How to run macOS from an external drive

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29 Jun 18

If you're testing out the beta version of macOS Mojave and don't want to risk messing up your system, or just worried about updating your Mac to macOS High Sierra (perhaps due to incompatible software), you don't have to install the update on your Mac at all - you can install it on an external hard drive instead.

Installing the Mac operating system on an external drive is the safest way to get a good look at a new OS without changing anything on your Mac. It'll leave your current configuration intact and allow you to play around with [High Sierra](#) or the [Mojave](#) beta. (Elsewhere we've explained [how to install a macOS beta](#).)

In this tutorial we explain how to run macOS from a external drive.

What you need

You'll want to use a fast drive if you can - Thunderbolt drives are comparable to the internal drives on a Mac so it's worth investing in a Thunderbolt drive if this is practical. If not, at least make sure that you opt for flash storage.

That drive will need at least 12GB of space, but more is recommended.

For buying advice, take a look at our guide to the [best external drives for Mac](#).

Step 1: Prepare for the installation

Follow these instructions to prepare your external drive:

1. Connect the external hard drive to your Mac.
2. Launch Disk Utility (press Cmd + spacebar and start to type Disk Utility).
3. Before this next step - if you are running High Sierra you will need to click on the View drop down below the close minimise buttons. Choose Show All Devices from the options. Now you will see the external root drive in addition to the volume below it.
4. Select the root drive in the sidebar (the next step won't with if you only select the volume).
5. Click on Erase.
6. Choose Mac OS Extended (Journaled) as the Format.
7. Choose GUID Partition Map as the Scheme.
8. Give your drive a name such as "macOS Mojave" or "USB".
9. Click on Erase.
10. Wait while Disk Uitlity creates the partition and sets up the drive (this can take a few minutes).
11. Then click Done.

Step 2: Get the MacOS install files

This process will depend on whether you are wishing to run the beta or a full version of macOS, or even an older Mac OS X.

If you are after the beta, we have a [complete guide to getting the macOS beta here](#).

If it's a full version of a released macOS you are after, we explain [how to get the installation files for macOS here](#).

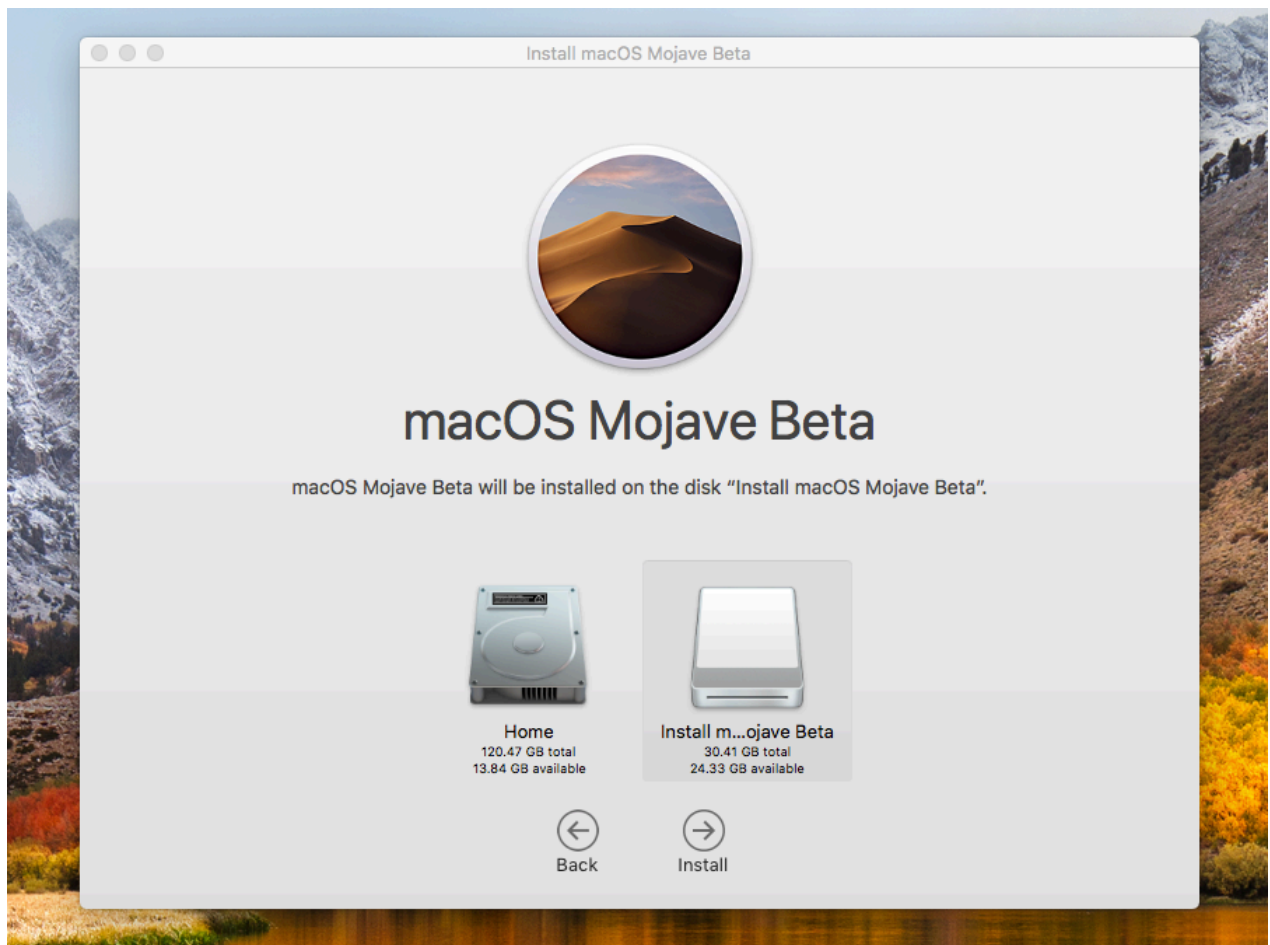To download the Mojave beta, for example you will need to do the following:

1. Register as a developer or for the Public Beta program.
2. Once you have done the above step you will be able to download the Public Beta Access Utility (or Developer Beta Access Utility) from the [Apple website](#).
3. The Beta Access Utility DMG file will eventually appear in your Downloads folder. Once it arrives open it and click on the macOSPublicBetaAccessUtility.pkg to install it.
4. You may need to enroll your Mac. To check if your Mac is enrolled, open System Preferences > App Store. If your Mac is enrolled you'll see that 'Your computer is set to receive beta software updates' is shown.
5. Once the Beta Access Utility is installed, you'll be re-directed to a Mojave page on the Mac App Store page (you won't see this if you aren't registered and running the access utility). Click Download and wait while it downloads to your Mac - this coud take a while as the file is 5.67GB.
6. Once the download completes, your Mac will launch it. You aren't planning to install it on your Mac so DO NOT CLICK ON CONTINUE. Instead, quit the installer.
7. You'll find the 'Install macOS Mojave Beta' installer in your

Applications folder.

Step 3: Install macOS on the external drive

Now to install the beta or alternative version of the Mac operating system on your external drive.

1. Open a finder window, go to Applications and find the Mojave Beta installer (or whichever version of macOS you are running).
2. Click on the installer.
3. On the first window, to set up the installation of macOS Mojave Beta (or whatever) click Continue.
4. Agree to the software licence agreement.
5. Next, and this is important, click on Show All Disks. Do not click on Home as you don't want to install on your main drive.
6. Click on the external drive.

7. Click Install.

Wait while the version of macOS installs on the drive. This process may take a while - if it tells you it will take 10 minutes it's lying.

This will not work if you didn't set your external drive up as a GUID Partition.

Step 4: Run macOS on the external drive

There are two ways to run the version of macOS from your external drive

Either:

1. Open System Preferences > Startup Disk.
2. Select the external drive you wish to use to start up the Mac and click Restart.

Or:

1. Hold down Option/Alt during startup.
2. Pick the drive you wish to use to start up the Mac.

For more advice about installing macOS or Mac OS X read How to update the Mac operating system and How to install old versions of OS X on a Mac.