

Advantech AE Technical Share Document

Date	2021/9/13	SR#	1-4641785841
Category	■FAQ □SOP	Related OS	N/A
Abstracta	What if MDG100/200 is unable to dial-up or if ECU-1051 is acting as a server?		
Keyword	Password		
Related Product	ADAM-3600, ECU-1152, ECU-1251, ECU-1051, ECU-1050		

■ **Problem Description:**

There are some required parameters for EdgeLink driver to communicate with the module. If a user bough MDG100/200 from Advantech, then these parameters are enabled as default. Otherwise, please set it up according to this document.

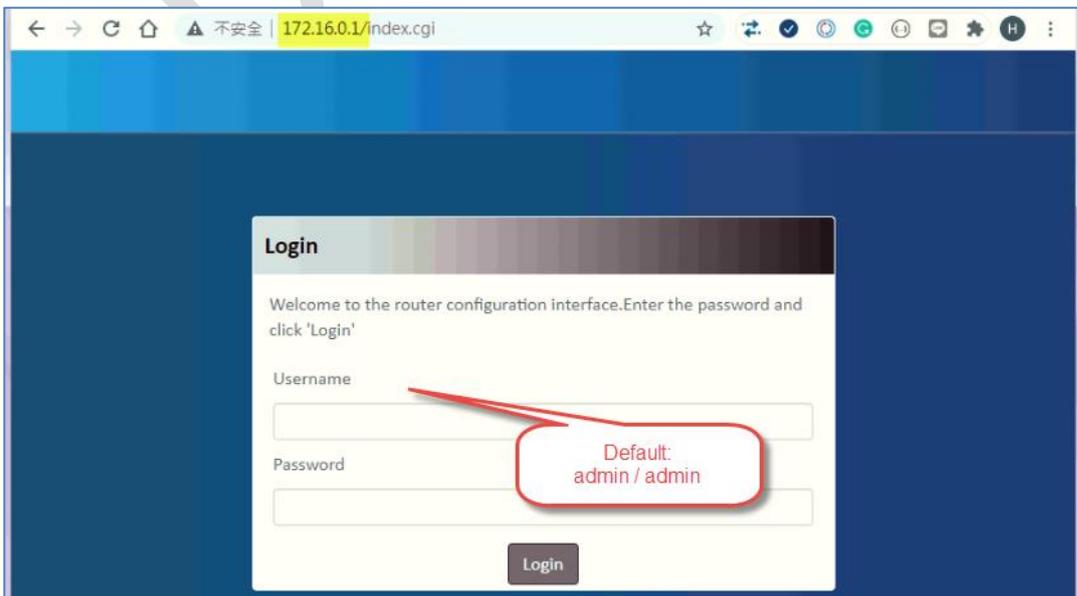
MDG100/200 is not just a cellular module, but also a layer 3 router. This document also explains how to setup MDG100/200 if ECU-1051 is acting as a server. For example, if ECU-1051 is acting as a RETful API server, then MDG100/200 should setup port forwarding with port 443. If ECU-1051 is acting as a DNP3 server, then MDG100/200 should setup port forwarding with port 20000. If ECU-1051 is acting as a client, then MDG100/200 does not require to setup port forwarding.

■ **Answer:**

Step 1. Connect MDG100/200 with an miniPCIe to USB converter and insert to a computer.

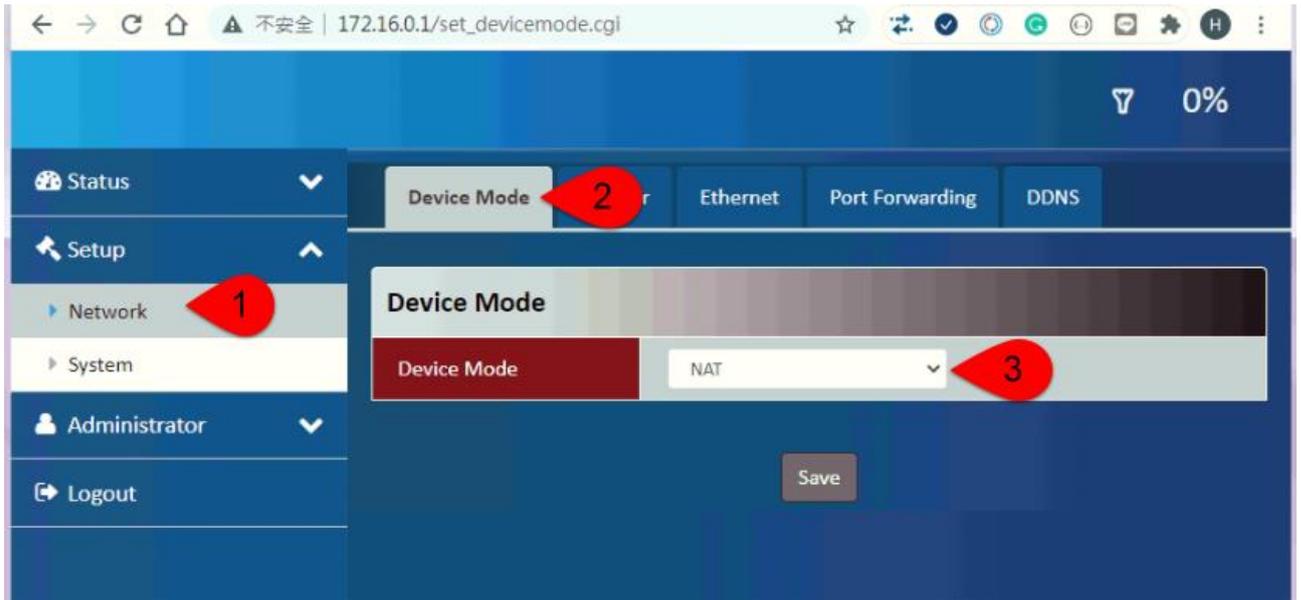
Step 2. Go to Chrome browser and type-in 172.16.0.1.

The default username is “admin”, and password is “admin. If it requires a user to modify the password, please remember it well. There is no reset PIN on the module.



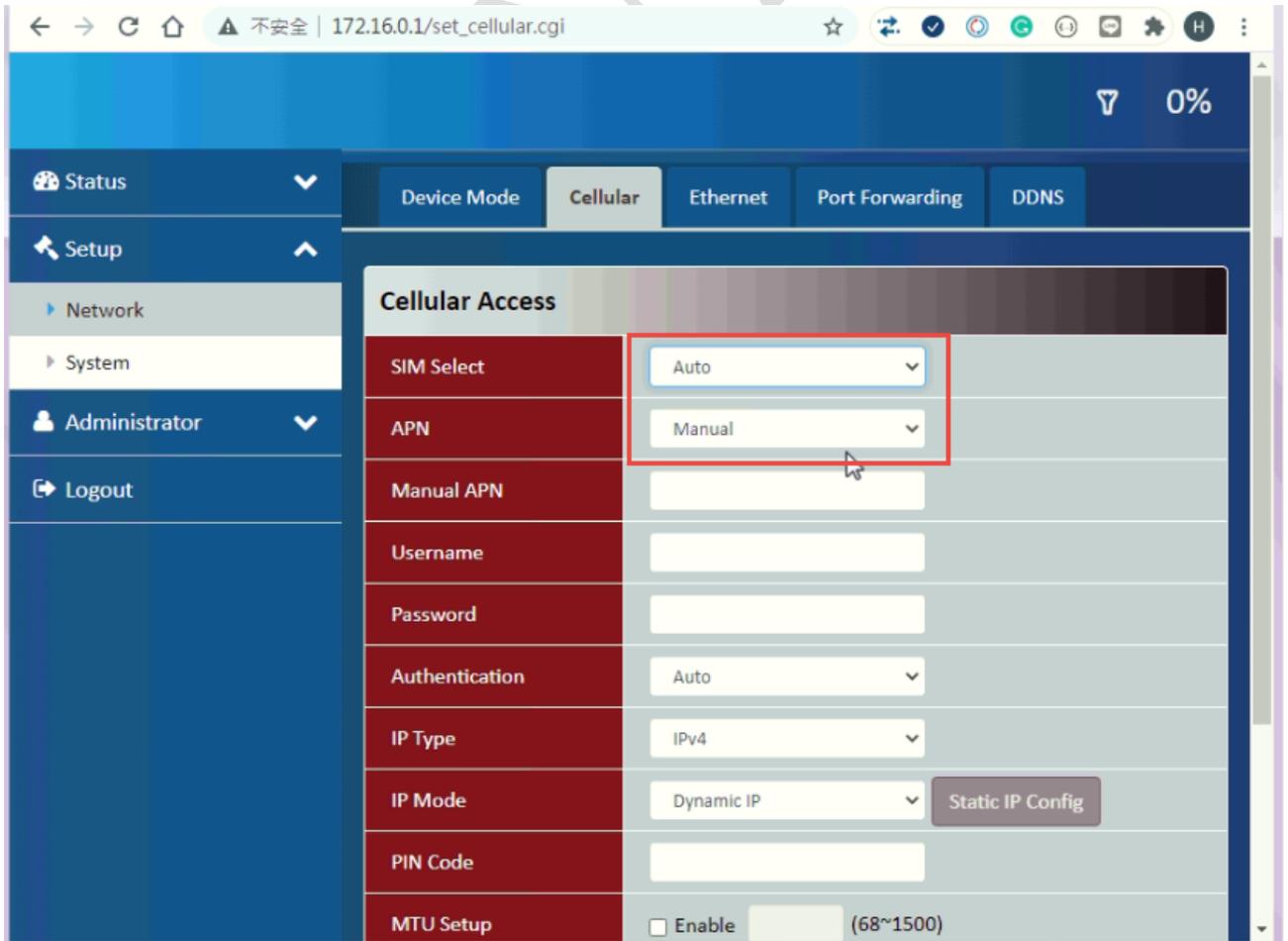
Step 3. Make sure the following settings.

Device mode: NAT.

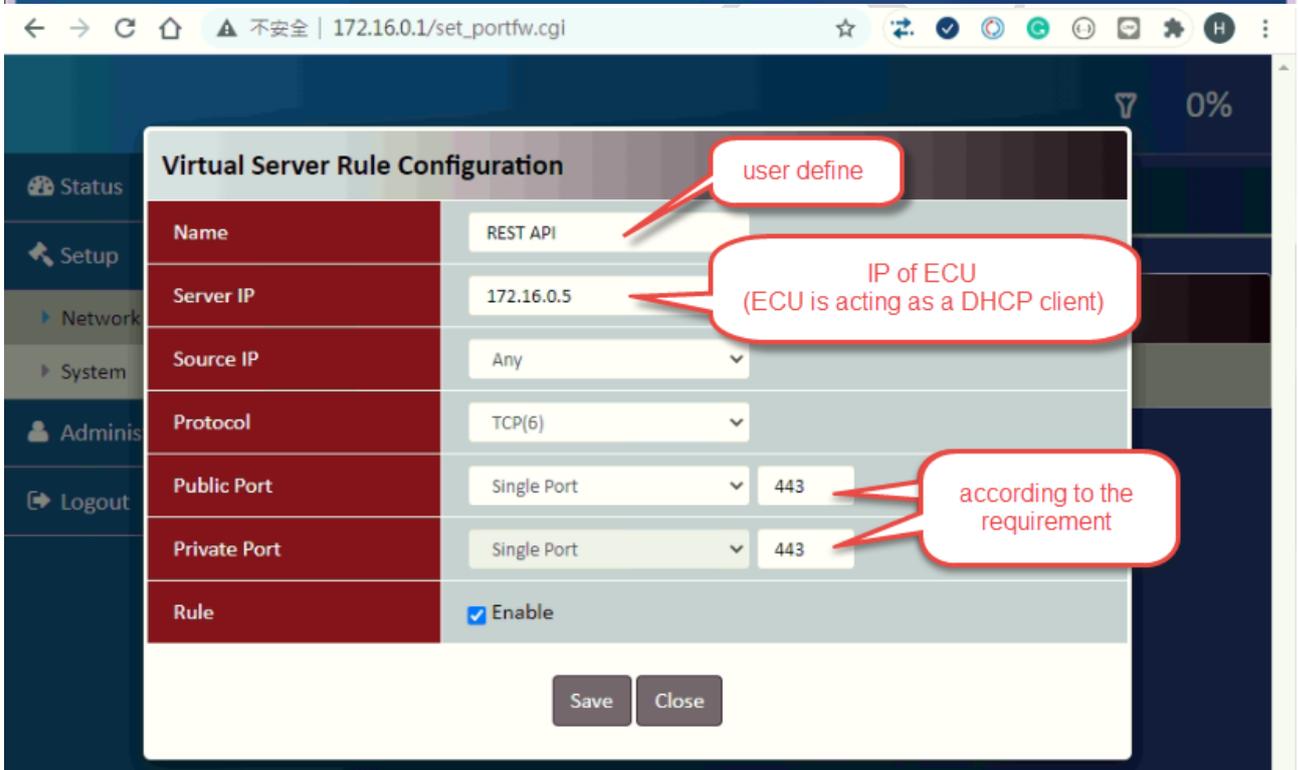
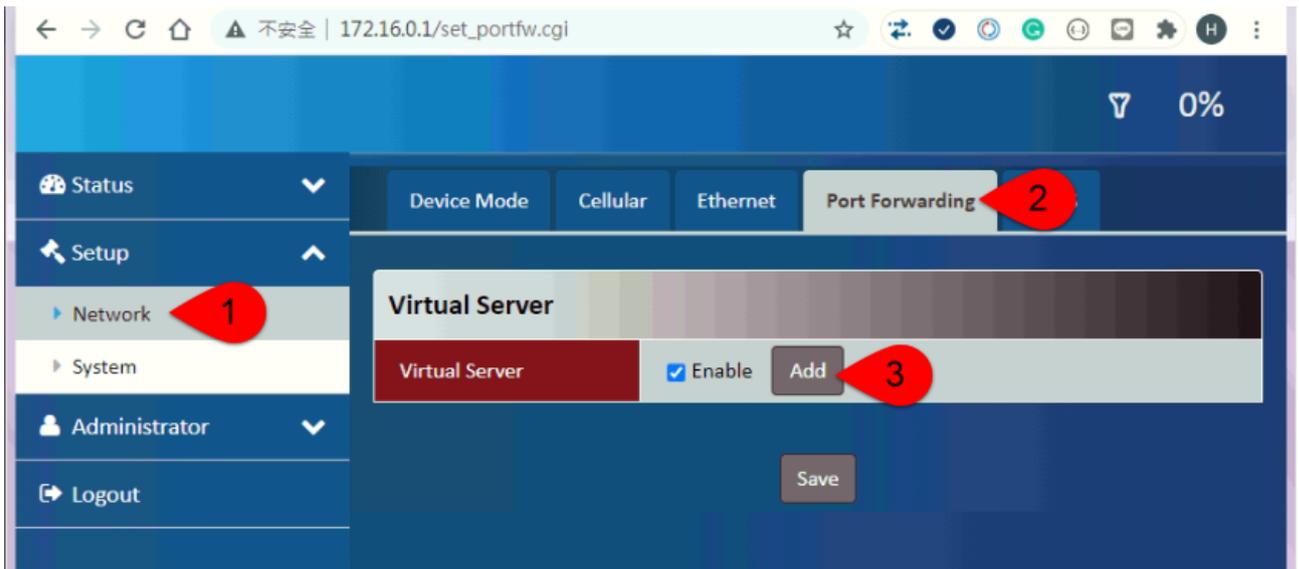


SIM select: auto. This mode allows a user to insert the SIM card either on MDG100/200 slot or ECU SIM card slot1/2.

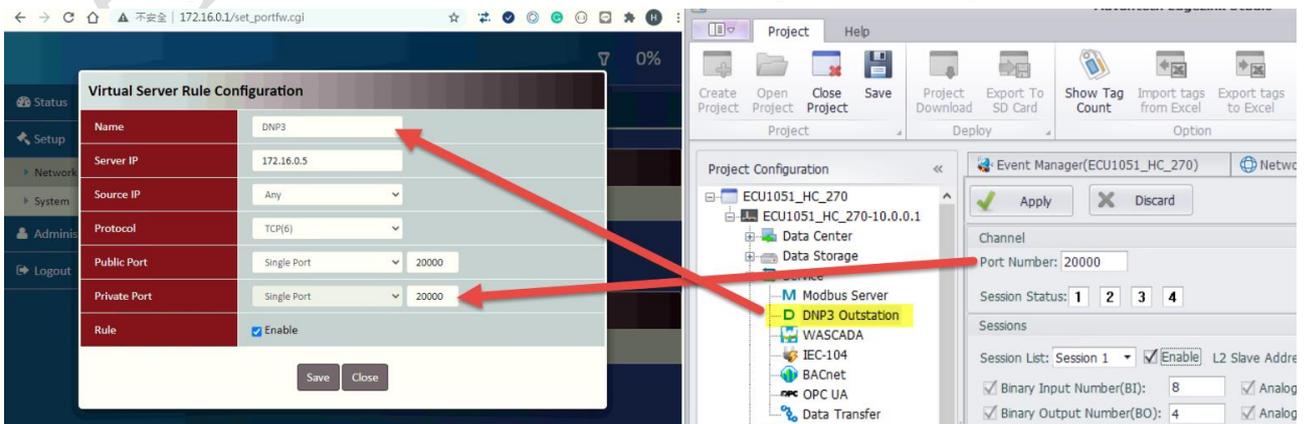
APN: manual. This mode allows EdgeLink driver to setup the parameter according to the user setting in Studio.



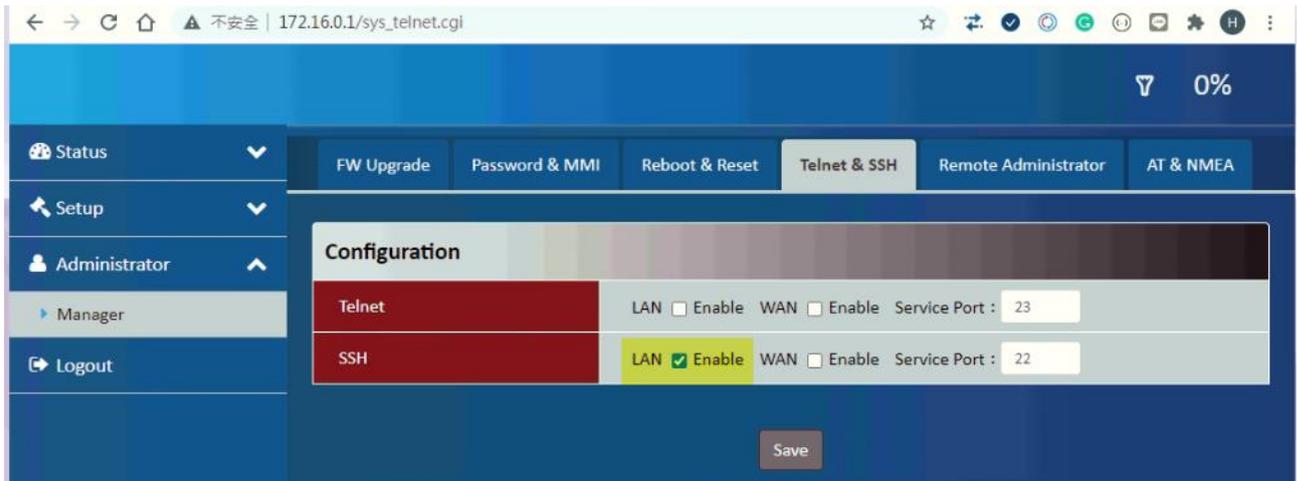
Port forwarding (optional): add a new setting according to the application. In the following figures are using REST API as a setting example. ECU-1051 is using port 443 for REST API.



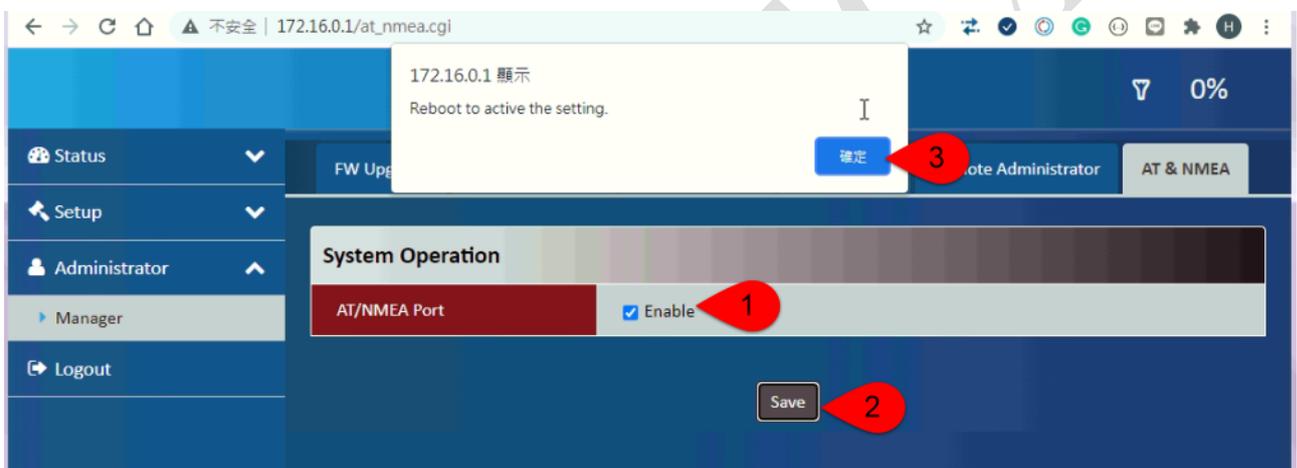
Another example: ECU-1051 acts as a DNP3 server. Then “port forwarding” is set with 20000.



SSH/LAN: enable. This parameter allows EdgeLink driver to dial the cellular parameters.



AT/NMEA Port: enable.



Step 4. Optional. Only if a user wants to use ECU-1051 as a server.

Due to the wet setting page of MDG100/200 allow to setup the DHCP IP range with minimum 2 IP addresses, ECU-1051 will get different IP every time it dials-up. So have to use SSH to setup the MDG-100/200 module.

- a. Use putty to get into ECU through SSH.
- b. After ECU gets an 172.x.x.x IP and then use the command `admin@172.16.0.1` to get into the SSH of MDG module. The password is the one for logging into the configuration web page of the MDG module. The default password is "admin".
- c. `dhcp 0 ip_start <IP>`
 → example: `dhcp 0 ip_start 172.16.0.5`
 → This IP address should match with the "port forwarding" parameter in previous step.
- d. `dhcp 0 ip_end <IP>`
 → example: `dhcp 0 ip_end 172.16.0.5`
 → This IP address should match with the "port forwarding" parameter in previous step.
- e. `apply dhcp`

Result:

- Use `ifconfig -a` to check if ECU is getting the same IP every time it boots-up.

- Use “nc -zvs10 <IP> <port>” to check if the port number of the server (ECU) is opened. The IP here is the one of MDG100/200.
 - ➔ example: nc -zvs10 172.16.192.53 443

```

10.0.0.1 - PuTTY
root@ecu1251:/var/log# ifconfig
eth0      Link encap:Ethernet  HWaddr 38:0B:3C:24:54:86
          inet addr:10.0.0.1  Bcast:10.0.0.255  Mask:255.255.255.0
          inet6 addr: fe80::3a0b:3cff:fe24:5486/64  Scope:Link
          UP BROADCAST RUNNING MTU:1500  Metric:1
          RX packets:4424 errors:0 dropped:0 overruns:0 frame:0
          TX packets:3922 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1138525 (1.0 MiB)  TX bytes:1862555 (1.7 MiB)
          Interrupt:176

eth1      Link encap:Ethernet  HWaddr 38:0B:3C:24:54:88
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128  Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:13 errors:0 dropped:0 overruns:0 frame:0
          TX packets:13 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:713 (713.0 B)  TX bytes:713 (713.0 B)

usb0      Link encap:Ethernet  HWaddr 4A:0C:EE:CE:57:C6
          inet addr:172.16.192.53  Bcast:172.16.255.255  Mask:255.255.255.252
          inet6 addr: fe80::480c:eeff:fece:57c6/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:358 errors:0 dropped:0 overruns:0 frame:0
          TX packets:957 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:19096 (18.6 KiB)  TX bytes:120333 (117.5 KiB)

root@ecu1251:/var/log# route -n
Kernel IP routing table
Destination      Gateway         Genmask         Flags Metric Ref    Use Iface
0.0.0.0          172.16.192.54  0.0.0.0         UG    5     0      0  usb0
10.0.0.0         0.0.0.0        255.255.255.0   U     0     0      0  eth0
172.16.192.52   0.0.0.0        255.255.255.252 U     0     0      0  usb0
    
```

```

root@ecu1051:~# nc -zvs10 172.16.192.53 443
172.16.192.53 (172.16.192.53:443) open
root@ecu1051:~#
root@ecu1051:~# nc -zvs10 172.16.192.53 20000
172.16.192.53 (172.16.192.53:20000) open
root@ecu1051:~#
    
```