pacman Arch package manager

START HERE

`sudo` **`pacman -Syu`**
Sync and upgrade everything

`pacman -Qo` *`<file>`*
Which package owns a file

`pacman -Ss` *`<term>`*
Search the repositories

`pacman -Qdt`
List orphans

`pacman -Si` *`<pkg>`*
Show repo package info

`sudo` **`pacman -S`** *`<pkg>`*
Install a package

`sudo` **`pacman -Rns`** *`<pkg>`*
Remove with unused deps

`pacman -Qs` *`<term>`*
Search installed packages

Repositories sync databases `-Sy` → **Package cache** /var/cache/pacman/pkg `-S` / `-U` → **Installed system** local database `-Q` → **Query results** owners, files, orphans

CONCEPTS

The capital letter picks the operation (S sync, R remove, Q query, U upgrade, F files, D database); lowercase letters modify it.

Never run -Sy alone or install after it without upgrading. A partial upgrade can break the system; use -Syu.

Arch and Arch-based distributions only. Changing the system needs root, so prefix with sudo. AUR packages need a helper or makepkg.

SYNC AND UPGRADE

`sudo` **`pacman -Syu`**
Refresh databases and upgrade all

`sudo` **`pacman -S`** *`<pkg>`*
Install a package with deps

`sudo` **`pacman -S`** *`<pkg1> <pkg2>`*
Install several at once

`sudo` **`pacman -Sy`**
Refresh the sync databases only
Do not install afterwards without a full upgrade; it risks a partial upgrade.

`sudo` **`pacman -Syyu`**
Force-refresh, then upgrade

SYNC AND UPGRADE (cont.)

`sudo` **`pacman -S --needed`** *`<pkg>`*
Skip packages already current

`sudo` **`pacman -S`** *`<repo>/<pkg>`*
Install from a specific repo

`sudo` **`pacman -Sw`** *`<pkg>`*
Download only, do not install

`sudo` **`pacman -Syu --ignore`** *`<pkg>`*
Upgrade but skip a package

`sudo` **`pacman -S --asdeps`** *`<pkg>`*
Install and mark as dependency

`sudo` **`pacman -Syu --noconfirm`**
Upgrade without prompts

`sudo` **`pacman -S --overwrite`** *`<glob> <pkg>`*
Overwrite conflicting files
Only for known file conflicts; the glob limits what may be replaced.

REMOVE

`sudo` **`pacman -R`** *`<pkg>`*
Remove just the package

`sudo` **`pacman -Rs`** *`<pkg>`*
Remove with unused dependencies

`sudo` **`pacman -Rns`** *`<pkg>`*
Also skip .pacsave backups

REMOVE (cont.)

`sudo` **`pacman -Rsu`** *`<pkg>`*
Remove only if nothing needs it

`sudo` **`pacman -Rc`** *`<pkg>`*
Also remove dependent packages
Cascades to everything that depends on the target; read the list.

Removed config files you edited are saved as .pacsave; changed upgrades leave .pacnew next to the live file.

SEARCH AND INSPECT

`pacman -Ss` *`<term>`*
Search repos by name and description

`pacman -Si` *`<pkg>`*
Show repo package details

`pacman -Qi` *`<pkg>`*
Show installed package details

`pacman -Qs` *`<term>`*
Search installed packages

`pacman -Ql` *`<pkg>`*
List files a package installed

`pacman -Qo` *`<file>`*
Which package owns a file

`pacman -Q`
List all installed packages

`pacman -Qe`
List explicitly installed packages

SEARCH AND INSPECT (cont.)

`pacman -Qm`
List foreign (AUR) packages

`pacman -Qu`
List out-of-date packages
Compares against the local sync databases, so run -Sy first.

`pacman -Qk` *`<pkg>`*
Check that a package's files exist

`pacman -Sl` *`<repo>`*
List all packages in a repo

`pacman -Qq`
Print names only, for scripts

ORPHANS AND INSTALL REASON

`pacman -Qdt`
List orphaned dependencies

`pacman -Qdtq | sudo pacman -Rns -`
Remove all orphans
Check the list first; an empty list makes pacman -Rns complain about missing targets.

`pacman -Qet`
Explicit packages nothing requires

`pacman -Qt`
Packages nothing requires

`sudo` **`pacman -D --asexplicit`** *`<pkg>`*
Mark explicit, protect from cleanup

ORPHANS AND INSTALL REASON (cont.)

`sudo` **`pacman -D --asdeps`** *`<pkg>`*
Mark as dependency

FILES AND LOCAL PACKAGES

`sudo` **`pacman -Fy`**
Refresh the file databases

`pacman -F` *`<file>`*
Which repo package ships a file
Searches repo packages you may not have installed; needs -Fy first.

`sudo` **`pacman -U`** *`<file>`***`.pkg.tar.zst`**
Install a local package file

`sudo` **`pacman -U`** *`<url>`*
Install a package from a URL

`sudo` **`pacman -U /var/cache/pacman/pkg/`***`<file>`*
Downgrade from the cache

CACHE AND CONFIG

`sudo` **`pacman -Sc`**
Clean uninstalled packages from cache

`paccache -r`
Keep the last 3 versions of each
paccache comes from the pacman-contrib package.

CACHE AND CONFIG (cont.)

`pacman-conf`
Print the effective pacman.conf

`find /etc -name '*.pacnew'`
Find config files to merge

Config lives in /etc/pacman.conf: enable Color, ParallelDownloads and extra repos there. IgnorePkg holds a package back.

RECIPES

Routine system update

```
sudo pacman -Syu
pacman -Qdt
find /etc -name '*.pacnew'
```

Find what owns a file or provides a command

```
pacman -Qo /usr/bin/<cmd>
# not installed yet?
sudo pacman -Fy
pacman -F <cmd>
```

Downgrade a package from the cache

```
ls /var/cache/pacman/pkg | grep <pkg>
sudo pacman -U /var/cache/pacman/pkg/<pkg>—
<ver>.pkg.tar.zst
# then add it to IgnorePkg in pacman.conf
```

List packages you installed by hand

```
pacman -Qeq
pacman -Qm
pacman -Qeq > pkglist.txt
```