

MACOS 14 AND LATER · ZSH · HOMEBREW

macOS Handbook

Installation guide

Install, upgrade or reset macOS. Upgrading, clean installs and resets, a bootable installer, Setup Assistant, moving data with Migration Assistant and what to do before handing a Mac over.

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

Preparation

Whether you upgrade, reset or clean-install macOS, check these first.

Apple menu > About This Mac

Your model and chip (Apple silicon or Intel).
Apple's support site lists which macOS versions each model supports.

TIP **Back up with Time Machine** or copy important files to iCloud or an external drive.

```
% df -h /
```

Free space. Keep at least 25–35 GB free for a major upgrade.

TIP Have your **Apple Account email and password** ready; Activation Lock and iCloud need them.

TIP Plug a laptop into its charger so it doesn't shut down during installation.

Upgrading to a new macOS

The easiest way to move to a new major version is an in-place upgrade; files and apps stay where they are.

System Settings > General >

Software Update

The new version appears under “Upgrade”.

```
% softwareupdate --list-full-installers
```

Full installers available for download.

```
% softwareupdate --fetch-full-installer --  
full-installer-version <version>
```

Downloads the full installer to Applications; you can open it and start the upgrade from there.

TIP Before upgrading, check that critical apps (VPN, security, virtual machines) support the new version.

Clean install and reset

On Apple silicon and T2 Macs the easiest fresh start is “Erase All Content and Settings”; the Mac returns to factory state in moments without reinstalling macOS.

System Settings > General >

Transfer or Reset >

Erase All Content and Settings

Erases users, data and apps and signs out of your Apple Account. macOS itself stays.

2 Open Recovery

Apple silicon: with the Mac off, hold the power button until “Loading startup options” appears, then Options > Continue. Intel: hold Cmd+R at startup.

3 Erase the disk

Disk Utility > View > Show All Devices. Select the startup disk (usually “Macintosh HD”) and Erase: format APFS, name Macintosh HD.

4 Reinstall macOS

In the Recovery window choose “Reinstall macOS” and install it on the empty disk. An internet connection is required.

TIP Internet Recovery on Intel Macs: Opt+Cmd+R installs the newest macOS the Mac supports, Shift+Opt+Cmd+R the version it shipped with (or the closest available).

Making a bootable installer

A bootable USB helps when you install on several Macs or Internet Recovery isn't working. Use a USB drive of at least 32 GB.

```
% softwareupdate --fetch-full-installer --  
full-installer-version <version>
```

Downloads the full installer (Applications > “Install macOS ...”).

```
% diskutil eraseDisk JHFS+ USB GPT  
/dev/<disk4>
```

Erases the USB as Mac OS Extended (find the disk number with `diskutil list`).

```
% sudo /Applications/Install\ macOS\  
<Name>.app/Contents/Resources/createinstallme  
dia --volume /Volumes/USB
```

Writes the installer to the USB. Replace `<Name>` with the installer's name (e.g. Sequoia).

TIP Booting from the USB. Apple silicon: hold the power button to open startup options and select the installer on the USB. Intel: hold Opt at startup. On Intel Macs with a T2 chip, first allow external boot in Recovery > Utilities > Startup Security Utility.

Setup Assistant steps

After an install or reset, the Mac greets you with Setup Assistant.

1 Country, language, accessibility

Pick your country and language. Typing and dictation languages can be changed later.

2 Wi-Fi

Join a network; activation and your Apple Account need it.

3 Migration Assistant

Choose here if you want to bring data from an old Mac, a Time Machine backup or a Windows PC; otherwise "Not now".

4 Apple Account

Sign in for iCloud, the App Store and Find My. You can also do it later.

5 Computer account

Name, account name (becomes your home folder's name and is awkward to change later) and password.

6 Find My, location, analytics

Turn on Find My Mac (Activation Lock against theft). Choose location and analytics sharing as you like.

7 FileVault and Touch ID

FileVault encrypts the disk; turn it on and keep the recovery key in your Apple Account. Register your fingerprint for Touch ID.

8 Appearance

Light, dark or auto. Setup ends and the desktop opens.

Moving data: Migration Assistant

Migration Assistant transfers your user account, files, apps and settings from another Mac, a Time Machine backup or a Windows PC.

Applications > Utilities >

Migration Assistant

Can also run after setup. Put both Macs on the same Wi-Fi or connect them with a cable.

TIP Moving from Windows: install Apple's "Migration Assistant for Windows" on the PC, put both computers on the same network, and choose "From a Windows PC" in Migration Assistant on the Mac. Documents, photos, bookmarks and email accounts come across.

TIP If a user with the same name already exists, Migration Assistant asks for a new name or offers to replace the existing account; choose carefully.

Before selling or handing over a Mac

1 Back up

One last backup to Time Machine or an external drive.

2 Sign out of your Apple Account

System Settings > Apple Account > Sign Out. This turns off Find My Mac and Activation Lock; if you skip it, the new owner can't use the Mac.

3 Erase

System Settings > General > Transfer or Reset > Erase All Content and Settings. On older Intel Macs, erase the disk from Recovery and reinstall macOS.

4

Unpair devices

Unpair Bluetooth keyboards, mice and headphones; remove the Mac from your Apple Account's device list (account.apple.com).

Installation problems

TIP "The installer is damaged" or "can't be verified". Signing certificates of old installers may have expired. Download a current installer again. If the clock in Recovery is wrong, setting the date from Terminal also helps.

TIP "Not enough free space". Move large files to an external drive, empty the Trash and check the suggestions in System Settings > General > Storage.

TIP Activation Lock screen. You need the Apple Account last used on the Mac. For a second-hand Mac, ask the seller to sign out or remove the device at [iCloud.com](https://icloud.com).

TIP Installation stuck at the same point. If the remaining time hasn't moved for an hour, hold the power button for 10 seconds to shut down and start again; installation usually resumes. Otherwise, "Reinstall macOS" from Recovery.

TIP Recovery won't open (Apple silicon). Apple Configurator on another Mac can Revive or Restore it in DFU mode.

Commands are written for macOS 14 Sonoma and later (Apple silicon and Intel). Menu names follow the English interface. Commands that start with `sudo` change the system; read what they do before running them.