logrotate Log rotation

START HERE

`logrotate -d <conf>`
Dry run, change nothing

`logrotate -f <conf>`
Force a rotation now

`logrotate -v <conf>`
Verbose run

`/etc/logrotate.d/<name>`
Per-app config file

`weekly`
How often to rotate

`rotate 4`
Keep 4 old logs

`compress`
gzip old logs

`missingok`
No error if log is absent

CONCEPTS

logrotate is not a daemon: cron or a systemd timer runs it (daily by default). It decides per log whether a rotation is due and records the last rotation date in a state file.

prerotate optional script
↓ rename
Rotate app.log to app.log.1
↓ create
New log empty file
↓ postrotate
Reload app reopen log files
↓ compress
Compress app.log.2.gz
What happens to one log when it is due

The main file /etc/logrotate.conf sets global defaults and ends with include /etc/logrotate.d; packages drop one small file each into that directory.

Options set before any log path act as defaults for the rest of the file; options inside a block { } apply to that block only.

RUNNING

`logrotate <conf>`
Run with a config file (or directory)

`logrotate -d <conf>`
Debug: show what would happen, change nothing
Implies verbose and does not update the state file, so it is safe to repeat.

`logrotate -f <conf>`
Force rotation even if not due
Forces a real rotation of every matching log, including the postrotate scripts.

`logrotate -v <conf>`
Print what is being done

`logrotate -s <file> <conf>`
Use another state file
Handy for testing as a normal user: -s /tmp/state.status.

`logrotate -l <file> <conf>`
Write verbose output to a log file

`logrotate -m <cmd> <conf>`
Mail command used by the mail directive

`logrotate --wait-for-state-lock <conf>`
Wait instead of failing on a locked state

`logrotate --version`
Show the installed version

RUNNING (cont.)

`/var/lib/logrotate.status`
State file: last rotation per log
Path varies: /var/lib/logrotate/status on Debian-family systems.

`systemctl list-timers logrotate.timer`
See when the systemd timer runs it

CONFIG STRUCTURE

`/path/to/app.log { ... }`
Block: log path(s) and their directives

`/var/log/a.log /var/log/b.log { ... }`
One block for several logs

`/var/log/app/*.log { ... }`
Glob for the log files

`include /etc/logrotate.d`
Read all files of a directory

`# comment`
Comment line

`"/path with space.log" { ... }`
Quote paths containing spaces

`su <user> <group>`
Rotate as this user and group
Needed when the log directory is writable by non-root users, otherwise logrotate refuses with an insecure permissions error.

SCHEDULE AND SIZE

`hourly`
Rotate every hour
Only works if logrotate itself runs hourly.

`daily`
Rotate once a day

`weekly`
Rotate once a week

`monthly`
Rotate once a month

`yearly`
Rotate when the year changes

`rotate <count>`
Keep this many old logs
rotate 0 deletes old logs; -1 keeps them (maxage may still remove).

`size <size>`
Rotate only when larger (k, M, G)
Ignores the time interval entirely.

`minsize <size>`
Rotate when due and at least this big

`maxsize <size>`
Rotate when too big, even before due

SCHEDULE AND SIZE (cont.)

`maxage <days>`
Delete rotated logs older than this

`minage <days>`
Skip logs younger than this

COMPRESSION

`compress`
Compress rotated logs (gzip)

`nocompress`
Do not compress

`delaycompress`
Compress one cycle later
Keeps the newest rotated file readable and lets programs finish writing to it.

`compresscmd <cmd>`
Use another compressor (xz, zstd...)

`compressext <.ext>`
Extension for compressed files

`compressoptions <opts>`
Options for the compressor

FILES AND NAMING

`missingok`
No error if the log does not exist

`notifempty`
Skip rotation if the log is empty

`ifempty`
Rotate empty logs too (default)

`create <mode> <user> <group>`
Make a new log after rotation
Example: create 0640 www-data adm. Omitted values are copied from the old log.

`nocreate`
Do not create a new log

`copytruncate`
Copy, then truncate in place
For programs that cannot reopen their log. A few lines written during the copy can be lost.

`dateext`
Use a date instead of a number

`dateformat <fmt>`
Date suffix, e.g. -%Y-%m-%d
Must sort alphabetically in time order.

`olddir <dir>`
Move rotated logs to a directory
Must be on the same filesystem unless copy or copytruncate is used.

`createolddir <mode> <user> <group>`
Create the olddir if missing

FILES AND NAMING (cont.)

`extension <.ext>`
Keep the extension at the end

`start <n>`
First rotation number

`shred`
Securely delete old logs

SCRIPTS

`postrotate ... endscript`
Run commands after rotation
endscript must stand alone on its own line. Scripts run with /bin/sh.

`prerotate ... endscript`
Run commands before rotation

`sharedscripts`
Run scripts once per block, not per log
With a glob this avoids reloading the service once for every file.

`firstaction ... endscript`
Once before any log is rotated

`lastaction ... endscript`
Once after all logs are rotated

`preremove ... endscript`
Run before an old log is deleted

`nosharedscripts`
Scripts per log (default)

RECIPES

Typical application config

```
/var/log/myapp/*.log {
    weekly
    rotate 8
    compress
    delaycompress
    missingok
    notifempty
    create 0640 myapp adm
}
```

Reload a service after rotation

```
/var/log/nginx/*.log {
    daily
    rotate 14
    compress
    delaycompress
    sharedscripts
    postrotate
        systemctl reload nginx
|| true
    endscript
}
```

Size-capped log that cannot reopen files

```
/var/log/legacy.log {
    size 50M
    rotate 5
    copytruncate
    compress
    dateext
    missingok
}
```

Test a new config safely

```
sudo logrotate -d /etc/
logrotate.d/myapp
sudo logrotate -f -v /etc/
logrotate.d/myapp
cat /var/lib/logrotate.status
```