

BBB must be powered up from mains supply. PC supply not sufficient.

Copy files to PC from google/usb drive

1. Beagle

Copy the following into ~/workbeagle/Beagle/src directory in PC

NOTE: Do backup your beagle_main.cpp first before copying over.

socket.cpp

tty_port.cpp

2. sierra usb port access

Copy ttyU.sh into ~/Desktop directory in PC

3. AT commands for SMS and GPS

Copy AirPrime MC73XX-8805 AT Command Reference_V4 pdf.pdf to ~/Desktop directory in PC.

Now, Copy file into BBB

cd ~/Desktop

scp ttyU.sh debian@192.168.7.2:Desktop

Steps to run Sierra Wireless modem

You may create another terminal for Beaglebone using ssh. A third terminal is the PC Ubuntu terminal. In total there are 2 Beaglebone terminals and 1 PC terminal. With these terminals plus the Eclipse Application, we have a good system setup to work on any application.

Accessing Internet via Sierra Wireless

CAUTION!!

Need to insert the sim card. Before inserting or removing the sim card, the power supply adapter must be OFF and the usb connection from PC to Beaglebone must be disconnected.

Now, need to create a file called wvdial.conf in BBB

cd /etc

sudo nano wvdial.conf

Copy the following text into this file and save (ctrl+x then y).

[Dialer Defaults]

Modem = /dev/ttyUSB2

Modem Type = Analog Modem

ISDN = 0

Baud = 1000000

Dial Attempts = 1

Username = user

Password = pass

Init3 = AT+CGDCONT=1,"IP","net"

Init4 = AT+CGMI

Init5 = AT+CPIN?

Phone = *99#

Stupid Mode = 1

Now, you have access to internet via the Sierra Wireless modem.

In Beagle Terminal `sudo apt-get install usb-modeswitch` if there is error in running ttyU.sh

Establish tty USB for sierra wireless

`cd ~/Desktop`

`./ttyU.sh`

```
ubuntu@arm: ~/Desktop
ubuntu@arm:~/Desktop$ ./ttyU.sh
[sudo] password for ubuntu:
Take all parameters from the command line

* usb_modeswitch: handle USB devices with multiple modes
* Version 2.1.1 (C) Josua Dietze 2014
* Based on libusb1/libusbx

! PLEASE REPORT NEW CONFIGURATIONS !

DefaultVendor= 0x1199
DefaultProduct= 0x68c0
SierraMode=1
NeedResponse=0

Look for default devices ...
  found USB ID 1199:68c0
    vendor ID matched
    product ID matched
  found USB ID 1d6b:0002
  found USB ID 1d6b:0002
  Found devices in default mode (1)
Access device 002 on bus 001
Current configuration number is 1
Use interface number 0

USB description data (for identification)
-----
Manufacturer: Sierra Wireless, Incorporated
  Product: MC7304
  Serial No.:
-----
Send Sierra control message
  communication with device stopped. May have switched modes anyway
-> Run lsusb to note any changes. Bye!

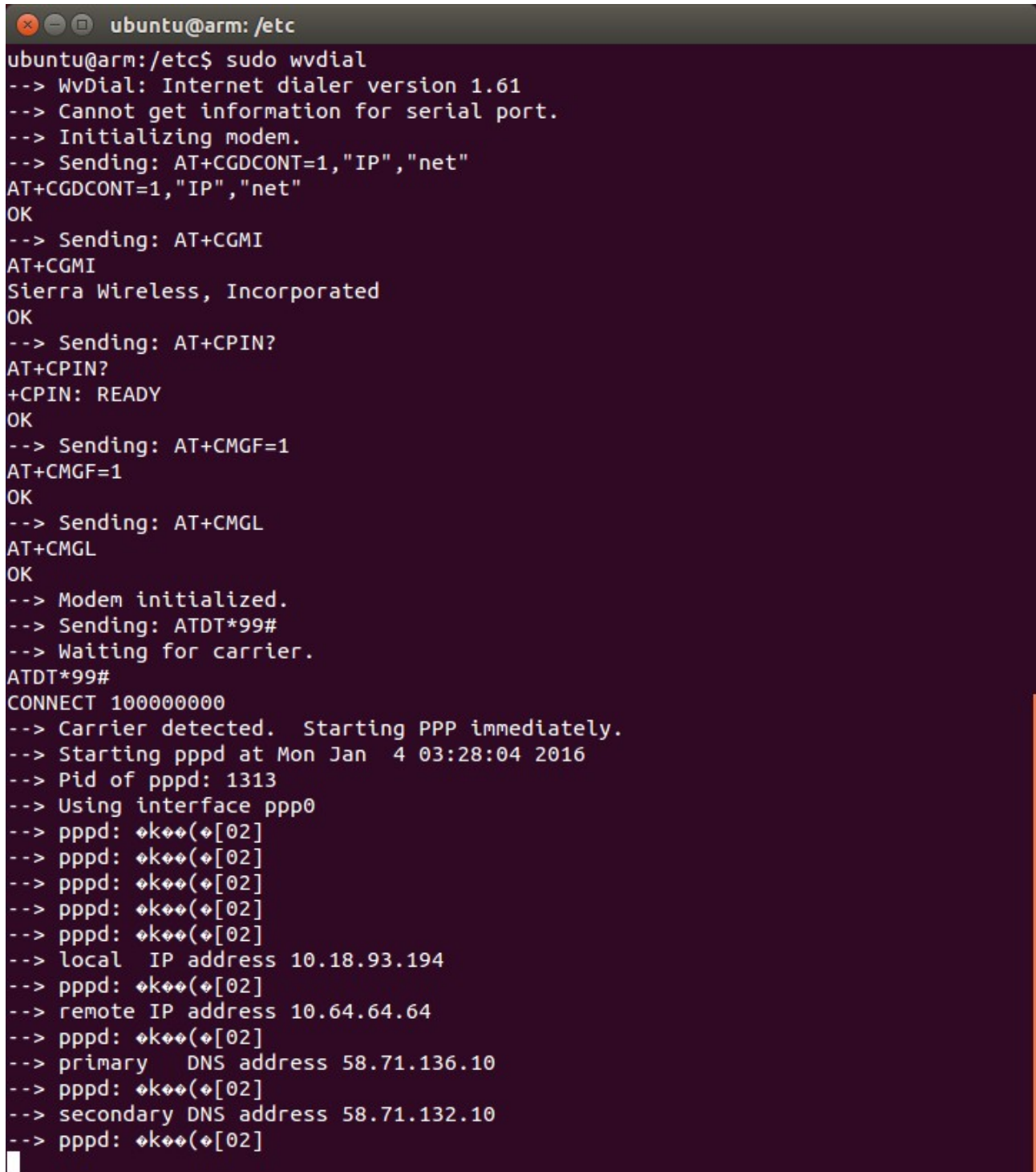
crw----- 1 root root 188, 0 Jan  4 03:47 ttyUSB0
crw----- 1 root root 188, 1 Jan  4 03:47 ttyUSB1
crw----- 1 root root 188, 2 Jan  4 03:47 ttyUSB2
crw----- 1 root root 188, 3 Jan  4 03:47 ttyUSB3
ubuntu@arm:~/Desktop$
ubuntu@arm:~/Desktop$
ubuntu@arm:~/Desktop$
ubuntu@arm:~/Desktop$
ubuntu@arm:~/Desktop$
ubuntu@arm:~/Desktop$
```

`sudo wvdial`

If this shows “command not found”, then need to install wvdial package.

`sudo apt-get install wvdial`

Here's the screenshot for BBB. NOTE: Must have SIM card inserted.



```
ubuntu@arm: /etc$ sudo wvdial
--> WvDial: Internet dialer version 1.61
--> Cannot get information for serial port.
--> Initializing modem.
--> Sending: AT+CGDCONT=1,"IP","net"
AT+CGDCONT=1,"IP","net"
OK
--> Sending: AT+CGMI
AT+CGMI
Sierra Wireless, Incorporated
OK
--> Sending: AT+CPIN?
AT+CPIN?
+CPIN: READY
OK
--> Sending: AT+CMGF=1
AT+CMGF=1
OK
--> Sending: AT+CMGL
AT+CMGL
OK
--> Modem initialized.
--> Sending: ATDT*99#
--> Waiting for carrier.
ATDT*99#
CONNECT 1000000000
--> Carrier detected. Starting PPP immediately.
--> Starting pppd at Mon Jan 4 03:28:04 2016
--> Pid of pppd: 1313
--> Using interface ppp0
--> pppd: k([02]
--> pppd: k([02]
--> pppd: k([02]
--> pppd: k([02]
--> pppd: k([02]
--> local IP address 10.18.93.194
--> pppd: k([02]
--> remote IP address 10.64.64.64
--> pppd: k([02]
--> primary DNS address 58.71.136.10
--> pppd: k([02]
--> secondary DNS address 58.71.132.10
--> pppd: k([02]
```

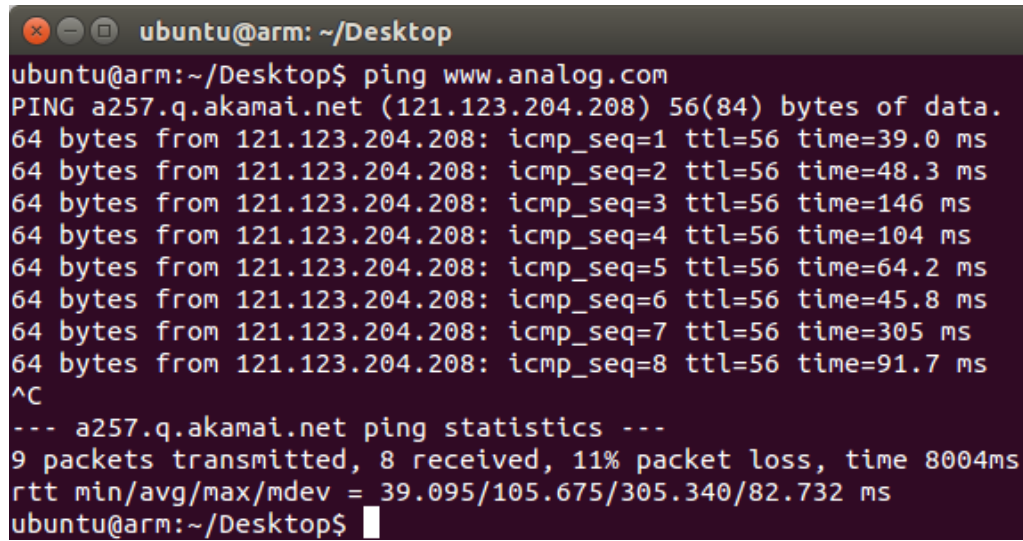
To exit, `ctrl+c`

Open another Beaglebone terminal

`ssh debian@192.168.7.2`

Try this:

[ping www.analog.com](http://www.analog.com)



```
ubuntu@arm: ~/Desktop
ubuntu@arm:~/Desktop$ ping www.analog.com
PING a257.q.akamai.net (121.123.204.208) 56(84) bytes of data.
64 bytes from 121.123.204.208: icmp_seq=1 ttl=56 time=39.0 ms
64 bytes from 121.123.204.208: icmp_seq=2 ttl=56 time=48.3 ms
64 bytes from 121.123.204.208: icmp_seq=3 ttl=56 time=146 ms
64 bytes from 121.123.204.208: icmp_seq=4 ttl=56 time=104 ms
64 bytes from 121.123.204.208: icmp_seq=5 ttl=56 time=64.2 ms
64 bytes from 121.123.204.208: icmp_seq=6 ttl=56 time=45.8 ms
64 bytes from 121.123.204.208: icmp_seq=7 ttl=56 time=305 ms
64 bytes from 121.123.204.208: icmp_seq=8 ttl=56 time=91.7 ms
^C
--- a257.q.akamai.net ping statistics ---
9 packets transmitted, 8 received, 11% packet loss, time 8004ms
rtt min/avg/max/mdev = 39.095/105.675/305.340/82.732 ms
ubuntu@arm:~/Desktop$
```

This shows internet access is working!!

Now, you will not be able to see the familiar Internet Browser (Internet Explorer, Firefox etc) because only the terminal can access the BBB.