

## Lab 9. Scheduling Jobs with cron

Cron / anacron / at

```
ubuntu@ip-172-31-35-100:~$ cat /etc/crontab → cron 정책 설정 vs crontab -e
# /etc/crontab: system-wide crontab
# Unlike any other crontab you don't have to run the `crontab`
# command to install the new version when you edit this file
# and files in /etc/cron.d. These files also have username fields,
# that none of the other crontabs do.

SHELL=/bin/sh
# You can also override PATH, but by default, newer versions inherit it from the environment
#PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin

# Example of job definition:
# .----- minute (0 - 59)
# | .----- hour (0 - 23)
# | | .----- day of month (1 - 31)
# | | | .----- month (1 - 12) OR jan,feb,mar,apr ...
# | | | | .----- day of week (0 - 6) (Sunday=0 or 7) OR sun,mon,tue,wed,thu,fri,sat
# | | | | |
# * * * * * user-name command to be executed
17 * * * * root cd / && run-parts --report /etc/cron.hourly
25 6 * * * root test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.daily )
47 6 * * 7 root test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.weekly )
52 6 1 * * root test -x /usr/sbin/anacron || ( cd / && run-parts --report /etc/cron.monthly )
```

m h d m

min hour day month day/week (0-6)

\* : 모든 값

, : 여러 value 15, 45 \* \* \* \* By 15분

- : range 2-4 = 2AM, 3AM, 4AM...

/ : step /3 = every three hours

crontab -l

sudo crontab -l

sudo crontab -e -u jane

```

ubuntu@ip-172-31-35-100:~$ date
Mon May 26 11:08:31 UTC 2025
ubuntu@ip-172-31-35-100:~$ which touch
/usr/bin/touch
ubuntu@ip-172-31-35-100:~$ crontab -e
crontab: installing new crontab
ubuntu@ip-172-31-35-100:~$ crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow command
10 11 * * * /usr/bin/touch crontest
ubuntu@ip-172-31-35-100:~$ whoami
ubuntu

```

crontab은 프로그램

UTC 11:10에 crontest 라는 파일 생성

```

ubuntu@ip-172-31-35-100:~$ crontab -e -u ubuntu
No modification made
ubuntu@ip-172-31-35-100:~$ #
ubuntu@ip-172-31-35-100:~$ ls
crontest  lab
ubuntu@ip-172-31-35-100:~$ date
Mon May 26 11:10:46 UTC 2025
ubuntu@ip-172-31-35-100:~$ crontab -r
no crontab for ubuntu

```

유저 삭제

crontab 삭제

crontab <sup>edit</sup> <sub>(e)</sub>  
<sub>(l)</sub> list

sudo crontab -e

" -e -u [user]

crontab - <sub>(r)</sub> remove

sudo crontab -r -u [user]

```

ubuntu@ip-172-31-35-100:~$ touch mycronjob 나 cronjob 생성
ubuntu@ip-172-31-35-100:~$ sudo cp mycronjob /etc/cr
cron.d/          cron.hourly/      cron.weekly/      crypt
cron.daily/      cron.monthly/     crontab           crypt
ubuntu@ip-172-31-35-100:~$ sudo cp mycronjob /etc/cr
cron.d/          cron.hourly/      cron.weekly/      crypt
cron.daily/      cron.monthly/     cron               crypt
ubuntu@ip-172-31-35-100:~$ sudo cp mycronjob /etc/cron.hourly/
ubuntu@ip-172-31-35-100:~$ ls /etc/cron.hourly/
mycronjob
ubuntu@ip-172-31-35-100:~$ sudo chmod +rx /etc/cron.hourly/mycronjob

```

이 메시지는 실행

grant

## anacron

```
ubuntu@ip-172-31-35-100:~$ sudo cat /etc/anacrontab
# /etc/anacrontab: configuration file for anacron
```

```
# See anacron(8) and anacrontab(5) for details.
```

```
SHELL=/bin/sh
HOME=/root
LOGNAME=root
```

```
# These replace cron's entries
```

```
1 5 cron.daily run-parts --report /etc/cron.daily
7 10 cron.weekly run-parts --report /etc/cron.weekly
@monthly 15 cron.monthly run-parts --report /etc/cron.monthly
```

이런것도 가능

최소단위 = 일

Offline 실행 보장

system 부팅과 도봉지 실행

이 안에 있는 작업들

실행 실행 명령어

## at

```
ubuntu@ip-172-31-35-100:~$ at
Garbled time
```

```
ubuntu@ip-172-31-35-100:~$ at '15:00'
warning: commands will be executed using /bin/sh
```

```
at Mon May 26 15:00:00 2025
```

```
at> /usr/bin/touch ~/at_file
```

```
at> <EOT> Ctrl + D
```

```
job 1 at Mon May 26 15:00:00 2025
```

```
ubuntu@ip-172-31-35-100:~$ atq at list = at -l
```

```
1 Mon May 26 15:00:00 2025 a ubuntu
```

```
ubuntu@ip-172-31-35-100:~$ at -c 1 상해보기
```

```
#!/bin/sh
```

```
# atrun uid=1000 gid=1000
```

```
# mail ubuntu 0
```

```
umask 0
```

August 20 2025

2:30 August 20 2025

now + 30 minutes

+ 3 hours

+ 3 days

weeks

months

atrm 1 = at 삭제  
remove

anacron log 확인

= sys/log/cron

fora rerup anacron

sub anacron -n -f