

Pratik Sinha (<http://www.humbug.in/>)



EMBEDDED LINUX AND WIRELESS SOFTWARE FREELANCER



Using gatttool in a manual/non-interactive mode to read BLE devices

JUNE 30, 2014 ([HTTP://WWW.HUMBUG.IN/2014/USING-GATTTOOL-MANUALNON-INTERACTIVE-MODE-READ-BLE-DEVICES/](http://www.humbug.in/2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/)) BY PRATIK SINHA ([HTTP://WWW.HUMBUG.IN/AUTHOR/ADMIN/](http://www.humbug.in/author/admin/)) · 2 COMMENTS ([HTTP://WWW.HUMBUG.IN/2014/USING-GATTTOOL-MANUALNON-INTERACTIVE-MODE-READ-BLE-DEVICES/#COMMENTS](http://www.humbug.in/2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/#comments))

y?

Gatttool is a tool distributed along with Bluez, the default linux bluetooth stack, to interact with Bluetooth Low Energy (BLE) devices. Currently I have a TI SensorTag ([http://www.ti.com/ww/en/wireless_connectivity/sensortag/index.shtml?](http://www.ti.com/ww/en/wireless_connectivity/sensortag/index.shtml?INTC=SensorTag&HQS=sensortag)

INTC=SensorTag&HQS=sensortag) with me for a project I'm working on and I'm playing around with it. Most of the examples on the internet which show how to use gatttool to read the TI Tag have shown how to use gatttool in its interactive mode (-I). For eg, to read the temperature sensor, you'd do the following using gatttool's interactive mode

```
@~ $ sudo gatttool -b BC:6A:29:AE:CC:23 -I
[ ] [BC:6A:29:AE:CC:23] [LE]> connect
[CON] [BC:6A:29:AE:CC:23] [LE]> char-read-hnd 0x25
[CON] [BC:6A:29:AE:CC:23] [LE]>
Characteristic value/descriptor: 00 00 00 00
[CON] [BC:6A:29:AE:CC:23] [LE]> char-write-cmd 0x29 01
[CON] [BC:6A:29:AE:CC:23] [LE]> char-read-hnd 0x25
[CON] [BC:6A:29:AE:CC:23] [LE]>
Characteristic value/descriptor: f0 fe 88 0e
[CON] [BC:6A:29:AE:CC:23] [LE]> exit
```

However gatttool also offers a non-interactive mode which hasn't been documented. To achieve the above result in manual, non-interactive mode, you would do the following;

```
@$ sudo hciconfig hci0 down; sudo hciconfig hci0 up
@$ sudo gatttool -b BC:6A:29:AE:CC:23 --char-read -a 0x25; sleep
1; sudo gatttool -b BC:6A:29:AE:CC:23 --char-write -a 0x29 -n 01;
sleep 1; sudo gatttool -b BC:6A:29:AE:CC:23 --char-read -a 0x25;

Characteristic value/descriptor: 00 00 00 00
Characteristic value/descriptor: 36 ff 68 0e
```

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About Pratik Sinha

Linux Nerd, Socialist, Atheist, Adventuristic, Nature Lover, Geeky.

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2 COMMENTS



Yaqz (<http://khuwair.blogspot.nl>)

October 16, 2014 at 4:19 pm (<http://www.humbug.in/2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/#comment-25959>)

Great gentleman ...well done. I have been on this problem for a whole day and I couldn't find an answer.

I didn't use all the commands in one line. Instead I had a new line each time; which apparently ended up resetting the Sensor. I didn't know I can use a semi column and keep all statements in one line in linux. Thanks alot..

I got a tiny Q, I didn't get the part why you use "sleep 1;"? Because with it or without it i am getting the same result. And oh, Is there a possibility to save the continues data and terminate the continues data in a predefined time period.

Here is what I got (accel)

```
# gatttool -b BC:6A:29:AC:02:57 -char-read -a 0x31; gatttool -b BC:6A:29:AC:02:57 -char-write -a 0x31 -n 01; gatttool -b BC:6A:29:AC:02:57 -char-read -a 0x31; gatttool -b BC:6A:29:AC:02:57 -char-write-req -a 0x2E -n 0100 -listen;
```

Characteristic value/descriptor: 00

Characteristic value/descriptor: 01

Characteristic value was written successfully

Notification handle = 0x002d value: 01 06 40

Notification handle = 0x002d value: 01 05 40

Notification handle = 0x002d value: 01 06 40

Notification handle = 0x002d value: 01 06 44

I have to stop it via ^C .

Reply (</2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/?replytocom=25959#respond>)



Yaqz (<http://khuwair.blogspot.nl>)

October 16, 2014 at 4:13 pm (<http://www.humbug.in/2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/#comment-25959>)

Great man I was working on this for days. And I couldn't get the answer; because I didn't put all the statements in one line and I wasn't ending a statement with a semi column. I didn't know I can do that in Linux,

Hey thanks alot.

Just one little question, Why do use sleep 1 ? I didn't use this statement and I still get the same result. Oh one more thing, Any idea how to turn continues data off automatically within (i.e 15 mins).

Here is what I got (accel data)

```
gatttool -b BC:6A:29:AC:02:57 -char-read -a 0x31; gatttool -b BC:6A:29:AC:02:57 -char-write -a 0x31 -n 01; gatttool -b BC:6A:29:AC:02:57 -char-read -a 0x31; gatttool -b BC:6A:29:AC:02:57 -char-write-req -a 0x2E -n 0100 -listen;
```

Characteristic value/descriptor: 00

Characteristic value/descriptor: 01

Characteristic value was written successfully

Notification handle = 0x002d value: 01 06 40

Notification handle = 0x002d value: 01 05 40

Notification handle = 0x002d value: 01 06 40

Notification handle = 0x002d value: 01 06 44

Notification handle = 0x002d value: 01 05 41

Notification handle = 0x002d value: 01 06 41

I have to use ^C to stop it. I want it to happen automatically after a definite time

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