

# ???????

## Tutorials

- [How to Sync Linux Time With NTP Server - Make Tech Easier](#)

## Chrony

Built-in on CentOS/RedHat

- [CHAPTER 18. CONFIGURING NTP USING THE CHRONY SUITE](#)
- [CentOS / RHEL 7 : Configuring NTP using chrony](#)
- [How do I check Linux system's current NTP configuration](#)

### Install

```
yum install chrony
```

### Config: /etc/chrony.conf

```
# NTP Public Servers for Taiwan
server tw.pool.ntp.org
server time.stdtime.gov.tw
server clock.stdtime.gov.tw
server jp.pool.ntp.org

# Allow NTP client access from local network.
#allow 192.168.0.0/16
```

### Starting

```
systemctl start chronyd
```

### Verify

```
[root@localhost ~]# chronyc tracking
Reference ID   : 7A75FDF6 (static.home.twn.sciuridae.cloud)
Stratum       : 3
Ref time (UTC) : Sun Aug 16 03:35:36 2020
System time    : 0.000073180 seconds slow of NTP time
Last offset    : -0.001259724 seconds
RMS offset     : 0.001259724 seconds
Frequency      : 21.057 ppm slow
Residual freq  : -0.000 ppm
Skew           : 28.166 ppm
Root delay     : 0.032856792 seconds
Root dispersion : 0.002069760 seconds
Update interval : 64.3 seconds
Leap status    : Normal    <===
```

```
[root@tpemimtst99 ~]# timedatectl
          Local time: Tue 2021-05-25 09:09:09 CST
          Universal time: Tue 2021-05-25 01:09:09 UTC
          RTC time: Tue 2021-05-25 01:09:09
          Time zone: Asia/Taipei (CST, +0800)
System clock synchronized: yes    <===
          NTP service: active
          RTC in local TZ: no
```

```
[root@tpemimtst99 ~]# chronyc sources
210 Number of sources = 1
MS Name/IP address     Stratum Poll Reach LastRx Last sample
=====
=====
^* 192.168.21.86        3 10 377 754 +1543ns[+4123ns] +/- 63ms
```

## systemd-timesyncd

Build-in on Ubuntu

- [Control your computer time and date with systemd](#)

The configuration file for systemd-timesyncd is `/etc/systemd/timesyncd.conf`.

```
[Time]
#NTP=
#FallbackNTP=0.debian.pool.ntp.org 1.debian.pool.ntp.org 2.debian.pool.ntp.org 3.debian.pool.ntp.org
#RootDistanceMaxSec=5
#PollIntervalMinSec=32
#PollIntervalMaxSec=2048
```

Specify the time server as follows

```
NTP=<your-time-server-ip>
```

Start timesync

```
systemctl enable systemd-timesyncd.service
systemctl start systemd-timesyncd.service
```

timedatectl

```
# See the information of the datetime
sudo timedatectl

    Local time: Mon 2021-11-01 14:37:09 UTC
    Universal time: Mon 2021-11-01 14:37:09 UTC
    RTC time: Mon 2021-11-01 14:37:10
    Time zone: UTC (UTC, +0000)
System clock synchronized: yes
    NTP service: active  <====
    RTC in local TZ: no

# List timezones supported
sudo timedatectl list-timezones

# Change the system's timezone
sudo timedatectl set-timezone Asia/Taipei

# Check the status
sudo timedatectl timesync-status

    Server: 91.189.91.157 (ntp.ubuntu.com)
Poll interval: 17min 4s (min: 32s; max 34min 8s)
    Leap: normal
    Version: 4
```

Stratum: 2

Reference: 11FD227B

Precision: 1us (-24)

Root distance: 72.295ms (max: 5s)

Offset: +5.311ms

Delay: 67.290ms

Jitter: 2.211ms

Packet count: 6

Frequency: +17.421ppm

# ntpd

## Install

```
# Ubuntu
```

```
sudo apt install ntp
```

```
vi /etc/ntp.conf
```

```
#pool 0.ubuntu.pool.ntp.org iburst
```

```
#pool 1.ubuntu.pool.ntp.org iburst
```

```
#pool 2.ubuntu.pool.ntp.org iburst
```

```
#pool 3.ubuntu.pool.ntp.org iburst
```

```
# Use Ubuntu's ntp server as a fallback.
```

```
#pool ntp.ubuntu.com
```

```
# Added the local time server
```

```
server 192.168.21.86 prefer iburst
```

## Restart the ntpd

```
# Ubuntu 16.04
```

```
systemctl stop ntp
```

```
systemctl start ntp
```

```
# Check the timeserver
```

```
ntpq -p
```

```
remote      refid      st t when poll reach  delay  offset jitter
```

```
=====
=====
0.ubuntu.pool.n .POOL.      16 p  - 64  0  0.000  0.000  0.000
1.ubuntu.pool.n .POOL.      16 p  - 64  0  0.000  0.000  0.000
2.ubuntu.pool.n .POOL.      16 p  - 64  0  0.000  0.000  0.000
3.ubuntu.pool.n .POOL.      16 p  - 64  0  0.000  0.000  0.000
ntp.ubuntu.com  .POOL.      16 p  - 64  0  0.000  0.000  0.000
+eterna.binary.n 216.218.192.202 2 u 32 64 3 45.986 -0.081 0.021
+pacific.latt.ne 193.187.181.6 3 u 30 64 3 8.205 1.151 0.026
-mis.wci.com 216.218.192.202 2 u 32 64 3 37.928 4.692 0.176
-europa.ellipse. 209.180.247.49 2 u 31 64 3 51.792 4.175 0.027
#38.229.56.9 172.16.21.35 2 u 30 64 3 68.917 -4.451 0.190
#time.richiemcin 97.183.206.88 2 u 29 64 3 69.281 -3.073 0.248
*t1.time.gq1.yah 208.71.46.33 2 u 30 64 3 31.630 -0.081 0.011
-lofn.fancube.co 220.181.254.66 2 u 30 64 3 37.871 -1.088 0.009
#2606:6680:8:1:: 107.46.198.112 2 u 26 64 3 198.284 66.201 0.061
-titan.crash-ove 129.7.1.66 2 u 30 64 3 32.708 -1.474 0.200
-2620:1d5:100:43 47.187.174.51 2 u 29 64 3 70.418 0.592 0.197
2001:67c:1560:8 17.253.34.123 2 u 32 64 3 133.490 -2.818 0.030
#38.229.57.9 172.16.21.35 2 u 30 64 3 177.896 4.081 6.291
#ntp2i.versadns. 217.180.209.214 2 u 28 64 3 62.795 -2.897 0.017
-104.194.8.227 192.12.19.20 2 u 25 64 3 0.979 -0.737 0.029
-pacific.latt.ne 193.187.181.6 3 u 26 64 3 8.770 1.212 0.050
2001:67c:1560:8 17.253.34.123 2 u 33 64 3 133.602 -2.792 0.007
```

## Change Timezone

### RedHat 7+

```
timedatectl
timedatectl list-timezones
timedatectl set-timezone Asia/Taipei
```

### CentOS 6

```
# List of timezone
ls /usr/share/zoneinfo

# Check the current timezone set
cat /etc/sysconfig/clock
```

Edit: /etc/sysconfig/clock

```
ZONE="Asia/Taipei"
```

```
UTC=true
```

## Localtime

```
mv /etc/localtime /etc/localtime.bak
```

```
ln -sf /usr/share/zoneinfo/Asia/Taipei /etc/localtime
```

## Manually Set the date-time

```
date -s "6 April 2023 15:11:00"
```

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