

MDG100 work on Linux

Device: MDG100*1(EC25-EU) , adapter*1, usb cable*1

PC: Linux fedora 19

```
[root@localhost ~]# cat /etc/os-release
NAME=Fedora
VERSION="19 (Schrödinger's Cat)"
ID=fedora
VERSION_ID=19
PRETTY_NAME="Fedora 19 (Schrödinger's Cat)"
ANSI_COLOR="0;34"
CPE_NAME="cpe:/o:fedoraproject:fedora:19"
HOME_URL="https://fedoraproject.org/"
BUG_REPORT_URL="https://bugzilla.redhat.com/"
REDHAT_BUGZILLA_PRODUCT="Fedora"
REDHAT_BUGZILLA_PRODUCT_VERSION=19
REDHAT_SUPPORT_PRODUCT="Fedora"
REDHAT_SUPPORT_PRODUCT_VERSION=19
[root@localhost ~]#
```

✧ Add AT port on Linux: (Item 1 to Item 5)

1. Connect MDG100 with PC.
2. Mount MDG100 on Linux, enter command as following:
 - i. modprobe option
 - ii. Echo 0x5c6 0x90b3 > /sys/bus/usb-serial/drivers/option1/new_id
 - iii. ls /dev/

*/*You can get ttyUSB0 and ttyUSB1.*/*

```
root@localhost:~
localhost login: root
Password:
Last login: Wed Jun 24 10:54:21 from ::ffff:192.168.125.122
[root@localhost ~]# ls
anaconda-ks.cfg  Documents  minicom.log  Pictures  Templates
Desktop          Downloads  Music        Public    Videos
[root@localhost ~]# modprobe opti
option
[root@localhost ~]# modprobe opti
option
[root@localhost ~]# modprobe option
[root@localhost ~]# echo 0x5c6 0x90b3 > /sys/bus/usb-serial/drivers/option1/new_id
[root@localhost ~]# ls /dev/
agpgart      fedora      loop6        port         stdin        tty22        tty39        tty55        ttyUSB1      vcsa2
autofs       full        loop7        ppp           stdout       tty23        tty4         tty56        uinput       vcsa3
block        fuse        loop-control ptmx          tty          tty24        tty40        tty57        urandom      vcsa4
bsg          hidraw0     lp0          pts           tty0         tty25        tty41        tty58        usbmon0      vcsa5
btrfs-control hidraw1     lp1          random        tty1         tty26        tty42        tty59        usbmon1      vcsa6
bus          hidraw2     lp2          raw           tty10        tty27        tty43        tty6         usbmon2      vga_arbiter
char         hpet        lp3          rfkill        tty11        tty28        tty44        tty60        usbmon3      vhost-net
console      hugepages  mapper       rtc           tty12        tty29        tty45        tty61        usbmon4      watchdog
core         initctl    mcelog       rtc0          tty13        tty3         tty46        tty62        usbmon5      watchdog0
cpu          input      mem          sda           tty14        tty30        tty47        tty63        vcs          zero
cpu_dma_latency kmsg       mqueue       sda1          tty15        tty31        tty48        tty7         vcs1
disk         log        net          sda2          tty16        tty32        tty49        tty8         vcs2
dm-0         loop0      network_latency serial         tty17        tty33        tty5         tty9         vcs3
dm-1         loop1      network_throughput sg0           tty18        tty34        tty50        ttyS0        vcs4
dm-2         loop2      null         shm           tty19        tty35        tty51        ttyS1        vcs5
dri          loop3      nvram        snapshot      tty2         tty36        tty52        ttyS2        vcs6
fb0          loop4      oldmem       snd           tty20        tty37        tty53        ttyS3        vcsa
fd           loop5      parport0     stderr        tty21        tty38        tty54        ttyUSB0      vcsa1
[root@localhost ~]#
```

3. Check usb attach status on Linux.

- i. dmesg

```
[81268.481619] usbcore: registered new interface driver option
[81268.481656] usbserial: USB Serial support registered for GSM modem (1-port)
[81309.589479] option 1-1:1.2: GSM modem (1-port) converter detected
[81309.591328] usb 1-1: GSM modem (1-port) converter now attached to ttyUSB0
[81309.591441] option 1-1:1.3: GSM modem (1-port) converter detected
[81309.591914] usb 1-1: GSM modem (1-port) converter now attached to ttyUSB1
[root@localhost ~]#
```

4. Enter AT port session then you can send ATcmd to AT port, enter command as following:

- i. minicom -D /dev/ttyUSB0
- ii. ati

(Here is AT port session) /* you can get a response after typing "ati".*/

```
root@localhost:/dev
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G

OK
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G

OK

+CGREG: 0
```

5. Exit AT port session

- i. Press "ctrl+a" together, then release them.
- ii. Press "q".

```
root@localhost:~
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G

OK
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G
+-----+
| Leave Minicom? |
| Yes No |
+-----+

OK
```

✧ Get Lan IP via MDG100 on Linux & ping test (Item 6)

6. Enable MDG100 connectivity on Linux.

i. ifconfig usb0 172.16.0.5 up

/ You can check usb0 interface occur.*/*

```
[root@localhost ~]# ifconfig usb0 172.16.0.5 up
[root@localhost ~]# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.124.42 netmask 255.255.255.0 broadcast 192.168.124.255
    inet6 fe80::211:95ff:febd:d63 prefixlen 64 scopeid 0x20<link>
    ether 00:11:95:fd:0d:63 txqueuelen 1000 (Ethernet)
    RX packets 8224 bytes 666379 (650.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 617 bytes 74643 (72.8 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

eth1: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    inet 192.168.168.1 netmask 255.255.255.0 broadcast 192.168.168.255
    inet6 fe80::2e0:4cff:fe68:128 prefixlen 64 scopeid 0x20<link>
    ether 00:e0:4c:68:01:28 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2 bytes 132 (132.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 0 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

usb0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 172.16.0.5 netmask 255.255.0.0 broadcast 172.16.255.255
    inet6 fe80::a4cd:7bff:fe18:be0e prefixlen 64 scopeid 0x20<link>
    ether a6:cd:7b:18:be:0e txqueuelen 1000 (Ethernet)
    RX packets 14 bytes 872 (872.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 28 bytes 5182 (5.0 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@localhost ~]#
```

ii. route add default gw 172.16.0.1 dev usb0

ping 8.8.8.8

/ You can check route table.*/*

```
amit@localhost:/home/amit

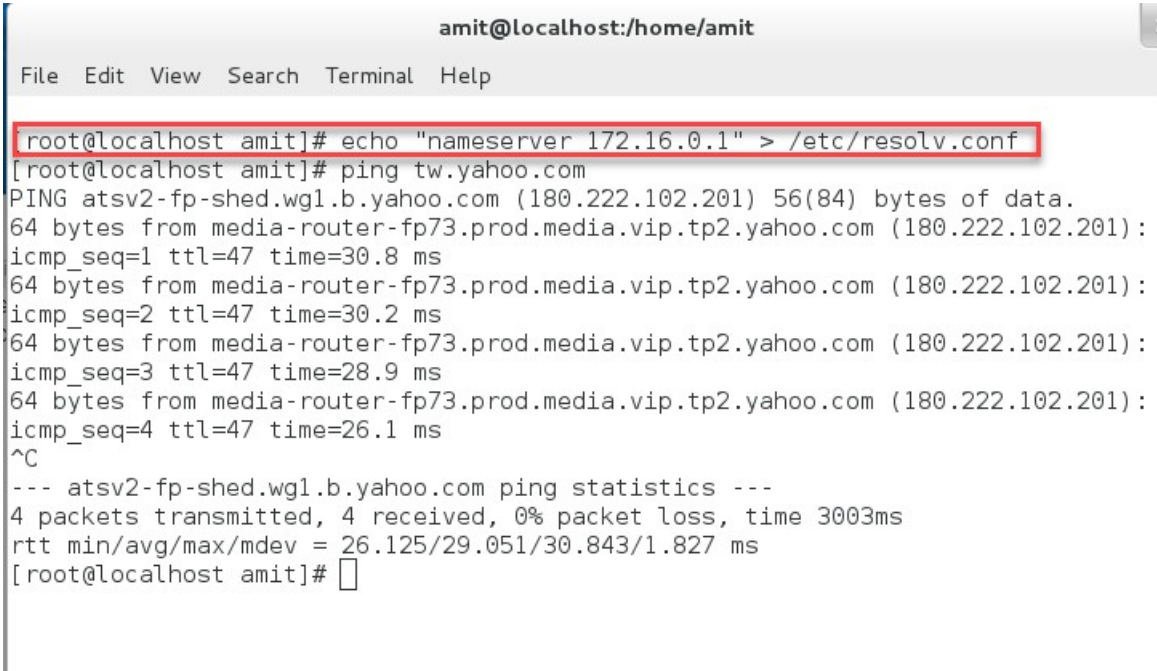
File Edit View Search Terminal Help

[root@localhost amit]#
[root@localhost amit]#
[root@localhost amit]# route add default gw 172.16.0.1 dev usb0
[root@localhost amit]# route
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
0.0.0.0 172.16.0.1 0.0.0.0 UG 0 0 0 usb0
172.16.0.0 * 255.255.0.0 U 0 0 0 usb0
[root@localhost amit]# 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=55 time=219 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=55 time=29.1 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=55 time=29.1 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=55 time=27.7 ms
^C
--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 27.764/76.459/219.765/82.739 ms
[root@localhost amit]#
```

✧ Configure DNS server for MDG100 on Linux & ping test :(Item 7)

7. Set up DNS at resolv.conf

- i. echo "nameserver 172.16.0.1" > /etc/resolv.conf
ping tw.yahoo.com

A terminal window titled 'amit@localhost:/home/amit' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the command 'echo "nameserver 172.16.0.1" > /etc/resolv.conf' being executed, followed by 'ping tw.yahoo.com'. The output shows four successful ping requests to 'atsv2-fp-shed.wgl.b.yahoo.com' with varying response times. The command is highlighted with a red box in the original image.

```
amit@localhost:/home/amit
File Edit View Search Terminal Help

[root@localhost amit]# echo "nameserver 172.16.0.1" > /etc/resolv.conf
[root@localhost amit]# ping tw.yahoo.com
PING atsv2-fp-shed.wgl.b.yahoo.com (180.222.102.201) 56(84) bytes of data.
64 bytes from media-router-fp73.prod.media.vip.tp2.yahoo.com (180.222.102.201):
icmp_seq=1 ttl=47 time=30.8 ms
64 bytes from media-router-fp73.prod.media.vip.tp2.yahoo.com (180.222.102.201):
icmp_seq=2 ttl=47 time=30.2 ms
64 bytes from media-router-fp73.prod.media.vip.tp2.yahoo.com (180.222.102.201):
icmp_seq=3 ttl=47 time=28.9 ms
64 bytes from media-router-fp73.prod.media.vip.tp2.yahoo.com (180.222.102.201):
icmp_seq=4 ttl=47 time=26.1 ms
^C
--- atsv2-fp-shed.wgl.b.yahoo.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 26.125/29.051/30.843/1.827 ms
[root@localhost amit]#
```


✧ Read nmea information via MDG100 on Linux:(Item 8 to Item 10)

8. Enter AT port session then you can send ATcmd to AT port, and enable GPS function

i. `minicom -D /dev/ttyUSB0`

ii. `at+qgps=1`

(Here is AT port session) /* "at+qgps=1" enable GPS. "at+qgpsend" disable GPS */

```
Welcome to minicom 2.6.2

OPTIONS: I18n
Compiled on Feb  7 2013, 12:53:19.
Port /dev/ttyUSB0, 16:17:04

Press CTRL-A Z for help on special keys

at+qgps=1
OK
█
```

9. Exit AT port session

i. Press "ctrl+a" together, then release them.

ii. Press "q".

```
root@localhost:~
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G

OK
ati
Quectel
EC25
Revision: EC25EUGAR06A01M4G

OK
+-----+
| Leave Minicom? |
|  Yes      No  |
+-----+
```

10. Read nmea information

i. `cat /dev/ttyUSB1`

```
[root@localhost ~]# cat /dev/ttyUSB1
$GNGNS,,,,,NNN,,,,,*1D

$GPVTG,,T,,M,,N,,K,N*2C

$GPGSA,A,1,,,,,,,,,,,,,*1E

$GNGSA,A,1,,,,,,,,,,,,,*00

$GPGGA,,,,,0,,,,,*66

$GPRMC,,V,,,,,,,,,N*53

$GNGNS,,,,,NNN,,,,,*1D

$GPVTG,,T,,M,,N,,K,N*2C

$GPGSA,A,1,,,,,,,,,,,,,*1E

$GNGSA,A,1,,,,,,,,,,,,,*00

$GPGGA,,,,,0,,,,,*66

$GPRMC,,V,,,,,,,,,N*53
```