

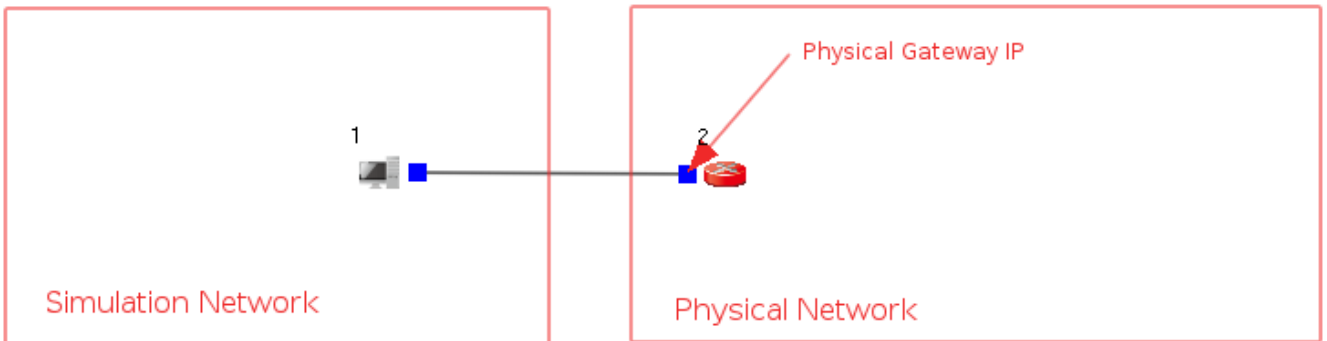
The Emulation settings on EstiNet simulator module MIFX

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
```

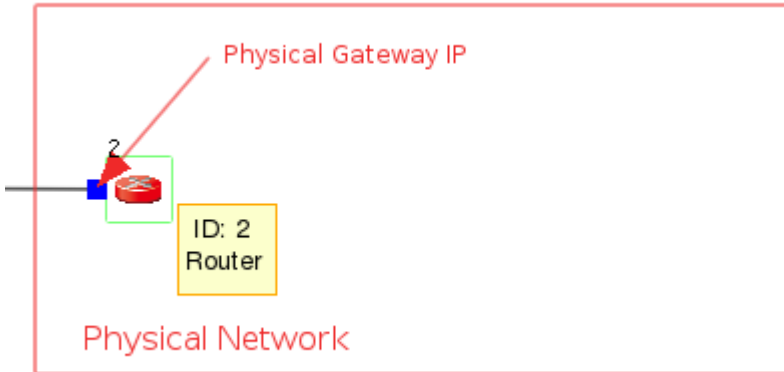
3. Make sure the Gateway IP of physical network.

```
[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
```

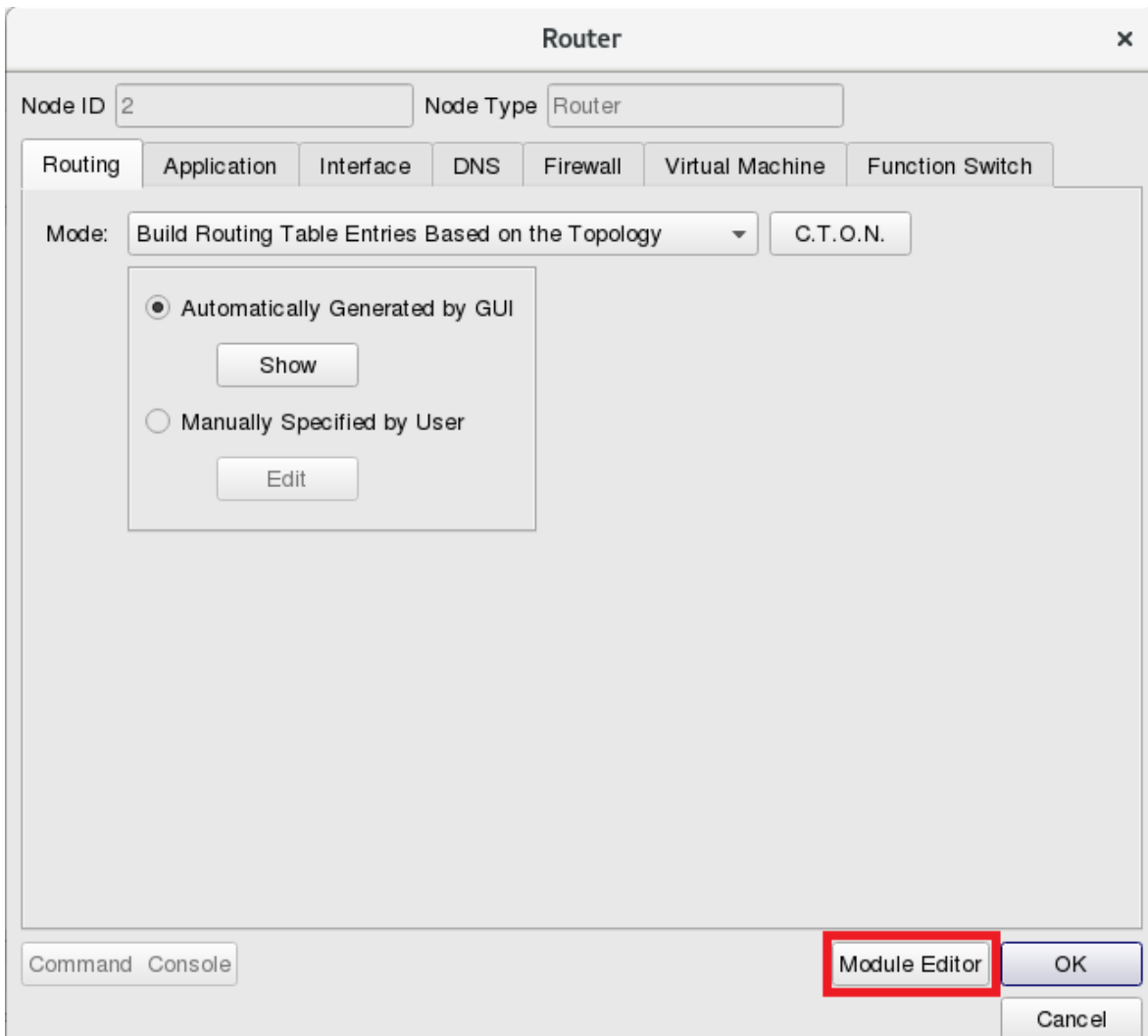
4. Switch to Edit Parameters state.



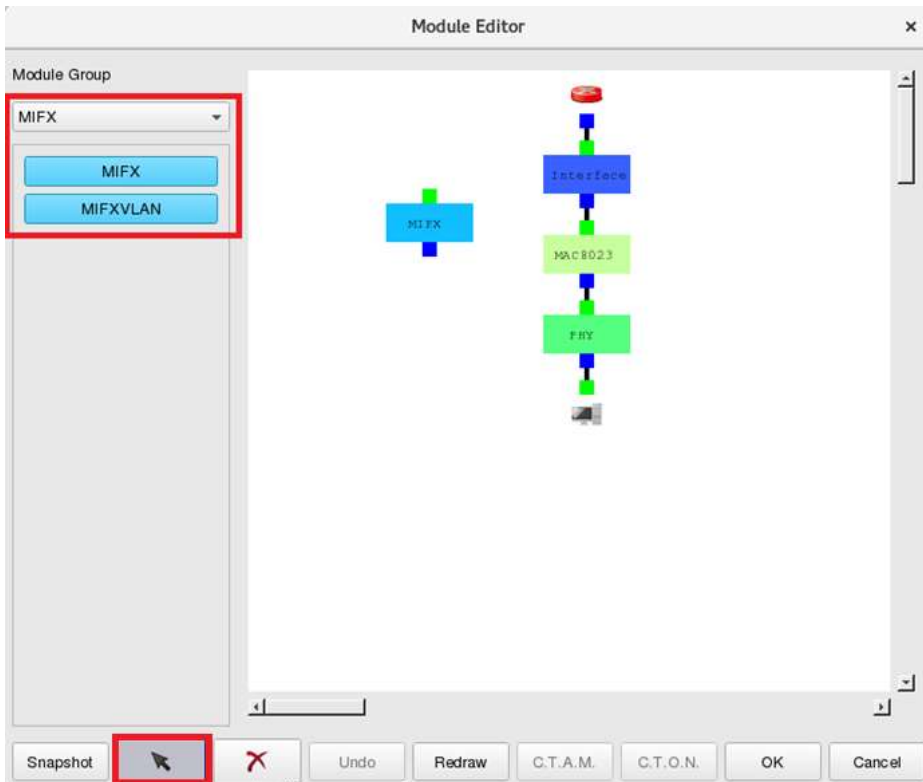
5. Double click the Node which will send and receive packets between simulator and physical network.



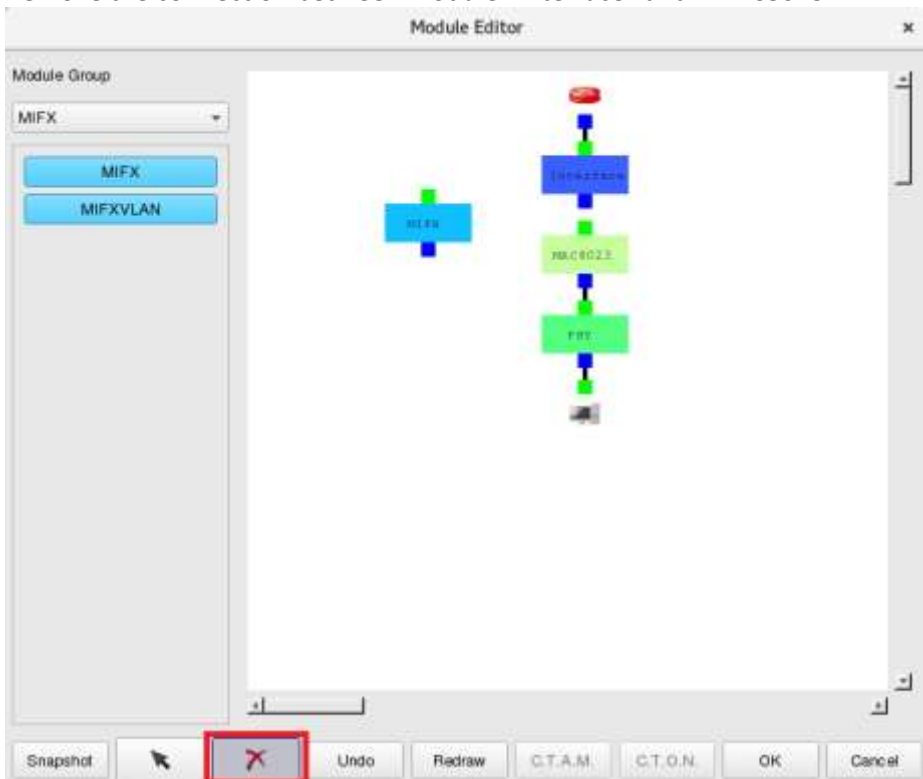
6. Click the button "Module Editor".



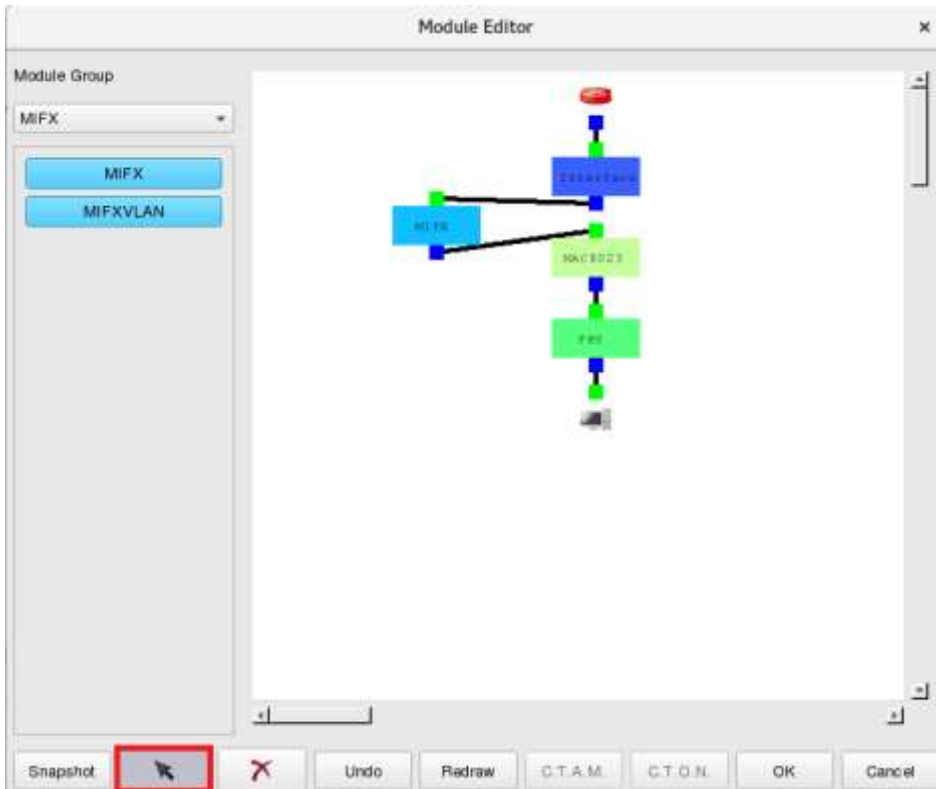
7. Add a MIFX module from Module Group.



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



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



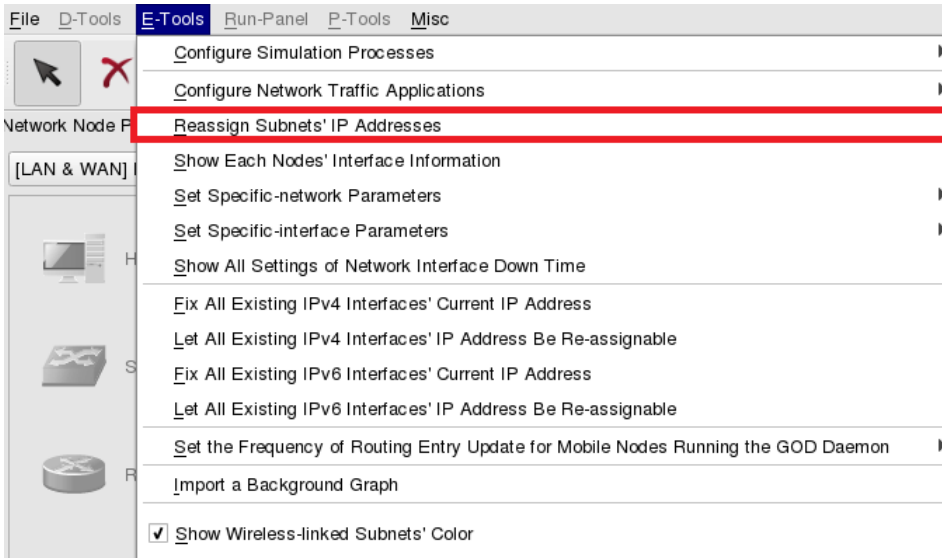
Double click module MIFX to set the physical network interface card.

The screenshot shows the 'Module Edit' dialog box. The title is 'Module Edit'. Under 'Parameters Setting', there are three sections:

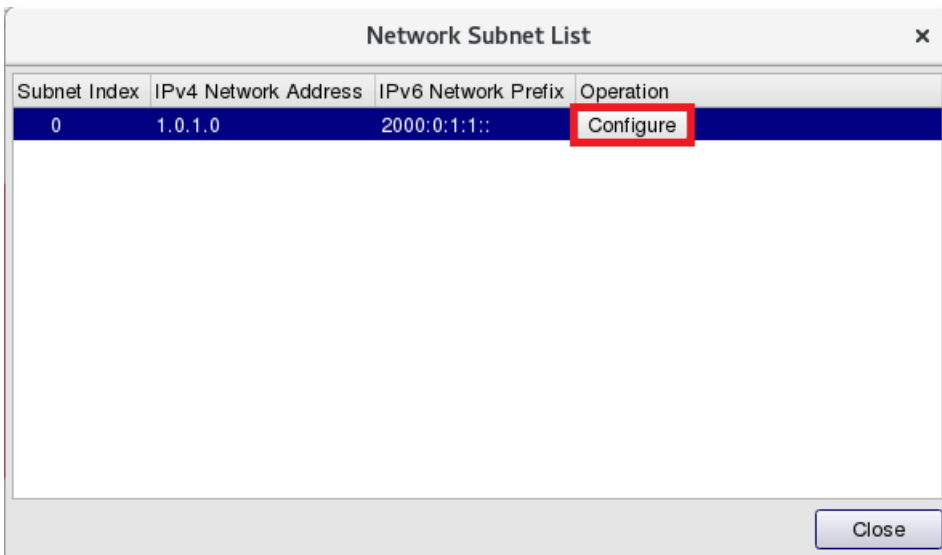
- Information for sending packets to the physical network interface:** The 'Interface Name' field contains 'ens33' and is highlighted with a red box.
- Action when receiving packets from the physical network interface:** There are two radio buttons: 'Sending packets up to module stack' (unselected) and 'Sending packets down to module stack' (selected).
- Action when receiving packets from the neighbor module:** There are two checked checkboxes: 'Drop the packets form the lower module stack' and 'Drop the packets form the upper module stack'.

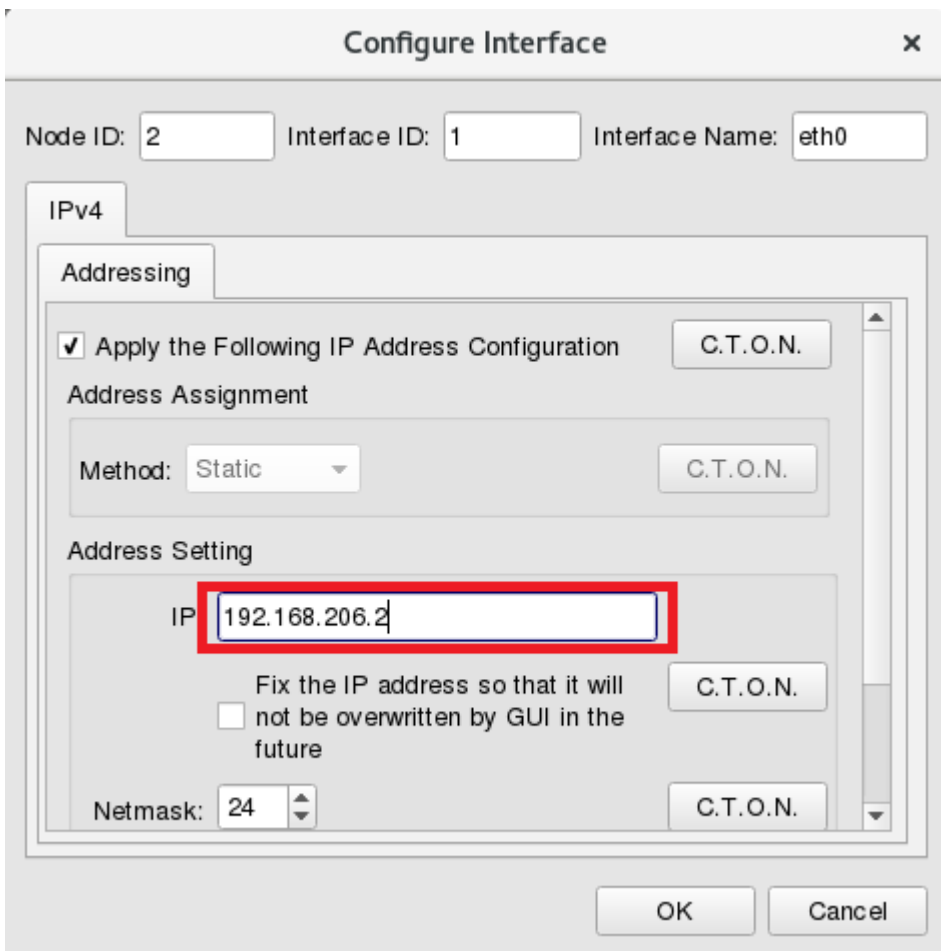
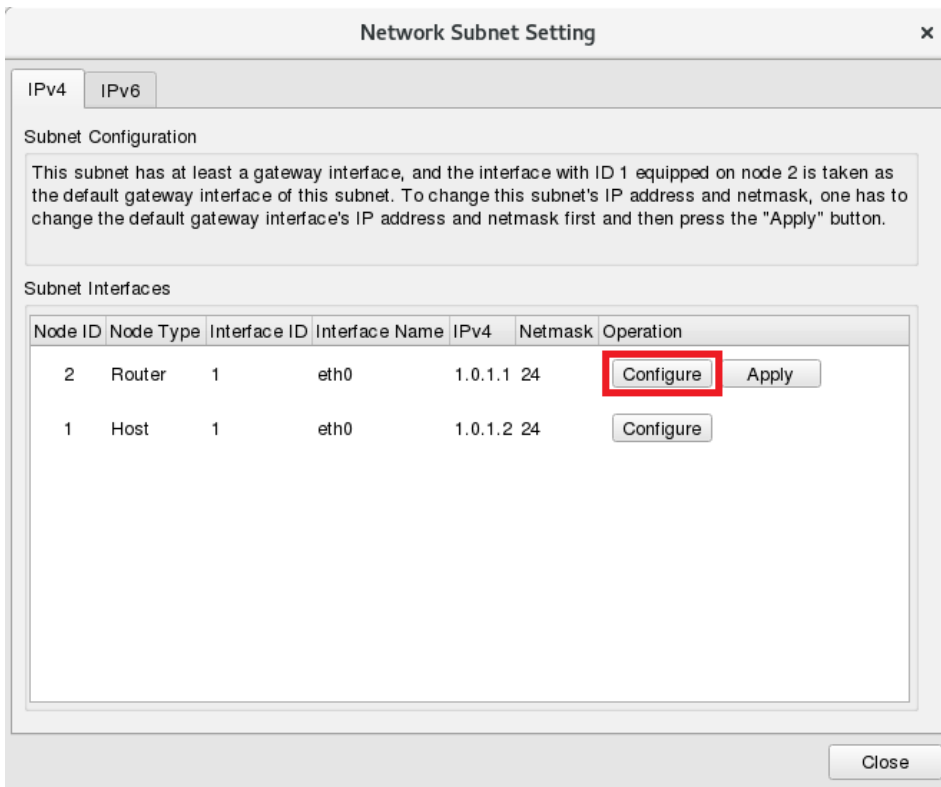
At the bottom right, there are 'OK' and 'Cancel' buttons.

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”.

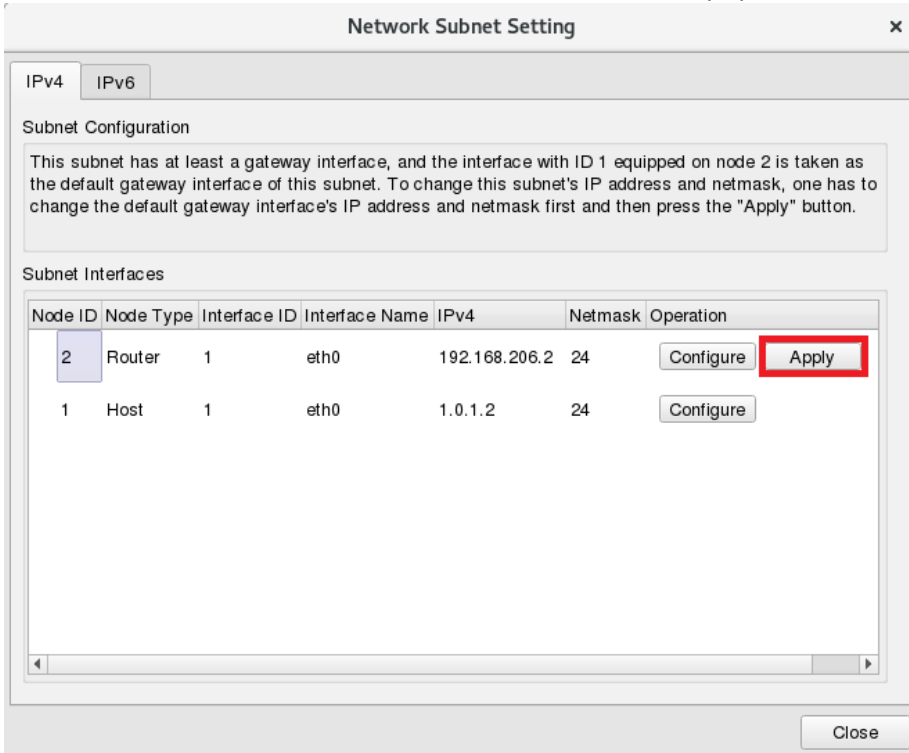


- 9.

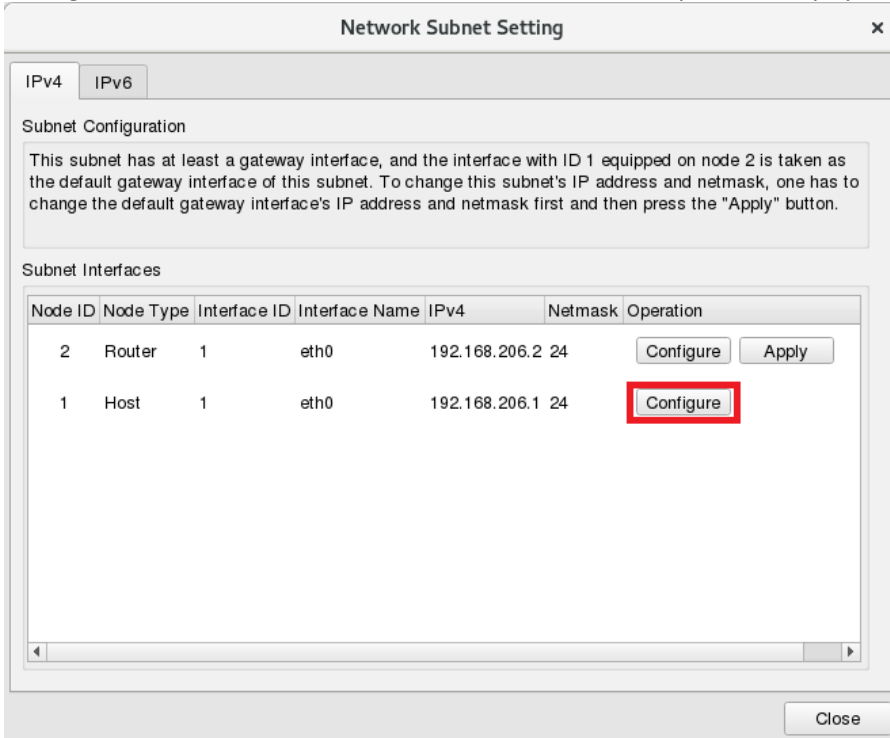


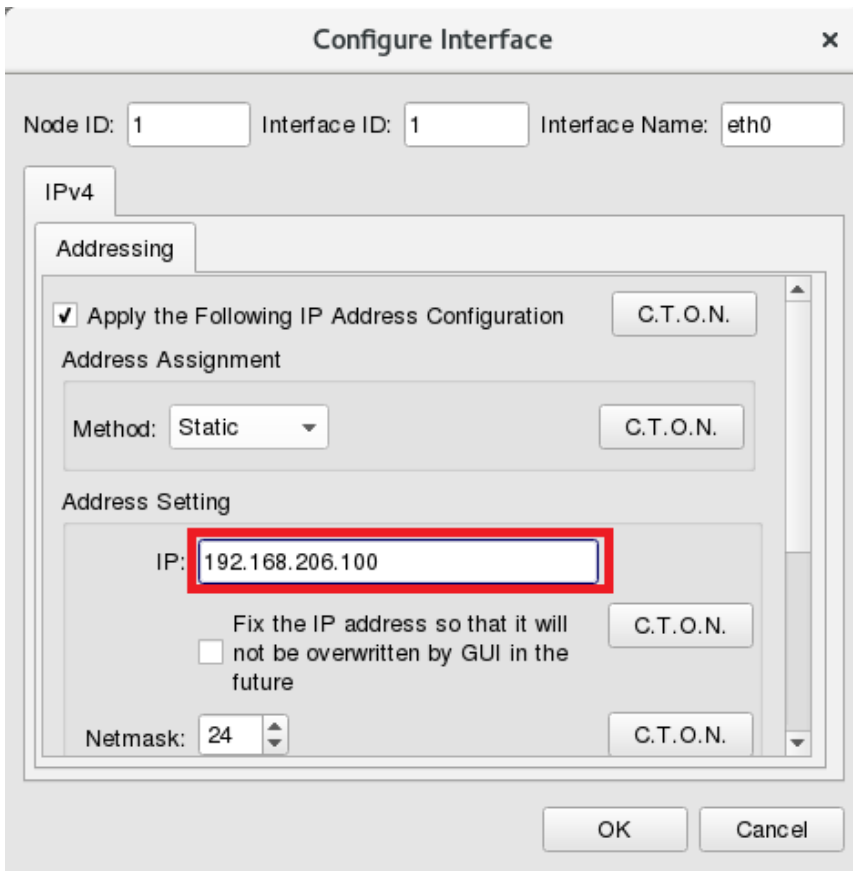


10. To make the same subnet between simulation Node and a physical network interface card.



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

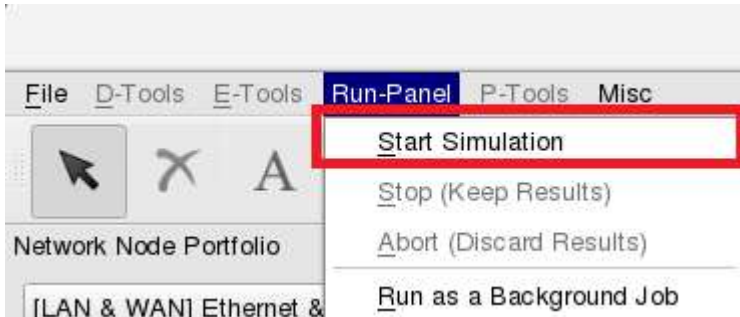




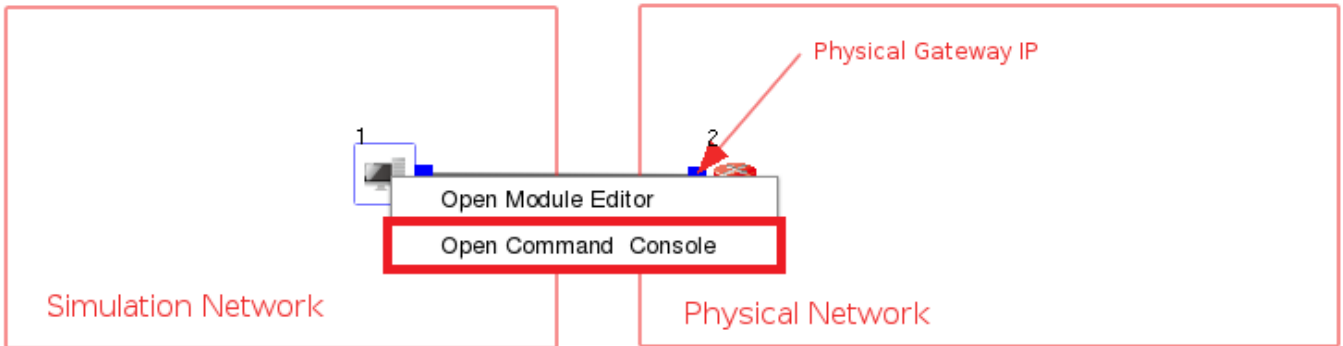
12. Switch to "G" state "Generate Configuration File".



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
█
```