

## GPRS Internet via Bluetooth di Linux

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Distro yang dipergunakan adalah Debian dengan bluez-utils 3.7-1. Yang pertama - tama dilakukan adalah mencolokkan alat bluetooth ke PC kita.

Ketika dicolokkan akan muncul tampilan kurang lebih seperti hal berikut:

```
Feb 14 03:20:40 localhost kernel: usb 1-1: new full speed USB device using
uhci_hcd and address 18
Feb 14 03:20:40 localhost kernel: usb 1-1: configuration #1 chosen from 1
choice
Feb 14 03:20:40 localhost kernel: hub 1-1:1.0: USB hub found
Feb 14 03:20:40 localhost kernel: hub 1-1:1.0: 3 ports detected
Feb 14 03:20:40 localhost kernel: usb 1-1.1: new full speed USB device using
uhci_hcd and address 19Feb 14 03:20:40 localhost kernel: usb 1-1.1:
configuration #1 chosen from 1 choice
Feb 14 03:20:40 localhost kernel: usb 1-1.2: new full speed USB device using
uhci_hcd and address 20Feb 14 03:20:41 localhost kernel: usb 1-1.2:
configuration #1 chosen from 1 choice
Feb 14 03:20:41 localhost kernel: input: HID 0a5c:4502 as /class/input/input7
Feb 14 03:20:41 localhost kernel: input: USB HID v1.11 Keyboard [HID 0a5c:4502]
on usb-0000:00:07.2-1.2
Feb 14 03:20:41 localhost kernel: usb 1-1.3: new full speed USB device using
uhci_hcd and address 21Feb 14 03:20:41 localhost kernel: usb 1-1.3:
configuration #1 chosen from 1 choice
Feb 14 03:20:41 localhost kernel: input: HID 0a5c:4503 as /class/input/input8
Feb 14 03:20:41 localhost kernel: input: USB HID v1.11 Mouse [HID 0a5c:4503] on
usb-0000:00:07.2-1.3
```

Kemudian kita harus melakukan setting agar piranti bluetooth berjalan dengan baik (/etc/bluetooth/hcid.conf)

```
#
# HCI daemon configuration file.
#
# HCID options
```

```
options {
  # Automatically initialize new devices
  autoinit yes;

  # Security Manager mode
  # none - Security manager disabled
  # auto - Use local PIN for incoming connections
  # user - Always ask user for a PIN
  #
  security auto;

  # Pairing mode
  # none - Pairing disabled
  # multi - Allow pairing with already paired devices
  # once - Pair once and deny successive attempts
  #pairing multi;

  # Default PIN code for incoming connections
  #passkey "1234";
}

# Default settings for HCI devices
device {
  # Local device name
  # %d - device id
  # %h - host name
  name "SERVER";

  # Local device class
  #class 0x3e0100;

  # Default packet type
  #pkt_type DH1,DM1,HV1;

  # Inquiry and Page scan
  iscan enable; pscan enable;

  # Default link mode
  # none - no specific policy
  # accept - always accept incoming connections
  # master - become master on incoming connections,
  # deny role switch on outgoing connections
  lm accept;

  # Default link policy
  # none - no specific policy
  # rswitch - allow role switch
  # hold - allow hold mode
```

```
# sniff - allow sniff mode
# park - allow park mode
lp rswitch,hold,sniff,park;
}
```

Pada opsi name = SERVER itu terserah dari Anda untuk menentukannya. Disini passkey tidak diperlukan karena bluez-utils sudah versi 3.x yang menggunakan passkey-agent. Bukan lagi menggunakan pin-helper, pin. Untuk lebih jelasnya bisa di baca dari referensi Distro Gentoo yang linknya ada di Credit dibawah.

Restart / Jalankan service bluetooth

```
# /etc/init.d/bluetooth restart
```

Jika di dapati saat melakukan perintah hciconfig -a tidak bisa menampilkan secara sempurna bluetoothnya (seperti tampilan dibawah ini)

```
# hciconfig -a
hci0: Type: USB
      BD Address: 03:00:30:04:4E:1E ACL MTU: 1017:8 SCO MTU: 64:0
      UP RUNNING
      RX bytes:145 acl:0 sco:0 events:18 errors:0
      TX bytes:320 acl:0 sco:0 commands:18 errors:0
      Features: 0xff 0xff 0x8d 0xfe 0x9b 0xf9 0x00 0x80
      Packet type: DM1 DM3 DM5 DH1 DH3 DH5 HV1 HV2 HV3
      Link policy: RSWITCH HOLD SNIFF PARK
      Link mode: SLAVE ACCEPT
      Can't read local name on hci0: Input/output error (5)
```

Penulis harus melakukan reset setiap kali menyalakan komputer

```
# hciconfig hci0 reset
usb 1-1.2: USB disconnect, address 25
usb 1-1.3: USB disconnect, address 26
```

Hasilnya kurang lebih harus seperti berikut

```
# hciconfig -a
hci0: Type: USB
      BD Address: 03:00:30:04:4E:1E ACL MTU: 1017:8 SCO MTU: 64:0
      UP RUNNING PSCAN ISCAN
      RX bytes:561 acl:0 sco:0 events:39 errors:0
      TX bytes:650 acl:0 sco:0 commands:39 errors:0
      Features: 0xff 0xff 0x8d 0xfe 0x9b 0xf9 0x00 0x80
      Packet type: DM1 DM3 DM5 DH1 DH3 DH5 HV1 HV2 HV3
      Link policy: RSWITCH HOLD SNIFF PARK
      Link mode: SLAVE ACCEPT
      Name: 'SERVER'
      Class: 0x3e0100
      Service Classes: Networking, Rendering, Capturing, Object Transfer,
```

Audio

Kemudian kita harus mengetahui bluetooth dari HP kita dengan jalan

```
# hcitool scan
Scanning ...
```

```
00:12:EE:B2:29:AD      Dick
```

Sekarang kita harus mengetahui service Dial Up Networking (DUN) dari HP kita berada di channel berapa

dengan jalan mengetikkan perintah:

```
# sdptool search DUN
Inquiring ...
Searching for DUN on 00:12:EE:B2:29:AD ...
Service Name: Dial-up Networking
Service Description: Symbian OS,UIQ phone
Service Provider: Sony Ericsson
Service RecHandle: 0x10007
Service Class ID List:
  "Dialup Networking" (0x1103)
  Protocol Descriptor List:
    "L2CAP" (0x0100)
    "RFCOMM" (0x0003)
  Channel: 7
  Language Base Attr List:
    code_ISO639: 0x656e
    encoding:    0x6a
    base_offset: 0x100
  Profile Descriptor List:
    "Dialup Networking" (0x1103)
  Version: 0x0100
```

Dari hasil diatas diketahui bahwa channelnya adalah 7 maka penulis merubah isi dari file /etc/default/bluetooth

```
.....snip hanya nampilin bagian dund saya ya ini .....
##### DUND
#
# Run dund -- this allows ppp logins. 1 for enabled, 0 for disabled.
#DUND_ENABLED=1

# Arguments to dund: defaults to acting as a server
#DUND_OPTIONS="--listen --channel 2 --msdun call ngage"

# Run dund --help to see the full array of options.
# Here are some examples:
#
# Connect to any nearby host offering access
# DUND_OPTIONS="--search"
#
# Connect to host 00:11:22:33:44:55
# DUND_OPTIONS="--connect 00:11:22:33:44:55"
#
# Listen on channel 3
# DUND_OPTIONS="--listen --channel 3"
DUND_OPTIONS="--connect 00:12:EE:B2:29:AD"
DUND_OPTIONS="--listen --channel 7"
edit file /etc/bluetooth/rfcomm.conf
```

```
#
# RFCOMM configuration file.
#

rfcomm0 {
# # Automatically bind the device at startup
bind yes;
#
# # Bluetooth address of the device
# device 11:22:33:44:55:66;
device 00:12:EE:B2:29:AD;

# # RFCOMM channel for the connection
# channel 1;
channel 7;

# # Description of the connection
# comment "Example Bluetooth device";
comment "Example Bluetooth device";
}
```

#### Restart bluetooth

```
/etc/init.d/bluetooth restart
```

Kemudian Untuk bisa melakukan pairing diperlukan aplikasi passkey-agent. Sayangnya file ini tidak tersedia langsung namun harus dikompilasi terlebih dahulu. Diperlukan dukungan file libdbus-1-dev untuk bisa mengkompilasinya (install jika belum ada)

```
cd /usr/share/doc/bluez-utils/examples
gunzip passkey-agent.c.gz
make passkey-agent.c
cp passkey-agent /usr/bin/
passkey-agent --default 1234 00:12:ee:b2:29:ad &
```

Passkey-agent ini sebenarnya cukup 1x saja setelah itu tidak lagi karena dah tersimpan di dalam /var/lib/bluetooth/. Kemudian setting di wvdial.conf seperti berikut (Penulis menggunakan IM3 dari Indosat):

```
[Modem0]
Modem = /dev/rfcomm0
Baud = 57600
SetVolume = 0
Dial Command = ATDT
Init1 = ATZ
Init3 = ATM0
FlowControl = CRTSCTS

[Dialer IM3]
Username = gprs
Password = im3
Phone = *99#
Stupid Mode = 1
Init1 = ATZ
Init2 = ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0
```

```
Init3 = AT+CGDCONT=1,"IP","www.indosat-m3.net","",0,0  
Inherits = Modem0
```

Setelah disimpan maka ketikkan "wvdial im3", Saat ditanyakan pairing kode di HP nya isikan 1234 sesuai dengan isian dr passkey-agent.

```
# wvdial im3  
--> WvDial: Internet dialer version 1.56  
rfcomm_tty_ioctl: TIOCGSERIAL is not supported  
--> Cannot get information for serial port.  
--> Initializing modem.  
--> Sending: ATZ  
ATZ  
OK  
--> Sending: ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0  
ATQ0 V1 E1 S0=0 &C1 &D2 +FCLASS=0  
OK  
--> Sending: AT+CGDCONT=1,"IP","www.indosat-m3.net","",0,0  
AT+CGDCONT=1,"IP","www.indosat-m3.net","",0,0  
OK  
--> Sending: ATE0V1  
ATE0V1  
OK  
--> Modem initialized.  
--> Sending: ATDT*99#  
--> Waiting for carrier.  
CONNECT  
~[7f]}#@!}!}! }9}#}%B#}%}{(}"'"}"}"&} } } } }%}&X*}3cD7~  
--> Carrier detected. Starting PPP immediately.  
--> Starting pppd at Thu Feb 14 10:31:40 2008  
--> Pid of pppd: 7438  
CSLIP: code copyright 1989 Regents of the University of California  
PPP generic driver version 2.4.2  
--> Using interface ppp0  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> local IP address 10.35.7.202  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> remote IP address 10.64.64.64  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> primary DNS address 124.195.15.100  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]  
--> secondary DNS address 124.195.15.98  
--> pppd: p[02][06][08]P[02][06][08][01][06][08]
```

Dengan Kombinasi harga im3 saat ini(Rp. 1/kb) dan linux yang bisa chat / browse based console murah banget terasa internetan nya hehehe.

Credits:

- [Dokumentasi Gentoo Bluetooth](#)