PEMROGRAMAN JARINGAN
Tugas Praktikum Multi-threaded Server

Class E

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Semua tugas berikut ini HARUS dijalankan di SIMULATOR

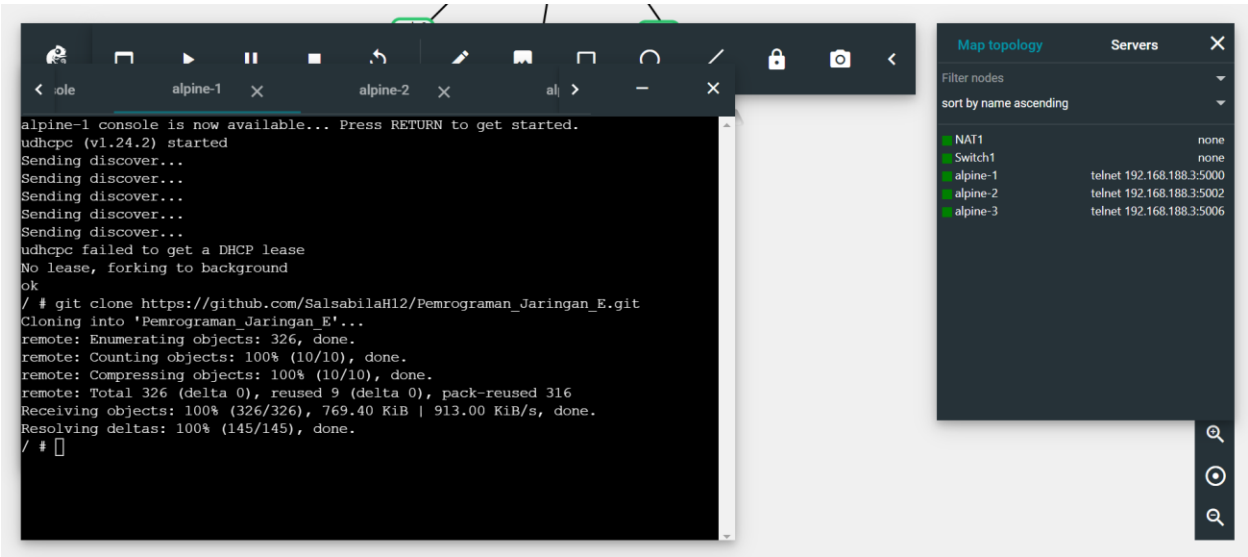
1. Jalankan program server seperti dalam pembahasan

2. Buatlah program client yang dapat melakukan 100 request get pada dalam satu saat untuk operasi get file "pokijan.jpg"

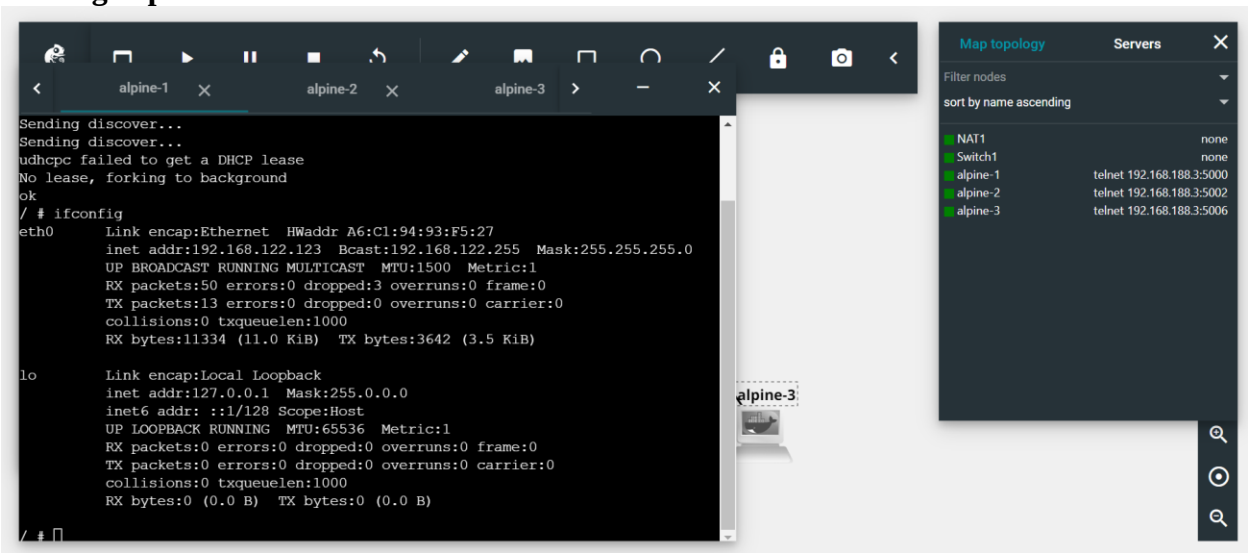
3. Capture dan submitlah poin 1 dan 2 dalam satu dokumen pdf. berikan DESKRIPSI dan PENJELASAN

Jawab :

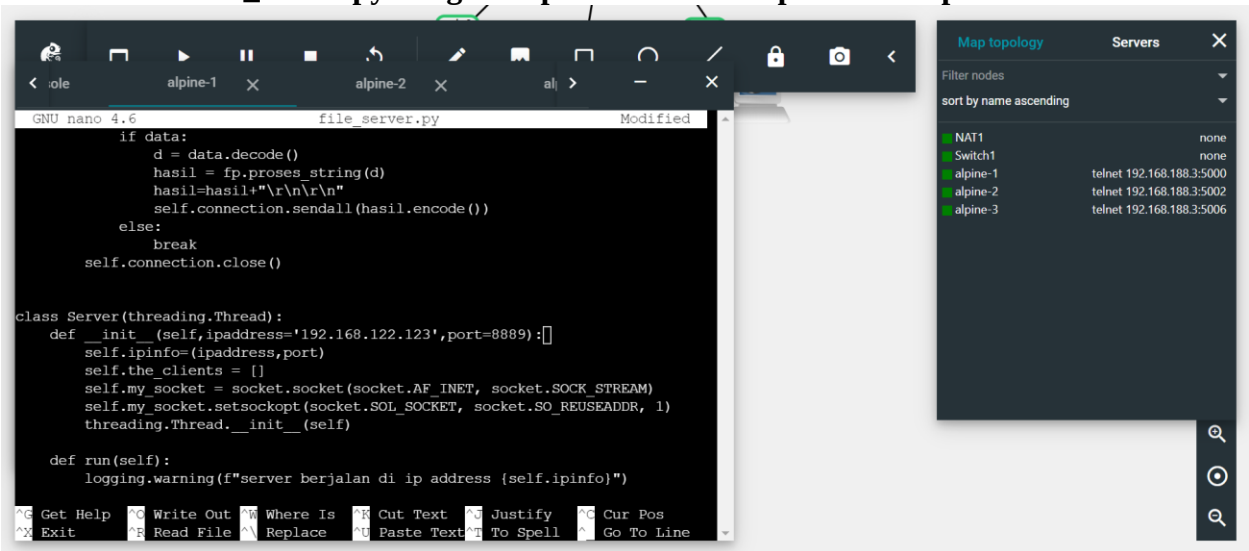
1. Clone Repository Github

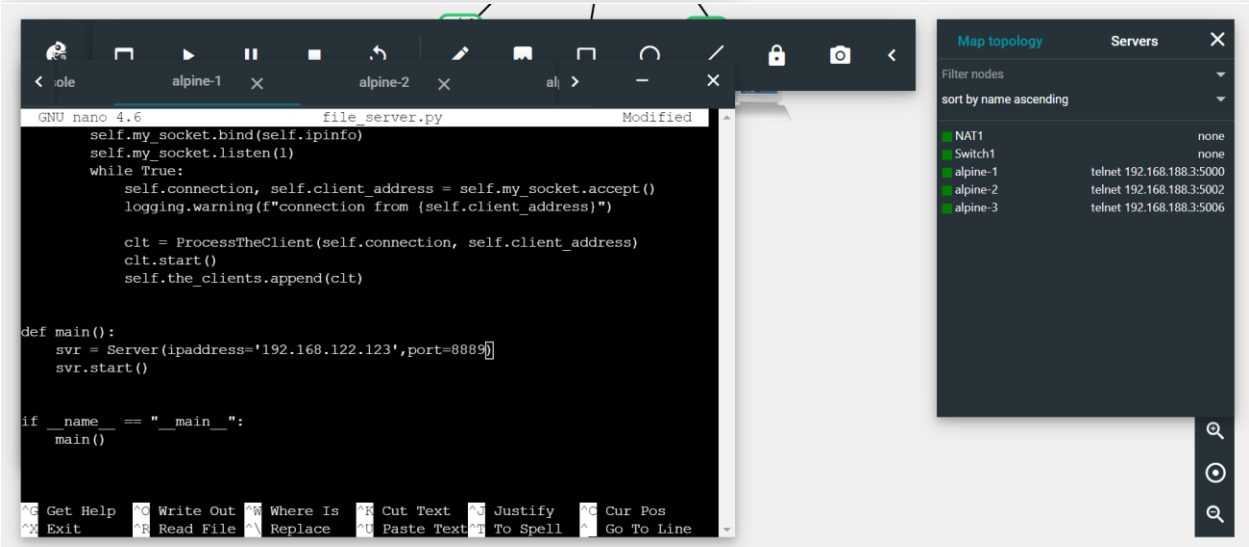


2. Ifconfig Alpine 1

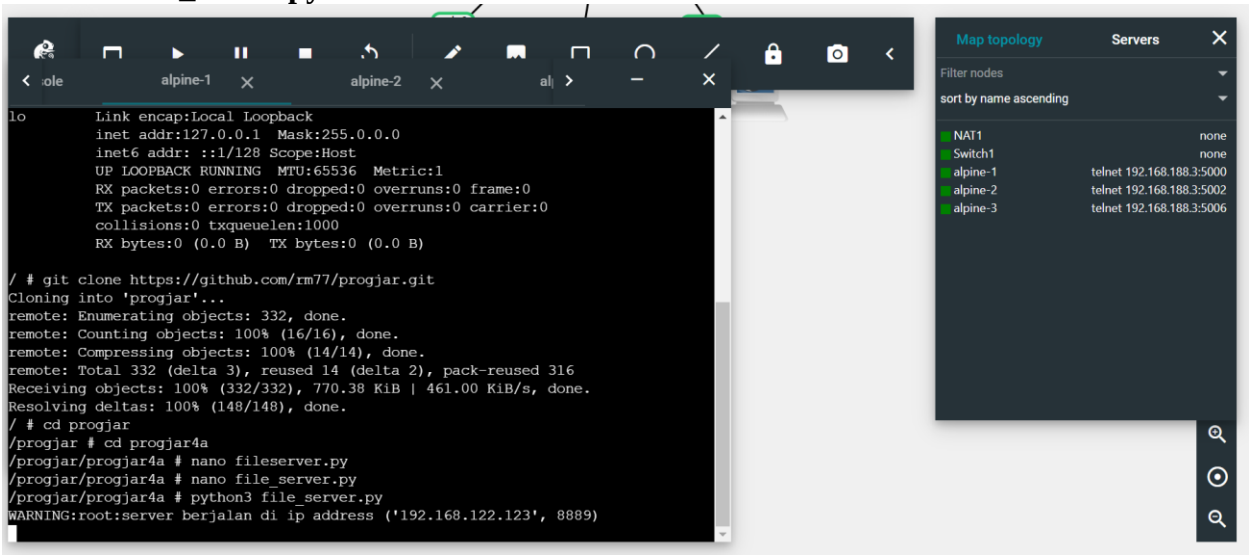


3. **Buka dan edit file_server.py dang anti ip address sesuai ip address alpine 1**



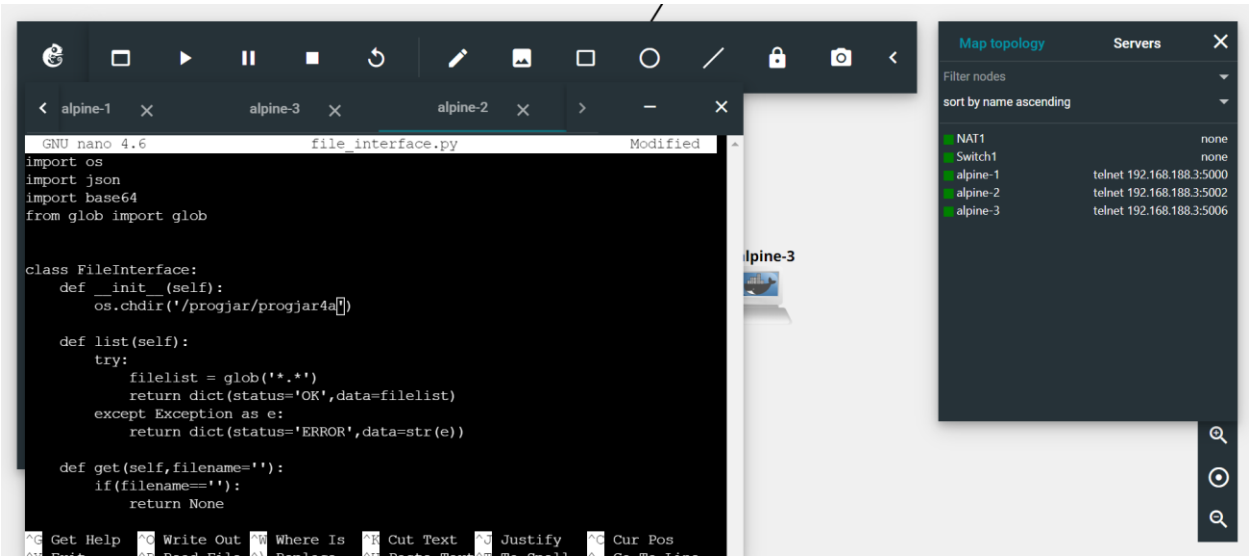


4. Jalankan file_server.py

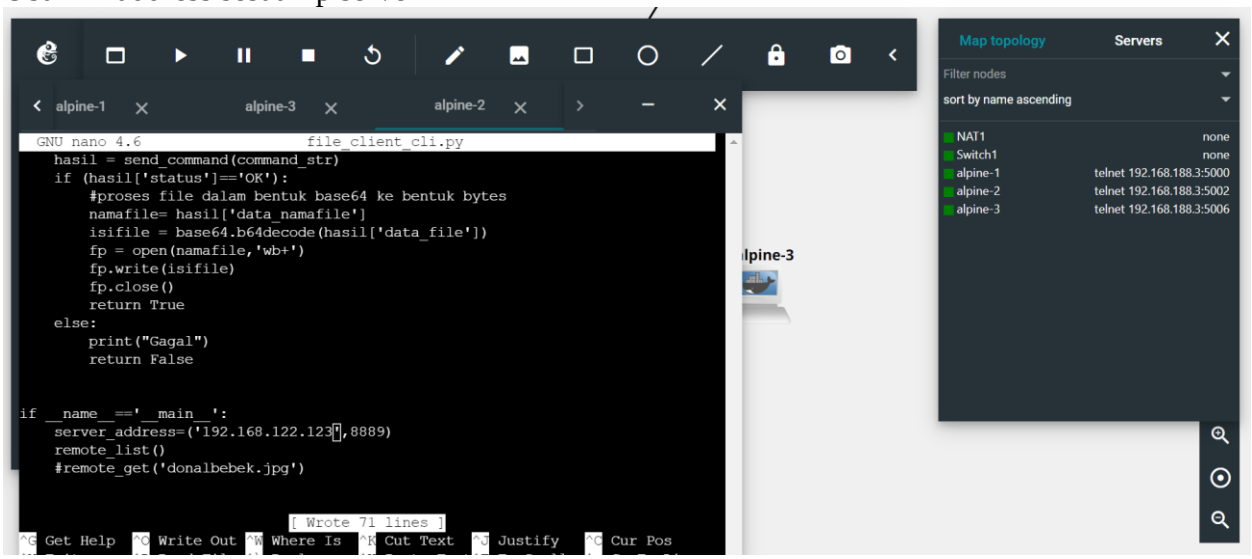


5. Membuat Program Client 100 Request

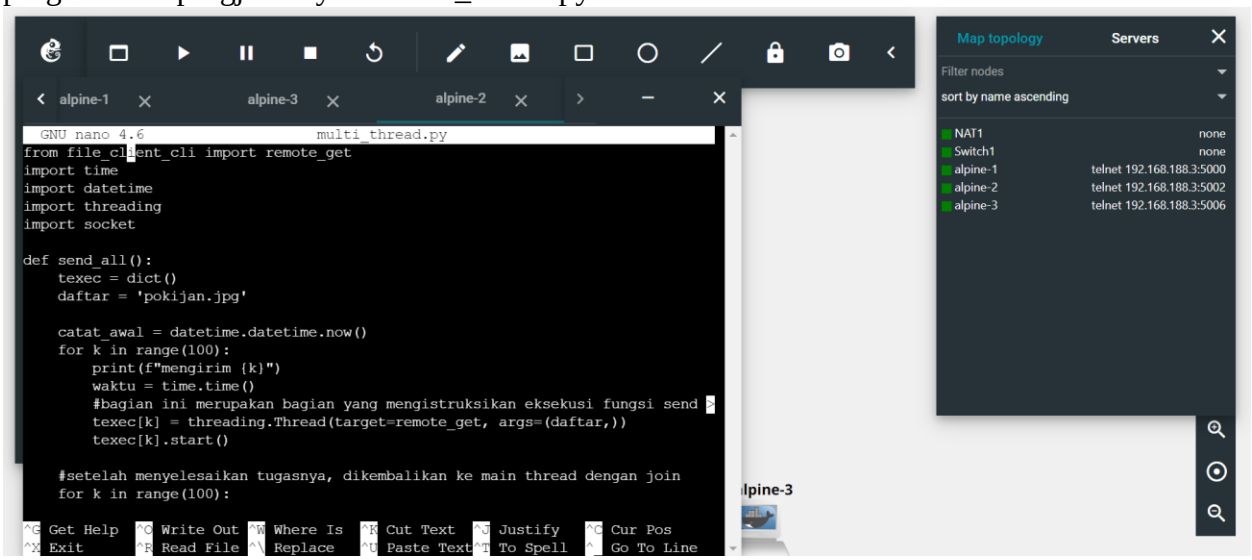
- Buka dan edit file_interface.py pada alpine 2. Ubah directori nya sesuai path saat meng clone

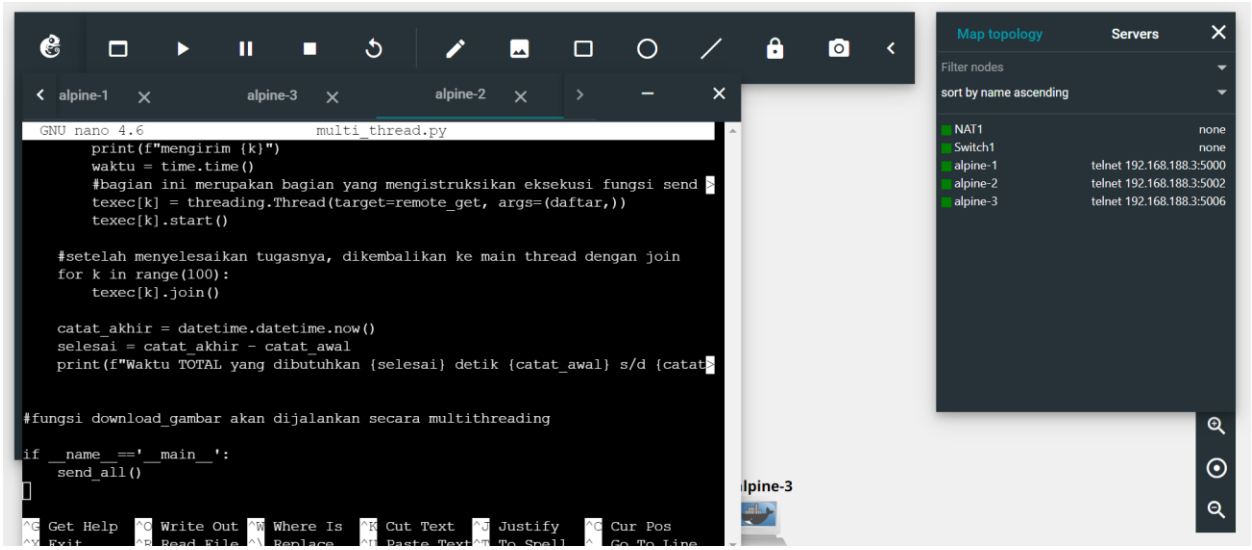


- Ubah IP address sesuai ip server



- Import (copy dan buat file baru udp_multi_threaded.py pada progjar4a) dan modifikasi program dari progjar 3a yaitu multi_thread.py.





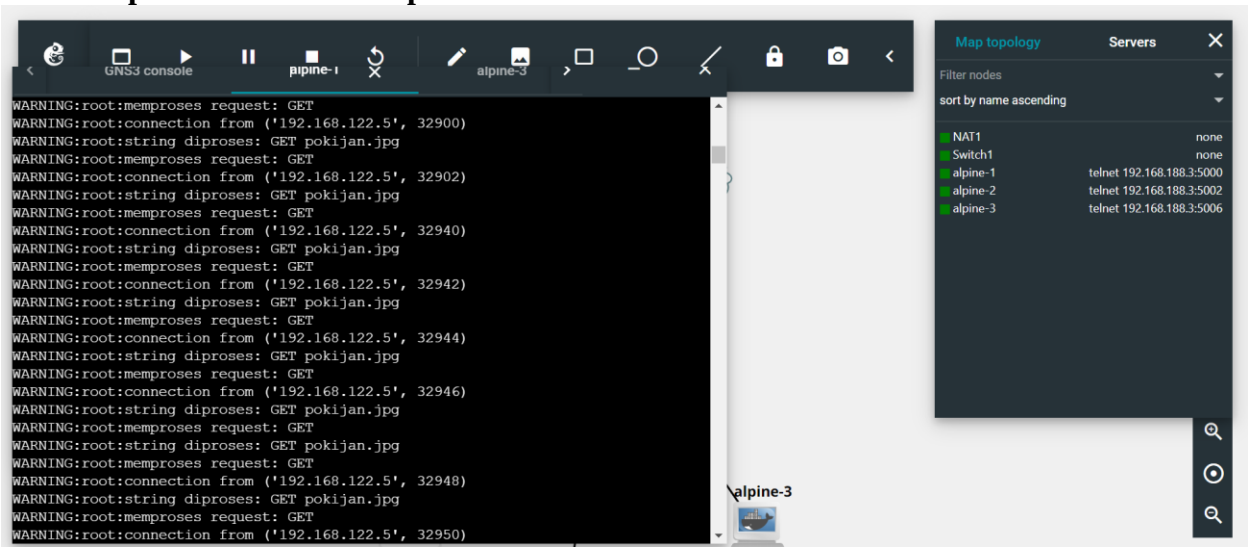
- Isi dari file udp_multi_thread.py

```
from file_client_cli import remote_get
import time
import datetime
import threading
import socket

def send_all():
   texec = dict()
   daftar = 'pokijan.jpg'

   catat_awal = datetime.datetime.now()
   for k in range(100):
      print(f"mengirim {k}")
      waktu = time.time()
      #bagian ini merupakan bagian yang mengistruksikan eksekusi fungsi send >
      texec[k] = threading.Thread(target=remote_get, args=(daftar,))
      texec[k].start()

   #setelah menyelesaikan tugasnya, dikembalikan ke main thread dengan join
   for k in range(100):
      texec[k].join()

   catat_akhir = datetime.datetime.now()
   selesai = catat_akhir - catat_awal
   print(f"Waktu TOTAL yang dibutuhkan {selesai} detik {catat_awal} s/d
{catat_akhir}")


#fungsi send all akan dijalankan secara multithreading
```

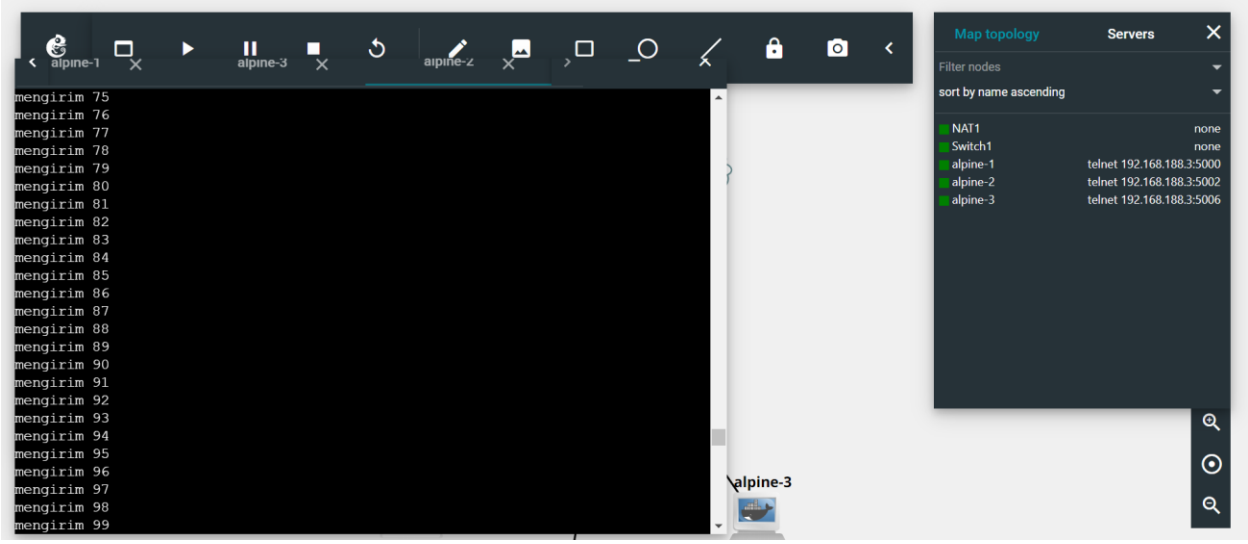
```
if __name__=='__main__':
    send_all()
```

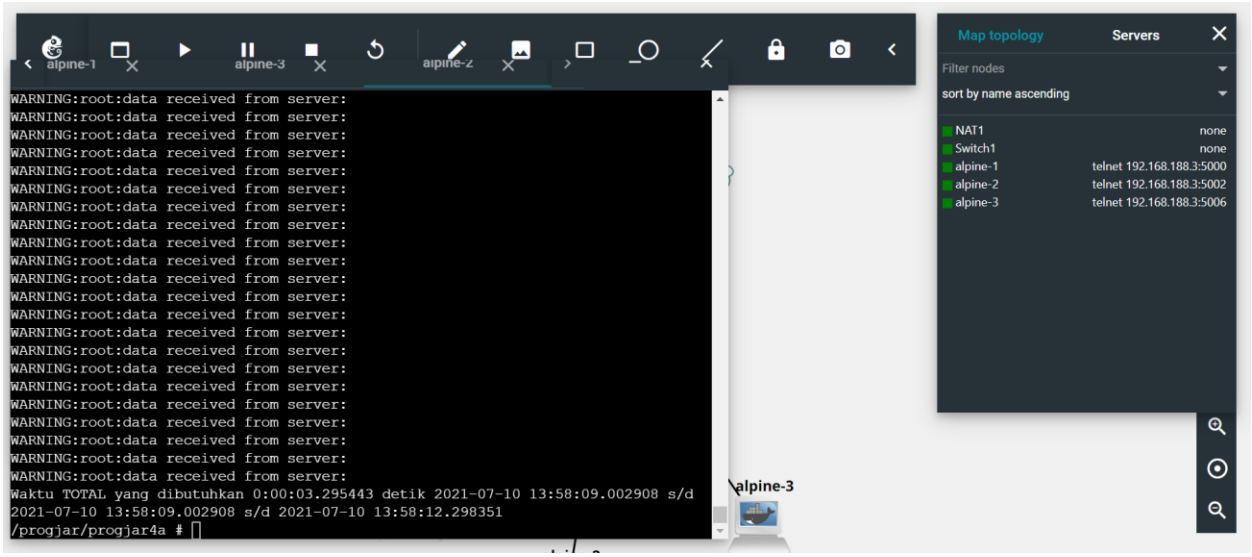
6. Jalankan file udp_multi_thread.py

- **Hasil pada file server di alpine 1**



- **Hasil dari file udp_multi_thread.py**




alpine-1
alpine-3
alpine-2
WARNING:root:data received from server:
Waktu TOTAL yang dibutuhkan 0:00:03.295443 detik 2021-07-10 13:58:09.002908 s/d 2021-07-10 13:58:09.002908 s/d 2021-07-10 13:58:12.298351
/progjar/progjar4a #
Map topology
Servers
Filter nodes
sort by name ascending
NAT1 none
Switch1 none
alpine-1 telnet 192.168.188.3:5000
alpine-2 telnet 192.168.188.3:5002
alpine-3 telnet 192.168.188.3:5006
alpine-3