

配置 NTP 客户端

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配置 Acadia 或 RPi 或 WRTnode 的 NTP 客户端，从网络服务器获得时间

实现目的

- 1、掌握 NTP 客户端服务；
- 2、了解 NTP 时间同步概念及其协议。

实验器材

硬件

- Acadia 板一块；
- 5V/1A 电源一个；
- microUSB 线一根；
- USB-TTL 串口线一根（FT232RL 芯片或 PL2303 芯片）。

以下为自备（可选）器材：

- PC（Windows/Mac OS/Linux）一台；
- 以太网线一根（可能还需要路由器等）。

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。

实验步骤

1. 安装客户端程序；

首先安装 NTP 客户端：

```
root@Acadia:~# sudo apt-get install ntpdate
Reading package lists... Done
Building dependency tree
Reading state information... Done
ntpdate is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

然后修改时区：

```
root@Acadia:~# tzselect
Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
 1) Africa
 2) Americas
 3) Antarctica
 4) Arctic Ocean
 5) Asia
 6) Atlantic Ocean
 7) Australia
 8) Europe
 9) Indian Ocean
10) Pacific Ocean
11) none - I want to specify the time zone using the Posix TZ format.
#? 5
```

```
Please select a country.
 1) Afghanistan      18) Israel           35) Palestine
 2) Armenia           19) Japan            36) Philippines
 3) Azerbaijan        20) Jordan           37) Qatar
 4) Bahrain           21) Kazakhstan       38) Russia
 5) Bangladesh        22) Korea (North)    39) Saudi Arabia
 6) Bhutan            23) Korea (South)    40) Singapore
 7) Brunei            24) Kuwait           41) Sri Lanka
 8) Cambodia          25) Kyrgyzstan       42) Syria
 9) China             26) Laos             43) Taiwan
10) Cyprus            27) Lebanon          44) Tajikistan
11) East Timor        28) Macau            45) Thailand
12) Georgia          29) Malaysia         46) Turkmenistan
13) Hong Kong         30) Mongolia         47) United Arab Emirates
14) India            31) Myanmar (Burma)  48) Uzbekistan
15) Indonesia         32) Nepal            49) Vietnam
16) Iran             33) Oman             50) Yemen
17) Iraq             34) Pakistan
#? 9
```

```
Please select one of the following time zone regions.
1) east China - Beijing, Guangdong, Shanghai, etc.
2) Heilongjiang (except Mohe), Jilin
3) central China - Sichuan, Yunnan, Guangxi, Shaanxi, Guizhou, etc.
4) most of Tibet & Xinjiang
5) west Tibet & Xinjiang
#? 1
```

The following information has been given:

```
China
east China - Beijing, Guangdong, Shanghai, etc.
```

Therefore TZ='Asia/Shanghai' will be used.

Local time is now: Fri Mar 27 12:00:05 CST 2015.

Universal Time is now: Fri Mar 27 04:00:05 UTC 2015.

Is the above information OK?

1) Yes

2) No

#? 1

You can make this change permanent for yourself by appending the line

```
TZ='Asia/Shanghai'; export TZ
```

to the file '.profile' in your home directory; then log out and log in again.

Here is that TZ value again, this time on standard output so that you
can use the /usr/bin/tzselect command in shell scripts:

```
Asia/Shanghai
```

2. 使用客户端程序连接服务器。

使用 ntpdate 更新系统时间：

```
root@Acadia:~# ntpdate cn.pool.ntp.org
27 Mar 12:01:55 ntpdate[3626]: adjust time server 202.112.29.82 offset -0.015763
sec
```

再使用 date 命令查看时间：

```
root@Acadia:~# date
Fri Mar 27 12:02:37 CST 2015
```