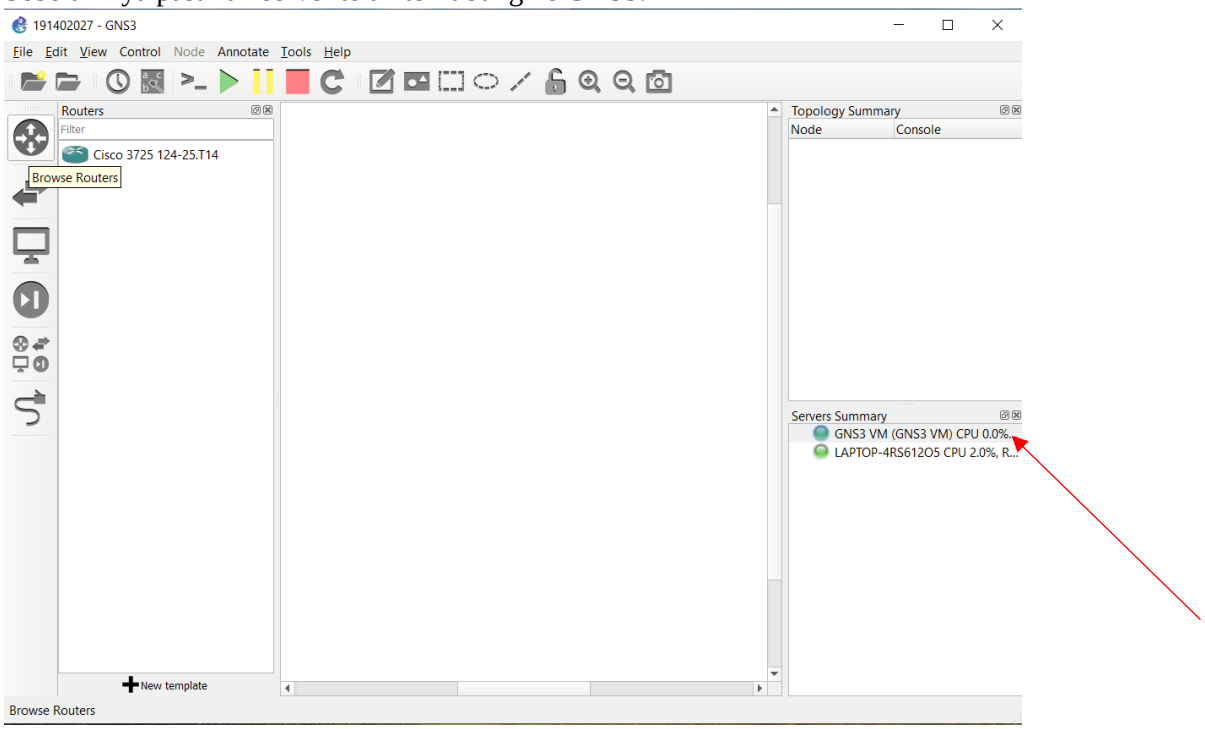
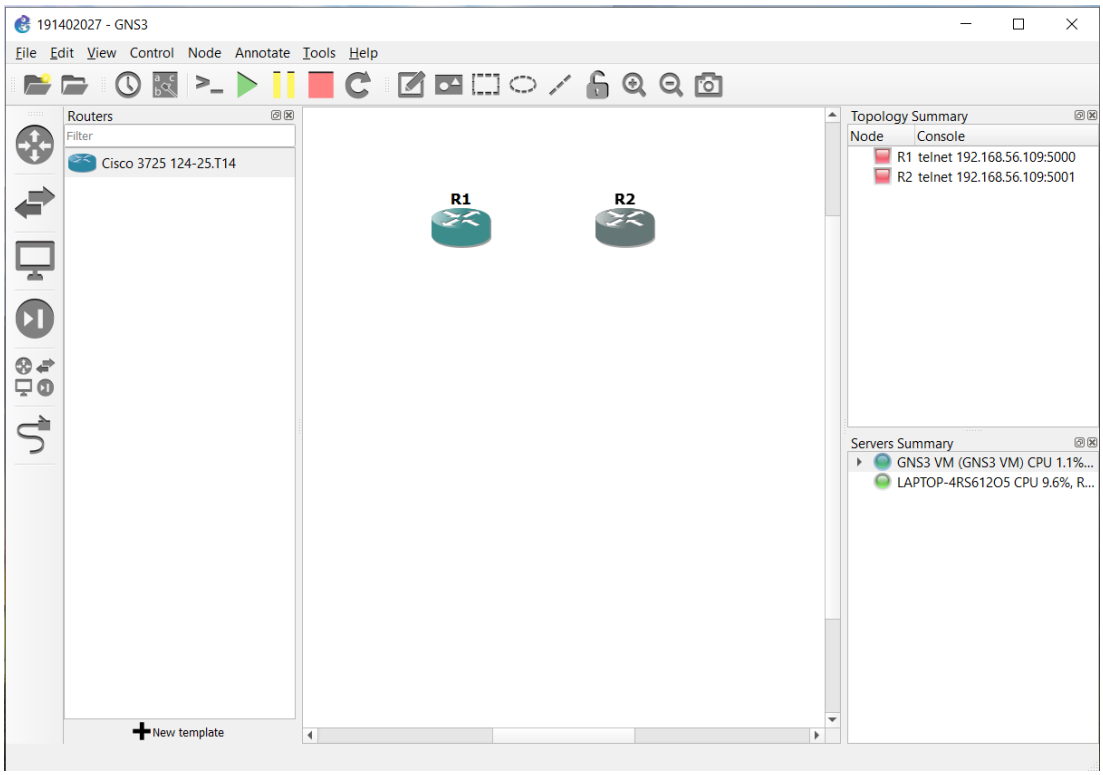
Nama : Jefry Lianto
NIM : 191402027
KOM : C

Connect GNS3 to Internet

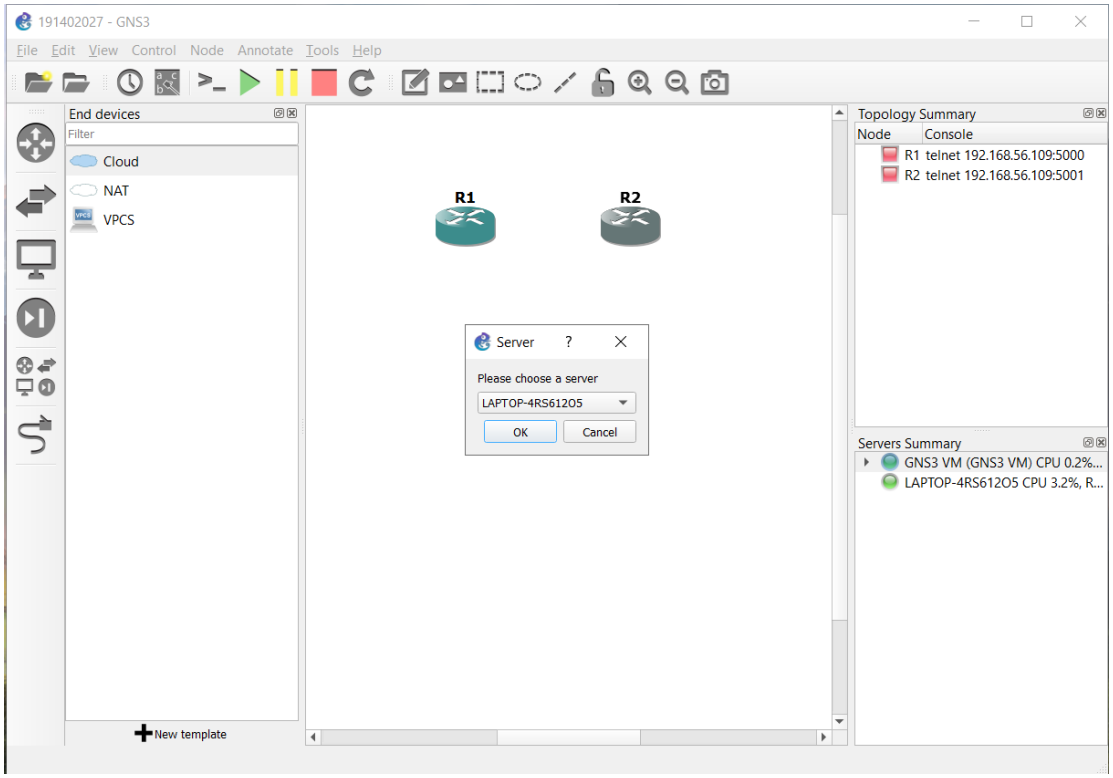
Sebelumnya pastikan server telah terhubung ke GNS3.



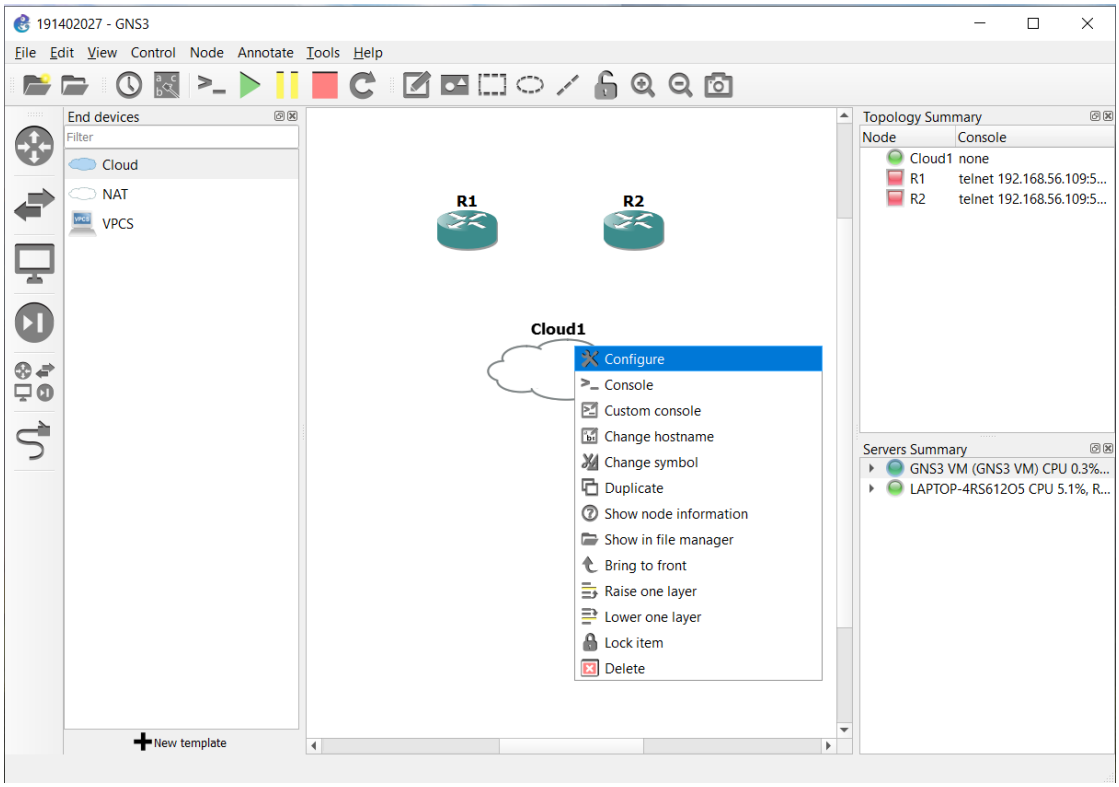
Masukkan router cisco ke dalam workspace.



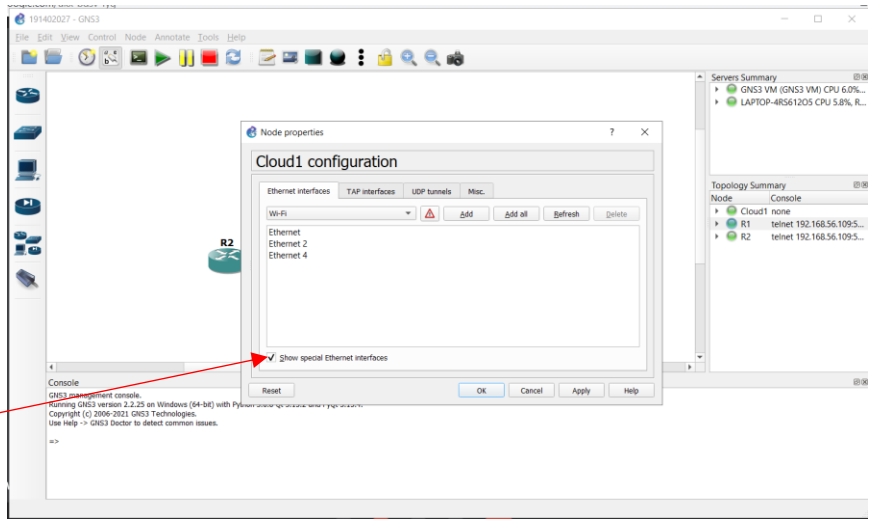
Masukkan Cloud. Pilih Server Laptop yang dipakai saat ini.



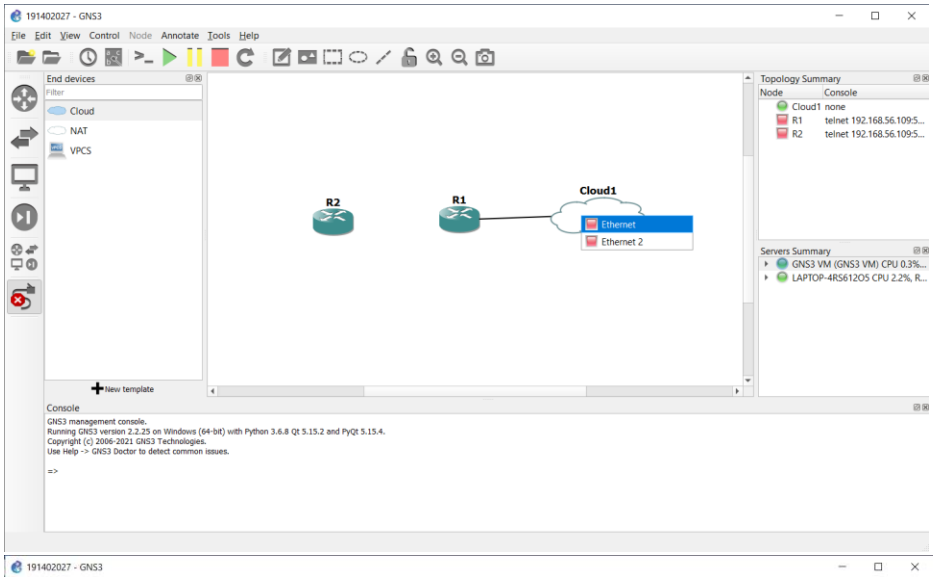
Konfigurasi Cloud.

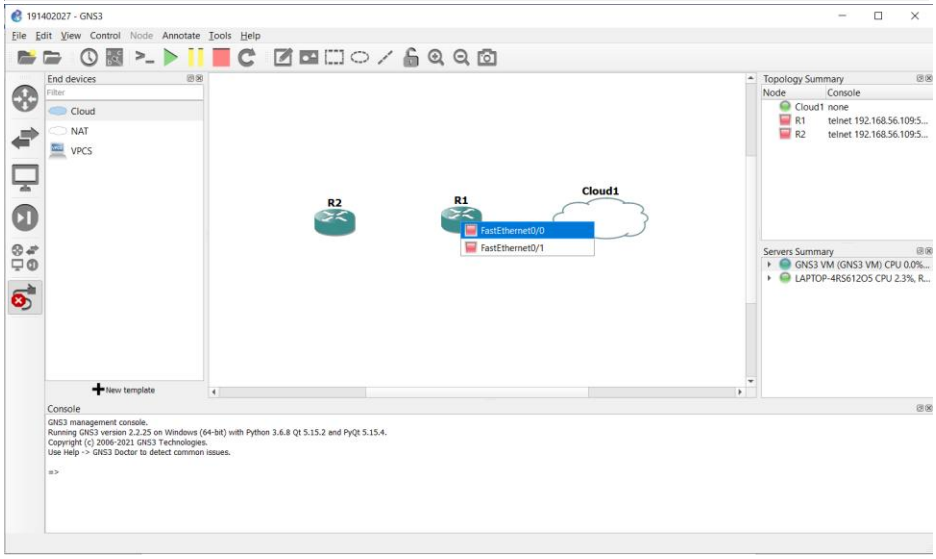


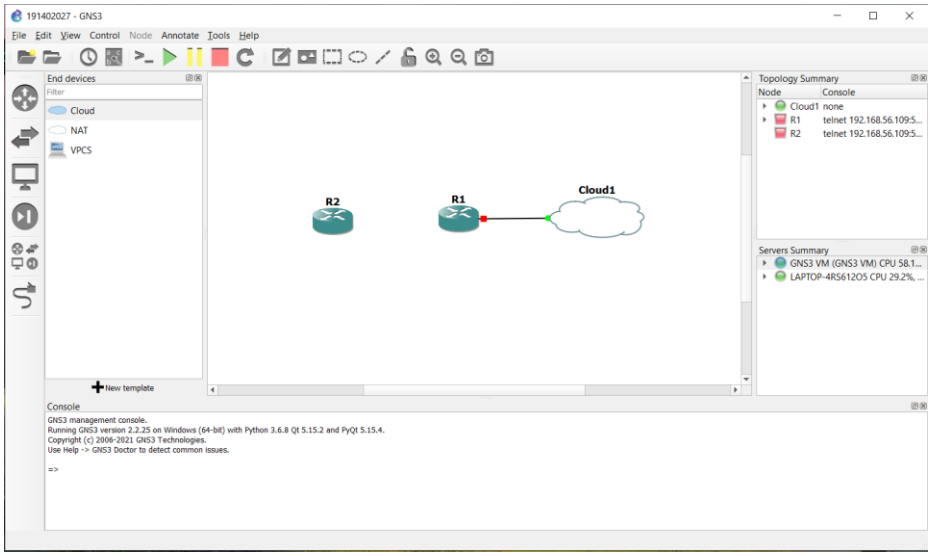
Ceklis special Ethernet Interface. Masukkan internet yang ingin di loopback.



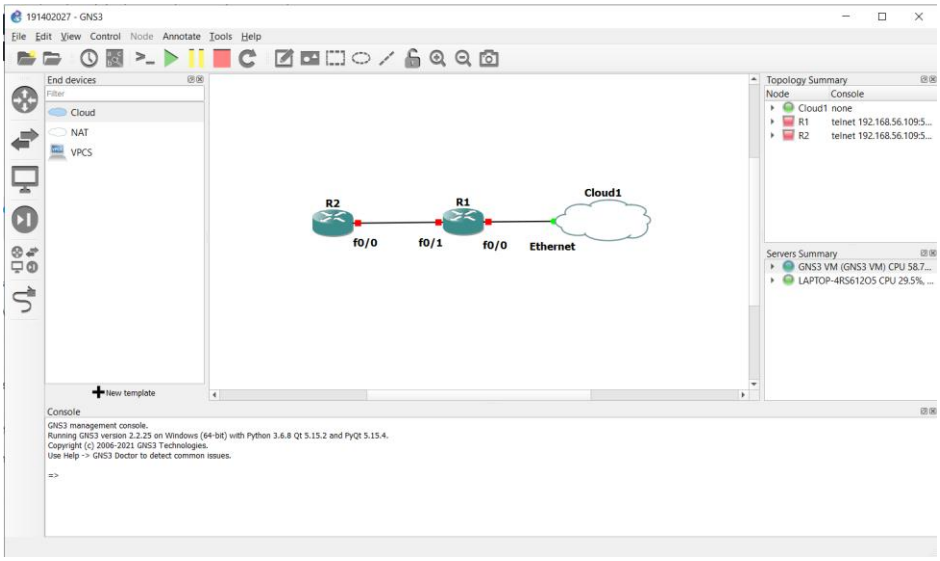
Hubungkan Cloud ke Router 1



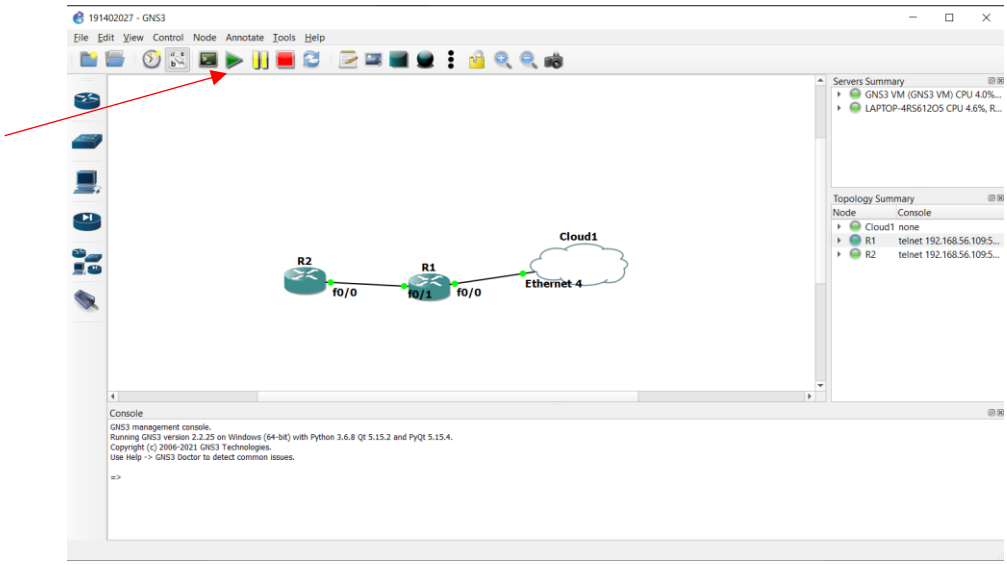




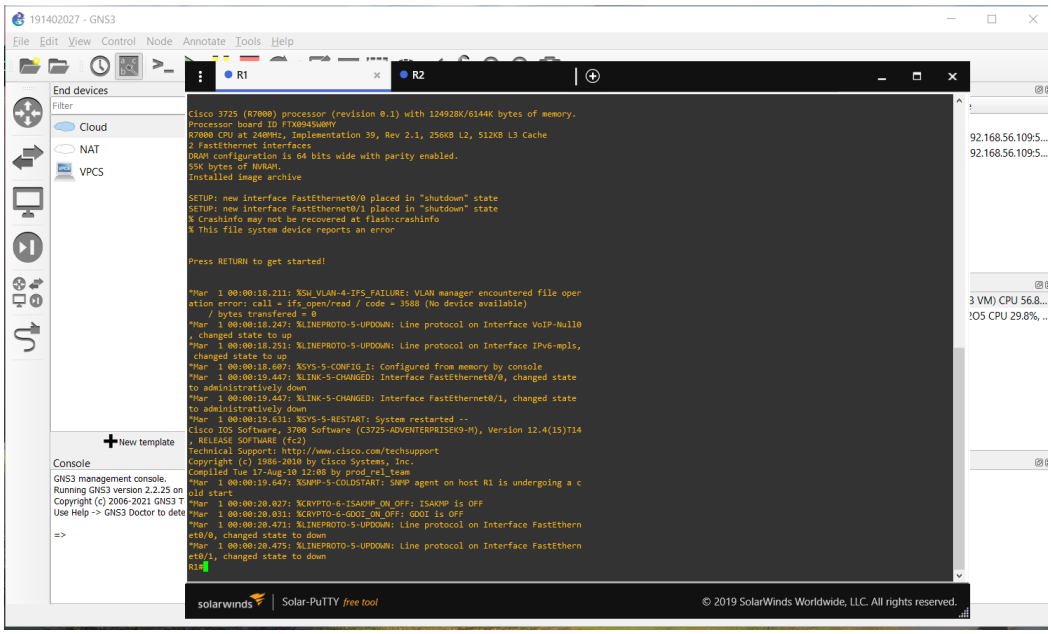
Hubungkan Router 2 ke Router 1 seperti pada gambar



Setelah itu Run dan hubungkan semua .



Konfigurasi Router 1



Konfigurasi manual pada Router 1 sesuai dengan ip address yang digunakan pada ethernet.

```
R1#show ip interface br
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            unassigned      YES unset  administratively down down
FastEthernet0/1            unassigned      YES unset  administratively down down
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f 0/0
R1(config-if)#ip addr 192.168.62.100
% Incomplete command.

R1(config-if)#ip addr 192.168.62.100 255.255.255.0
R1(config-if)#no shut
R1(config-if)#ex
R1(config)#
*Mar  1 00:02:37.395: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:02:38.395: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

Konfigurasi default gateway dan cobalah untuk melakukan ping pada gateway.

Setelah itu konfigurasi dns server dan coba ping google. Jika berhasil, maka GNS3 telah terhubung ke local internet.

```
R1(config)#ip route 0.0.0.0 0.0.0.0 192.168.62.27
R1(config)#end
R1#
*Mar  1 00:03:41.723: %SYS-5-CONFIG_I: Configured from console by console
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#do ping 192.168.62.27

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.62.27, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/11/16 ms
R1(config)#ip domain-lookup
R1(config)#ip name-server 8.8.8.8
R1(config)#do ping google.com

Translating "google.com"...domain server (8.8.8.8) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 142.251.12.139, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 20/24/32 ms
```

Konfigurasikan Router ke 2 agar bisa tersambung ke internet.

Konfigurasi Ip address Router 1 ke Router 2

```
R1(config)#int f 0/1
R1(config-if)#ip addr 10.1.1.1 255.255.255.0
R1(config-if)#no shut
R1(config-if)#ex
R1(config)#
*Mar  1 00:05:00.999: %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up
*Mar  1 00:05:01.999: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
```

Konfigurasi Ip address Router 2 ke Router 1

```
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#int f 0/0
R2(config-if)#ip addr 10.1.1.2 255.255.255.0
R2(config-if)#no shut
R2(config-if)#ex
R2(config)#
*Mar  1 00:03:28.599: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:03:29.599: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

Konfigurais OSPF 1 pada router 1 dan router 2

```
R1(config)#router ospf 1
R1(config-router)#network 10.0.0.0 0.255.255.255 area 0
R1(config-router)#default-information originate
R1(config-router)#end
R1#
*Mar  1 00:06:36.387: %SYS-5-CONFIG_I: Configured from console by console
R1#
*Mar  1 00:07:39.523: %OSPF-5-ADJCHG: Process 1, Nbr 10.1.1.2 on FastEthernet0/1 from LOADING to FULL, Loading Done
```

```
R2(config)#router ospf 1
R2(config-router)#network 10.0.0.0 0.255.255.255 area 0
R2(config-router)#end
R2#
*Mar  1 00:04:30.723: %SYS-5-CONFIG_I: Configured from console by console
```

Setelah selesai, konfigurasikan dns server pada router ke 2

```
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#ip domain-lookup
R2(config)#
*Mar  1 00:05:10.155: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.62.100 on FastEthernet0/0 from LOADING to FULL, Loading Done
R2(config)#ip name-server 8.8.8.8
R2(config)#end
```

Router 2 tidak dapat mengakses internet jika Router 1 belum menkonfigurasi NAT. Maka harus konfigurasi router 1 dahulu.

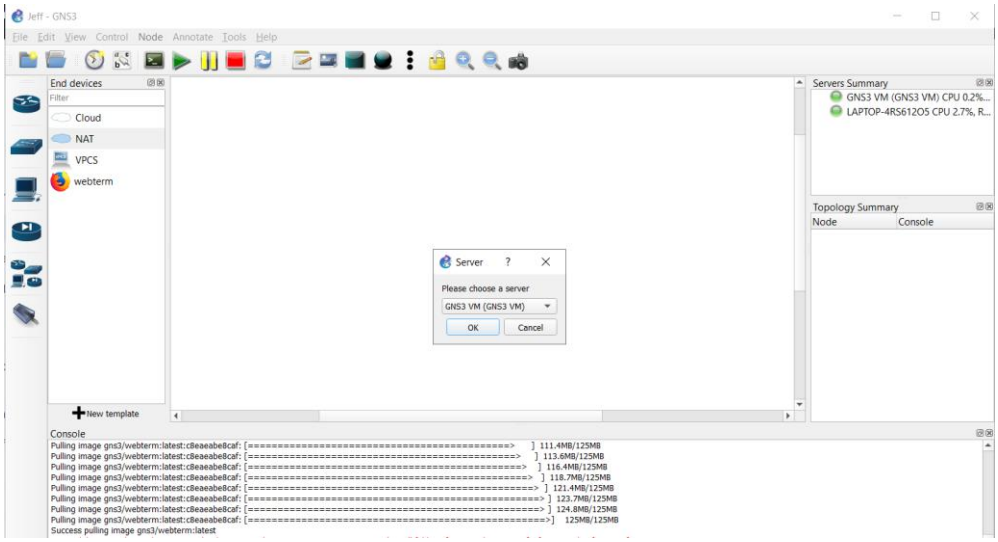
```
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f 0/0
R1(config-if)#ip nat outside
R1(config-if)#int f 0/1
R1(config-if)#ip nat inside
R1(config-if)#ip nat inside source list 1 int f 0/0 overload
R1(config)#access-list 1 permit 10.0.0.0 0.255.255.255
R1(config)#end
R1#
*Mar  1 00:11:34.359: %SYS-5-CONFIG_I: Configured from console by console
R1#
```

Jika sudah, maka Router 2 sudah bisa ping google dan berhasil terhubung dengan internet.

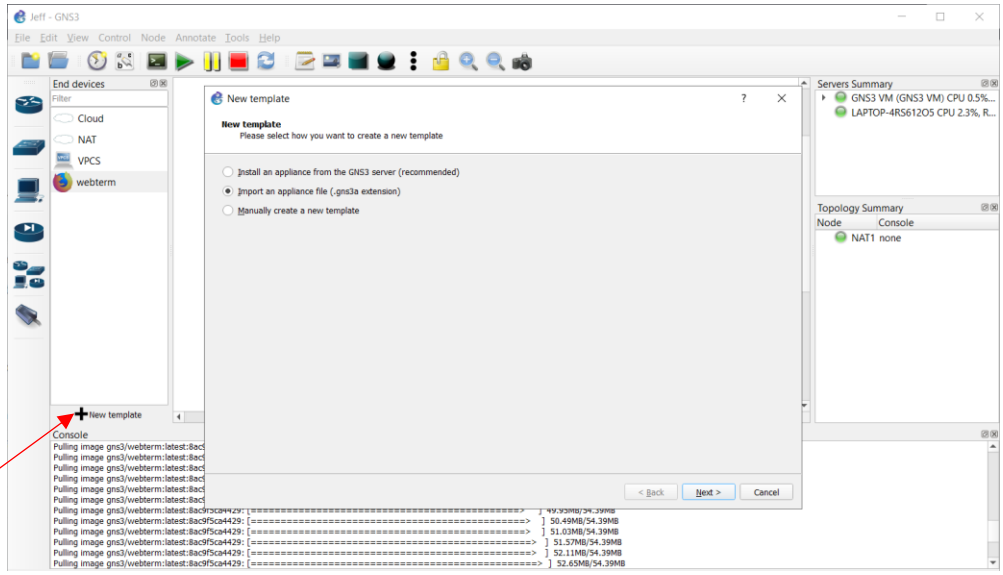
```
R2#ping google.com

Translating "google.com"...domain server (8.8.8.8) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 216.239.38.120, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 28/41/48 ms
```

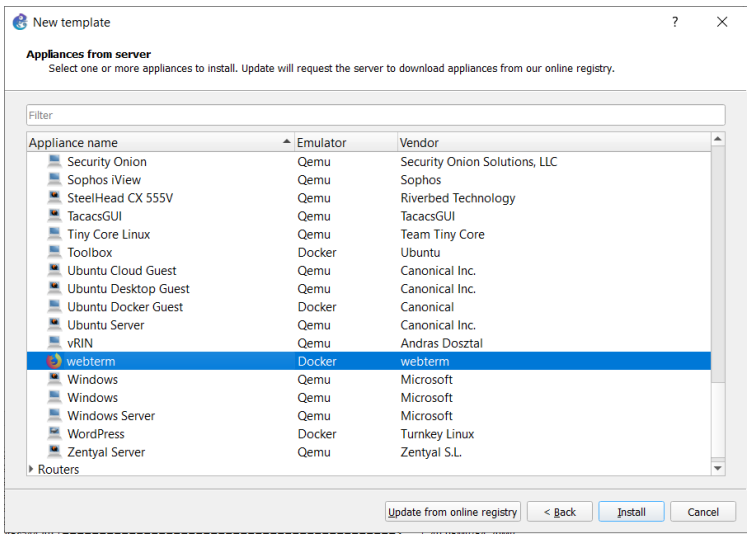
The NAT Node

Masukkan NAT ke dalam workspace. Pilih server GNS3 VM (Pastikan GNS3 VM Terhubung).

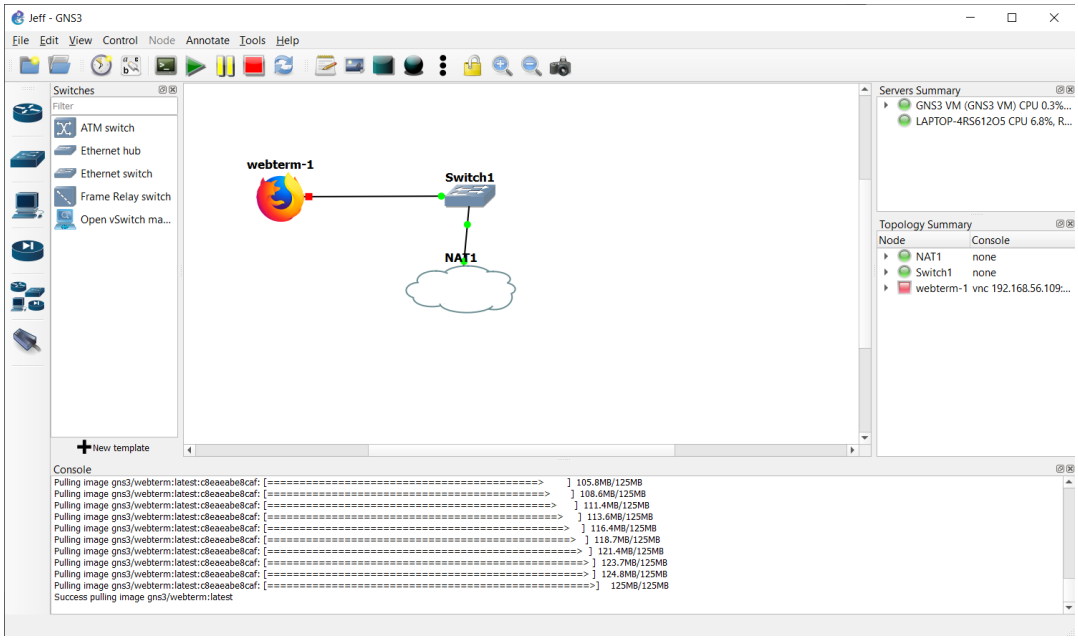


Setelah itu, install appliance webterm.

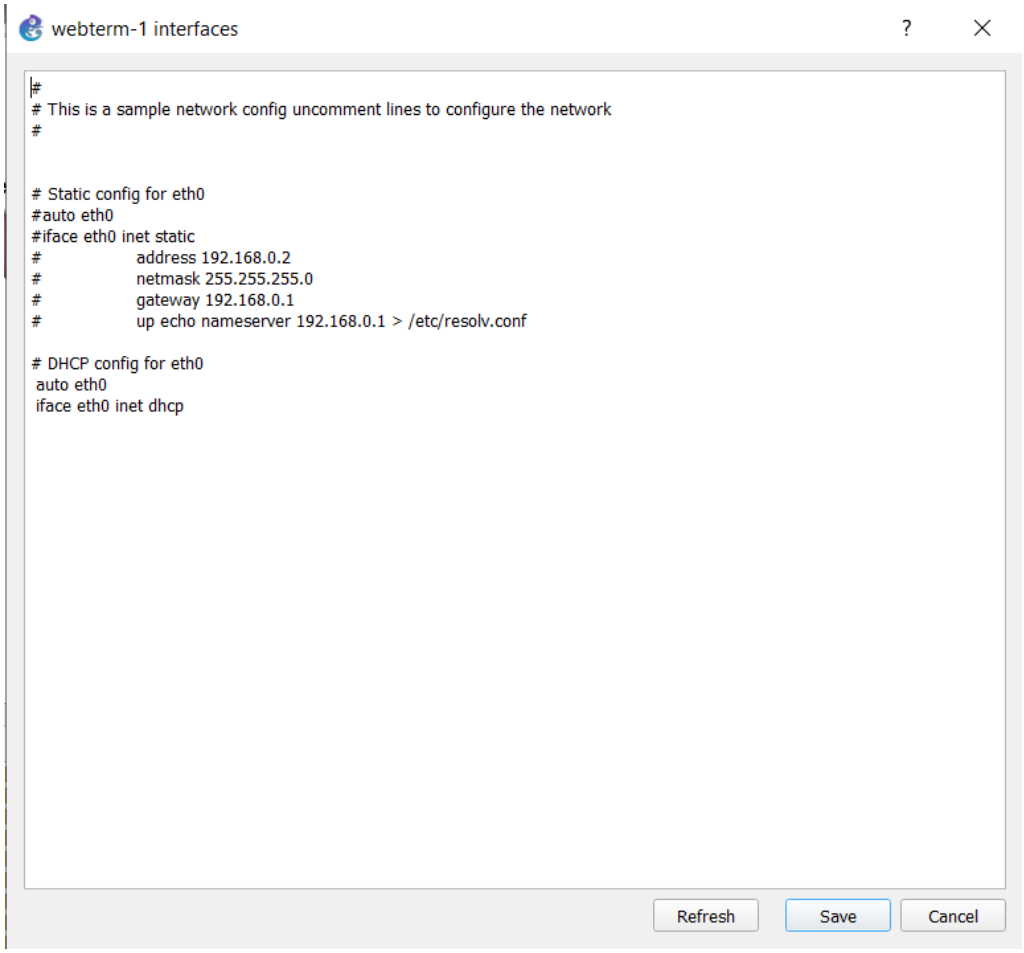




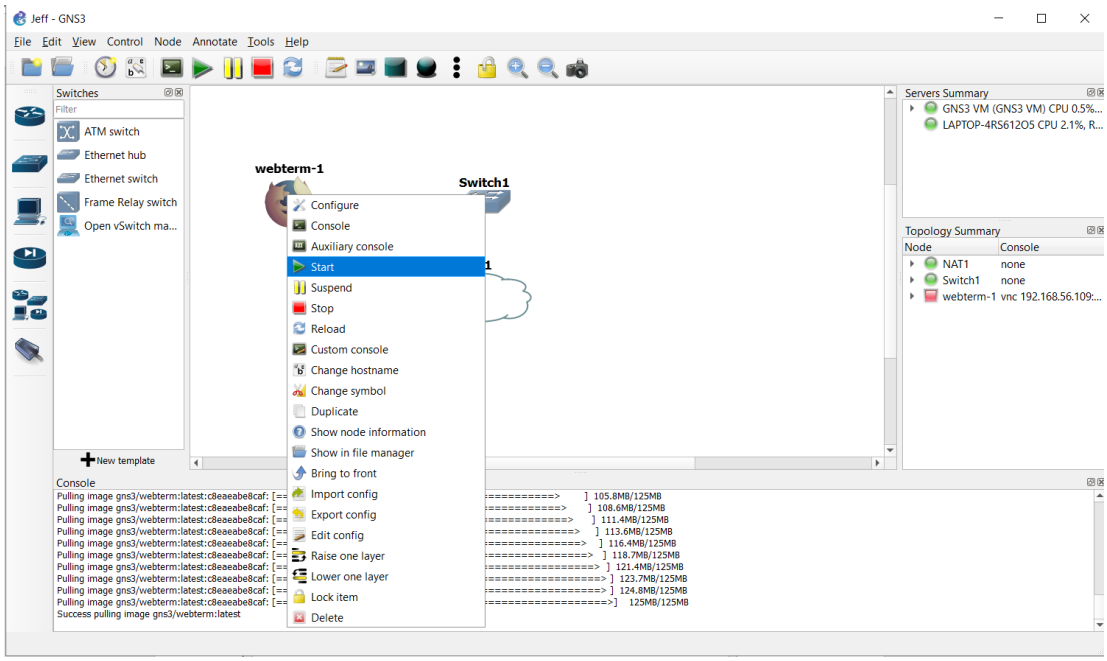
Jika sudah, tambahkan webterm ke dalam workspace dan juga switch untuk menghubungkan NAT dengan webterm. Link Device seperti pada gambar.



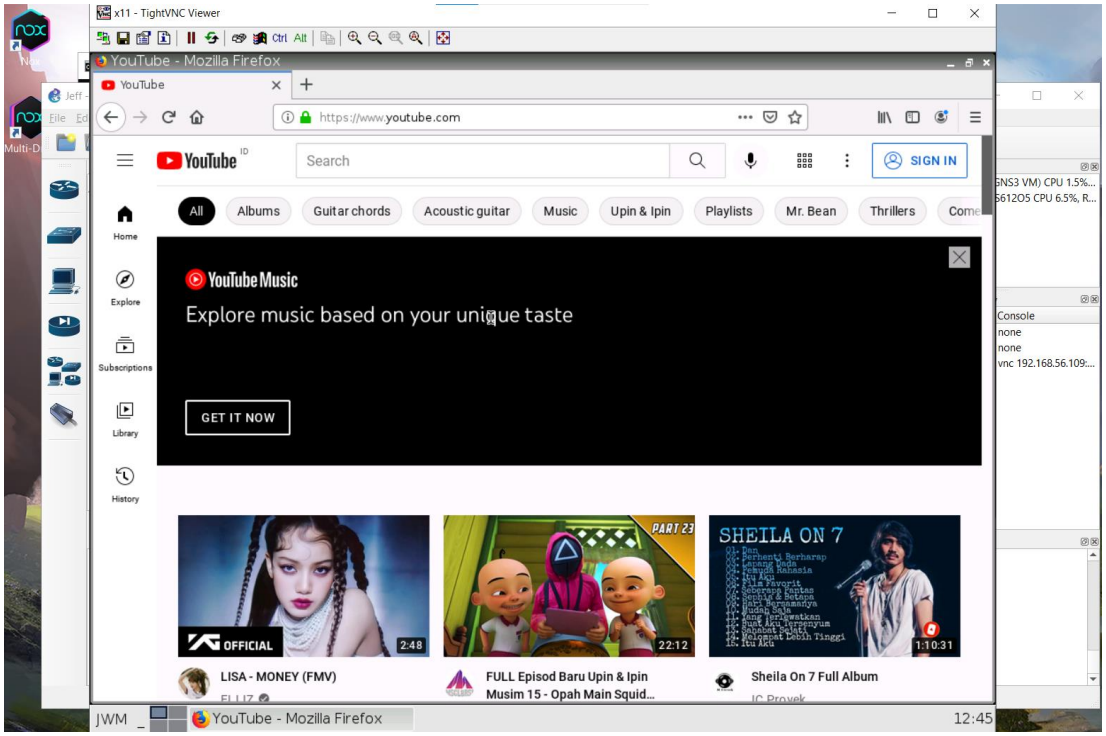
Nah untuk DHCP, edit konfigurasi dari webterm sebagai berikut. Hilangkan tanda komentar pada 2 baris paling ujung untuk mengaktifkan DHCP (auto). Setelah itu save.



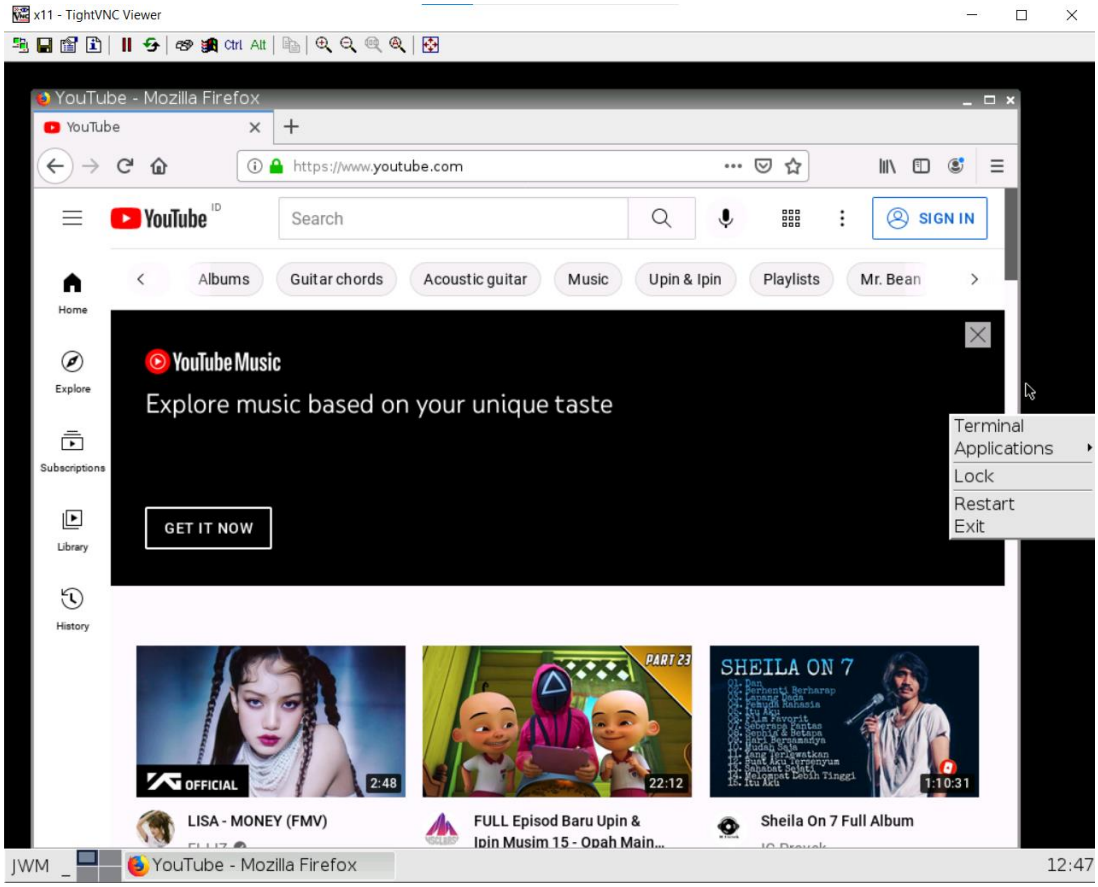
Jalankan dan klik 2x pada webterm. Dan munculah sebuah web.



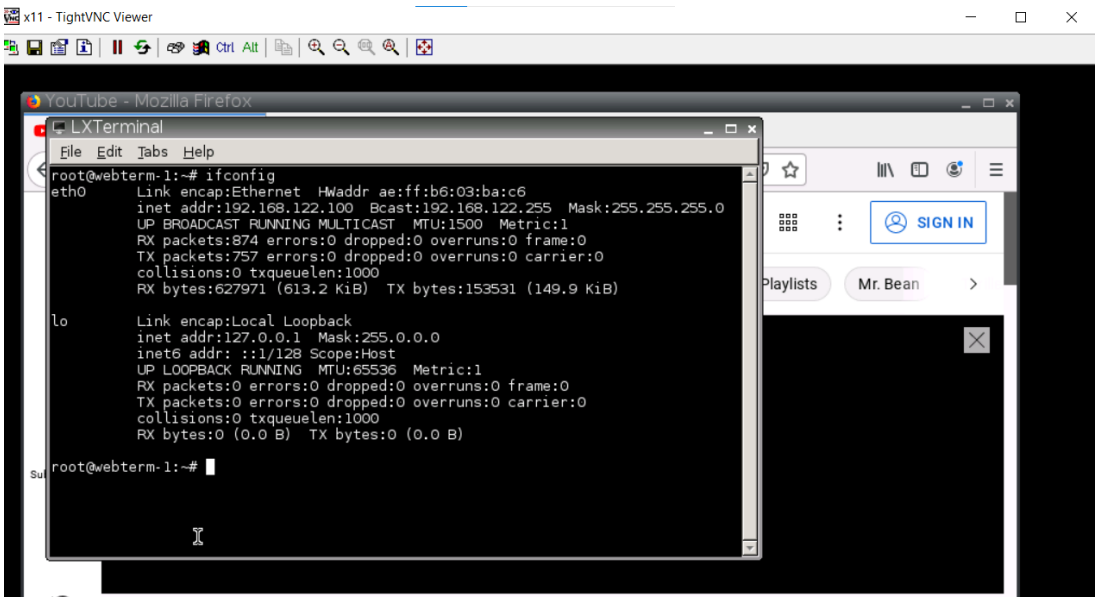
Pada web tersebut, buka sebuah url, misalnya youtube untuk mencoba apakah internet bisa berjalan atau tidak.



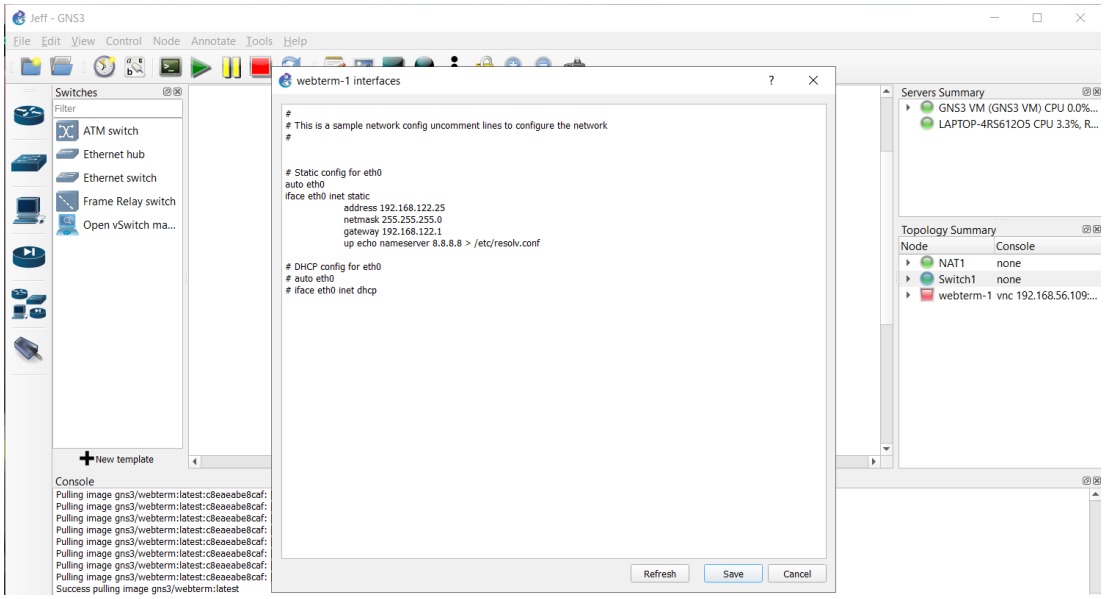
Buka terminal pada TightVNC Viewer (tab bawaan dari webterm).



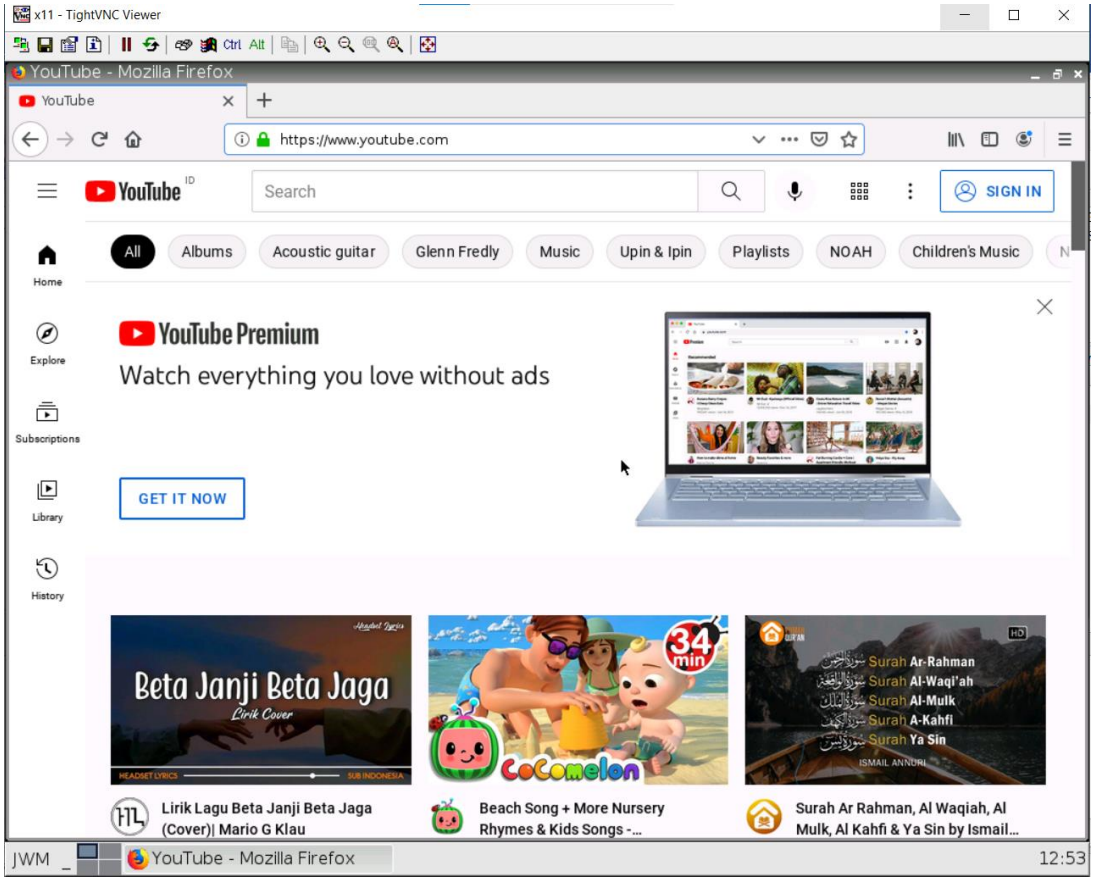
Cek koneksi dan ip address yang digunakan dengan menggunakan ifconfig.



Untuk yang selanjutnya yaitu menggunakan settingan Statis (Manual). Edit konfigurasi sebagai berikut. Setelah itu save.



Setelah selesai, coba buka webterm dan tes mengakses internet. Jika bisa maka koneksi telah berhasil terhubung.



Cek terminal dan liat settingan dari ip address dengan menggunakan ifconfig.