


[bash](#), [howto](#), [tips](#), [tricks](#), [column](#), [sort](#), [getconf](#), [processorarchitecture](#), [architecture](#), [multitail](#), [watch](#), [nohup](#), [yes](#), [dd](#), [sudo](#), [history](#), [script](#), [tr](#), [xargs](#)

Bash - Command Line Tricks

 Local copy of: <https://likegeeks.com/linux-command-line-tricks/>

 • **column**: Debian-package - util-linux

Display Output as a Table

Sometimes it's painful to read the output well due to the overcrowded strings, for example, the result of the mount command, what about viewing the output like a table? It is an easy job.

```
mount | column -t
```

```
sysfs                on /sys
type sysfs           (rw,nosuid,nodev,noexec,relatime)
proc                 on /proc
type proc            (rw,nosuid,nodev,noexec,relatime)
udev                 on /dev
type devtmpfs        (rw,nosuid,relatime,size=12319496k,nr_inodes=3079874,mode=755)
devpts               on /dev/pts
type devpts          (rw,nosuid,noexec,relatime,gid=5,mode=620,ptmxmode=000)
tmpfs                on /run
type tmpfs           (rw,nosuid,noexec,relatime,size=2468204k,mode=755)
/dev/mapper/detlev--vg-root on /
type ext4            (rw,relatime,errors=remount-ro)
securityfs           on /sys/kernel/security
type securityfs      (rw,nosuid,nodev,noexec,relatime)
tmpfs                on /dev/shm
type tmpfs           (rw,nosuid,nodev)
tmpfs                on /run/lock
type tmpfs           (rw,nosuid,nodev,noexec,relatime,size=5120k)
tmpfs                on /sys/fs/cgroup
type tmpfs           (ro,nosuid,nodev,noexec,mode=755)
cgroup2              on /sys/fs/cgroup/unified
type cgroup2         (rw,nosuid,nodev,noexec,relatime,nsdelegate)
cgroup               on /sys/fs/cgroup/systemd
type cgroup          (rw,nosuid,nodev,noexec,relatime,xattr,name=systemd)
pstore               on /sys/fs/pstore
type pstore          (rw,nosuid,nodev,noexec,relatime)
bpf                  on /sys/fs/bpf
type bpf             (rw,nosuid,nodev,noexec,relatime,mode=700)
cgroup               on /sys/fs/cgroup/net_cls,net_prio
type cgroup          (rw,nosuid,nodev,noexec,relatime,net_cls,net_prio)
cgroup               on /sys/fs/cgroup/pids
type cgroup          (rw,nosuid,nodev,noexec,relatime,pids)
cgroup               on /sys/fs/cgroup/blkio
type cgroup          (rw,nosuid,nodev,noexec,relatime,blkio)
cgroup               on /sys/fs/cgroup/memory
type cgroup          (rw,nosuid,nodev,noexec,relatime,memory)
cgroup               on /sys/fs/cgroup/cpuset
type cgroup          (rw,nosuid,nodev,noexec,relatime,cpuset)
cgroup               on /sys/fs/cgroup/freezer
type cgroup          (rw,nosuid,nodev,noexec,relatime,freezer)
cgroup               on /sys/fs/cgroup/cpu,cpuacct
type cgroup          (rw,nosuid,nodev,noexec,relatime,cpu,cpuacct)
cgroup               on /sys/fs/cgroup/perf_event
type cgroup          (rw,nosuid,nodev,noexec,relatime,perf_event)
```

```
cgroupp                on /sys/fs/cgroup/devices
type cgroupp           (rw,nosuid,nodev,noexec,relatime,devices)
cgroupp                on /sys/fs/cgroup/rdma
type cgroupp           (rw,nosuid,nodev,noexec,relatime,rdma)
debugfs                on /sys/kernel/debug
type debugfs           (rw,relatime)
hugetlbfs              on /dev/hugepages
type hugetlbfs         (rw,relatime,pagesize=2M)
mqueue                 on /dev/mqueue
type mqueue            (rw,relatime)
systemd-1              on /proc/sys/fs/binfmt_misc
type autofs            (rw,relatime,fd=48,pgrp=1,timeout=0,minproto=5,maxproto=5,direct,pipe_ino=11783)
sunrpc                 on /run/rpc_pipefs
type rpc_pipefs        (rw,relatime)
/dev/sda1              on /boot
type ext2              (rw,relatime)
/dev/mapper/1Tera01--vg-data01 on /mnt/data01
type ext4              (rw,relatime)
binfmt_misc            on /proc/sys/fs/binfmt_misc
type binfmt_misc       (rw,relatime)
tmpfs                  on /run/user/1000
type tmpfs             (rw,nosuid,nodev,relatime,size=2468200k,mode=700,uid=1000,gid=1000)
gvfsd-fuse             on /run/user/1000/gvfs
type fuse.gvfsd-fuse   (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
fusectl                on /sys/fs/fuse/connections
type fusectl           (rw,relatime)
/dev/fuse              on /run/user/1000/doc
type fuse              (rw,nosuid,nodev,relatime,user_id=1000,group_id=1000)
/etc/auto.denker.wiretrip.de-cifs on /home/def/mnt/cifs
type autofs            (rw,relatime,fd=6,pgrp=2327,timeout=60,minproto=5,maxproto=5,indirect,pipe_ino=38705)
/etc/auto.denker.wiretrip.de-cifs on /home/def/mnt/cifs/denker.wiretrip.de/austausch
type autofs            (rw,relatime,fd=6,pgrp=2327,timeout=60,minproto=5,maxproto=5,offset,pipe_ino=38705)
(rw,relatime,vers=default,cache=strict,username=<USER>,uid=1000,forceuid,gid=1000,forcegid,addr=192.168.0.1,file_mode=0644,dir_mode=0755,soft,nounix,mapposix,rsize=1048576,wsiz=1048576,echo_interval=60,actimeo=1)
```

OK, in this example, we see the output is well formatted because the separator between them is spaces.

What if the separators are something else, like colons :

/etc/passwd is a good example.

Just specify the separator with `-s` parameter like this:

```
cat /etc/passwd | column -t -s :
```

root	x	0	0	root	/root	/bin/bash
daemon	x	1	1	daemon	/usr/sbin	
/usr/sbin/nologin						
bin	x	2	2	bin	/bin	
/usr/sbin/nologin						
sys	x	3	3	sys	/dev	
/usr/sbin/nologin						
sync	x	4	65534	sync	/bin	/bin/sync
games	x	5	60	games	/usr/games	
/usr/sbin/nologin						
man	x	6	12	man	/var/cache/man	
/usr/sbin/nologin						
lp	x	7	7	lp	/var/spool/lpd	
/usr/sbin/nologin						
mail	x	8	8	mail	/var/mail	
/usr/sbin/nologin						
news	x	9	9	news	/var/spool/news	
/usr/sbin/nologin						
uucp	x	10	10	uucp	/var/spool/uucp	

/usr/sbin/nologin					
proxy	x	13	13	proxy	/bin
/usr/sbin/nologin					
backup	x	34	34	backup	/var/backups
/usr/sbin/nologin					
list	x	38	38	Mailing List Manager	/var/list
/usr/sbin/nologin					
gnats	x	41	41	Gnats Bug-Reporting System (admin)	/var/lib/gnats
/usr/sbin/nologin					
nobody	x	65534	65534	nobody	/nonexistent
/usr/sbin/nologin					
_apt	x	100	65534	/nonexistent	/usr/sbin/nologin
systemd-timesync	x	101	102	systemd Time Synchronization,,,	/run/systemd
/usr/sbin/nologin					
systemd-network	x	102	103	systemd Network Management,,,	/run/systemd
/usr/sbin/nologin					
systemd-resolve	x	103	104	systemd Resolver,,,	/run/systemd
/usr/sbin/nologin					
messagebus	x	104	110	/nonexistent	/usr/sbin/nologin
tss	x	105	111	TPM2 software stack,,,	/var/lib/tpm
dnsmasq	x	106	65534	dnsmasq,,,	/var/lib/misc
/usr/sbin/nologin					
usbmux	x	107	46	usbmux daemon,,,	/var/lib/usbmux
/usr/sbin/nologin					
rtkit	x	108	114	RealtimeKit,,,	/proc
/usr/sbin/nologin					
sshd	x	109	65534	/run/sshd	/usr/sbin/nologin
pulse	x	110	118	PulseAudio daemon,,,	/var/run/pulse
/usr/sbin/nologin					
avahi	x	112	120	Avahi mDNS daemon,,,	/var/run/avahi-daemon
/usr/sbin/nologin					
saned	x	113	121	/var/lib/saned	/usr/sbin/nologin
colord	x	114	122	colord colour management daemon,,,	/var/lib/colord
/usr/sbin/nologin					
geoclue	x	115	123	/var/lib/geoclue	/usr/sbin/nologin
hplip	x	116	7	HPLIP system user,,,	/var/run/hplip
sddm	x	117	124	Simple Desktop Display Manager	/var/lib/sddm
user	x	1000	1000	user,,,	/home/user
systemd-coredump	x	999	999	systemd Core Dumper	/
/usr/sbin/nologin					
_rpc	x	118	65534	/run/rpcbind	/usr/sbin/nologin
statd	x	119	65534	/var/lib/nfs	/usr/sbin/nologin
nvpd	x	120	125	NVIDIA Persistence Daemon,,,	/var/run/nvpd/
/usr/sbin/nologin					
uidd	x	121	126	/run/uidd	/usr/sbin/nologin

Run Until Success

If you search google about that trick, you will find a lot of questions about people asking how to repeat the command till it returns success and runs properly, like ping the server till it becomes alive or check if a file with a specific extension is uploaded at specific directory or maybe check if a specific URL becomes available or maybe any geeky thing, the list is very long.

You can use the while true loop to achieve that:

```
while true
do
  ping -c 1 heise.de > /dev/null 2>&1 && break
done
```

We use `> /dev/null 2>&1` to redirect normal output and errors to `/dev/null`.

Actually, this is one of coolest Linux Command Line Tricks for me.

Sort Processes by Memory or CPU Usage

To sort by memory usage:

```
ps aux | sort -nk 4
```

To sort by CPU usage:

```
ps aux | sort -nk 3
```

Check Your Architecture

```
getconf LONG_BIT
```

Monitor Multiple Log Files Concurrently

You can use the `tail` command to watch your logs and that's fine, but sometimes you may need to monitor multiple log files simultaneously to take some actions.

Using **multitail** command which supports text highlighting, filtering, and many other features that you may need.

Return to Your Previous Directory

It's not a trick but some people forget it, others use it every minute.

Just type `cd -` and you will return back to the previous directory.

```
cd -
```

Make non-interactive as interactive shell session

To do this, put our settings in `~/.bashrc` from `~/.bash_profile`.

Watch Command Output

By using `watch` command, you can watch any output of any command, for example, you can watch the free space and how it is growing:

```
watch df -h
```

You can imagine what you can do with any variant data that you can watch using `watch` command.

Run Your Program After Session Killing

When you run any program in the background and close your shell, definitely it will be killed, what about if it continues running after closing the shell.

This can be done using the `nohup` command which stands for *no hang up*.

```
nohup wget site.com/file.zip
```

This command is really one of the most useful Linux command line tricks for most webmasters.

A file will be generated in the same directory with the name *nohup.out* contains the output of the running program.

Answer bot Using Yes & No Commands

It's like an answer bot for those commands whose require the user to say yes.

That can be done using the yes command:

```
yes | apt-get update
```

Or maybe you want to automate saying no instead, this can be done using the following command:

```
yes no | command
```

Create a File With a Specific Size

Use the **dd** command to create a file with a specific size:

```
dd if=/dev/zero of=out.txt bs=1M count=10
```

This will create a file with 10-megabyte size filled with zeros.

```
dd if=/dev/zero of=out.txt bs=1M count=10
```

Run Last Command as Root

Sometimes you forget to type `sudo` before your command that requires root privileges to run, you don't have to rewrite it, just type:

```
sudo !!
```

Record your Command Line Session

If you want to record what you've typed in your shell screen, you can use the **script** command which will save all of your typings to a file named `typescript`.

```
script
```

Once you type `exit`, all of your commands will be written to that file so you can review them later.

Replacing Spaces with Tabs

You can replace any character with any other character using **tr** command which is very handy.

```
cat geeks.txt | tr ':[space]:' '\t' > out.txt
```

This command will replace the spaces with tabs.

Convert Character Case

```
cat my_file | tr a-z A-Z > output.txt
```

This command converts the content of the file to upper case using the `tr` command.

Powerful xargs Command

We can say that **xargs** command is one of the most important Linux command line tricks, you can use this command to pass outputs between commands as arguments, for example, you may search for png files and compress them or do anything with them.

```
find . -name "*.png" -type f -print | xargs tar -cvzf pics.tar.gz
```

Or maybe you have a list of URLs in a file and you want to download them or process them in a different way:

```
cat links.txt | xargs wget
```

The **cat** command result is passed to the end of **xargs** command.

What if your command needs the output in the middle?

Just use `{}` combined with `-i` parameter to replace the arguments in the place where the result should go like this:

```
ls /etc/*.conf | xargs -i cp {} ~/tmp/out/
```

Redo last command as root

```
#as user  
vim /etc/fstab  
sudo !!
```

Open editor to compose complex command

```
CTRL+XE
```

~~DISCUSSION~~

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