

The Emulation settings on EstiNet simulator module MIFX

The logo for EstiNet 11 5G is centered on a dark teal background. The word "Esti" is in a white, bold, sans-serif font, followed by "Net" in a white, regular, sans-serif font. The number "11" is in a white, regular, sans-serif font. To the right of "11" is the "5G" logo, which consists of the number "5" and the letter "G" in a white, regular, sans-serif font, with three horizontal lines of varying lengths extending to the right of the "G".

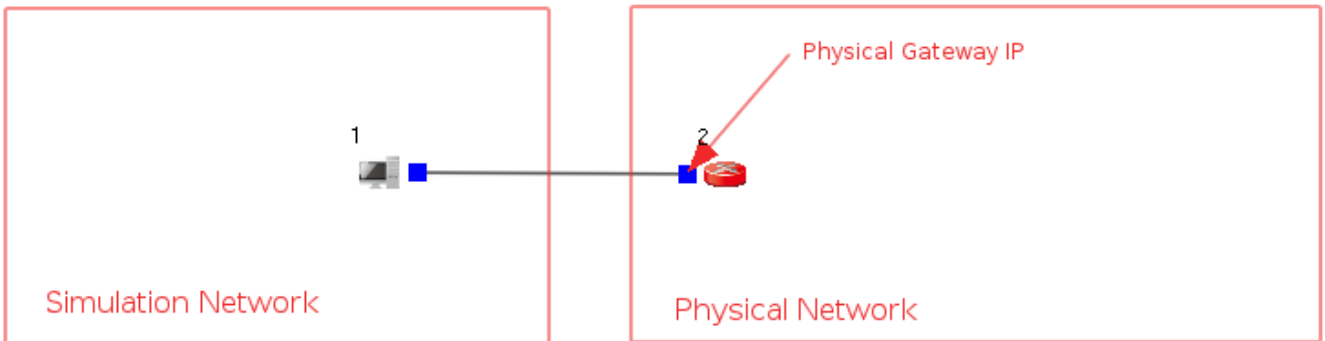
EstiNet 11 5G

MIFX module

The MIFX module is to send and receive packets between simulator and physical network card. This is a communication way for EstiNet simulator and physical network.

The setting steps of MIFX module

1. Select a Router Interface which will send and receive packets to physical network.



2. Make sure the subnet of physical network card.

```
[anton@localhost ~]$ ifconfig ens33
ens33: flags=4163<IP, BROADCAST, RUNNING, MULTICAST> mtu 1500
  inet 192.168.206.129 netmask 255.255.255.0 broadcast 192.168.206.255
  inet6 fe80::fceb:cc:c:cb2d:3e5b prefixlen 64 scopeid 0x20<link>
  ether 00:0c:29:62:c0:4b txqueuelen 1000 (Ethernet)
  RX packets 544142 bytes 41338281 (39.4 MiB)
  RX errors 0 dropped 0 overruns 0 frame 0
  TX packets 527195 bytes 1344091653 (1.2 GiB)
  TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

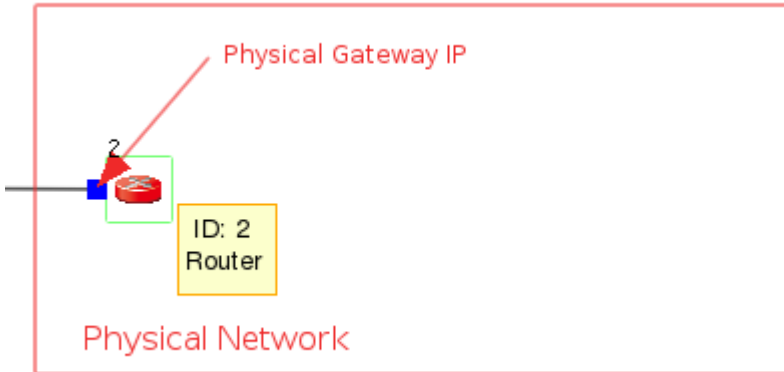
3. Make sure the Gateway IP of physical network.

```
[anton@localhost ~]$ ip route
default via 192.168.206.2 dev ens33 proto static metric 100
172.17.0.0/16 dev docker0 proto kernel scope link src 172.17.0.1 linkdown
192.168.206.0/24 dev ens33 proto kernel scope link src 192.168.206.129 metric 100
```

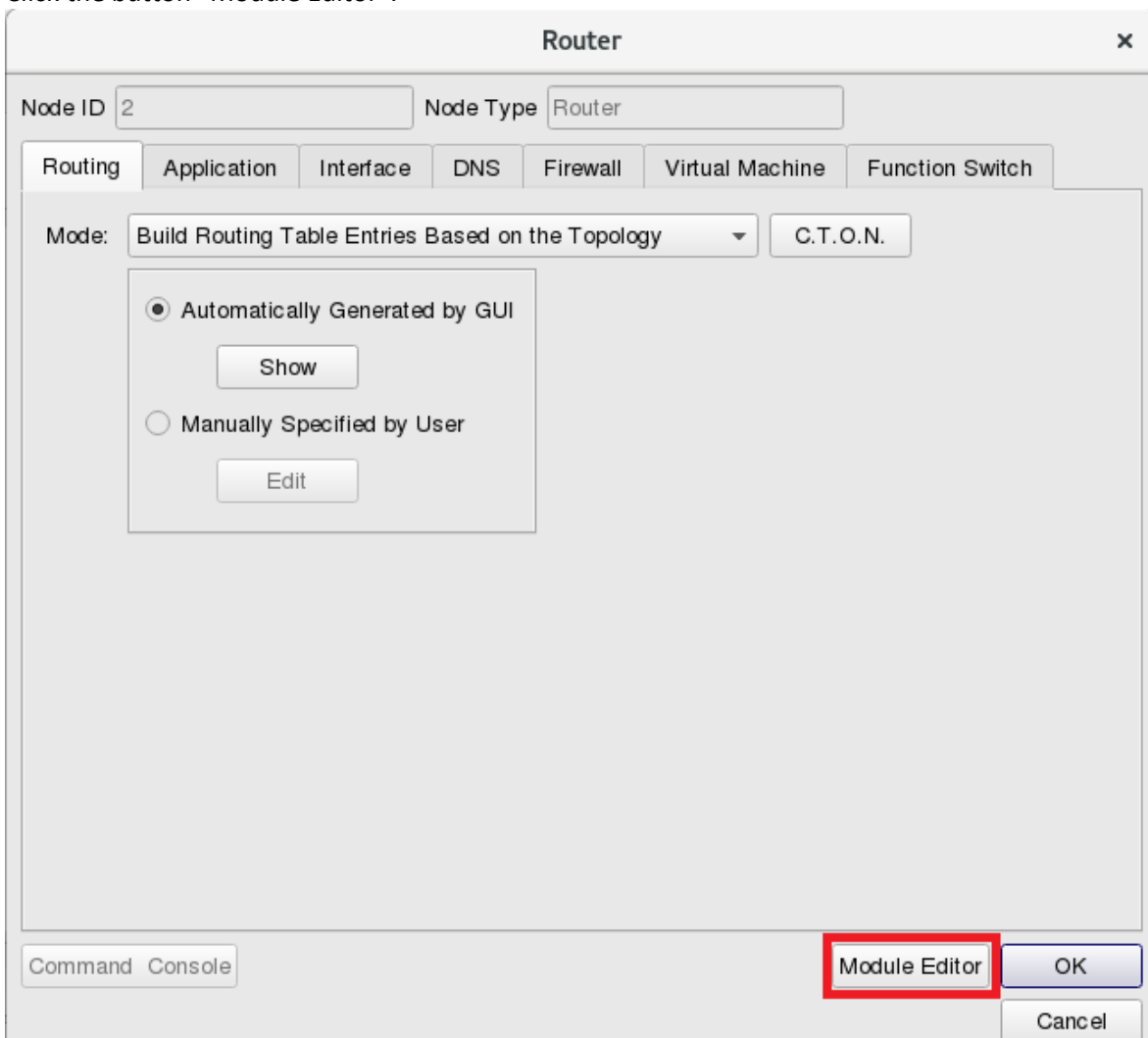
4. Switch to Edit Parameters state.



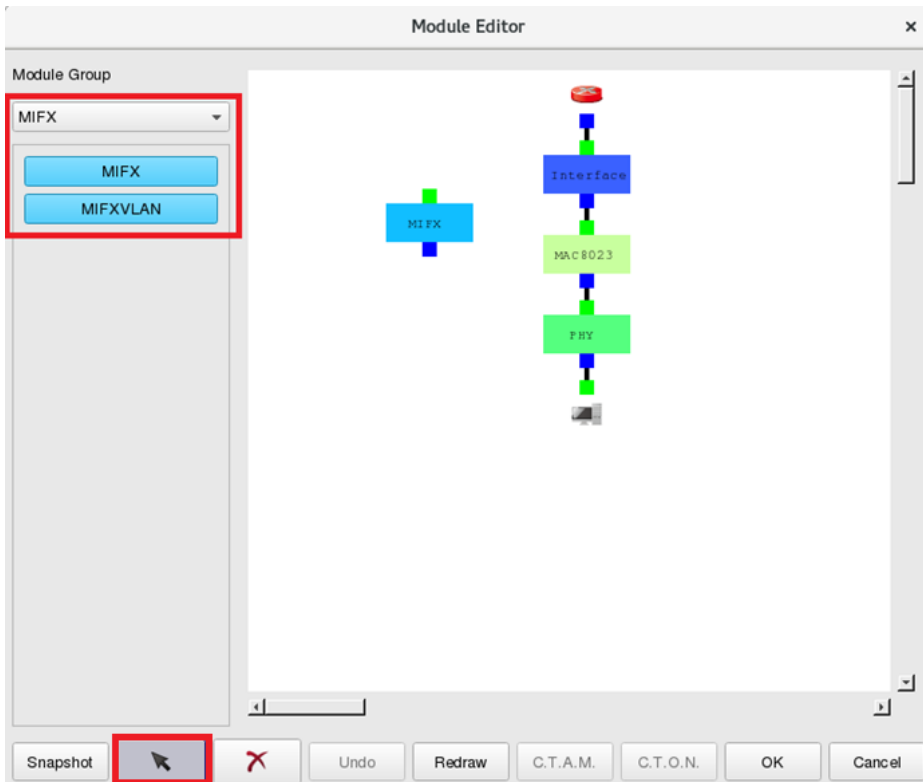
5. Double click the Node which will send and receive packets between simulator and physical network.



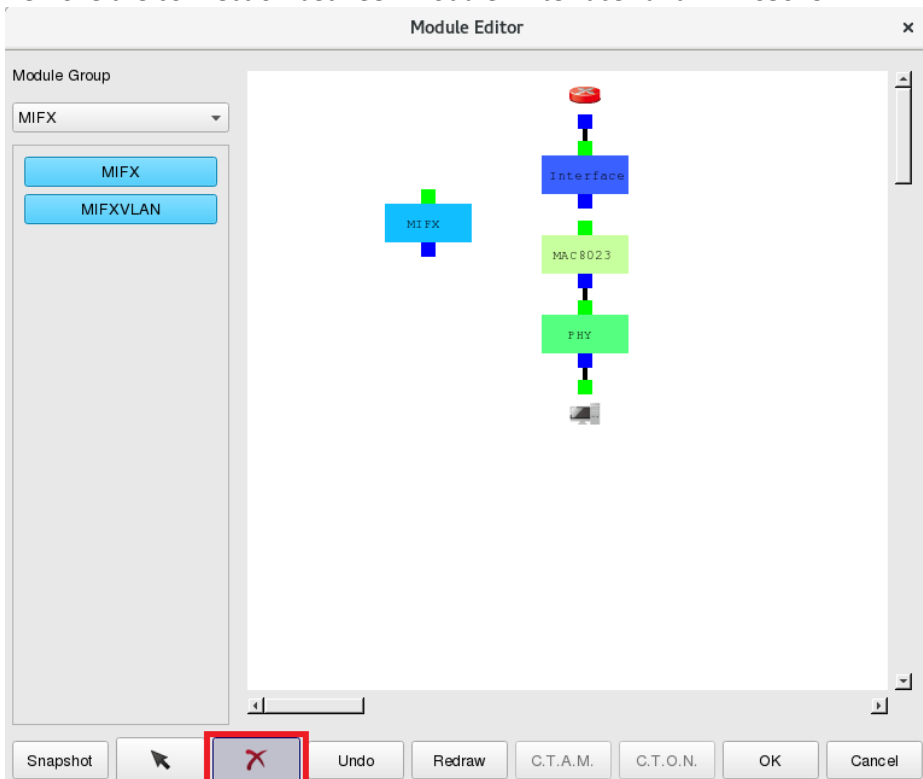
6. Click the button "Module Editor".



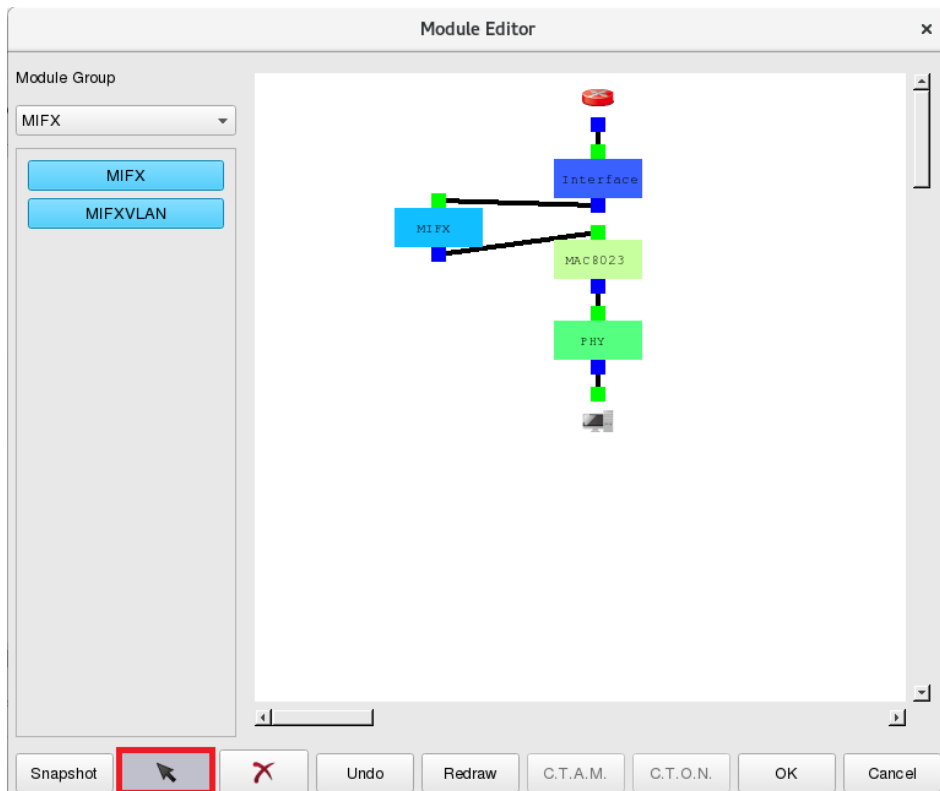
7. Add a MIFX module from Module Group.



Remove the connection between module "Interface" and "MAC8023".



Connect the module "Interface" <-> "MIFX" and "MAC8023".

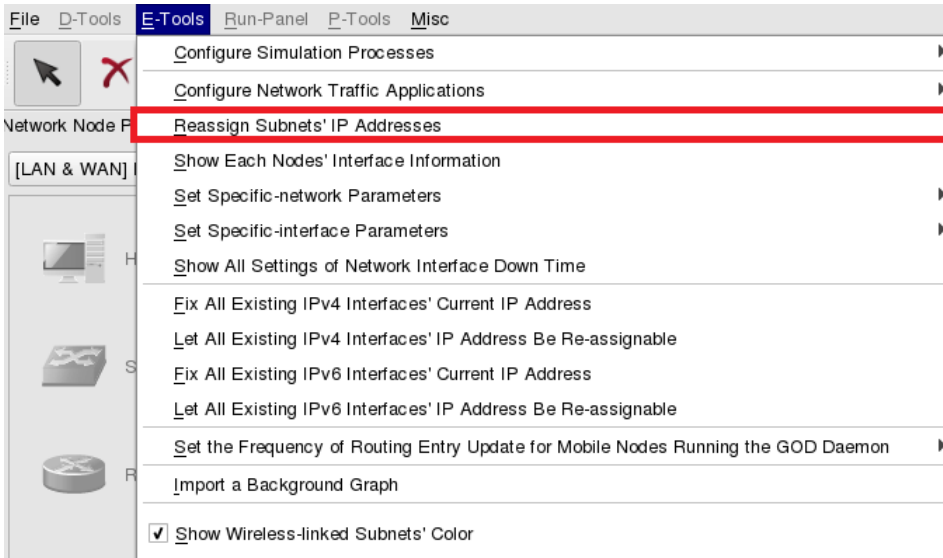


Double click module MIFX to set the physical network interface card.

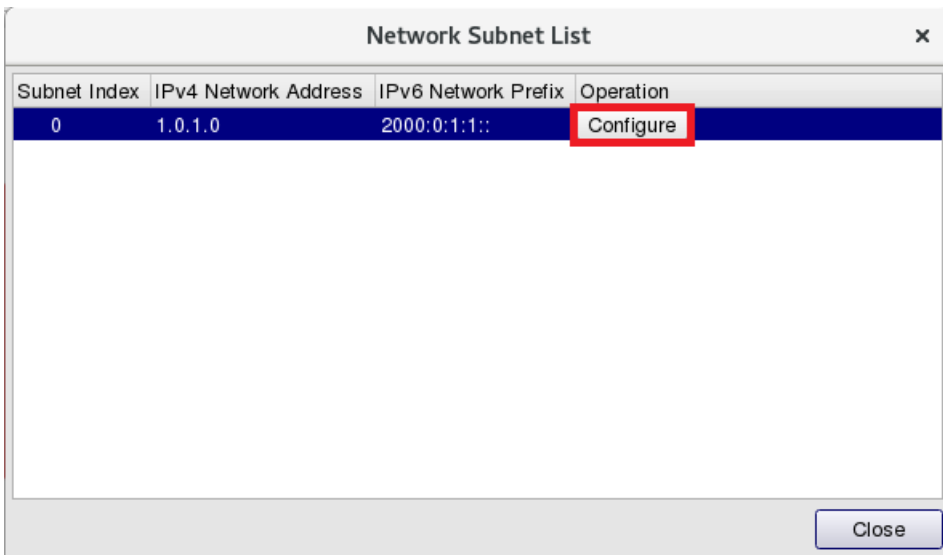
The Module Edit dialog box is titled 'Module Edit' and contains the following sections:

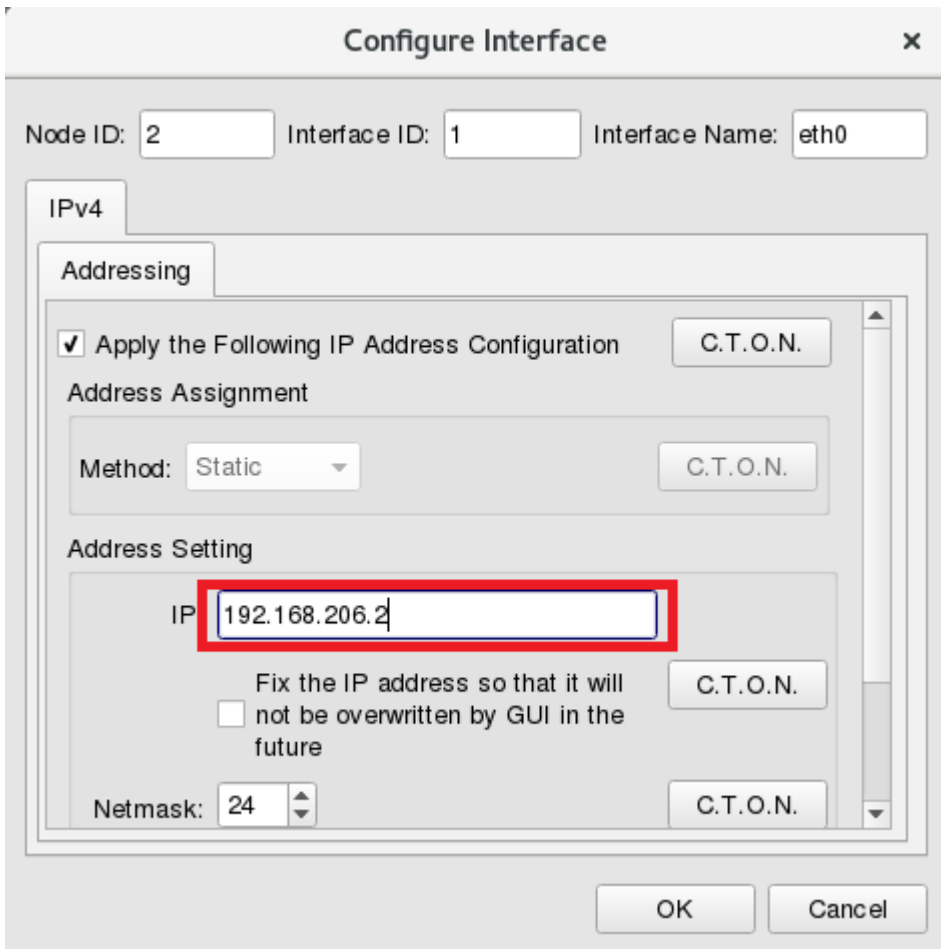
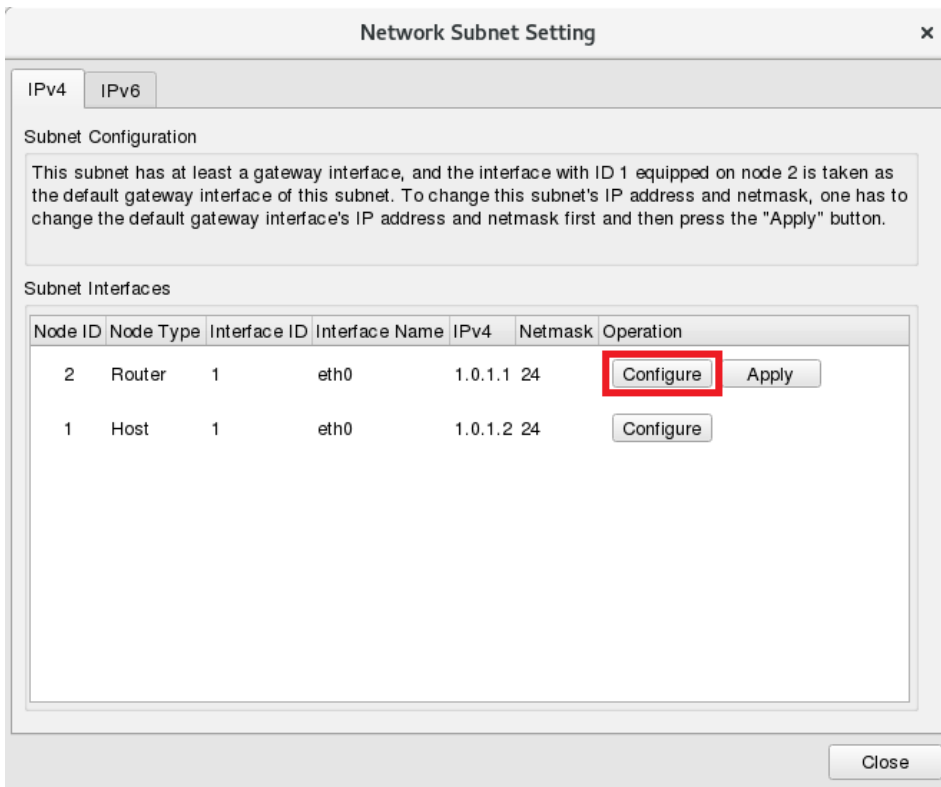
- Parameters Setting**
- Information for sending packets to the physical network interface:**
 - Interface Name: (highlighted with a red box)
- Action when receiving packets from the physical network interface:**
 - Sending packets up to module stack
 - Sending packets down to module stack
- Action when receiving packets from the neighbor module:**
 - Drop the packets form the lower module stack
 - Drop the packets form the upper module stack
- Buttons: OK, Cancel

8. From tool bar “E-Tools”=> Reassign Subnets’ IP Address, to reset the interface IP. To make the same subnet between simulation environment and physical network interface IP. In this sample, the Gateway IP of physical network is “192.168.206.2”.

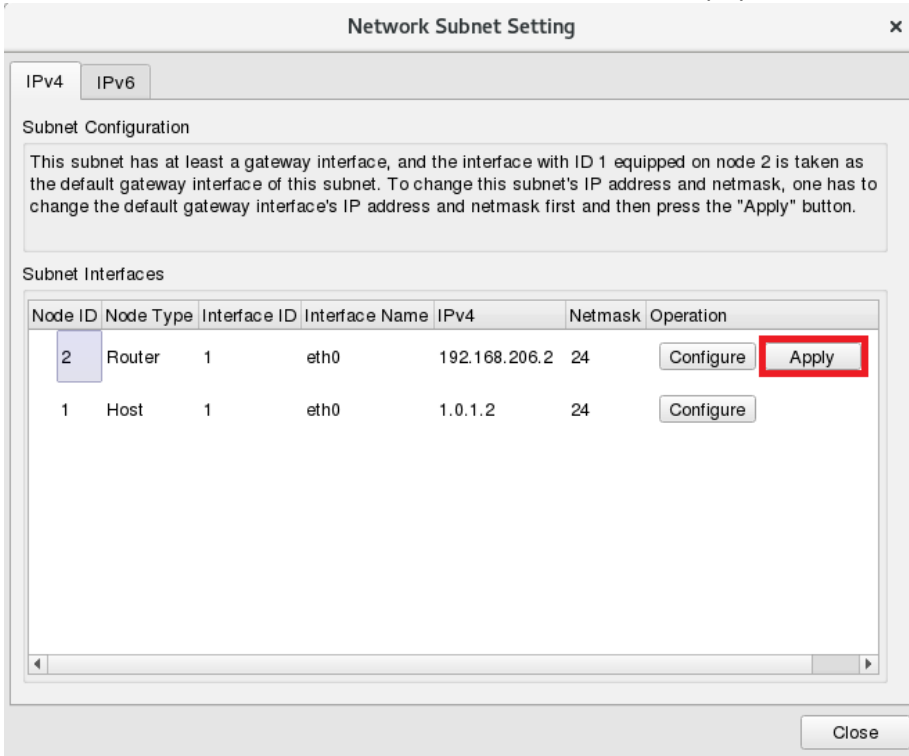


- 9.

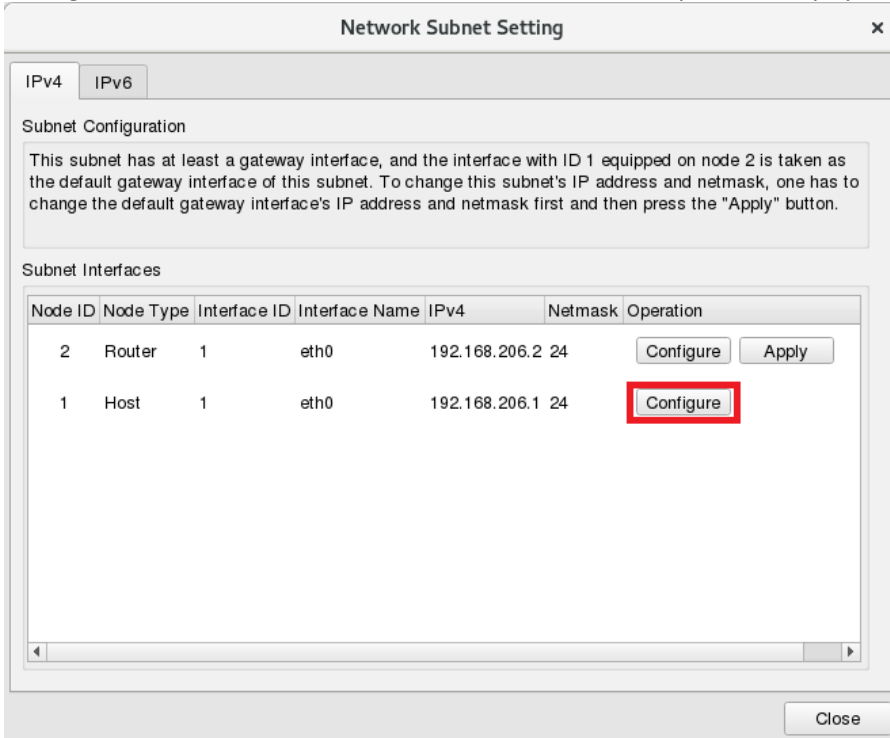


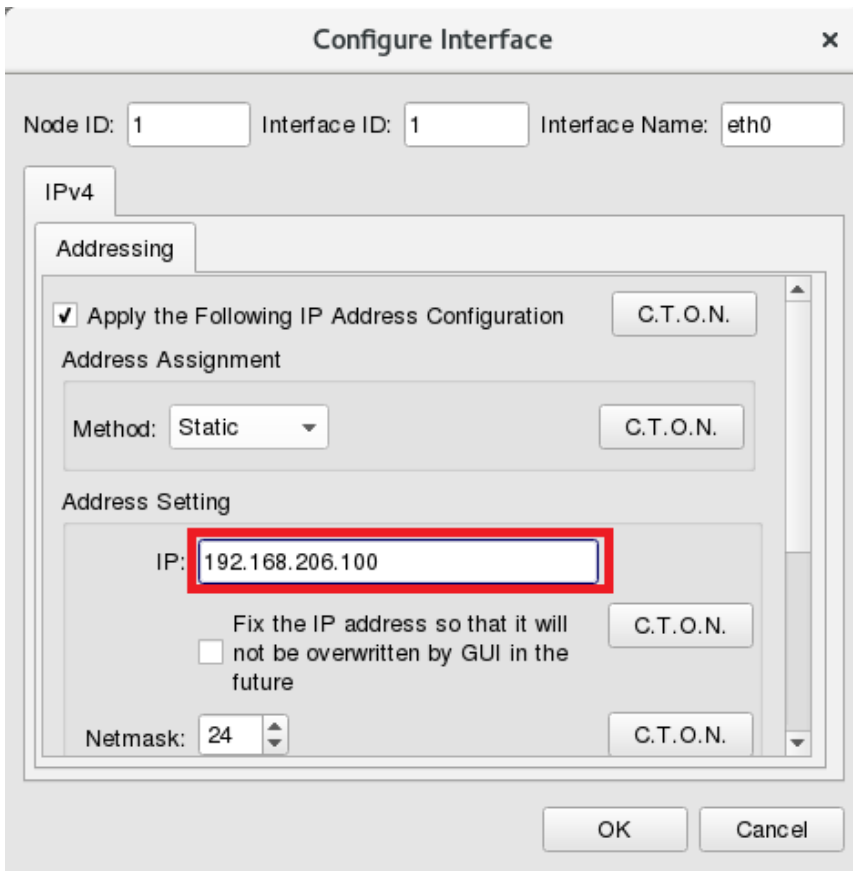


10. To make the same subnet between simulation Node and a physical network interface card.



11. Configure other Node Interface IP which could not be duplicated to physical network IP.

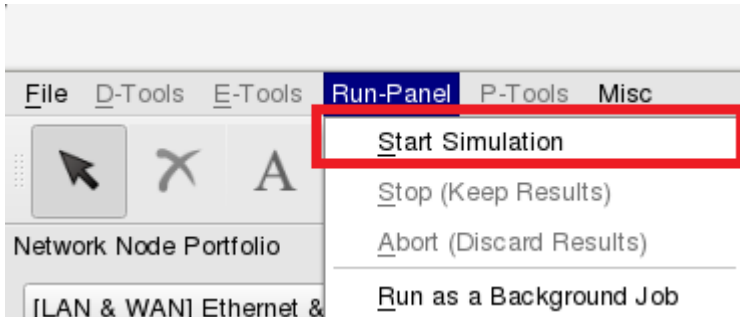




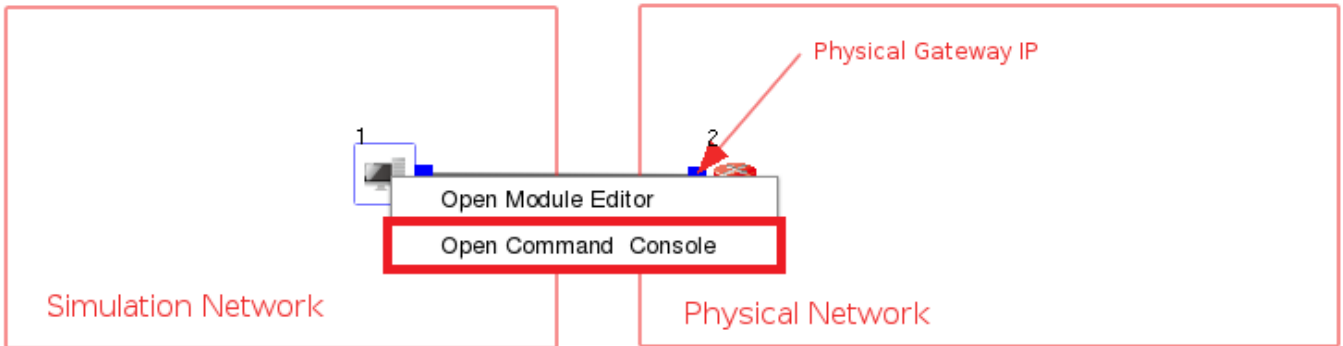
12. Switch to "G" state "Generate Configuration File".



13. To execute simulation from tool bar "Run-Panel" => "Start Simulation".



14. Click mouse right button to “Open Command Console”.



15. Use command “ping” to test the network connection status.
PS. IP 8.8.8.8 is Google DNS server.

```
NODE 1
[root@localhost node1]# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=128 time=108 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=128 time=8.08 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=128 time=8.08 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=128 time=7.08 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=128 time=8.08 ms
█
```