

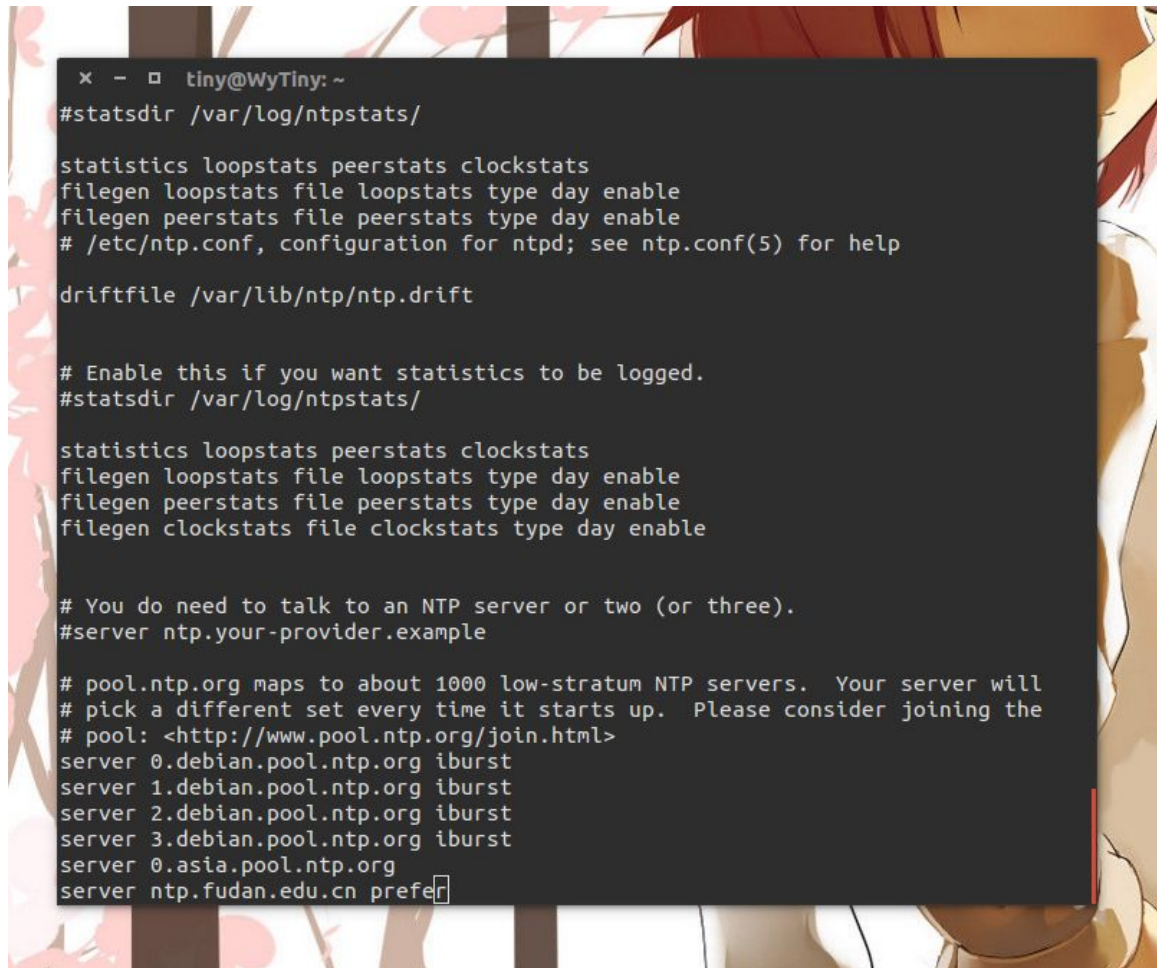
Task15.Start a NTP Server on RPi

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At first serial port to log in the system and modify /etc/ntp.conf (ntp has been installed already)
In case of wrong configuration, we'd better back the file up before the experiment.

Add server lists to the file.

Ntp.fudan.edu.cn can be a good choice for us, so I labeled it as "prefer".

A screenshot of a terminal window with a dark background and light-colored text. The window title is 'tiny@WyTiny: ~'. The content shows the configuration file /etc/ntp.conf. It includes comments about statistics, driftfile, and server lists. The server list at the bottom includes several pool servers and 'ntp.fudan.edu.cn' marked as 'prefer'.

```
x - □ tiny@WyTiny: ~
#statsdir /var/log/ntpstats/

statistics loopstats peerstats clockstats
filegen loopstats file loopstats type day enable
filegen peerstats file peerstats type day enable
# /etc/ntp.conf, configuration for ntpd; see ntp.conf(5) for help

driftfile /var/lib/ntp/ntp.drift

# Enable this if you want statistics to be logged.
#statsdir /var/log/ntpstats/

statistics loopstats peerstats clockstats
filegen loopstats file loopstats type day enable
filegen peerstats file peerstats type day enable
filegen clockstats file clockstats type day enable

# You do need to talk to an NTP server or two (or three).
#server ntp.your-provider.example

# pool.ntp.org maps to about 1000 low-stratum NTP servers. Your server will
# pick a different set every time it starts up. Please consider joining the
# pool: <http://www.pool.ntp.org/join.html>
server 0.debian.pool.ntp.org iburst
server 1.debian.pool.ntp.org iburst
server 2.debian.pool.ntp.org iburst
server 3.debian.pool.ntp.org iburst
server 0.asia.pool.ntp.org
server ntp.fudan.edu.cn prefer
```

Then allow all PCs in the same LAN to update time from the server .
with : restrict 192.168.16.0 mask 255.255.255.0 (the local ip of devices in our room are in the form of 192.168.16.XXX)

It's has the same effect as adding the line: broadcast 192.168.16.255

```
tiny@WyTiny: ~  
server 3.debian.pool.ntp.org iburst  
server 0.asia.pool.ntp.org  
server ntp.fudan.edu.cn prefer  
  
# Access control configuration; see /usr/share/doc/ntp-doc/html/accopt.html for  
# details. The web page <http://support.ntp.org/bin/view/Support/AccessRestrictions>  
# might also be helpful.  
#  
# Note that "restrict" applies to both servers and clients, so a configuration  
# that might be intended to block requests from certain clients could also end  
# up blocking replies from your own upstream servers.  
  
# By default, exchange time with everybody, but don't allow configuration.  
restrict -4 default kod notrap nomodify nopeer noquery  
restrict -6 default kod notrap nomodify nopeer noquery  
  
# Local users may interrogate the ntp server more closely.  
restrict 127.0.0.1  
restrict ::1  
restrict 192.168.16.0 mask 255.255.255.0  
  
# Clients from this (example!) subnet have unlimited access, but only if  
43,41 65%
```

Statsdir /var/log/ntp #set the log path
Statsdir /var/log/ntp/ntp.log #set the log file

Then restart the service

```

x - □ tiny@WyTiny: ~
# Clients from this (example!) subnet have unlimited access, but only if
# cryptographically authenticated.
#restrict 192.168.123.0 mask 255.255.255.0 notrust

# 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

# If you want to listen to time broadcasts on your local subnet, de-comment the
# next lines. Please do this only if you trust everybody on the network!
#disable auth
#broadcastclient

statsdir /var/log/ntp

logfile /var/log/ntp/ntp.log
"ntp.conf" 61L, 2140C written
root@raspberrypi:/etc# service ntpd restart
ntpd: unrecognized service
root@raspberrypi:/etc# service ntp restart
Stopping NTP server: ntpd.
Starting NTP server: ntpd.
root@raspberrypi:/etc#

```

Get current device ip in the LAN : 192.168.16.113

Using PC to update time through the server:

Sudo ntpdate 192.168.16.113

Got the output:

```

x - □ tiny@WyTiny: ~
tiny@WyTiny:~$ sudo ntpdate 192.168.16.113
[sudo] password for tiny:
22 Mar 21:55:57 ntpdate[12467]: step time server 192.168.16.113 offset -0.603404
sec
tiny@WyTiny:~$ 

```