Installation Guide

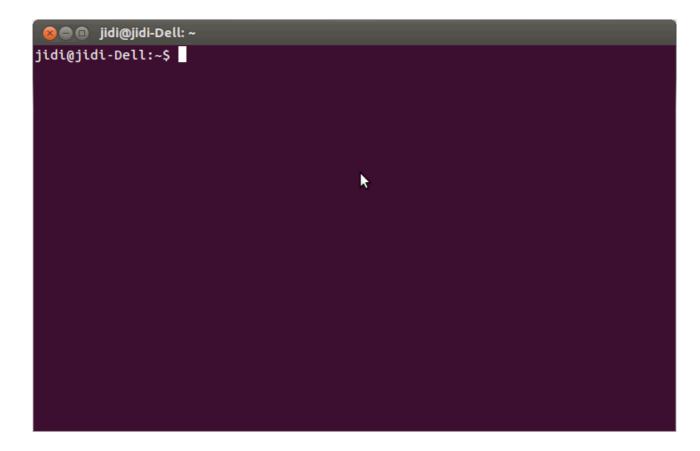
Cgminer & Cpuminer

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Installation Guide of Cgminer & Cpuminer

The installation guide is for <u>Ubuntu</u> 12.04 , for installation of <u>Ubuntu</u> operation system, please see http://www.ubuntu.org.cn/download/desktop/zh-CN

- 1) Prepare to install cgminer and cpuminer
- 1. Open terminal(Shotrt cut: ctrl+alt+t)



2.Switch to Root(sudo bash), enter username and password at first time log in:

3.Create directory /opt , Create cgminer,cpuminer directory under /opt ;

```
mkdir -p /opt/cgminer
mkdir -p /opt.cpuminer
```

Get in opt directory , check if it is created :

cd /opt Is /opt

4.Download cgminer-3.8.5-usb.20140212.tar.bz2、cpuminer-usb-dual.20140115.tgz to /opt ;

5. Download cgminer & cpuminer installation package curl, jansson;

wget http://curl.haxx.se/download/curl-7.34.0.tar.bz2

cd /opt

wget http://www.digip.org/jansson/releases/jansson-2.5.tar.bz2

```
😮 🖨 📵 root@jidi-Dell: /opt
正在连接 curl.haxx.se (curl.haxx.se)|80.67.6.50|:80... 已连接。
已发出 HTTP 请求,正在等待回应... 200 OK
长度: 2770438 (2.6M) [application/x-bzip2]
正在保存至: "curl-7.34.0.tar.bz2"
100%[=======>] 2,770,438
                                                     622K/s
                                                             用时 4.4s
2014-02-27 15:19:26 (622 KB/s) - 已保存"curl-7.34.0.tar.bz2"[2770438/2770438])
root@jidi-Dell:/opt# wget http://www.digip.org/jansson/releases/jansson-2.5.tar.
--2014-02-27 15:19:38-- http://www.digip.org/jansson/releases/jansson-2.5.tar.b
正在解析主机 www.digip.org (www.digip.org)... 217.30.184.170
正在连接 www.digip.org (www.digip.org)|217.30.184.170|:80... 已连接。
已发出 HTTP 请求,正在等待回应... 200 OK
长度: 312937 (306K) [application/x-bzip2]
正在保存至: "jansson-2.5.tar.bz2"
                                                               .
100%[=======>] 312.937
                                                    70.7K/s
                                                             用时 4.3s
2014-02-27 15:19:58 (70.7 KB/s) - 已保存 "jansson-2.5.tar.bz2" [312937/312937])
root@jidi-Dell:/opt#
```

As above, 100% downloaded, then install curl software, as following:

```
tar vxf curl-7.34.0.tar.bz2

cd curl-7.34.0/

./configure

make

make install
```

```
🕒 🗊 root@jidi-Dell: /opt/curl-7.34.0
  _multi_add_handle.3 curl_multi_cleanup.3 curl_multi_fdset.3 curl_multi_info_rea
d.3 curl_multi_init.3 curl_multi_perform.3 curl_multi_remove_handle.3 curl_share
cleanup.3 curl_share_init.3 curl_share_setopt.3 libcurl.3 libcurl-easy.3 libcur_
l-multi.3 libcurl-share.3 libcurl-errors.3 curl_easy_strerror.3 curl_multi_strer
ror.3 curl_share_strerror.3 curl_global_init_mem.3 '/usr/local/share/man/man3'
 /usr/bin/install -c -m 644 libcurl-tutorial.3 curl_easy_reset.3 curl_easy_escap
e.3 curl easy unescape.3 curl multi setopt.3 curl multi socket.3 curl multi time
out.3 curl_formget.3 curl_multi_assign.3 curl_easy_pause.3 curl_easy_recv.3 curl
easy send.3 curl multi socket action.3 curl multi wait.3 '/usr/local/share/man/
man3'
                      `/opt/curl-7.34.0/docs/libcurl'
make[6]:正在离开目录
make[5]:正在离开目录
make[5]: 正在进入目录
make[6]: 正在进入目录
                        /opt/curl-7.34.0/docs/libcurl
                       `/opt/curl-7.34.0/docs'
`/opt/curl-7.34.0/docs'
make[6]: 没有什么可以做的为 `install-exec-am'。
 /bin/mkdir -p '/usr/local/share/man/man1'
 /usr/bin/install -c -m 644 curl.1 curl-config.1 '/usr/local/share/man/man1'
                      `/opt/curl-7.34.0/docs'
make[6]:正在离开目录
make[5]:正在离开目录
make[4]:正在离开目录
                        /opt/curl-7.34.0/docs'
                        /opt/curl-7.34.0/docs'
make[3]:正在离开
                       `/opt/curl-7.34.0'
make[2]:正在离开目录
make[1]:正在离开目录
make[2]:正在离开
                       /opt/curl-7.34.0'
                      `/opt/curl-7.34.0'
root@jidi-Dell:/opt/curl-7.34.0#
```

If no errors after the above installation, then curl is successfully installed. Then install jasson, as following:

```
cd /opt
tar vxf jansson-2.5.tar.bz2
cd jansson-2.5/
./configure
make
make install
```

```
🚫 🖨 📵 root@jidi-Dell: /opt/jansson-2.5
                       `/opt/jansson-2.5/test/suites/api'
make[3]:正在离开目录
make[3]: 正在进入目录
                         /opt/jansson-2.5/test/suites/api'
                          /opt/jansson-2.5/test/suites
make[4]: 正在进入目录 `/opt/jansson-2.5/test/suites'
make[4]: 没有什么可以做的为 `install-exec-am'。
make[4]: 没有什么可以做的为 `install-data-am'。
make[4]:正在离开目录
                         /opt/jansson-2.5/test/suites'
make[3]:正在离开目录
make[2]:正在离开目录
                        `/opt/jansson-2.5/test/suites'
                       `/opt/jansson-2.5/test/suites'
make[2]: 正在进入目录
                          /opt/jansson-2.5/test'
          正在进入目录
make[3]: 正在进入目录 `/opt/jansson-2.5/test'
make[3]: 没有什么可以做的为 `install-exec-am'
                                install-exec-am'.
make[3]: 没有什么可以做的为 `install-data-am'。
make[3]:正在离开目录
                        `/opt/jansson-2.5/test'
make[2]:正在离开目录
                         /opt/jansson-2.5/test'
make[1]:正在离开目录
                       `/opt/jansson-2.5/test'
make[1]: 正在进入目录
                          /opt/jansson-2.5
          正在进入目录
                          /opt/jansson-2.5'
make[2]: 没有什么可以做的为
                                `install-exec-am'。
 /bin/mkdir -p '/usr/local/lib/pkgconfig'
/usr/bin/install -c -m 644 jansson.pc '/
                                            '/usr/local/lib/pkgconfig'
make[2]:正在离开目录
                        `/opt/jansson-2.5'
make[1]:正在离开目录 `/opt/jansson-2.5'
root@jidi-Dell:/opt/jansson-2.5#
```

After above command made, if no erros, then the software is successfully installed.

Attention: Jansson does not automatically link so filed under /usr/bin directory, which will create errors when compiling. The following should be done:

```
In -s /usr/local/lib/libjansson.* /usr/lib/
```

```
🔞 🖨 📵 root@jidi-Dell: /opt/jansson-2.5
                            `/opt/jansson-2.5/test/suites/api'
make[3]:正在离开目录
make[3]: 正在进入目录
                              /opt/jansson-2.5/test/suites/api'
make[4]: 止在进入目录 `/opt/jansson-2.5/test/suites'
make[4]: 没有什么可以做的为 `install-exec-am'。
make[4]: 没有什么可以做的为 `install-data-am'。
make[4]:正在离开目录 `/opt/jansson-2 5/test/
make[3]:正在离开目录
make[2]:正在离开目录
                             `/opt/jansson-2.5/test/suites'
                            `/opt/jansson-2.5/test/suites'
make[2]: 正在进入目录
                                /opt/jansson-2.5/test'
make[3]: 正在进入目录 /opt/jansson-2.5/test/
make[3]: 正在进入目录 `/opt/jansson-2.5/test/
make[3]: 没有什么可以做的为 `install-exec-am'。
make[3]: 没有什么可以做的为 `install-data-am'。
make[3]:正在离开目录
                              `/opt/jansson-2.5/test'
make[2]:正在离开目录
                             `/opt/jansson-2.5/test'
make[1]:正在离开目录
                             `/opt/jansson-2.5/test'
make[1]: 正在进入目录
                                /opt/jansson-2.5
                              `/opt/jansson-2.5'
            正在进入目录
make[2]: 没有什么可以做的为
                                        install-exec-am'。
 /bin/mkdir -p '/usr/local/lib/pkgconfig'
/usr/bin/install -c -m 644 jansson.pc '/
                                                      '/usr/local/lib/pkgconfig'
make[2]:正在离开目录 `/opt/jansson-2.5'
make[1]:正在离开目录 `/opt/jansson-2.5'
root@jidi-Dell:/opt/jansson-2.5# ln -s /usr/local/lib/libjansson.* /usr/lib/
```

Now, preparation is done. We can start to install cominer and cominer.

- 1. Installation of cominer
- a.Extract cgminer-3.8.5-usb.20140212.tar.bz2 to /opt/cgminer directory;

```
tar jvfx cgminer-3.8.5-usb.20140212.tar.bz2 -C ./cgminer/
cd /opt/cgminer
./configure
make
```

```
😮 🖨 🗈 root@jidi-Dell: /opt
root@jidi-Dell:/opt# clear
root@jidi-Dell:/opt# tar jvfx cgminer-3.8.5-usb.20140212.tar.bz2 -C ./cgminer/
./uthash.h
./warn-on-use.h
./cgminer.c
./run.sh
./elist.h
./configure
./aclocal.m4
./ccan/
./ccan/compiler/
./ccan/compiler/compiler.h
./ccan/Makefile.am
./ctan/Makefile.in
./ccan/opt/
./ccan/opt/private.h
./ccan/opt/opt.c
./ccan/opt/opt.h
./ccan/opt/usage.c
./ccan/opt/parse.c
./ccan/opt/helpers.c
./ccan/typesafe_cb/
```

b.Enter /opt/cgminer directory, compile and install cgminer

./configure -enable-gridseed

```
🚫 🖨 📵 root@jidi-Dell: /opt/cgminer
 BFL.ASICs..... Disabled
 BitForce.FPGAs.....: Disabled
 BitFury.ASICs..... Disabled
 GridSeed.ASICs....: Enabled
 ST3210.MCU.....: Disabled
 LED.Control.....: Disabled
 Hashfast.ASICs.....: Disabled
 Icarus.ASICs/FPGAs...: Disabled
 Klondike.ASICs.....: Disabled
 KnC.ASICs..... Disabled
 ModMiner.FPGAs.....: Disabled
Compilation..... make (or gmake)
 CPPFLAGS....:
 CFLAGS..... -g -02
 LDFLAGS..... -lpthread
 LDADD........: -ldl -L/usr/local/lib -lcurl compat/jansson-2.5/src/.
libs/libjansson.a -lpthread -lm compat/libusb-1.0/libusb/.libs/libusb-1.0.a
ludev -lrt
Installation...... make install (as root if needed, with 'su' or 'sudo')
 prefix..... /usr/local
root@jidi-Dell:/opt/cgminer#
```

If shows above, then successfully compiled, then command: make, start to install cgminer.

make

```
🕽 🗐 🔳 root@jidi-Dell: /opt/cgminer
cgminer.c:353:3: 警告: 传递'cgtimer_sub'的第 2 个参数时在不兼容的指针类型间转换
 [默认启用]
 /util.h:120:6: 附注: 需要类型'struct cgtimer_t *',但实参的类型为'struct timev
cgminer.c:353:3: 警告: 传递'cgtimer_sub'的第 3 个参数时在不兼容的指针类型间转换
 [默认启用]
 /util.h:120:6: 附注: 需要类型'struct cgtimer_t *',但实参的类型为'struct timev
cgminer.c:360:10: 警告: 忽略声明有 warn_unused_result 属性的'system'的返回值 [-
Wunused-result]
 CC
         cgminer-util.o
 CC
         cgminer-sha2.o
         cgminer-api.o
 CC
api.c: 在函数'message'中:
api.c:1332:7: 警告: 格式字符串不是一个字面字符串而且没有待格式化的实参 [-Wforma
t-security]
 CC
          cgminer-logging.o
 CC
          cgminer-usbutils.o
 CC
         cgminer-driver-gridseed.o
 CCLD
         cqminer
                                           k
make[2]:正在离开目录 `/opt/cgminer'
make[1]:正在离开目录 `/opt/cg<u>m</u>iner'
root@jidi-Dell:/opt/cgminer#
```

(If shows above, then successfully installed)

Now, cgminer is installed. Command the following after connect mining device

```
./cgminer
--gridseed-options=baud=115200,freq=750,chips=5,modules=1,usefifo=0,btc=11
--hotplug=0 -o stratum+tcp://stratum.f2pool.com:25 -u bittest111.111 -p 123456
```

```
🔞 🖨 📵 root@jidi-Dell: /opt/cgminer
config.guess
                           hexdump.c
root@jidi-Dell:/opt/cgminer# ./cgminer --gridseed-options=baud=115200,freq=750,c
hips=5,modules=1,usefifo=0,btc=11 --hotplug=0 -o stratum+tcp://stratum.f2pool.co
m:25 -u bittest111.1 -p 123456
 [2014-02-27 17:07:10] Started cgminer 3.8.5
 [2014-02-27 17:07:10] GridSeed options: 'baud=115200,freq=750,chips=5,modules=1
 usefifo=0,btc=11
 [2014-02-27 17:07:10] System reseting
 [2014-02-27 17:07:11] Device found, firmware version 0x13011401, driver version
 v3.8.5.20140210.02.am3352
 [2014-02-27 17:07:11] Create LTC proxy on 3350/UDP for 2:6(0)
 [2014-02-27 17:07:11] GridSeed: send thread running, GridSeed_Send/0
 [2014-02-27 17:07:11] GridSeed device opened on 2:6
 [2014-02-27 17:07:11] Probing for an alive pool
 [2014-02-27 17:07:11] GridSeed: recv thread running, GridSeed_Recv/0
 [2014-02-27 17:07:11] Pool 0 difficulty changed to 256
 [2014-02-27 17:07:11] Network diff set to 3.13G
 [2014-02-27 17:07:32] Accepted d7292b66 Diff 305/256 GSD 0
 [2014-02-27 17:08:16] Stratum from pool 0 detected new block
 [2014-02-27 17:08:35] Accepted 2c3d8161 Diff 1.48K/256 GSD 0
 [2014-02-27 17:09:29] Pool 0 difficulty changed to 192
                                                                             ×
 [2014-02-27 17:10:45] Accepted 010e6def Diff 242/192 GSD 0
```



(As shows above, mining device is start working.

Reference:

Freq——Frequency of the device

Chips—Numbers of chips

Btc—— control the calculation power of btc, when 0, only ltc mining

Hotplug—scan usb device, when 0, no scanning

-u—— to appoint miner

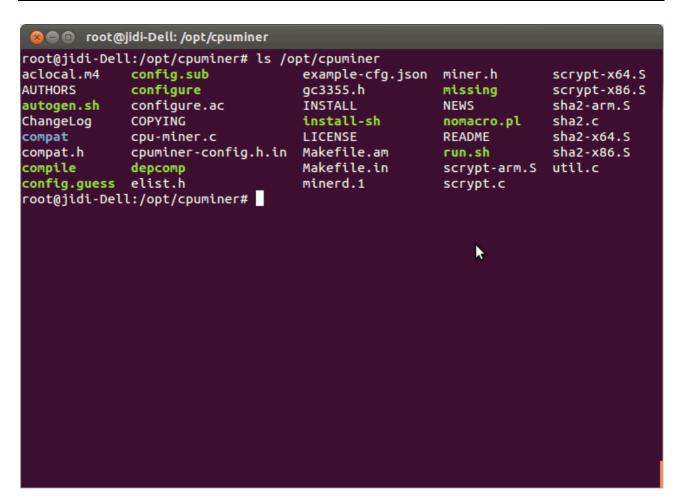
-p—— to make password

- 2. Installation cpuminer (similar to cgminer)
- a.Extract cpuminer-usb-dual.20140115.tgz;

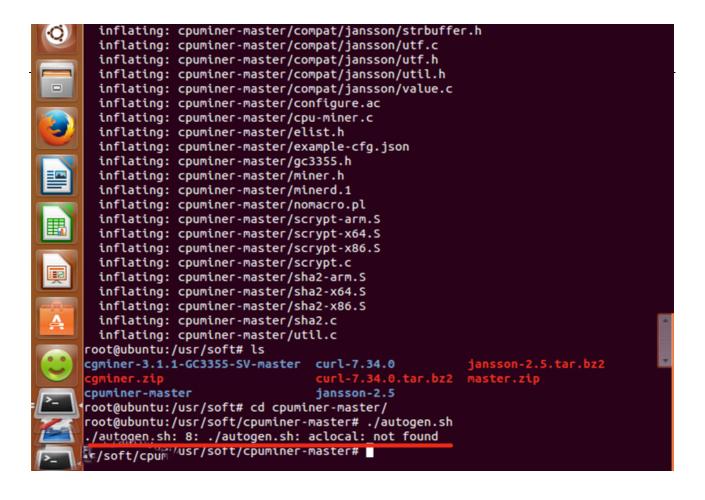
cd /opt/

tar vxf cpuminer-usb-dual.20140115.tgz -C /opt/cpuminer

Is /opt/cpuminer

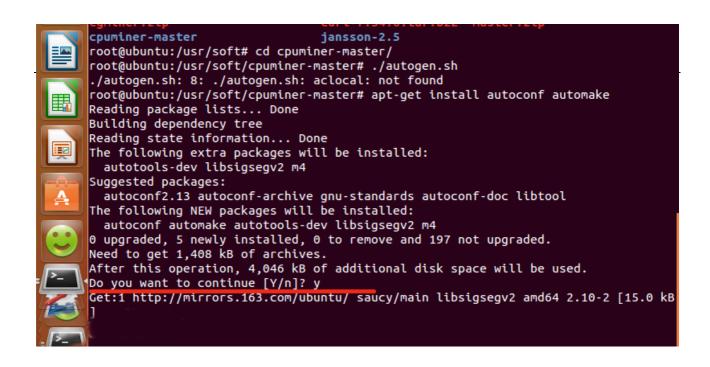


(Extracted)



If there are errors above, we need to install autoconf and automake installation package, as following:

apt-get install autoconf automake



enter" y" to continue installation, when finished, run autogen.sh again;

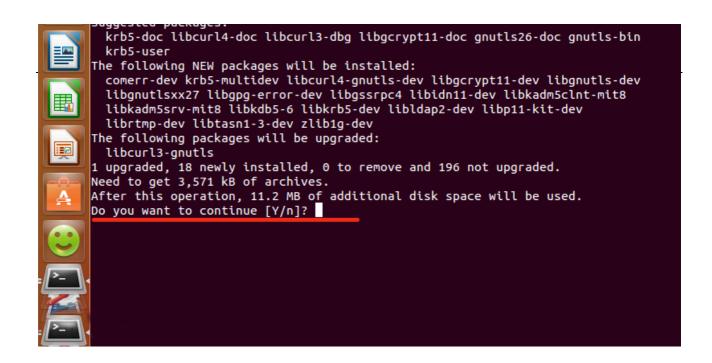
./autogen.sh

Errors again as following:

```
Setting up m4 (1.4.16-5) ..
Setting up autoconf (2.69-1.1) ...
Setting up autotools-dev (20130810.1) ...
Setting up automake (1:1.13.3-1.1ubuntu2)
update-alternatives: using /usr/bin/automake-1.13 to provide /usr/bin/automake (a
utomake) in auto mode
Processing triggers for libc-bin ...
root@ubuntu:/usr/soft/cpuminer-master# ./autogen.sh
configure.ac:15: installing './compile' configure.ac:4: installing './config.guess'
configure.ac:4: installing './config.sub'
configure.ac:6: installing './install-sh'
configure.ac:6: installing './missing'
Makefile.am:12: warning: 'INCLUDES' is the old name for 'AM_CPPFLAGS' (or '*_CPPF
LAGS')
Makefile.am: installing './INSTALL'
Makefile.am: installing './depcomp'
configure.ac:113: error: possibly undefined macro: AC_MSG_ERROR
       If this token and others are legitimate, please use m4_pattern_allow.
       See the Autoconf documentation.
   /usr/soft/cptr/soft/cpuminer-master#
```

If see errors above, then need to install libcurl4-gnutls-dev;

apt-get install libcurl4-gnutls-dev



Enter y to continue installation, when finished, run autogen.sh again, approved Start to compile cpuminer, as following:

./configure

```
    □ root@jidi-Dell: /opt/cpuminer

checking for syslog.h... yes
checking for sys/sysctl.h... yes
checking whether be32dec is declared... no
checking whether le32dec is declared... no
checking whether be32enc is declared... no
checking whether le32enc is declared... no
checking for size_t... yes checking for working alloca.h... yes
checking for alloca... yes
checking for getopt_long... yes
checking whether we can compile AVX code... yes
checking whether we can compile XOP code... yes
checking whether we can compile AVX2 code... yes
checking for json_loads in -ljansson... yes
checking for pthread_create in -lpthread... yes
checking for gawk... (cached) mawk
checking for curl-config... /usr/local/bin/curl-config checking for the version of libcurl... 7.34.0
checking for libcurl >= version 7.15.2... yes
checking whether libcurl is usable... yes
checking for curl_free... yes
configure: creating ./config.status
config.status: creating Makefile
config.status: creating compat/Makefile
config.status: creating compat/jansson/Makefile
config.status: creating cpuminer-config.h
config.status: executing depfiles commands
root@jidi-Dell:/opt/cpuminer#
```

If no errors, then the result is as above:

make

```
    not@jidi-Dell: /opt/cpuminer

minerd-cpu-miner.o `test -f 'cpu-miner.c' || echo './'`cpu-miner.c
mv -f .deps/minerd-cpu-miner.Tpo .deps/minerd-cpu-miner.Po
gcc -std=gnu99 -DHAVE_CONFIG_H -I. -pthread -fno-strict-aliasing -I/usr/local/inc
lude -g -O2 -MT minerd-util.o -MD -MP -MF .deps/minerd-util.Tpo -c -o minerd-uti
l.o `test -f 'util.c' || echo './'`util.c
mv -f .deps/minerd-util.Tpo .deps/minerd-util.Po
gcc -std=gnu99 -DHAVE_CONFIG_H -I. -pthread -fno-strict-aliasing -I/usr/local/inc
lude -g -O2 -MT minerd-sha2.o -MD -MP -MF .deps/minerd-sha2.Tpo -c -o minerd-sha
2.o `test -f 'sha2.c' || echo './'`sha2.c
mv -f .deps/minerd-sha2.Tpo .deps/minerd-sha2.Po
gcc -std=gnu99 -DHAVE_CONFIG_H -I. -pthread -fno-strict-aliasing -I/usr/local/inc
        -g -O2 -MT minerd-scrypt.o -MD -MP -MF .deps/minerd-scrypt.Tpo -c -o minerd
-scrypt.o `test -f 'scrypt.c' || echo './'`scrypt.c
mv -f .deps/minerd-scrypt.Tpo .deps/minerd-scrypt.Po
gcc -std=gnu99 -DHAVE_CONFIG_H -I. -pthread -fno-strict-aliasing -I/usr/local/inc
lude -g -O2 -MT minerd-sha2-x64.o -MD -MP -MF .deps/minerd-sha2-x64.Tpo -c -o mi
nerd-sha2-x64.o `test -f 'sha2-x64.S' || echo './'`sha2-x64.S
mv -f .deps/minerd-sha2-x64.Tpo .deps/minerd-sha2-x64.Po
gcc -std=gnu99 -DHAVE_CONFIG_H -I. -pthread -fno-strict-aliasing -I/usr/local/inc
lude -g -O2 -MT minerd-scrypt-x64.o -MD -MP -MF .deps/minerd-scrypt-x64.Tpo -c -
o minerd-scrypt-x64.o `test -f 'scrypt-x64.S' || echo './'`scrypt-x64.S
mv -f .deps/minerd-scrypt-x64.Tpo .deps/minerd-scrypt-x64.Po
gcc -std=gnu99 -g -O2 -pthread -o minerd minerd-cpu-miner.o minerd-util.o minerd
-sha2.o minerd-scrypt.o minerd-sha2-x64.o minerd-scrypt-x64.o -L/usr/local/lib
lcurl -ljansson -lpthread
make[2]:正在离开目录 `/opt/cpuminer'
make[1]:正在离开目录 `/opt/cpu<u>m</u>iner'
root@jidi-Dell:/opt/cpuminer#
```

If no errors, then the result is as above, installation completed.

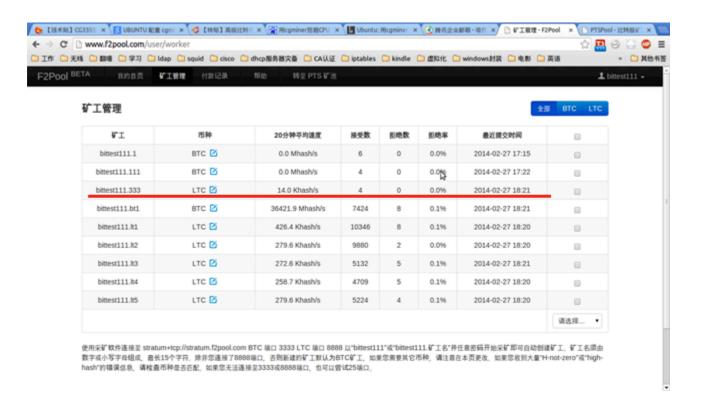
Start Itc mining, command as following:

cd /opt/cpuminer

./minerd -o stratum+tcp://stratum.f2pool.com:8888 -u bittest111.333 -p 123456

-dual

```
🔞 🖨 📵 root@jidi-Dell: /opt/cpuminer
[2014-02-27 18:18:04] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:18:18] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:18:41] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:18:49] Stratum detected new block
[2014-02-27 18:18:49] O: Dispatching new work to GC3355 LTC core
[2014-02-27 18:19:00] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:19:03] 0: LTC proxy request new task
[2014-02-27 18:19:03] O: Dispatching new work to GC3355 LTC core
0000000000000000
[2014-02-27 18:19:06] 0:
                       Hash: 000001d9045072ccbf34dbfc46c7a7c56662a5519b44c1234
c812c67fdf6b7d3
[2014-02-27 18:19:06] 0: Got nonce b4e20200, Hash <= Htarget!
[2014-02-27 18:19:06] accepted: 1/1 (100.00%), 0.00 khash/s (yay!!!)
[2014-02-27 18:19:23] O: Dispatching new work to GC3355 LTC core
[2014-02-27 18:19:34] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:19:59] O: Dispatching new work to GC3355 LTC core
[2014-02-27 18:20:06] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:20:29] 0: Dispatching new work to GC3355 LTC core
[2014-02-27 18:20:39] 0: Dispatching new work to GC3355 LTC core
0000000000000000
[2014-02-27 18:20:41] 0:
                       Hash: 00000106492de6f000a0ca0456885e761eda22adf1b95aa1c
a4dea2c3a40fab3
[2014-02-27 18:20:41] 0: Got nonce 37ddcecc, Hash <= Htarget!
[2014-02-27 18:20:41] accepted: 2/2 (100.00%), 0.00 khash/s (yay!!!)
```



Note: Must start btc mining process, then start ltc mining.