任务 15：实现一个 NTP 服务器

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实验目的

掌握 NTP 通讯协议的概念；

掌握在 Acadia 或 RPi 或 WRTnode 上建立 NTP 服务器的方法。

实验器材

硬件

LinkSprite Acadia

TP-Link WR874N 无线路由器

软件

Xshell 5

Microsoft Windows 8.1

实验步骤

下载 NTP 服务器端并进行配置；

同步服务器的时间。

实验过程及结果

在 pcDuino 192.168.1.4 上安装 NTP，安装后可以看到服务器已经开始运行.

```
lishunan@Acadia:~$ sudo apt-get install ntp
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no long
  libplist1 libswscale2 usbmuxd libdiscid0 libbluray1 liblircclient
  libgmtk0-data libusbmuxd1 libvdpau1 libaudio2 libgmlib0 libmusicb
Use 'apt-get autoremove' to remove them.
The following extra packages will be installed:
  libopts25
Suggested packages:
  ntp-doc apparmor
The following NEW packages will be installed:
  libopts25 ntp
0 upgraded, 2 newly installed, 0 to remove and 0 not upgraded.
Need to get 571 kB of archives.
After this operation, 1160 kB of additional disk space will be used
Do you want to continue [Y/n]?
WARNING: The following packages cannot be authenticated!
  libopts25 ntp
Authentication warning overridden.
Get:1 http://ports.ubuntu.com/ubuntu-ports/ precise/main libopts25
Get:2 http://ports.ubuntu.com/ubuntu-ports/ precise/main ntp armhf
Fetched 571 kB in 10s (55.7 kB/s)
Selecting previously unselected package libopts25.
(Reading database ... 74340 files and directories currently install
Unpacking libopts25 (from .../libopts25_1%3a5.12-0.1ubuntu1_armhf.c
Selecting previously unselected package ntp.
Unpacking ntp (from .../ntp_1%3a4.2.6.p3+dfsg-1ubuntu3_armhf.deb) .
Processing triggers for ureadahead ...
Processing triggers for man-db ...
Setting up libopts25 (1:5.12-0.1ubuntu1) ...
Setting up ntp (1:4.2.6.p3+dfsg-1ubuntu3) ...
 * Starting NTP server ntpd
Processing triggers for libc-bin ...
ldconfig deferred processing now taking place
lishunan@Acadia:~$ 
```
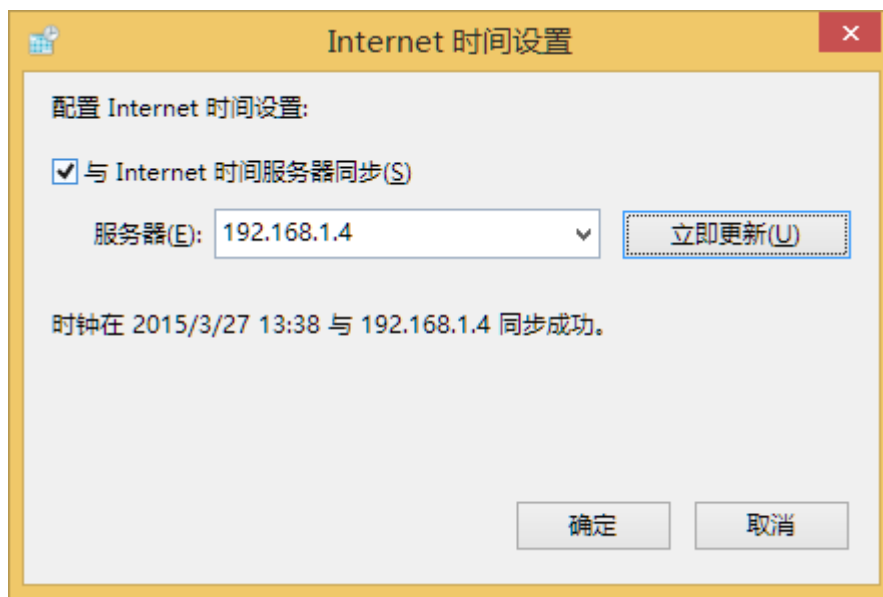
设置 ntp 服务器为 192.168.1.*网段提供服务。

```
# Clients from this (example!) subnet have unlimited access, but only if
# cryptographically authenticated.
#restrict 192.168.123.0 mask 255.255.255.0 notrust
restrict 192.168.1.0 mask 255.255.255.0


# If you want to provide time to your local subnet, change the next line.
# (Again, the address is an example only.)
#broadcast 192.168.123.255
broadcast 192.168.1.255
broadcast 224.0.1.1
```

在 Windows 上设置 ntp 服务器地址为 pcDuino 的地址

可以说明 ntp 服务配置成功。