0.0.1:50730 FAIL (account blocked)
20 [2025-11-26 22:54:27] LOGIN locdinh from 127.0.0.1:57522 SUCCESS
21 [2025-11-26 22:54:32] LOGIN quangvn from 127.0.0.1:50730 SUCCESS
22 [2025-11-26 22:54:34] LOGIN admin from 127.0.0.1:33450 SUCCESS
23 [2025-11-26 22:54:44] LOGOUT quangvn from 127.0.0.1:50730
24 [2025-11-26 22:55:01] LOGIN quangvn from 127.0.0.1:50730 FAIL (wrong password)
25 [2025-11-26 22:55:04] LOGIN quangvn from 127.0.0.1:50730 FAIL (wrong password)
26 [2025-11-26 22:55:09] ACCOUNT_LOCKED quangvn
27 [2025-11-26 22:55:09] LOGIN quangvn from 127.0.0.1:50730 FAIL (too many failed attempts)
```