

# Администрирование сетевых подсистем

Синхронизация времени

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## Цели и задачи работы

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Получить навыки по управлению системным временем и настройке синхронизации времени между сервером и клиентом с использованием `chrony`.

## Выполнение лабораторной работы

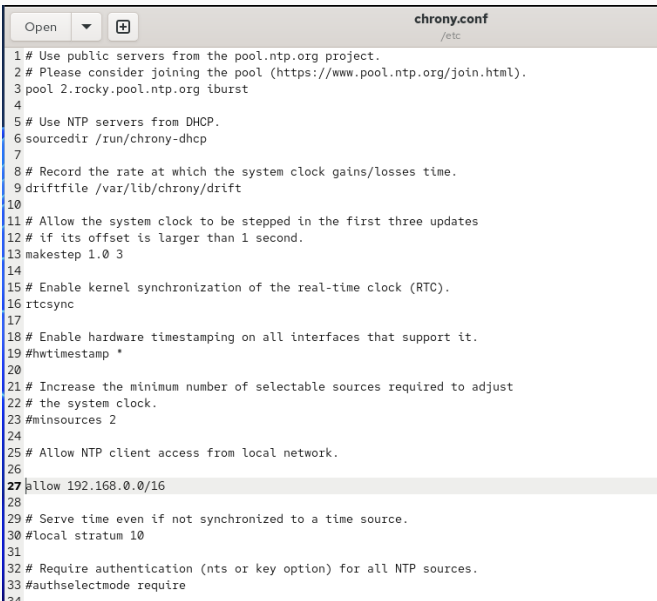
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```
[ahmedfarg@server.ahmedfarg.net ~]$ sudo -i
[sudo] password for ahmedfarg:
[root@server.ahmedfarg.net ~]#
[root@server.ahmedfarg.net ~]# timedatectl
          Local time: Fri 2025-10-24 07:52:59 UTC
        Universal time: Fri 2025-10-24 07:52:59 UTC
           RTC time: Fri 2025-10-24 07:52:59
          Time zone: UTC (UTC, +0000)
System clock synchronized: yes
            NTP service: active
        RTC in local TZ: no
[root@server.ahmedfarg.net ~]# date
Fri Oct 24 07:53:02 AM UTC 2025
[root@server.ahmedfarg.net ~]# hwclock
2025-10-24 07:53:06.939951+00:00
[root@server.ahmedfarg.net ~]# █
```

Рис. 1: Результат timedatectl на сервере

```
[ahmedfarg@client.ahmedfarg.net ~]$  
[ahmedfarg@client.ahmedfarg.net ~]$ sudo -i  
[sudo] password for ahmedfarg:  
[root@client.ahmedfarg.net ~]#  
[root@client.ahmedfarg.net ~]# timedatectl  
      Local time: Fri 2025-10-24 07:53:29 UTC  
      Universal time: Fri 2025-10-24 07:53:29 UTC  
          RTC time: Fri 2025-10-24 07:53:29  
      Time zone: UTC (UTC, +0000)  
System clock synchronized: yes  
          NTP service: active  
      RTC in local TZ: no  
[root@client.ahmedfarg.net ~]# date  
Fri Oct 24 07:53:33 AM UTC 2025  
[root@client.ahmedfarg.net ~]# hwclock  
2025-10-24 07:53:36.815210+00:00  
[root@client.ahmedfarg.net ~]#
```

## Настройка chrony на сервере



```
1 # Use public servers from the pool.ntp.org project.
2 # Please consider joining the pool (https://www.pool.ntp.org/join.html).
3 pool 2.rocky.pool.ntp.org iburst
4
5 # Use NTP servers from DHCP.
6 sourcedir /run/chrony-dhcp
7
8 # Record the rate at which the system clock gains/losses time.
9 driftfile /var/lib/chrony/drift
10
11 # Allow the system clock to be stepped in the first three updates
12 # if its offset is larger than 1 second.
13 makestep 1.0 3
14
15 # Enable kernel synchronization of the real-time clock (RTC).
16 rtsync
17
18 # Enable hardware timestamping on all interfaces that support it.
19 #hwtimestamp *
20
21 # Increase the minimum number of selectable sources required to adjust
22 # the system clock.
23 #minsources 2
24
25 # Allow NTP client access from local network.
26
27 allow 192.168.0.0/16
28
29 # Serve time even if not synchronized to a time source.
30 #local stratum 10
31
32 # Require authentication (nts or key option) for all NTP sources.
33 #authselectmode require
34
```

## Настройка chrony на клиенте

```
1 # Use public servers from the pool.ntp.org project.
2 # Please consider joining the pool (https://www.pool.ntp.org/join.html).
3 #pool 2.rocky.pool.ntp.org iburst
4
5 server server.ahmedfarg.net iburst
6
7 # Use NTP servers from DHCP.
8 sourcedir /run/chrony-dhcp
9
10 # Record the rate at which the system clock gains/losses time.
11 driftfile /var/lib/chrony/drift
12
13 # Allow the system clock to be stepped in the first three updates
14 # if its offset is larger than 1 second.
15 makestep 1.0 3
16
17 # Enable kernel synchronization of the real-time clock (RTC).
18 rtcsync
19
20 # Enable hardware timestamping on all interfaces that support it.
21 #hwtimestamp *
22
23 # Increase the minimum number of selectable sources required to adjust
24 # the system clock.
25 #minsources 2
26
27 # Allow NTP client access from local network.
28 #allow 192.168.0.0/16
29
```



```
[root@server.ahmedfarg.net ~]#  
[root@server.ahmedfarg.net ~]# chronyc sources  
MS Name/IP address         Stratum Poll Reach LastRx Last sample  
=====
```

^? 46.160.198.122	0	8	0	-	+0ns[ +0ns]	+/-	0ns
^? 2a02:6bf:f000:1:4::22	0	8	0	-	+0ns[ +0ns]	+/-	0ns
^+ 217.170.87.229	2	6	377	39	+1277us[+2496us]	+/-	40ms
^? 93-191-12-44.fiord.ru	0	8	0	-	+0ns[ +0ns]	+/-	0ns
^? 2a00:1c70:1f:2::123	0	8	0	-	+0ns[ +0ns]	+/-	0ns
^+ 82.142.168.18	2	6	377	43	+2275us[+2275us]	+/-	34ms
^? 2a00:ab00:203:9::1000:5	0	8	0	-	+0ns[ +0ns]	+/-	0ns
^* spb-ntp01c.ntppool.yande>	2	6	377	45	+3659us[+4881us]	+/-	14ms

```
[root@server.ahmedfarg.net ~]#
```

Рис. 5: Источники времени на сервере

```
[root@client.ahmedfarg.net ~]#  
[root@client.ahmedfarg.net ~]# chronyc sources  
MS Name/IP address         Stratum Poll Reach LastRx Last sample  
=====
```

^* mail.ahmedfarg.net	4	6	17	2	+179us[ -26us]	+/- 18ms
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```
[root@client.ahmedfarg.net ~]#
```

Рис. 6: Источники времени на клиенте

## Выводы

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В ходе лабораторной работы был установлен и настроен сервис **chrony**.

Сервер синхронизируется с внешними NTP-источниками, а клиент — с внутренним сервером.

Созданы скрипты автоматизации, обеспечивающие единообразие конфигурации и точную синхронизацию времени в сети.