



OPENSUSE TUMBLEWEED · ROLLING · ZYPPE · YAST · KDE

openSUSE Handbook

For beginners

Don't fear the terminal. Start with a few commands. This section is for people who just installed openSUSE Tumbleweed: what to do after installing, codecs, zypper and YaST, basic terminal commands, KDE Plasma shortcuts and where each setting lives.

```
user@localhost:~$ sudo zypper dup
```

user your username · **localhost** the computer name · **~** the folder you are in (your home folder) · **\$** means a normal user, **#** means root (administrator). Nothing appears on screen while you type a password; that is normal.

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Yellow italic text (like *<package>*) marks the parts you fill in. In the terminal, paste is Ctrl+Shift+V and copy is Ctrl+Shift+C. Commands that start with `sudo` change the system; read what they do before running them.



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After installing

After a clean openSUSE Tumbleweed install, going through these in order is a good start.

1 Update the system

Tumbleweed is a rolling release; update it with a distribution upgrade every week or two.

```
$ sudo zypper refresh
```

```
$ sudo zypper dup
```

2 Install media codecs

openSUSE ships only free codecs. The opi tool installs the full set from the Packman repository.

```
$ sudo zypper install opi
```

```
$ opi codecs
```

3 Install the NVIDIA driver

For NVIDIA graphics cards, add NVIDIA's repository and install the driver.

```
$ sudo zypper install openSUSE-repos-Tumbleweed-NVIDIA
```

```
$ sudo zypper install-new-recommends --repo repo-non-free
```

4 Check the snapshots

Snapper takes a Btrfs snapshot before and after every zypper run. You can boot into an older one from the boot menu if an update breaks something.

```
$ sudo snapper list
```

5 Add Flathub (optional)

Flatpak is installed; add Flathub to get more apps in Discover.

```
$ flatpak remote-add --if-not-exists flathub  
https://dl.flathub.org/repo/flathub.flatpakrepo
```

Meet the terminal

The terminal is the window where you give the computer commands by typing. On KDE Plasma it is called Konsole; open it with **Ctrl** + **Alt** + **T**, or press Meta and type "konsole".

TIP Linux is case-sensitive: **Documents** and **documents** are different folders. Put names with spaces in quotes: `cd "New Folder"`.

TIP Type part of a name and press **Tab**: the command or file name completes itself. Press it twice to list the options. This habit saves more time than anything else.

```
$ man <command>
```

Opens the manual page for a command. Quit with **q**, search inside with `/word`.

```
$ <command> --help
```

Shows a short help text and the command's options.

```
$ sudo <command>
```

Runs the command with administrator (root) rights. It asks for your own password; nothing shows while you type.

```
$ clear
```

Clears the screen. Shortcut: **Ctrl** + **L**.

```
$ history
```

Lists the commands you typed before. You can also step back with **↑**.

```
$ which <command>
```

Shows which file a command runs from.

```
$ exit
```

Closes the terminal (or a remote session).

WARNING To stop a running command, press **Ctrl** + **C**. In the terminal, copy is **Ctrl** + **Shift** + **C** and paste is **Ctrl** + **Shift** + **V**.

Files and folders

`~` means your home folder (`/home/username`). `.` is the current folder, `..` the one above it.

```
$ pwd
```

Prints the folder you are in.

```
$ ls
```

Lists the files in the current folder.

```
$ ls -la
```

Detailed list including hidden files (size, date, permissions). Names starting with a dot are hidden.

```
$ ls -lh
```

Shows sizes in readable KB/MB/GB.

```
$ cd <folder>
```

Enters a folder. Example: `cd Documents`.

```
$ cd ..
```

Goes up one folder.

```
$ cd
```

On its own, goes back to your home folder. `cd -` returns to the previous folder.

```
$ mkdir <folder>
```

Creates a folder. For nested folders: `mkdir -p a/b/c`.

```
$ touch <file>
```

Creates an empty file (or updates the date of an existing one).

```
$ cp <source> <target>
```

Copies a file. For folders use `cp -r`.

```
$ mv <source> <target>
```

Moves or renames. Example: `mv old.txt new.txt`.

```
$ rm <file>
```

Deletes a file. It does not go to the trash and cannot be undone.

```
$ rm -r <folder>
```

Deletes a folder and everything in it. Add `-i` to confirm each file.

```
$ gio trash <file>
```

Sends the file to the Trash instead of deleting it, so it can be restored like on the desktop.

```
$ find ~ -name "*.pdf"
```

Finds every file ending in .pdf in your home folder.

```
$ ln -s <target> <link-name>
```

Creates a shortcut (symbolic link) to a file or folder.

WARNING Never run commands from the internet that start with `sudo rm -rf` unless you understand them. They can wipe the system in seconds.

Reading and editing files

A simple editor that runs in the terminal is enough for changing configuration files. nano is the easiest. It comes preinstalled on openSUSE.

```
$ cat <file>
```

Prints a short file to the screen.

```
$ less <file>
```

Reads a long file page by page. Space: next page, `/` search, `q` quit.

```
$ head -n 20 <file>
```

Shows the first 20 lines.

```
$ tail -n 50 <file>
```

Shows the last 50 lines. `tail -f` follows new lines live.

```
$ nano <file>
```

Opens the file in nano. For system files add sudo: `sudo nano /etc/hosts`.

```
Ctrl + O
```

nano: save (then Enter).

```
Ctrl + X
```

nano: quit. Asks if there are unsaved changes.

```
Ctrl + W
```

nano: search in the file.

```
Ctrl + K or Ctrl + U
```

nano: cut / paste a line.

```
$ xdg-open <file>
```

Opens the file with its default app (PDF, image, folder...). `xdg-open .` opens the current folder in the file manager.

Installing software with zypper

zypper is openSUSE's package manager. On Tumbleweed, use `zypper dup` to update, not `zypper up`.

```
$ zypper search <word>
```

Searches packages. Short form: `zypper se`.

```
$ sudo zypper install <package>
```

Installs a package. Short form: `zypper in`.

```
$ sudo zypper remove <package>
```

Removes a package. Short form: `zypper rm`.

```
$ sudo zypper refresh
```

Refreshes the repository lists.

```
$ sudo zypper dup
```

Distribution upgrade: the right way to update Tumbleweed.

```
$ zypper info <package>
```

Version, size and description.

```
$ zypper repos
```

Lists the enabled repositories.

```
$ zypper patterns
```

Lists package groups (patterns), like the desktop or development tools.

```
$ sudo zypper install -t pattern devel_basis
```

Installs a whole pattern.

TIP Graphical route: **Discover** installs apps and Flatpaks; **YaST Software** handles every package and pattern.

Installing apps with Flatpak

Flatpak apps run isolated from the system and bring their own libraries. When the distribution's version is old or missing, this is the easiest way to get desktop apps.

```
$ flatpak remote-add --if-not-exists flathub  
https://dl.flathub.org/repo/flathub.flatpakrepo
```

Adds Flathub; Discover then shows Flatpak apps.

```
$ flatpak search <name>
```

Searches Flathub and shows the full app ID (e.g. com.spotify.Client).

```
$ flatpak install flathub <app-id>
```

Installs the app. Example: `flatpak install flathub com.discordapp.Discord`.

```
$ flatpak update
```

Updates all Flatpak apps.

```
$ flatpak list --app
```

Lists installed Flatpak apps.

```
$ flatpak uninstall <app-id>
```

Removes the app. Add `--delete-data` to remove its data too.

```
$ flatpak uninstall --unused
```

Frees space by removing runtimes nothing uses anymore.

```
$ flatpak run <app-id>
```

Starts the app from the terminal; handy for seeing error messages.

TIP To edit Flatpak permissions (file access, camera, etc.) visually, install Flatseal: `flatpak install flathub com.github.tchx84.Flatseal`.

TIP If you downloaded an AppImage, make it executable: `chmod +x App.AppImage`, then `./App.AppImage`. If it doesn't start, you need `sudo zypper install libfuse2`.

YaST

YaST is openSUSE's system tool. It configures software, users, the network, the boot loader and more from one place.

Application menu > YaST

Opens the YaST Control Center.

YaST > Software Management

Search, install and remove packages and patterns.

YaST > Software Repositories

Add, remove and prioritise repositories.

YaST > User and Group Management

Add users and change passwords.

YaST > Boot Loader

Boot menu timeout and kernel parameters.

YaST > Firewall

firewalld zones and open ports.

```
$ sudo yast2
```

Opens YaST from the terminal; plain `sudo yast` starts the text version, which works over SSH.

System information and resources

The equivalent of Windows Task Manager is System Monitor on both GNOME and KDE. The same information is available in the terminal.

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

Distribution name and version.

```
$ hostnamectl
```

Computer name, operating system, kernel and hardware summary.

```
$ uname -r
```

Version of the running Linux kernel.

```
$ df -h
```

Shows how much free space is left on each disk.

```
$ du -sh *
```

Space used by each file and folder in the current folder.

```
$ free -h
```

RAM and swap usage.

```
$ top
```

Live process list. Quit with `q`. For a nicer one: `sudo zypper install htop` or `bttop`.

```
$ sudo zypper install fastfetch
```

A tool that shows a system summary with a logo; run `fastfetch` after installing.

```
$ lspci
```

Processor information.

```
$ lspci
```

Lists PCI devices such as the graphics and network cards.

```
$ lsusb
```

Lists connected USB devices.

```
$ pkill <program-name>
```

Closes a frozen program by name. Example: `pkill firefox`.

```
$ kill -9 <PID>
```

Force-kills a process by number (PID). `top` or `pgrep firefox` gives you the PID.

Shut down, restart, sessions

You can also use the desktop's power menu; the terminal equivalents are:

```
$ systemctl poweroff
```

Shuts the computer down.

```
$ systemctl reboot
```

Restarts.

```
$ systemctl suspend
```

Puts it to sleep (suspend).

```
$ loginctl terminate-session $XDG_SESSION_ID
```

Logs out (works regardless of desktop).

Super + **L**

Locks the screen (GNOME and KDE).

Ctrl + **Alt** + **Delete**

Opens the log out / power off dialog.

KDE Plasma shortcuts

The most useful KDE Plasma shortcuts. Change them in System Settings > Keyboard > Shortcuts.

Meta	Opens the application menu (Meta is the Windows key).
Alt + Space	KRunner: search apps, files and settings, or do quick math.
Ctrl + Alt + T	Opens Konsole.
Meta + E	Opens Dolphin.
Meta + D	Shows the desktop.
Meta + L	Locks the screen.
Meta + Left or Meta + Right	Tiles the window to the left or right half.
Meta + Up	Maximizes the window.
Meta + W	Overview of windows and virtual desktops.
Ctrl + F1 ... Ctrl + F4	Switches virtual desktop.
Print	Opens Spectacle for screenshots.

Terminal and Bash shortcuts

The first group belongs to the terminal window (mostly the same in GNOME Terminal, Console, Konsole and Ptyxis), the second to the command line itself (Bash).

Ctrl + Shift + T	New tab.
Ctrl + Shift + N	New window.
Ctrl + Shift + W	Close tab.
Ctrl + Page Up or Ctrl + Page Down	Switch between tabs.
Ctrl + Shift + C or Ctrl + Shift + V	Copy / paste.
Ctrl + + or Ctrl + -	Bigger / smaller text. Ctrl+0 resets.
Ctrl + Shift + F	Search the output.
F11	Full screen.
Tab	Complete a command or file name. Twice: list the options.
↑ or ↓	Previous / next command.
Ctrl + R	Search history: finds an old command as you type. Ctrl+R again goes further back, Enter runs it.
Ctrl + C	Stop the running command or cancel the line you typed.
Ctrl + D	Log out (same as exit on an empty line).
Ctrl + L	Clear the screen.
Ctrl + A or Ctrl + E	Move to the start / end of the line.

Ctrl + **U** or **Ctrl** + **K**

Delete from the cursor to the start / end of the line.

Ctrl + **W**

Delete the word before the cursor.

Alt + **B** or **Alt** + **F**

Move back / forward one word.

Ctrl + **Z**

Pause the running command and send it to the background. **fg** brings it back.

!!

Repeats the last command. Common use: **sudo !!** reruns the last command with sudo.

Files (Dolphin)

Dolphin is KDE's file manager.

Alt + .	Shows or hides hidden files.
F3	Split view: two folders side by side.
F4	Terminal panel inside Dolphin, in the current folder.
Ctrl + L	Type a path in the address bar.
Ctrl + T	New tab.
F2	Renames the selected file.

Where is that setting?

Most settings are in System Settings; system-level ones are also in YaST.

System Settings	>	Display & Monitor	Resolution, scaling and multiple monitors.
System Settings	>	Sound	Output and input devices.
System Settings	>	Wi-Fi & Internet	Wired, Wi-Fi and VPN.
System Settings	>	Colors & Themes	Breeze light or dark, accent color.
System Settings	>	Keyboard	Layouts and shortcuts.
System Settings	>	Autostart	Apps that start when you log in.
System Settings	>	Users	Users and passwords; YaST also does this.

USB drives and disks

USB drives appear in the file manager's sidebar and are mounted under `/media/` or `/run/media/`. Click the  icon next to it before unplugging.

```
$ lsblk
```

Shows all disks and partitions as a tree (sda, nvme0n1, etc.).

```
$ lsblk -f
```

Also shows each partition's file system (ext4, btrfs, ntfs, exfat) and label.

```
$ udisksctl mount -b /dev/<sdb1>
```

Mounts a partition without sudo.

```
$ udisksctl unmount -b /dev/<sdb1>
```

Unmounts it safely.

Disks > select the device >  > Format Disk

Wipes the USB drive. To use it on both Windows and Linux, create an exFAT partition.

```
$ flatpak install flathub  
io.gitlab.adhami3310.Impression
```

Impression: writes an ISO file to a USB drive to make an install drive.

WARNING When writing a disk with `dd` in the terminal, picking the wrong target (`/dev/sdX`) erases that whole disk. Check twice with `lsblk` first.

Common problems

The situations new openSUSE users most often get stuck on, and the first thing to try.

TIP Videos don't play in Firefox or VLC. Install the codecs with `op_i codecs` .

TIP An update broke the system. In the boot menu choose **Start bootloader from a read-only snapshot**, pick the snapshot from before the update, log in and run `sudo snapper rollback` , then restart.

TIP "System management is locked". Another zypper, YaST or Discover is running. Wait until it finishes.

TIP NVIDIA doesn't work. Add the NVIDIA repository and install the driver (see "After installing").

```
$ systemctl --user restart pipewire wireplumber
```

If sound suddenly stops, restarts the sound system.

Glossary

Words you'll often see in forums and documentation.

Tumbleweed / Leap	Tumbleweed is the rolling release with the newest software; Leap is the fixed release that changes slowly.
--------------------------	--

Rolling release	There are no versions to upgrade between; you update continuously with <code>zypper dup</code> .
------------------------	--

YaST	openSUSE's system configuration tool.
-------------	---------------------------------------

zypper / RPM	openSUSE's package manager and its package format.
---------------------	--

Snapper	Takes and restores Btrfs snapshots.
----------------	-------------------------------------

Packman	A community repository with codecs and multimedia software openSUSE can't ship.
----------------	---

OBS	Open Build Service: where openSUSE and many projects build packages.
------------	--

Pattern	A group of packages installed together.
----------------	---

Commands are written for openSUSE Tumbleweed with KDE Plasma (zypper, YaST, Btrfs). Most also work on Leap. Menu names follow the English interface. Commands that start with `sudo` change the system; read what they do before running them.