



IT3010

Network Design & Management

3rd Year, 1st Semester

<Lab Report>

<Practical 01/lab report 01 >

Submitted to
Sri Lanka Institute of Information Technology

In partial fulfillment of the requirements for the
Bachelor of Science Special Honors Degree in Information Technology

<<2019/03/02>>

Declaration

I certify that this report does not incorporate without acknowledgement, any material previously submitted for a degree or diploma in any university, and to the best of my knowledge and belief it does not contain any material previously published or written by another person, except where due reference is made in text.

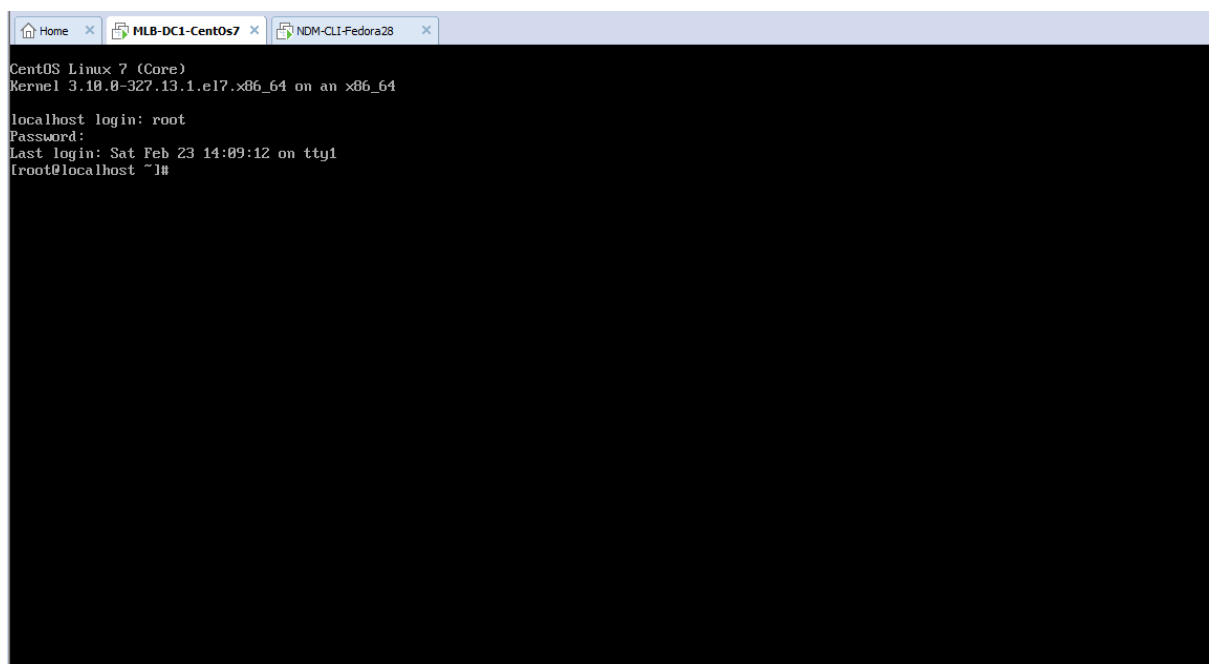
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Name : Perera K.G.I.D

Network Configurations

Configure Server CentOS7

- 1) Login to the CentOS7 using user/password root. Then CLI goes to [root@localhost].

A screenshot of a terminal window with three tabs: 'Home', 'MLB-DC1-CentOs7', and 'NDM-CLI-Fedora28'. The terminal output shows the CentOS 7 login sequence: 'CentOS Linux 7 (Core)', 'Kernel 3.10.0-327.13.1.el7.x86_64 on an x86_64', 'localhost login: root', 'Password:', 'Last login: Sat Feb 23 14:09:12 on tty1', and the root prompt '[root@localhost ~]#'.

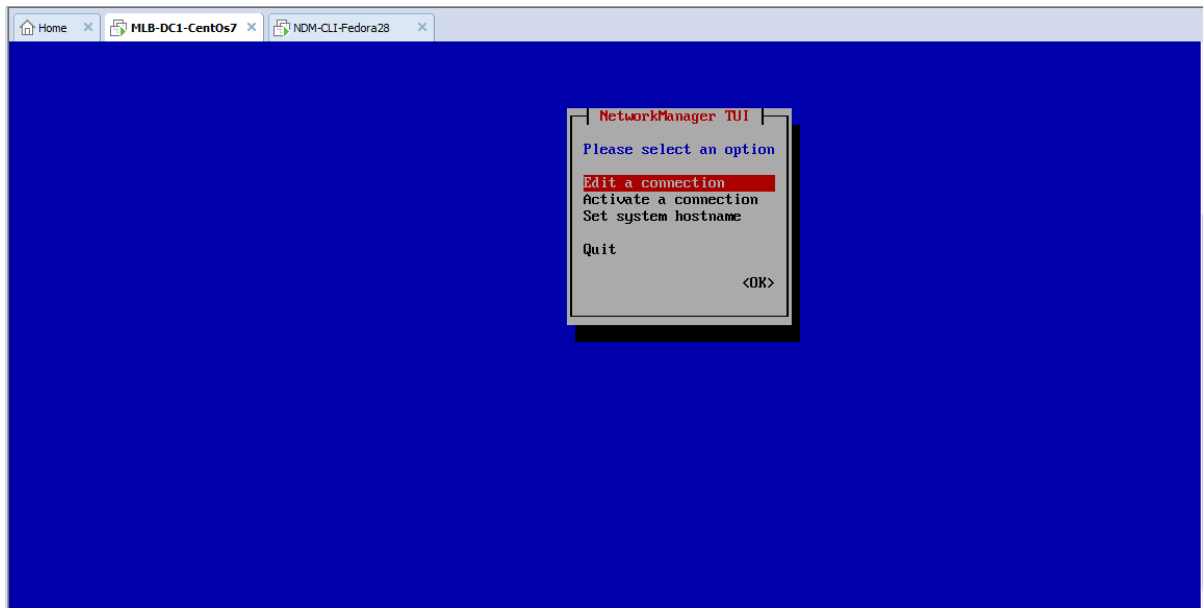
```
CentOS Linux 7 (Core)
Kernel 3.10.0-327.13.1.el7.x86_64 on an x86_64

localhost login: root
Password:
Last login: Sat Feb 23 14:09:12 on tty1
[root@localhost ~]#
```

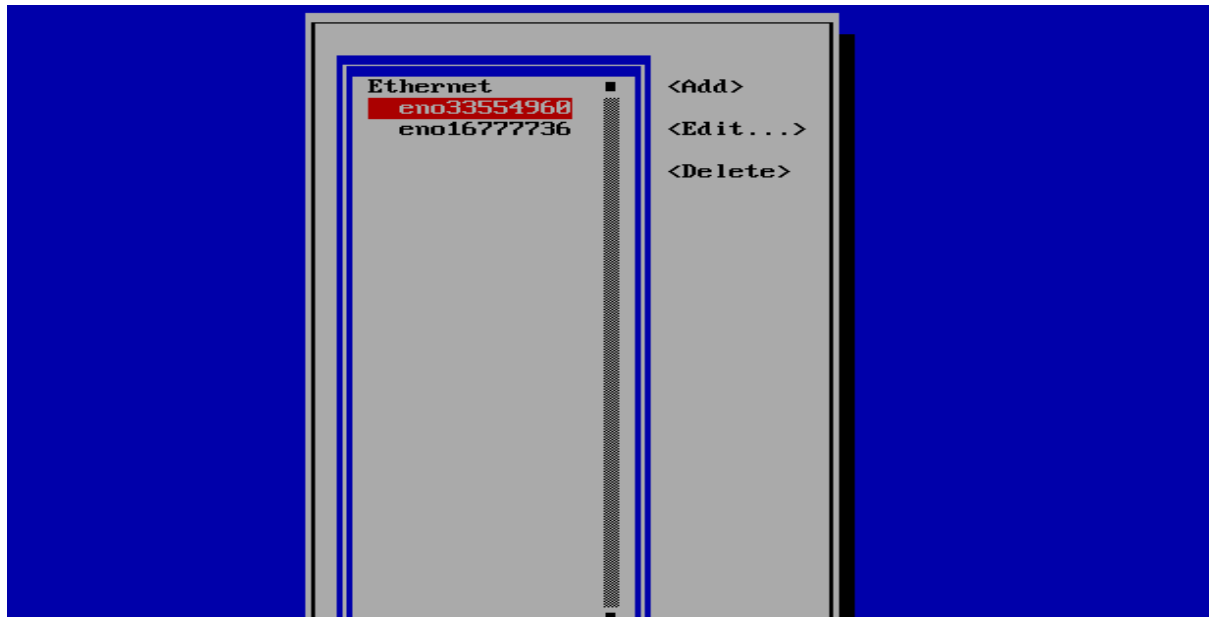
2)Then configure the Sever using nmtui command in CLI. In nmtui we can edit / activate / set system host name.

[illegible]

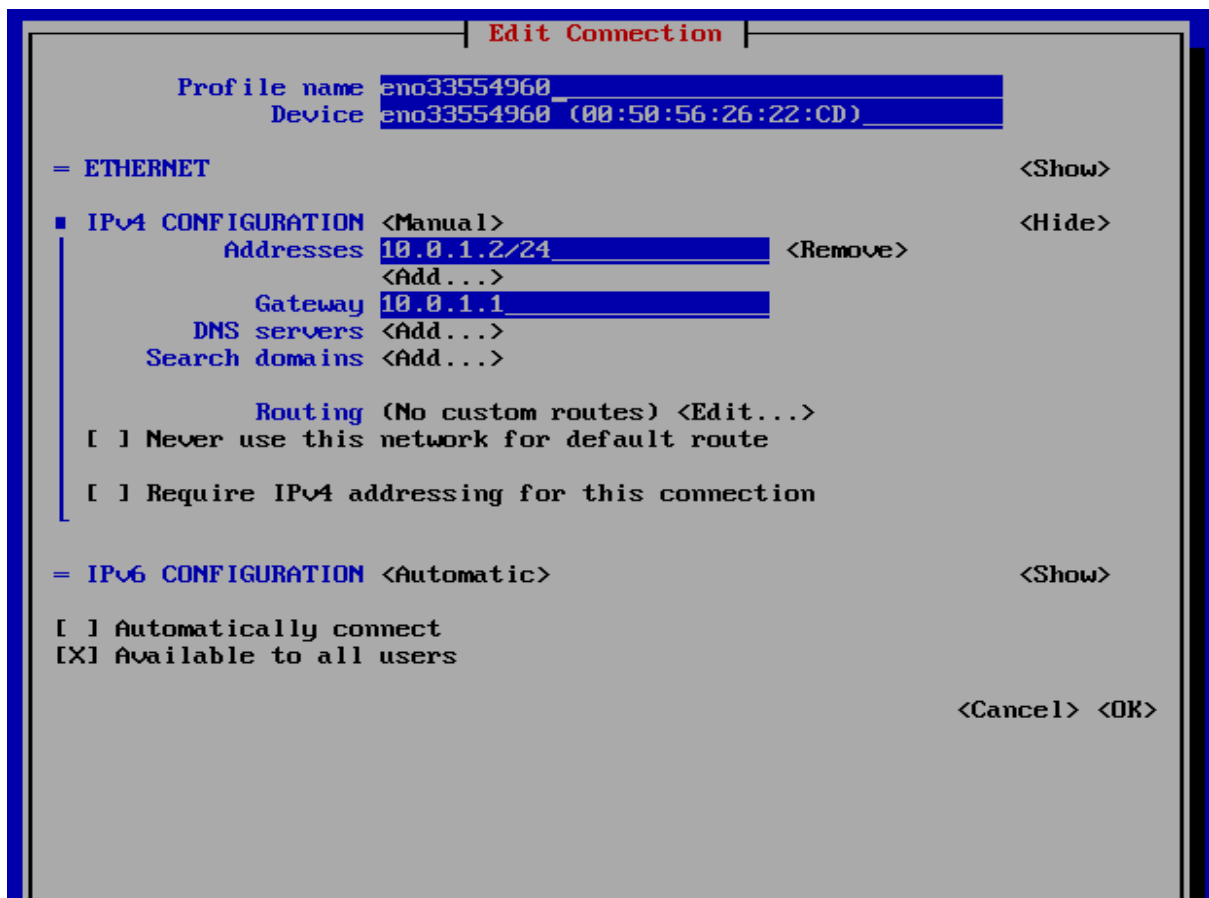
2) Edit connection using => Edit a connection



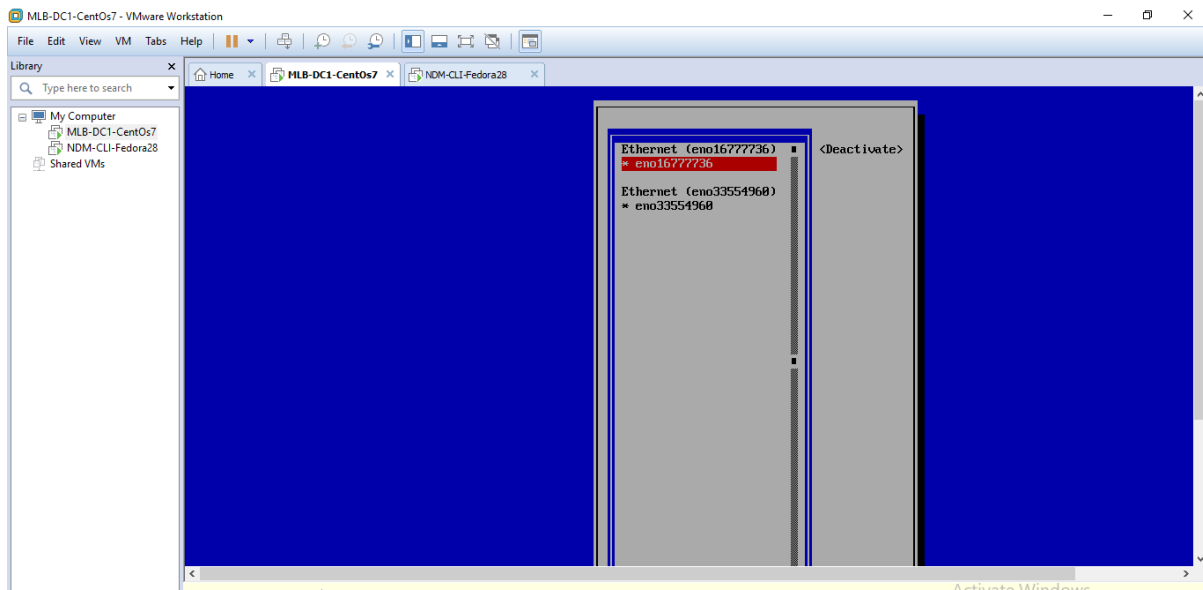
- 3) Edit network adapter in my case VMNAT2 => eno33554960. Then select <Edit...>



- 4) Set IPV4 conf <auto> => manual. Then Set address 10.0.1.2/24. Set Gateway 10.0.1.1. Then <ok>.



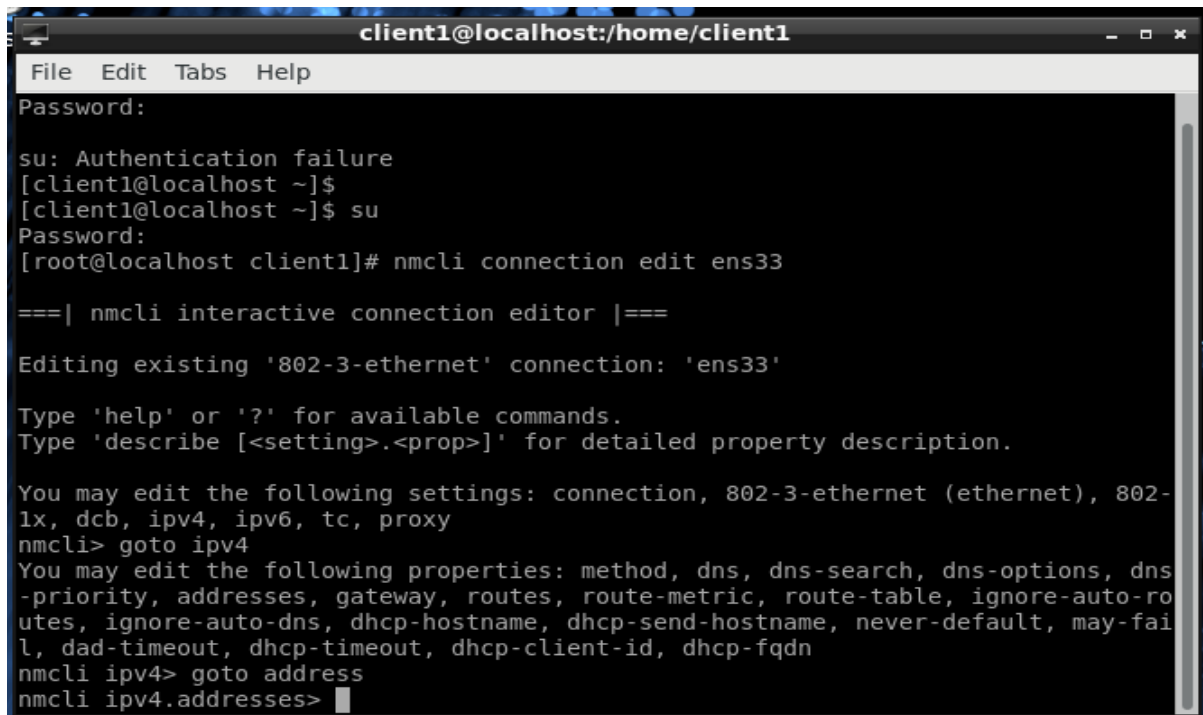
5) Activate vmNat2 network adapter => eno167777...



We have to activate network adapter in cases.

Configure client fedora 28 using CLI

- 1) Open CLI and type su. Then it opens [root@localhost client1]# then type nmcli connection edit ens33 in my case for edit client connection network adapter.



```
client1@localhost:/home/client1
File Edit Tabs Help
Password:
su: Authentication failure
[client1@localhost ~]$
[client1@localhost ~]$ su
Password:
[root@localhost client1]# nmcli connection edit ens33

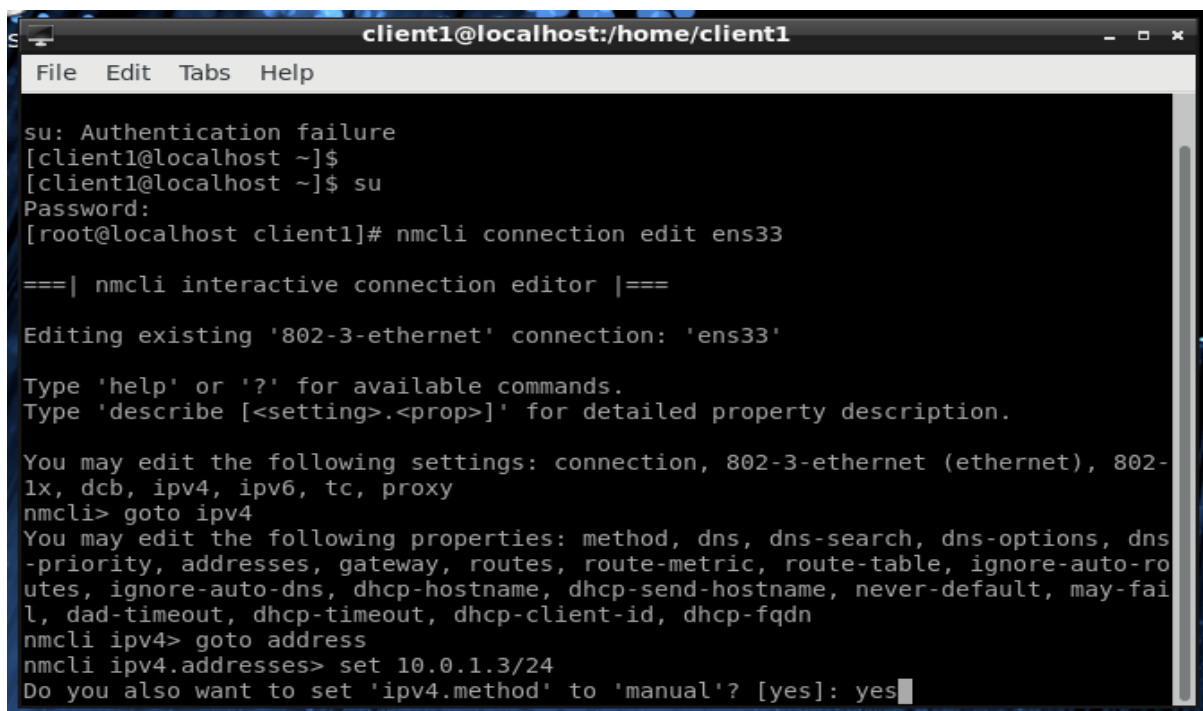
===| nmcli interactive connection editor |===

Editing existing '802-3-ethernet' connection: 'ens33'

Type 'help' or '?' for available commands.
Type 'describe [<setting>.<prop>]' for detailed property description.

You may edit the following settings: connection, 802-3-ethernet (ethernet), 802-
1x, dcb, ipv4, ipv6, tc, proxy
nmcli> goto ipv4
You may edit the following properties: method, dns, dns-search, dns-options, dns
-priority, addresses, gateway, routes, route-metric, route-table, ignore-auto-ro
utes, ignore-auto-dns, dhcp-hostname, dhcp-send-hostname, never-default, may-fai
l, dad-timeout, dhcp-timeout, dhcp-client-id, dhcp-fqdn
nmcli ipv4> goto address
nmcli ipv4.addresses> 
```

- 2) nmcli> goto ipv4 => to edit ipv4 address for ens 33



```
client1@localhost:/home/client1
File Edit Tabs Help

su: Authentication failure
[client1@localhost ~]$
[client1@localhost ~]$ su
Password:
[root@localhost client1]# nmcli connection edit ens33

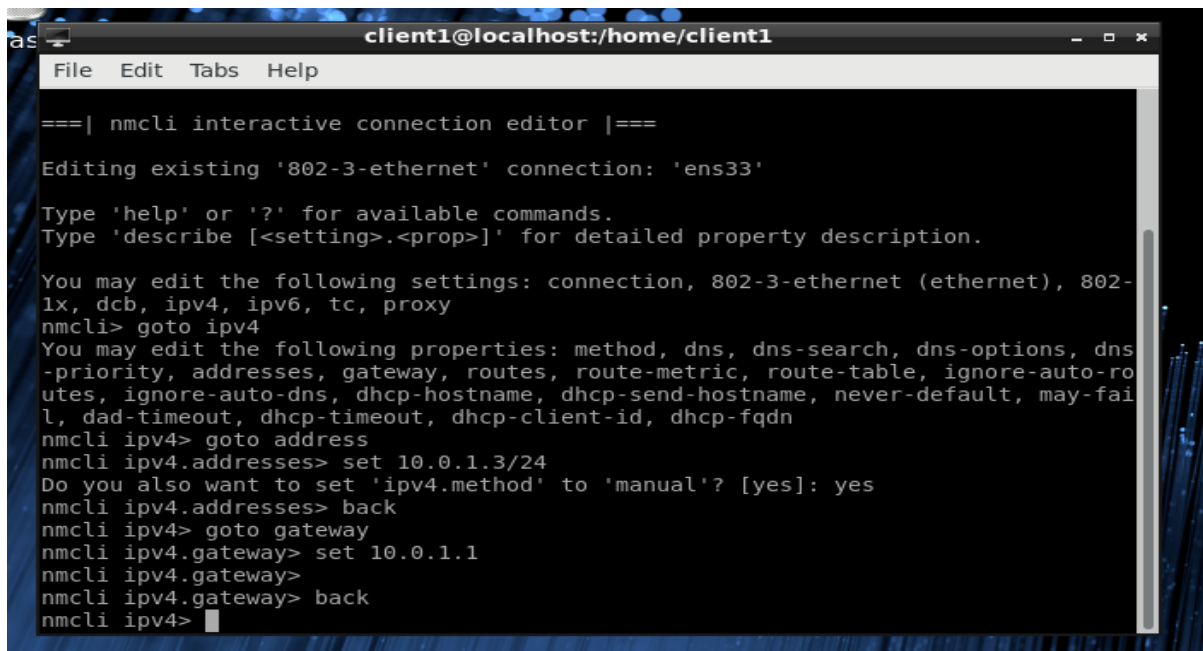
===| nmcli interactive connection editor |===

Editing existing '802-3-ethernet' connection: 'ens33'

Type 'help' or '?' for available commands.
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utes, ignore-auto-dns, dhcp-hostname, dhcp-send-hostname, never-default, may-fai
l, dad-timeout, dhcp-timeout, dhcp-client-id, dhcp-fqdn
nmcli ipv4> goto address
nmcli ipv4.addresses> set 10.0.1.3/24
Do you also want to set 'ipv4.method' to 'manual'? [yes]: yes
```

3)nmcli> goto gateway => set the gateway address to ens33



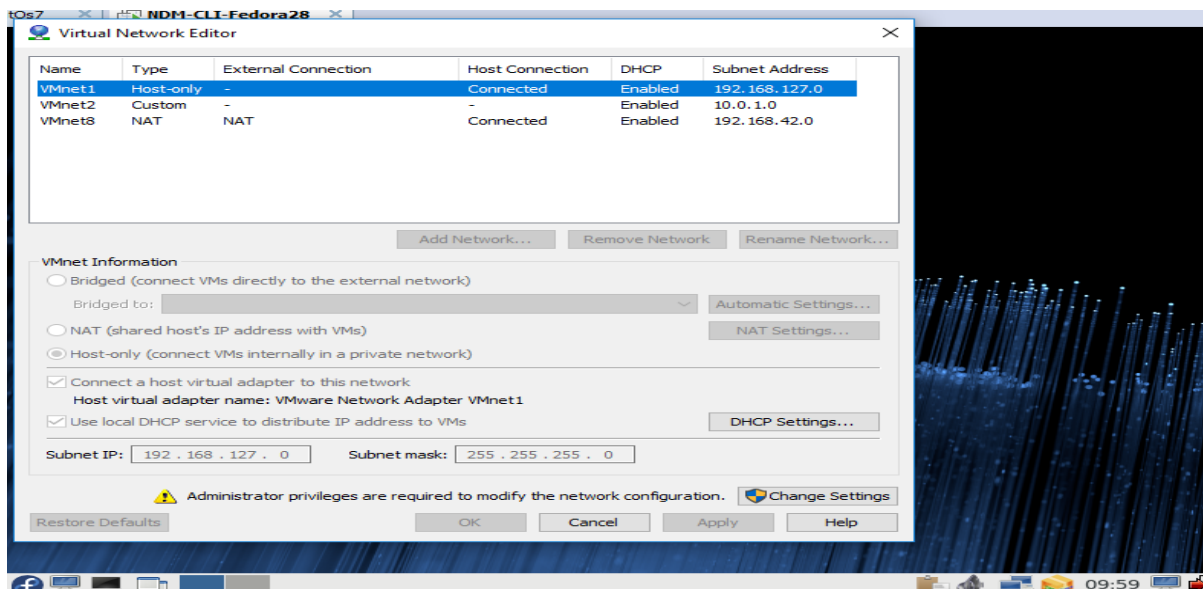
```
client1@localhost:/home/client1
File Edit Tabs Help

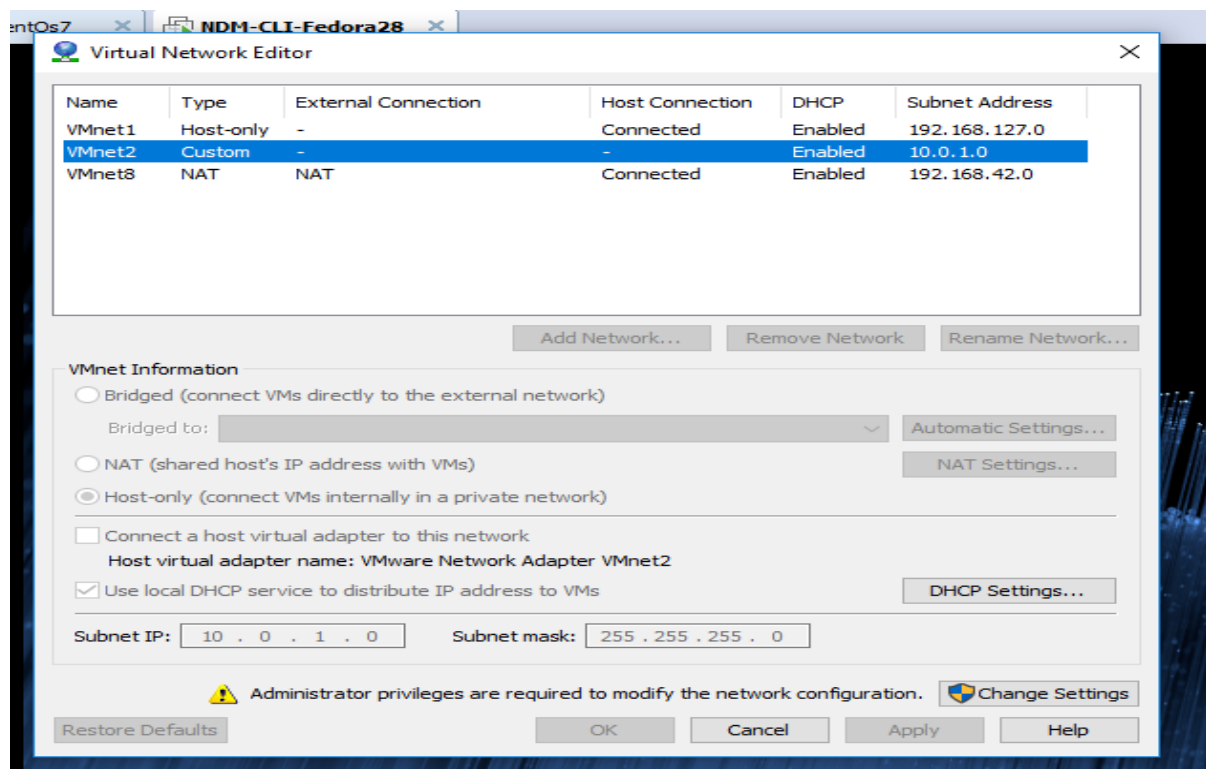
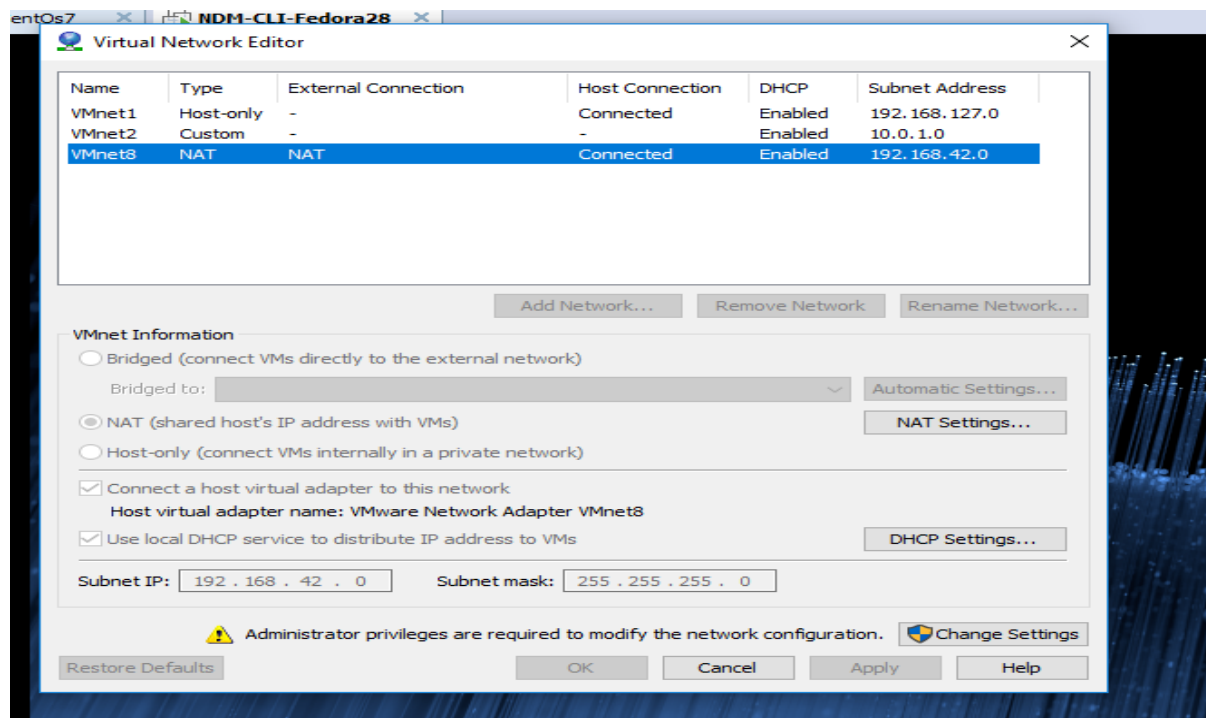
===| nmcli interactive connection editor |===
Editing existing '802-3-ethernet' connection: 'ens33'

Type 'help' or '?' for available commands.
Type 'describe [<setting>.<prop>]' for detailed property description.

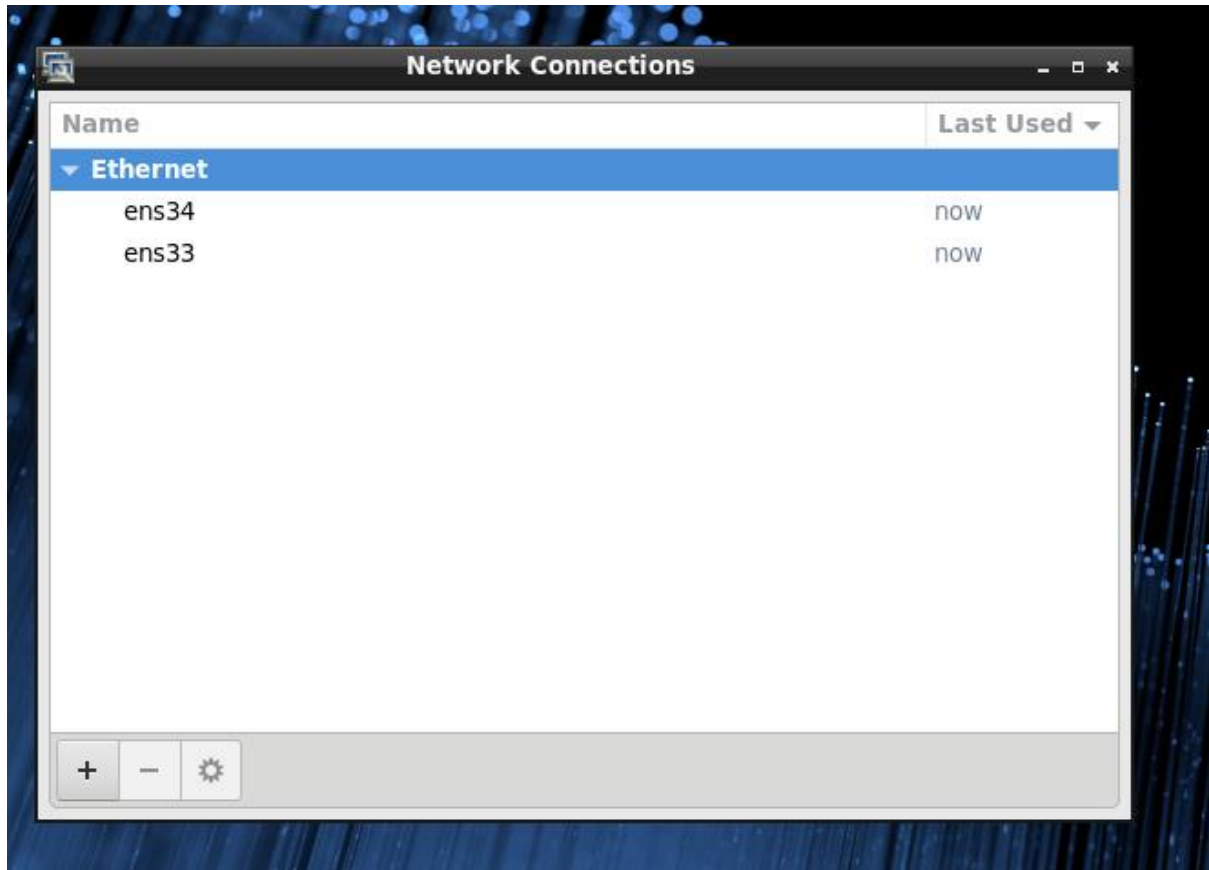
You may edit the following settings: connection, 802-3-ethernet (ethernet), 802-
lx, dcb, ipv4, ipv6, tc, proxy
nmcli> goto ipv4
You may edit the following properties: method, dns, dns-search, dns-options, dns
-priority, addresses, gateway, routes, route-metric, route-table, ignore-auto-ro
utes, ignore-auto-dns, dhcp-hostname, dhcp-send-hostname, never-default, may-fai
l, dad-timeout, dhcp-timeout, dhcp-client-id, dhcp-fqdn
nmcli ipv4> goto address
nmcli ipv4.addresses> set 10.0.1.3/24
Do you also want to set 'ipv4.method' to 'manual'? [yes]: yes
nmcli ipv4.addresses> back
nmcli ipv4> goto gateway
nmcli ipv4.gateway> set 10.0.1.1
nmcli ipv4.gateway> back
nmcli ipv4>
```

4)view Network adapter settings . Also we can edit / add network connection using this gui.

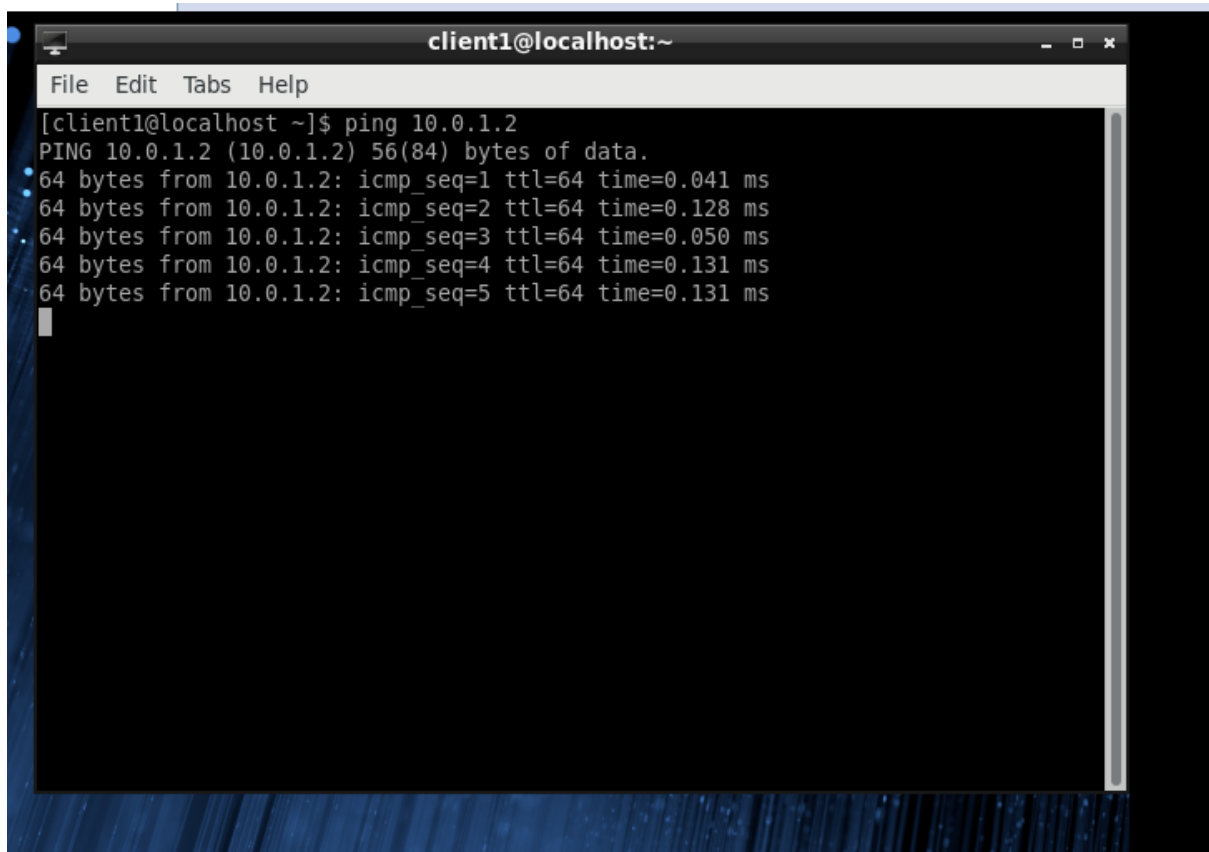




5)View edited Network adpter VMNAT2 .Also we can edit /view ipv4 gate way address using this gui.



6) Checking the connectivity of the connection.

A screenshot of a terminal window titled 'client1@localhost:~'. The window has a menu bar with 'File', 'Edit', 'Tabs', and 'Help'. The terminal shows the command '[client1@localhost ~]\$ ping 10.0.1.2' and its output. The output indicates a successful ping to 10.0.1.2 with 56(84) bytes of data. Five responses are shown, each with a sequence number, TTL of 64, and a response time in milliseconds. The response times are 0.041 ms, 0.128 ms, 0.050 ms, 0.131 ms, and 0.131 ms respectively. The terminal background is black with white text. The window is set against a desktop background with a blue and black abstract pattern.

```
client1@localhost:~  
File Edit Tabs Help  
[client1@localhost ~]$ ping 10.0.1.2  
PING 10.0.1.2 (10.0.1.2) 56(84) bytes of data.  
64 bytes from 10.0.1.2: icmp_seq=1 ttl=64 time=0.041 ms  
64 bytes from 10.0.1.2: icmp_seq=2 ttl=64 time=0.128 ms  
64 bytes from 10.0.1.2: icmp_seq=3 ttl=64 time=0.050 ms  
64 bytes from 10.0.1.2: icmp_seq=4 ttl=64 time=0.131 ms  
64 bytes from 10.0.1.2: icmp_seq=5 ttl=64 time=0.131 ms  
[client1@localhost ~]$
```

<End>