Linux □□

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- Linux □□
- Linux □□□□□
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- Cron □□□□
- SystemD
- Linux □□□□
- xargs □□
- Arch Linux
- Fedora

Linux [illegible]

[illegible]

[illegible] 1[illegible] `/etc/os-release` [illegible]

`/etc/os-release` [illegible]

```
$ cat /etc/os-release
```

[illegible] SystemD [illegible] SystemD[illegible]

RedHat [illegible] `/etc/redhat-release` [illegible]

[illegible] 2[illegible] `/etc/issue` [illegible]

`/etc/issue` [illegible]

```
$ cat /etc/issue
```

[illegible] 3[illegible] `hostnamectl` [illegible]

`hostnamectl` [illegible]

```
$ hostnamectl
```

[illegible] 4[illegible] `uname` [illegible]

`uname` [illegible] Linux [illegible]

```
# [illegible]
$ uname -a

# [illegible]
$ uname -o

# [illegible]
$ uname -r
```

□ 5□ `lsb-release`□□

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```
$ lsb-release
```

□ 6□ `/proc/version`□□

`/proc/version`□□□□□□□□□□□□□□

```
$ cat /proc/version
```

Linux □□□□

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```
$ useradd -m [username]
$ passwd [username]
```

□□□□□□□□□□□

```
$ usermod -aG wheel,audio,video,storage [username]
```

□□□□□□□□□ sudo □□□□□□□□□ visudo□□ sudo □□□□□ `/etc/sudoers` □□□ wheel □□□□□□□□

```
$ visudo
```

□□

`/etc/group` □□□□□□□□□

`groups` □□□□□□□□□□

```
$ groups [username]
```

□□□ `username` □□□□□□□□□□□□

`id` □□□□□□□□□□□□□□□□□□□□□□□□

```
$ id [username]
```

□□□□□□□□□□□□□□□

```
$ cat /etc/group
```

`groupadd` □□□□□□□□□□

```
$ sudo groupadd [groupName]
```

`gpasswd` □□□□□□□□□□□□□

```
$ sudo gpasswd -a [userName] [groupName]
```

`usermod` □□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
$ sudo usermod -aG [groupsName] [username]
```

□□□□□□□□□□□□□□ `-a` □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

`gpasswd` □□□□□□□□□□□□

```
$ sudo gpasswd -d [userName] [groupName]
```

`groupmod` □□□□□□□□□□

```
$ sudo groupmod -n [new_group] [old_group]
```

`groupdel` □□□□□□□□□

```
$ sudo groupdel [groupName]
```

Linux [illegible]

[illegible] Linux [illegible]

[illegible] Linux [illegible] `/`
[illegible]

`/root` [illegible]

`/home` [illegible] `/home` [illegible] `ruanyf` [illegible] `/home/ruanyf` [illegible] `~` [illegible] `$HOME`
[illegible]

`/bin` [illegible] `sbin` [illegible] `/bin`
[illegible] ls[illegible] cp[illegible] mv[illegible] mkdir [illegible] `/sbin`
[illegible] fdisk[illegible]

`/usr` [illegible] `/usr/bin`
[illegible] `/usr/lib` [illegible]

`/etc` [illegible]

`/opt` [illegible] MS Edge [illegible] `/opt/microsoft`
[illegible]

`/lib` [illegible]

`/boot` [illegible] RAM [illegible]

`/media` [illegible] USB [illegible] `/media`
[illegible]

`/mnt` [illegible] `/media` [illegible]

`/proc`
[illegible]

`/run` [illegible] ID [illegible]

`/srv` [illegible] Web [illegible] FTP
[illegible] FTP
[illegible]

`/tmp`

`/var` Web

`/var/log`

Cron □□□

□□

Cron □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□ cron □□□□□□□ crond
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□ cron □□□□□□□□□□□□

```
# Ubuntu / Debian
$ sudo systemctl status cron
# or
$ ps aux | grep cron

# rockyOS / RHEL
$ sudo systemctl status crond
# or
$ ps aux | grep crond
```

crontab

crond □□□□□□□□□□□ crontab
□□

crontab □□□□□□□□□□□□ crontab□□□□ crontab
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□□□ crontab □□□ `/etc/crontab` □□□□ `/etc/cron.d/` □□□□□□□□□□□□□□□
`/etc/cron.daily` □ `/etc/cron.hourly` □ `/etc/cron.weekly` □ `/etc/cron.monthly` □

`crontab` □□□□□□□□□□□□□□□□□□□□□□□□ cron □□□

```
# □□□□□ cron □□
$ crontab -l

# □□□□ cron □□
$ sudo crontab -l

# □□□□□□□ cron □□
$ sudo crontab -u [USERNAME] -l
```

cron □□□□

crontab □□□□□□□□□□□□ cron □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

cron □□□□□□□□□□□

```
minute hour day_of_month month day_of_week command_to_execute
```

□□□□□□□□□□

- minute□ 0-59□□□□□□□□□□□□□□□□□□□□ 0□ 59□□□□□□ 0 □□□□□□□□□□□□□□□□□□□□
- hour□ 0-23□□□□□□□□□□□□□□□□□□□□ 24□□□□□□□□□□□□□□□□□□□□ 14□□□□ 2 □□□□□□□□
- day_of_month□ 1-31□□□□□□□□□□□□□□□□□□□□ 1□ 31 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ 1□□□□□□□□□□□□□□□□□□
- month□ 1-12□□□□□□□□□□□□□□□□□□□□□□□□ 1□□□□□□ 12 □□□□□□□□□□□□□□□□□□□□ 12□□ 12□□□□□□□□
- day_of_week□ 0-6□□□□□□□□□□□□□□□□□□□□□□□□□□□□ 0□□□□□□□ 6 □□□□□□□□□□□□□□□□□□□□ 5□□□□□□□□□□□□□□□□
- command_to_execute□□□ cron □□□□□□□□□□

crontab □□□□□□□□□□

- □□ (*)□□□□ “□□ ”□□□□□□□□□□□□□□□□□□□□ “”□□ “□□□□ ”□
- □□ (,)□□□□□□□□□□□□□□□□□□□□□□□□ day_of_week □□□□□ “1,3,5”□□ “ □□□□□□□□□□□□ ”□□□□□□□□□□□□□□□□□□
- □□□□ (-)□□□□□□□□□□□□□□□□□□□□□□□□ “9-17”□□ “□□ 9□□□□□ 5□□□□□□□□ ”□
- □□ (/)□□□□□□□□□□□□□□□□□□□□□□□□ “*/10”□□ “□ 10□□ ”□

crontab □□□□□□□□□□□□

- @reboot □□□□□□□□□□□□□□□□□□□□ □

- @year[illegible] @annually [illegible] 1 [illegible] 1 [illegible] 12:00[illegible] [illegible] “0 0 1 1 *”
- @monthly [illegible] 1 [illegible] 12:00[illegible] [illegible] “0 0 1 * *”
- @weekly [illegible] 12:00[illegible] [illegible] “0 0 * * 0”
- @daily[illegible] @midnight[illegible] 12:00[illegible] cronjob [illegible] crontab [illegible] “0 0 * * *”[illegible]
- @hourly[illegible] [illegible] “0 * * * *”

crontab [illegible] “#”[illegible]

[illegible]

- `* * * * *` [illegible] cron [illegible]
- `0 * * * *` [illegible] cron [illegible]
- `0 0 * * *` [illegible] cron [illegible]
- `0 2 * * *` [illegible] 2 [illegible] cron [illegible]
- `0 0 15 * *` [illegible] 15 [illegible] cron [illegible]
- `0 0 0 12 *` [illegible] cron [illegible]
- `0 0 * * 6` [illegible] 3 [illegible] cron [illegible]
- `0 15 * * 1-5` [illegible] 3 [illegible] cron [illegible]
- `*/5 * * * *` [illegible] 5 [illegible] cron [illegible]
- `0 8-16 * * *` [illegible] 8 [illegible] 4 [illegible] cron [illegible]
- `0 4 * * 2,4` [illegible] 4 [illegible] cron [illegible]
- `@reboot` [illegible] crond [illegible] cron [illegible]

[illegible]

`L` [illegible] Last[illegible] “[illegible]”[illegible] “[illegible]”[illegible]

```
0 4 L * * command -[illegible] 4 [illegible]
0 4 * * 5L command -[illegible] 4 [illegible]
```

`W` [illegible] weekday[illegible] “[illegible]”[illegible]

```
0 4 15W * * command -[illegible] 15 [illegible] 4 [illegible]
```

`#` [illegible] “[illegible]”[illegible]

```
0 4 * * 5#2 -[illegible] 4 [illegible]
```

[illegible]

cron [illegible] Shell [illegible]

[illegible] cron [illegible] cron [illegible] crontab [illegible] PATH [illegible]

```
PATH=/usr/bin:/bin:/usr/sbin:/sbin:/usr/local/bin
```

[illegible] cron [illegible]

[illegible] `PATH` [illegible] `SHELL` [illegible] cron [illegible] Shell[illegible]

```
SHELL=/bin/sh
```

[illegible] cron [illegible] Bash[illegible]

[illegible]

```
result="HELLO WORLD"
```

[illegible] `result` [illegible] “HELLO WORLD”[illegible]

cron [illegible]

[illegible]

[illegible] crontab [illegible]

```
# [illegible] cron [illegible]
$ crontab -e

# [illegible] cron [illegible]
$ sudo crontab -e

# [illegible] cron [illegible]
$ sudo crontab -u [USERNAME] -e
```

[illegible] crontab [illegible]

[illegible] cron [illegible] `/etc/cronjob` [illegible] `/etc/cron.d/` [illegible] `/etc/cronjob` [illegible]

[illegible] crontab [illegible]

```
* * * * * user command
```

[illegible] `/etc/cron.*` [illegible]

- /etc/cron.hourly/
- /etc/cron.daily/
- /etc/cron.weekly/
- /etc/cron.monthly/

[illegible] cron [illegible] crontab [illegible] backup.sh [illegible] 3:00 [illegible]

```
0 3 * * * /home/linuxiac/backup.sh
```

[illegible] cron [illegible] crontab [illegible] cron [illegible]

`crontab -e` [illegible] cron [illegible]

[illegible] cron [illegible]

[illegible] cron [illegible] crontab [illegible] `-r` [illegible]

```
# [illegible] cron [illegible]
$ crontab -r
```

[illegible] crontab [illegible] cron [illegible]

[illegible] `-i` [illegible]

```
# [illegible] cron [illegible]
$ crontab -i -r
```

[illegible] cron [illegible]

```
# [illegible] cron [illegible]
$ sudo crontab -r


# [illegible] cron [illegible]
$ sudo crontab -u USERNAME -r
```

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□□□□□□ cron □□□□□□□□ `/etc/crontab` □□□

```
0  2  *  *  * root /usr/bin/find /var/log/myservice -type f -name '*.log' -delete
```

□□□□□□□□□□ 2:00□□ `/var/log/myservice` □□□□□□□□□□□ `.log` □□□□

□□□□□□□□□ cron
□□□
`root`□

□□□□ `/etc/crontab` □□□□□□□□ 1□□□□□□□□□□□□□□□□□□ 2
□□□□□□□□□□□□□□□□□□

□□□□□□□□ cron □□□□□□□□□□□□□□□□

- /etc/crontab □□
- /etc/cron.d/ □□
- /etc/cron.daily/ □□
- /etc/cron.hourly/ □□
- /etc/cron.weekly/ □□
- /etc/cron.monthly/ □□

cron □□□□□

cron □□□□□ stdout □□□□□□□□□□□□□□□□□□□

```
0 4 * * 5L command -v >> /var/logs/command.log
```

□□□□□□□□□□□□□□□ Ubuntu / Debian □ `/var/log/syslog` □□ `/var/log/auth.log` □
RHEL/RHEL □ `/var/log/cron` □□□□□ grep □□□□□□□

```
$ sudo grep -i cron /var/log/syslog /var/log/auth.log
```

□□□□

- [How to Use Cron on Linux: Tips, Tricks, and Examples]()
- [Cron Jobs on Linux - Comprehensive Guide with Examples]()

SystemD

□□

SystemD □ Linux □□□□□□□□□□□□□□□ systemctl□□□□□□□□□□□□

□□ systemctl □□□□□□□□ /□□ “□□ ”□ unit□□□□□□□□□□ “□□□□ ”□ service
□□□□□□□□□□□□□□□□□□□□□□□□□ network socket□□□□□□□□□ timer□□□□

□□□ sshd □□□□□□□ “
□□□□□□□□□□□□□□□□□□□ SSH □□□□ ”
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

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```
[Unit]
Description=OpenBSD Secure Shell server
Documentation=man:sshd(8) man:sshd_config(5)
After=network.target auditd.service
ConditionPathExists=!/etc/ssh/sshd_not_to_be_run

[Service]
EnvironmentFile=-/etc/default/ssh
ExecStartPre=/usr/sbin/sshd -t
ExecStart=/usr/sbin/sshd -D $SSHD_OPTS
ExecReload=/usr/sbin/sshd -t
ExecReload=/bin/kill -HUP $MAINPID
KillMode=process
Restart=on-failure
RestartPreventExitStatus=255
Type=notify
RuntimeDirectory=sshd
RuntimeDirectoryMode=0755
```

```
[Install]
WantedBy=multi-user.target
Alias=sshd.service
```

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□□□□□□□□□□□□□□□□□ `/etc/systemd/system`□□□□□□□□□□□□□□□ `/etc/systemd/user` □□□ `systemctl status xxx.service`□□□□□□□□□□□□□□

Linux □□□

□□□□□

□□□□□□□□□□□□ fdisk □□□□□□□□□

```
$ sudo fdisk -l
```

□□□□□□□□□ `/dev/sdc` □

□□□□□□□□□□□□ `/mnt/sdd` □

```
$ sudo mkdir /mnt/sdd
```

□□□□□ mount □□□□□□□□□□□□□□□

```
$ sudo mount /dev/sdc /mnt/sdc
```

□□□□□□□□ NTFS □□□□□□ mount □□□ `-t` □□□□□□□□□

```
# □□
$ sudo mount -t ntfs /dev/sdc /mnt/sdc

# □□
$ sudo mount -t ntfs-3g /dev/sdc /mnt/sdc
```

□□□□□ df □□□□□□□□□□

```
$ df -h
```

xargs [illegible]

[illegible]

xargs [illegible] stdin[illegible] `|` [illegible]

```
$ {{command1}} | xargs {{command2}}
```

[illegible] xargs [illegible] `command1` [illegible] `stdout` [illegible] `|` [illegible] `command1` [illegible] `stdin` [illegible] `xargs` [illegible] `command2` [illegible]

[illegible] `list.txt` [illegible]

```
a.txt
b.txt
c.txt
```

[illegible]

```
# [illegible] a.txt b.txt c.txt
$ cat list.txt | xargs rm
```

[illegible] `cat` [illegible] `list.txt` [illegible] `xargs` [illegible] `rm` [illegible]

```
$ rm a.txt b.txt c.txt
```

[illegible] Linux [illegible] stdin[illegible] stream [illegible] xargs [illegible]

xargs [illegible] echo [illegible] echo [illegible]

```
$ echo abc
```

[illegible] `abc` [illegible] `echo` [illegible]

[illegible] `|` [illegible]
[illegible]
[illegible] xargs [illegible] Linux [illegible]

xargs [illegible]

xargs [illegible] `xargs echo` [illegible]

```
$ xargs
# [illegible]
$ xargs echo
```

[illegible] `xargs` [illegible]
Ctrl+d[illegible] `echo` [illegible]

```
$ xargs
hello (Ctrl + d)
hello
```

[illegible] `xargs` [illegible] `hello` [illegible] Ctrl+d[illegible] `echo hello` [illegible]

[illegible]

```
$ xargs find -name
"*.txt"
./foo.txt
./hello.txt
```

[illegible] `xargs find -name` [illegible] `"*.txt"` [illegible] TXT [illegible] Ctrl+d[illegible] `find -name *.txt` [illegible]

-d [illegible]

[illegible] `xargs` [illegible]

```
$ echo "one two three" | xargs mkdir
```

[illegible] `mkdir` [illegible] `xargs` [illegible] `one two three` [illegible] `mkdir one two three` [illegible]

`-d` [illegible]

```
$ echo -e "a\tb\tc" | xargs -d "\t" echo
a b c
```

[illegible] `\t` [illegible] `a\tb\tc` [illegible] `echo` [illegible] `-e` [illegible]

-p [illegible] -t [illegible]

[illegible] `xargs` [illegible]

`-p` [illegible]

```
$ echo 'one two three' | xargs -p touch
touch one two three ?...
```

[illegible]

`-t` [illegible]

```
$ echo 'one two three' | xargs -t rm
rm one two three
```

-0 [illegible] find [illegible]

[illegible] `xargs` [illegible]

`find` [illegible] `-print0` [illegible] `null` [illegible] `xargs` [illegible] `-0` [illegible] `null` [illegible]

```
$ find /path -type f -print0 | xargs -0 rm
```

[illegible] `/path` [illegible] `null` [illegible]

[illegible] `xargs` [illegible] `find` [illegible] `rm` [illegible] “[illegible]” [illegible] `xargs` [illegible]

```
$ find . -name "*.txt" | xargs grep "abc"
```

□□□□□□□□ TXT □□□□□□□□□□□□□□□□□□□□□□ `abc` □

-L □□

□□□□□□□□□□□ `-L` □□□□□□□□□□□□□□□□□□□

```
$ xargs find -name
"*.txt"
"*.md"
find: paths must precede expression: `*.md'
```

□□□□□□□ `"*.txt"` □ `*.md` □□□□□□□□□□□□□ `find` □□□□□□□

□□ `-L` □□□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
$ xargs -L 1 find -name
"*.txt"
./foo.txt
./hello.txt
"*.md"
./README.md
```

□□□□□□□□□□□ `-L 1` □□□□□□□□□□□□□□□□□□□ `find -name` □□

□□□□□□□□□

```
$ echo -e "a\nb\nc" | xargs -L 1 echo
a
b
c
```

□□□□□□□□□□□□ `echo` □□□□□ `echo` □□□□□□□□□□□□□□□

-n □□

`-L` □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
$ xargs find -name
"*.txt" "*.md"
find: paths must precede expression: `*.md'
```

□□□□□□□□□□□□□□□□□□□□□□□□□□□□

`-n` □□□□□□□□□□□□□□□□□□□□□

```
$ xargs -n 1 find -name
```

□□□□□□□□□□□ `-n 1` □□□□□□□□□□□□□□□□□□□□□□□□ `find -name` □□

□□□□□□□□□

```
$ echo {0..9} | xargs -n 2 echo
0 1
2 3
4 5
6 7
8 9
```

□□□□□□□□□□□□□□□□ `echo` □□□□□□ 10□□□□□□□□□□□□ `echo` □□□□□□□□□□

-I □□

□□ `xargs` □□□□□□□□□□□□□□□□□□□□ `-I` □□□

`-I` □□□□□□□□□□□□□□□□□□

```
$ cat foo.txt
one
two
three

$ cat foo.txt | xargs -I file sh -c 'echo file; mkdir file'
one
two
three

$ ls
```

```
one two three
```

[illegible] `foo.txt` [illegible] `echo` [illegible] `mkdir` [illegible] `-I file` [illegible] `file` [illegible] `echo file; mkdir file` [illegible] `file` [illegible]

--max-procs [illegible]

`xargs` [illegible]

`--max-procs` [illegible] `--max-procs 2` [illegible] `--max-procs 0` [illegible]

```
$ docker ps -q | xargs -n 1 --max-procs 0 docker kill
```

[illegible] Docker [illegible]

[illegible]

- xargs is the inverse function of echo
- Linux and Unix xargs command tutorial with examples, George Ornbo
- 8 Practical Examples of Linux Xargs Command for Beginners, Himanshu Arora

Arch Linux

□□

Arch □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□ Arch □□□□ Manjaro□ EndeavourOS□ Garuda Linux□

Pacman □□□□

Pacman □ Arch □□□□□□□□

`-Sy`□□□□□□□□

```
$ sudo pacman -Sy
```

`-Syu`□□□□□□□□□□□□□□

```
$ sudo pacman -Syu
```

`-Ss`□□□□□□□□

```
$ sudo pacman -Ss vlc
```

`-Si`□□□□□□□□□□□□□□

```
$ pacman -Si nginx
```

`-S`□□□□□□□□

```
$ sudo pacman -S vlc
```

`-S`□□□□□□□□□□

```
$ sudo pacman -S pac1 pac2
```

`-S` □□□□□□□□□□□□

`-Qi` □□□□□□□□□□□□□□□□□□□□□□

```
$ pacman -Qi package
```

`--ignore` □□□□□□□□□□□□□□□□□□

```
$ sudo pacman -Syu --ignore=vlc
```

`-Sw` □□□□□□□□□□□□□□□□□

```
$ pacman -Sw vlc
```

`-Q` □□□□□□□□□□□□□□□□□□□□

```
$ pacman -Q
```

`-Qs` □□□□□□□□□□□□□□□□□□

```
$ pacman -Qs vlc
```

`-Ql` □□□□□□□□□□□□□□□□□□□

```
$ pacman -Ql vlc
```

`-Qo` □□□□□□□□□□□□□□□□□□□□□

```
$ pacman -Qo /usr/bin/vlc
```

`-Rs` □□□□□□□□□□□□□□□□□

```
$ sudo pacman -Rs vlc
```

`-Rns` □□□□□□□□□□□□□□□

```
$ sudo pacman -Rns vlc
```

□□□□□□□□□□□□□□□□□

```
$ sudo pacman -Rns $(pacman -Qdtq)
```

`-U` □□□□□□□□ Pacman □□□□□□□□□□□□ `/var/cache/pacman/pkg` □□□□□□□□□□□□□□□□□□□□□□□□

```
$ cd /var/cache/pacman/pkg/
$ sudo pacman -U vlc-3.0.11-2-x86_64.pkg.tar.zst
```

`-Sc` □□□□□□ `/var/cache/pacman/pkg` □□□□□□□□□

```
$ sudo pacman -Sc
```

`-Scc` □□□□□□□□□□□□□□□

```
$ sudo pacman -Scc
```

AUR □□□

AUR □ Arch User Repository□□ Arch □□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□ yay□□□□□ AUR □□□□

```
$ git clone https://aur.archlinux.org/yay-bin.git
$ cd yay-bin
$ makepkg -si
```

□□□□□□□□□□□□□□□□□□□□□

```
$ yay --version
```

`-S` □□□□□□□□

```
$ yay -S packageName
```

`-Sua` □□□□□□□□□□□ AUR □□□□

```
$ yay -Sua
```

`-Syu` □□□□□□□□□□□□

```
$ sudo yay -Syu
```

`-Ss` □□□□□□□□□□□□□□□□□□□□ AUR□

```
$ yay -Ss packageName
```

[illegible] AUR [illegible] `-Ss` [illegible]

```
$ yay packageName
```

`-R` [illegible]

```
$ yay -R packagename
```

`-Rns` [illegible]

`-Ps` [illegible] AUR [illegible] `~/.cache/yay/` [illegible]

```
$ yay -Ps
```

`-Sc` [illegible] AUR [illegible]

```
$ yay -Sc
```

`-Scc` [illegible]

```
$ yay -Scc
```

[illegible]

[illegible] Reflector [illegible]

[illegible] Python [illegible] `/etc/pacman.d/mirrorlist` [illegible]

[illegible]

```
$ sudo pacman -S reflector rsync
```

[illegible] `/etc/pacman.d/mirrorlist` [illegible] [illegible] [illegible]

```
$ sudo cp /etc/pacman.d/mirrorlist /etc/pacman.d/mirrorlist.backup
```

[illegible] Reflector [illegible] 10[illegible] `/etc/pacman.d/mirrorlist` [illegible]

```
$ sudo reflector --latest 10 --sort rate --save /etc/pacman.d/mirrorlist
```

□□□□□□□□□□□□□□□

- `--latest` □□□□□□□□□□□□ n □□□□□
- `--sort` □□□ rate□□□□□□□□□□□□□□□□□□□□□□□□ age□ country□ score □ delay□
- `--save` □□□□□□□□□□□□□

□□□□□□ 10□□□□□□□□□□□□□□□□□□□□□ `--fastest` □□□□□□□□□□□□

```
$ sudo reflector --latest 10 --sort rate --fastest 5 --save /etc/pacman.d/mirrorlist
```

`--list-countries` □□□□□□□□□□□□□□□□

```
$ reflector --list-countries
```

`--country` □□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
$ sudo reflector --country "US" --latest 10 --sort rate --save /etc/pacman.d/mirrorlist
```

□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□

```
$ sudo reflector --country "US,CA" --latest 10 --sort rate --save /etc/pacman.d/mirrorlist
# □□
$ sudo reflector --country "United States,Canada" --latest 10 --sort rate --save
/etc/pacman.d/mirrorlist
```

□□□□□□□□□□□□□□□□□□

`--protocol` □□□□□□□□□□□□□□□ https□ http□ ftp□□□□□□□□□□□□□□□□

```
$ sudo reflector --protocol https --latest 10 --sort rate --save /etc/pacman.d/mirrorlist
```

□□□□□ Reflector □□□□□□□□□□□□□□□□ `/etc/xdg/reflector/reflector.conf` □□□□□□□□□□□□ SystemD □□□□

```
$ sudo systemctl enable --now reflector.timer
```

□□□□□□□□□□□□□□□□□□□□□□

```
$ sudo systemctl list-timers
```

□□□□□□□ Reflector □□□□□□□□□□

```
$ sudo systemctl enable --now reflector.service
```

□□□

- Finding the Most Up-to-Date and Fastest Arch Linux Mirrors

Fedora

□□□□ dnf

Fedora □□□□□□ rpm□□□□□□□□□□□□□□□□□□□ PackageKit□□□ gui□□ DNF□ GNOME Software □□□□

DNF □□□ Fedora □□□□□□□

```
# □□
$ sudo dnf search □□

# □□
$ sudo dnf install □□

# □□
$ sudo dnf remove □□
```

□□□□

```
$ sudo dnf upgrade --refresh -y
```

dnf □□□□□□□

- autoremove- □□□□□□□□□□□
- check-update- □□□□□□□□□□□□□
- downgrade- □□□□□□□□
- info- □□□□□□□□□□□□□□□□□□□□
- reinstall- □□□□□□□□□
- upgrade- □□□□□□□□□□□□
- exclude- □□□□□□□

dnf □□□□□□□□□ Fedora□□□ [□□□□]□

□□□□

```
$ sudo dnf install langpacks-zh_CN
```