# tail, head and watch Peek, follow, repeat

## CONCEPTS

head and tail show the start and end of a file; watch reruns any command and redraws the screen.

**head** start of file
↓ -n N
**file** or stdin
**tail** end of file
↓ -f
**live stream** new lines

tail -f follows the open file; after log rotation it keeps reading the old, renamed file. Use -F to follow the name.

These are GNU coreutils and procps behaviours; BSD and macOS tail/head lack some options and have no watch by default.

## TAIL

**tail** *<file>*
Last 10 lines

**tail -n** *<N>* *<file>*
Last N lines

**tail -n +**<*N*> *<file>*
From line N to the end

**tail -c** *<N>* *<file>*
Last N bytes

**tail -c +**<*N*> *<file>*
From byte N to the end

**tail** *<file1>* *<file2>*
Last lines of several files, with headers

**tail -q** *<file1>* *<file2>*
Several files, no headers

**tail -v** *<file>*
Always print the file name header

**tail -z** *<file>*
Split on NUL instead of newline

## FOLLOWING

**tail -f** *<file>*
Follow appended lines

**tail -F** *<file>*
Follow by name, retry if missing

## FOLLOWING (cont.)

**tail -f** *<file1>* *<file2>*
Follow several files at once

**tail -n 0 -f** *<file>*
Follow only new lines

**tail -f --pid=**<*pid*> *<file>*
Stop when a process exits

**tail --retry -f** *<file>*
Keep trying until the file exists

**tail -f -s** *<secs>* *<file>*
Poll interval when not using inotify

**Ctrl+C**
Stop following

## HEAD

**head** *<file>*
First 10 lines

**head -n** *<N>* *<file>*
First N lines

**head -n -**<*N*> *<file>*
All but the last N lines

**head -c** *<N>* *<file>*
First N bytes

**head -c -**<*N*> *<file>*
All but the last N bytes

**head** *<file1>* *<file2>*
First lines of several files, with headers

**head -q** *<file1>* *<file2>*
Several files, no headers

**head -z** *<file>*
Split on NUL instead of newline

**head -n 1**
First line of piped input

## WATCH

**watch** *<cmd>*
Run every 2 seconds

**watch -n** *<secs>* *<cmd>*
Set the interval

**watch -d** *<cmd>*
Highlight changes between runs

**watch -d=permanent** *<cmd>*
Keep every change highlighted

**watch -t** *<cmd>*
Hide the header

## WATCH (cont.)

**watch -e** *<cmd>*
Stop when the command fails

**watch -g** *<cmd>*
Exit when the output changes

**watch -q** *<cycles>* *<cmd>*
Exit after N unchanged runs

**watch -c** *<cmd>*
Keep ANSI colours

**watch -b** *<cmd>*
Beep when the command fails

**watch -p** *<cmd>*
Run at precise intervals

**watch -w** *<cmd>*
Do not wrap long lines

**watch -x** *<cmd>* *<args>*
Run without a shell

## PIPES AND TEE

*<cmd>* **| tail -n** *<N>*
Keep the last N output lines

*<cmd>* **| head -n** *<N>*
Keep the first N output lines

**tail -f** *<file>* **| grep --line-buffered** *<pat>*
Filter a live log

*<cmd>* **| tee** *<file>*
Show output and save it

*<cmd>* **| tee -a** *<file>*
Append instead of overwrite

*<cmd>* **| sudo tee** *<file>*
Write to a root-owned file

## RECIPES

**Follow a rotating log and filter**

```
tail -F /var/log/nginx/error.log \
  | grep --line-buffered -i error
```

**Skip a CSV header and peek**

```
tail -n +2 data.csv | head -n 5
```

**Watch a directory grow**

```
watch -n 1 -d 'ls -l /tmp | tail -
n 10'
```

**Wait until a service is up**

```
watch -g -n 2 'systemctl is-active
nginx'
# exits as soon as the output
changes
```