

Linux[®]

Notes for Professionals

Chapter 1: Getting started with GNU

Section 1.1: Useful shortcuts

Using The Terminal

The examples in this document assume that you are using a POSIX-compliant (such as Bash) shell.

Large portions of GNU/Linux functionality are achieved using the terminal. Most distribution terminal emulators that allow users to interact with a shell from their desktop environment (line interpreter that executes user inputted commands, **Bash** (Bourne Again Shell) is a common among many Linux distributions and is the default shell for macOS).

These shortcuts will work if you are using **Bash** with the emacs keybindings (set by default).

Open terminal

- `Ctrl + Alt + T` or `Super + T`

Cursor movement

- `Ctrl + A` Go to the beginning of the line you are currently typing on.
- `Ctrl + E` Go to the end of the line you are currently typing on.
- `Ctrl + B` Move between the beginning of the line and the current position.
- `Alt + B` Move cursor backward one word on the current line.
- `Alt + F` Move cursor forward one word on the current line.
- `Ctrl + F` Move cursor forward one character on the current line.
- `Ctrl + B` Move cursor backward one character on the current line.

Text manipulation

- `Ctrl + U` Cut the line from the current position to the beginning of the line.
- `Ctrl + K` Cut the line from the current position to the end of the line.
- `Ctrl + W` Cut the line from the beginning of the line, adding it to the clipboard.
- `Ctrl + Y` Paste the last thing from the clipboard that you cut recently.
- `Ctrl + T` Swap the last two words before the current cursor position.
- `Alt + T` Swap the last two words before the cursor.
- `Alt + U` Make uppercase from cursor to end of word.
- `Alt + L` Make lowercase from cursor to end of word.
- `Alt + C` Capitalize to end of word starting at cursor (whole word if possible).
- `Alt + D` Delete to end of word in previous command.
- `Alt + B` Prints the last word written in previous command.
- `Ctrl + R` Swap the last two characters before the cursor.

History access

- `Ctrl + R` Lets you search through previously used commands.
- `Ctrl + G` Leave history searching mode without running a command.
- `Ctrl + J` Lets you copy current matched command to command line without running it, allowing you to

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Chapter 2: Detecting Linux distribution name and version

Section 2.1: Detect what debian-based distribution you are working in

Just execute `lsb_release -a`.

On Debian:

```
$ lsb_release -a
No LSB modules are available.
Distributor ID: Debian
Description:    Debian GNU/Linux testing (stretch)
Release:       testing
Codename:      stretch
```

On Ubuntu:

```
$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 14.04.4 LTS
Release:       14.04
Codename:      trusty
```

In case when you don't have `lsb_release` installed you may want to try some guessing, for example, there is a file `/etc/issue` that often contains distribution name. For example, on Ubuntu:

```
$ cat /etc/issue
Ubuntu 12.04.5 LTS (natty)
```

Don't use file `/etc/issue`, version because its contents do not match distribution name!

Note that this will also work on non-Debian-family distributions like Fedora, Arch, or openSUSE — but that `lsb_release` may not be installed.

Section 2.2: Detect what systemd-based distribution you are using

This method will work on modern versions of Arch, CentOS, CoreOS, Debian, Fedora, Mageia, openSUSE, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, Ubuntu, and others. This wide applicability makes it an ideal first approach, with fallback to other methods if you need to also identify older systems.

Look at `/etc/os-release`. In specific, look at variables `NAME`, `VERSION`, `ID`, `VERSION_ID`, and `PRETTY_NAME`.

On Fedora, this file might look like:

```
NAME="Fedora"
VERSION="24 (Workstation Edition)"
ID="fedora"
VERSION_ID="24"
PRETTY_NAME="Fedora 24 (Workstation Edition)"
ANSI_COLOR="0;32"
```

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Chapter 5: Check Disk Space

Section 5.1: Investigate Directories For Disk Usage

Sometimes it may be required to find out which directory consuming how much disk space especially when you are used of `df` and realized your available disk space is low.

`du`:

`du` command summarizes disk usage of the set of files, recursively for directories. It's often uses with `-sh` option:

```
du -sh --summarize
Display only a total for each argument
-h, --human-readable
Print sizes in human readable format (e.g., 1K 234M 2G)
```

For summarizing disk usages of the files in the current directory we use:

```
du -sh *
```

Example output:

```
37K  documents
250M  downloads
4.0K  music
72K   pictures
4.0K  public
4.0K  templates
4.0K  videos
```

We can also include hidden files with using:

```
du -sh .*
```

Example output:

```
4.3K  .atom
4.0K  .bash_history
8.0K  .bash_logout
350M  .cache
190M  .config
12K   .dbus
4.0K  .devic
44K   .env
60K   .gnome
520K  .gnome-2-8
4.0K  .gnome
4.0K  .ICEauthority
8.3K  .local
0.0K  .nano
404K  .nv
36K   .rc
```

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