

task17

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课程名称: Embedded System

实验时间: 2015-3-27 实验地点: 曹西-501 指导老师: 翁恺

一、实验目的和要求

做一个 BT 下载机，能下载 BT 和 emule 的资源，要有远程控制方式（web 或专用端口）

二、主要仪器设备

硬件

Acadia 或 RPi 或 WRTnode 板一块；（本实验采用树莓派二代）

5V/1A 电源一个；

microUSB 线一根；

USB-TTL 串口线一根（FT232RL 芯片或 PL2303 芯片）；

PC 一台；

以太网线一根

Micro SD 一张/两张

U 盘 一个

软件

PC 上的 USB-TTL 串口线配套的驱动程序；

PC 上的串口终端软件，如 minicom、picocom、putty 等；

PC 上的 SSH 软件，如 putty 等。

三、操作方法与实验步骤

首先下载软件 transmission:

```

root@raspberrypi:~# sudo apt-get install transmission-daemon
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  libminiupnpc5 libnatpmp1 minissdpd transmission-cli transmission-common
Suggested packages:
  natpmp-utils transmission-gtk
The following NEW packages will be installed:
  libminiupnpc5 libnatpmp1 minissdpd transmission-cli transmission-common
  transmission-daemon
0 upgraded, 6 newly installed, 0 to remove and 25 not upgraded.
Need to get 1,600 kB of archives.
After this operation, 3,643 kB of additional disk space will be used.
Do you want to continue [Y/n]? y
Get:1 http://mirrordirector.raspbian.org/raspbian/ wheezy/main libminiupnpc5 arm
hf 1.5-2 [30.5 kB]

```

```

(Reading database ... 77266 files and directories currently installed.)
Unpacking libminiupnpc5 (from ../libminiupnpc5_1.5-2_armhf.deb) ...
Selecting previously unselected package libnatpmp1.
Unpacking libnatpmp1 (from ../libnatpmp1_20110808-3_armhf.deb) ...
Selecting previously unselected package transmission-common.
Unpacking transmission-common (from ../transmission-common_2.52-3+nmu2_all.deb)
...
Selecting previously unselected package transmission-daemon.
Unpacking transmission-daemon (from ../transmission-daemon_2.52-3+nmu2_armhf.de
b) ...
Selecting previously unselected package minissdpd.
Unpacking minissdpd (from ../minissdpd_1.1.20120121-1_armhf.deb) ...
Selecting previously unselected package transmission-cli.
Unpacking transmission-cli (from ../transmission-cli_2.52-3+nmu2_armhf.deb) ...
Processing triggers for hicolor-icon-theme ...
Processing triggers for man-db ...
Setting up libminiupnpc5 (1.5-2) ...
Setting up libnatpmp1 (20110808-3) ...
Setting up transmission-common (2.52-3+nmu2) ...
Setting up transmission-daemon (2.52-3+nmu2) ...
Starting bittorrent daemon: transmission-daemon.
Setting up minissdpd (1.1.20120121-1) ...
Setting up transmission-cli (2.52-3+nmu2) ...

```

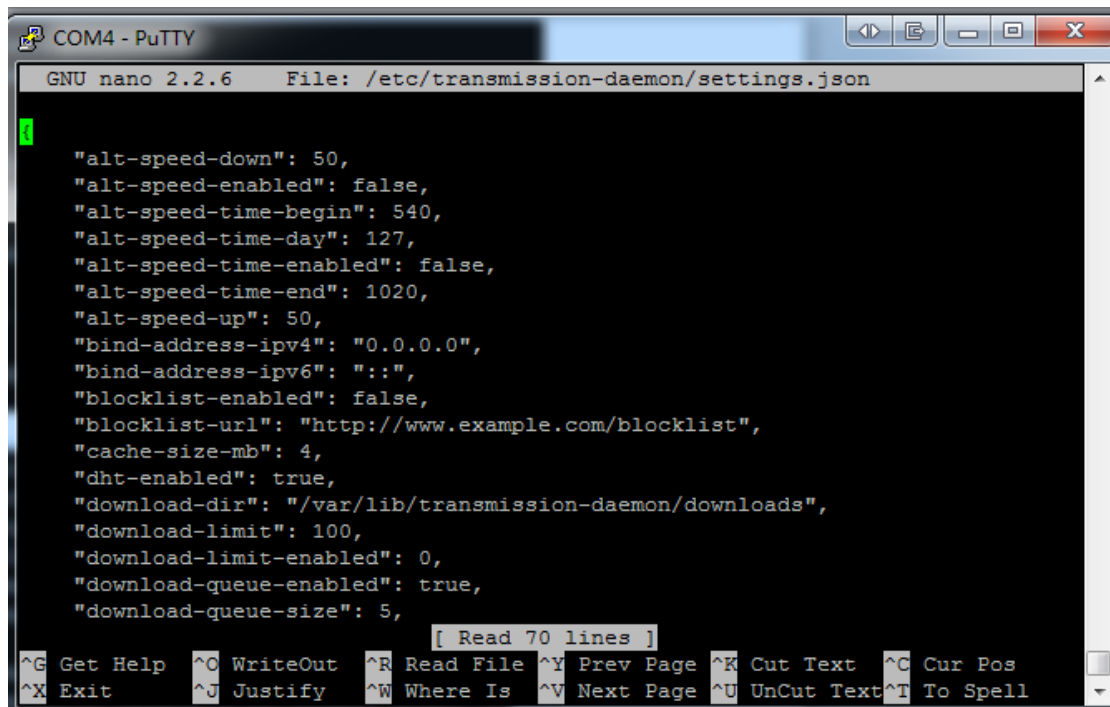
下载成功后为 BT 下载建立两个文件夹分别存放已完成和下载中的文件，并且修改这两个目录的权限：

```

root@raspberrypi:~# mkdir -p /home/pi/incomplete
root@raspberrypi:~# mkdir /home/pi/complete
root@raspberrypi:~# chmod 770 /home/pi/incomplete
root@raspberrypi:~# chmod 770 /home/pi/complete
root@raspberrypi:~#

```

接下来修改 transmission 的配置文件：

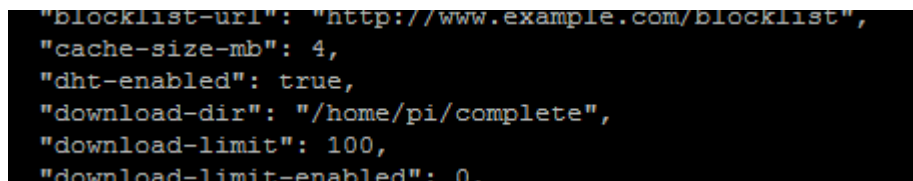


```
COM4 - PuTTY
GNU nano 2.2.6 File: /etc/transmission-daemon/settings.json

"alt-speed-down": 50,
"alt-speed-enabled": false,
"alt-speed-time-begin": 540,
"alt-speed-time-day": 127,
"alt-speed-time-enabled": false,
"alt-speed-time-end": 1020,
"alt-speed-up": 50,
"bind-address-ipv4": "0.0.0.0",
"bind-address-ipv6": "::",
"blocklist-enabled": false,
"blocklist-url": "http://www.example.com/blocklist",
"cache-size-mb": 4,
"dht-enabled": true,
"download-dir": "/var/lib/transmission-daemon/downloads",
"download-limit": 100,
"download-limit-enabled": 0,
"download-queue-enabled": true,
"download-queue-size": 5,

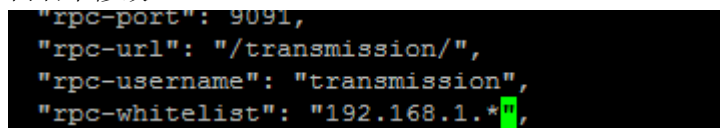
[ Read 70 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

下载地址修改:



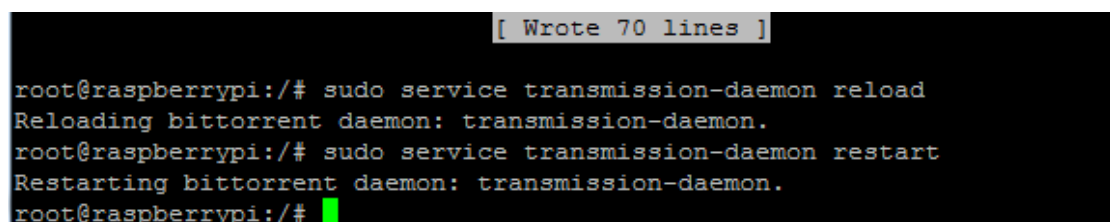
```
"blocklist-url": "http://www.example.com/blocklist",
"cache-size-mb": 4,
"dht-enabled": true,
"download-dir": "/home/pi/complete",
"download-limit": 100,
"download-limit-enabled": 0,
```

白名单修改:



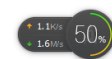
```
"rpc-port": 9091,
"rpc-url": "/transmission/",
"rpc-username": "transmission",
"rpc-whitelist": "192.168.1.108",
```

修改完毕之后重新启动服务:



```
[ Wrote 70 lines ]
root@raspberrypi:/# sudo service transmission-daemon reload
Reloading bittorrent daemon: transmission-daemon.
root@raspberrypi:/# sudo service transmission-daemon restart
Restarting bittorrent daemon: transmission-daemon.
root@raspberrypi:/#
```

成功之后在自己的 PC 的浏览器输入 <http://192.168.1.108:9091/>即可进入 BT 下载机, 如下图所示, 默认用户名和密码是 transmission。



支持 BT 下载机构建完成。

工作截图：



可以进行下载控制。

至此实验结束。

四、实验结果与分析

实验成功，截图见第三部分。

五、讨论、心得

这次试验比较简单，没有遇到太大的问题。