

How to downgrade macOS Catalina (10.15) to macOS Mojave (10.14) on a Mac mini (2018).

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Preamble:

This Tech Note, provided as is, describes the procedure to downgrade a qualified Mac mini running macOS Catalina (10.15.x) to macOS Mojave (10.14) and will guide you through the process in few easy steps, so that you can start using our playout solutions on newer hardware from Apple that comes with macOS Catalina preinstalled.

Related Playout Solutions:

- just:play v.2.5 - 2.7
- just:live v.2.5 - 2.7
- composition:builder v.4.0

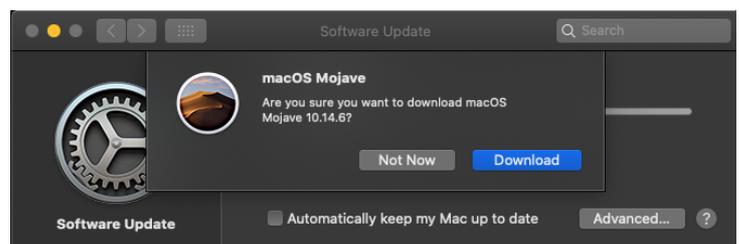
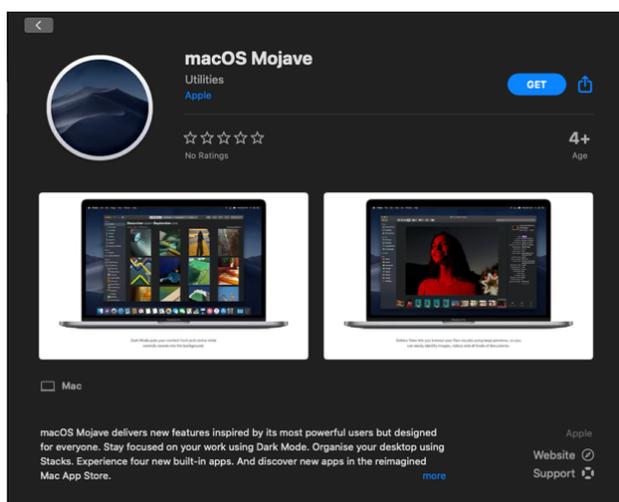
Specific Apple hardware discussed in this Tech Note:

- Mac mini 2018 (Macmini8,1)

STEP 1: How to download the official macOS Mojave installer

Download an official macOS Mojave (10.14) from Apple's support site by following this link:

<https://itunes.apple.com/de/app/mac-os-mojave/id1398502828?ls=1&mt=12>

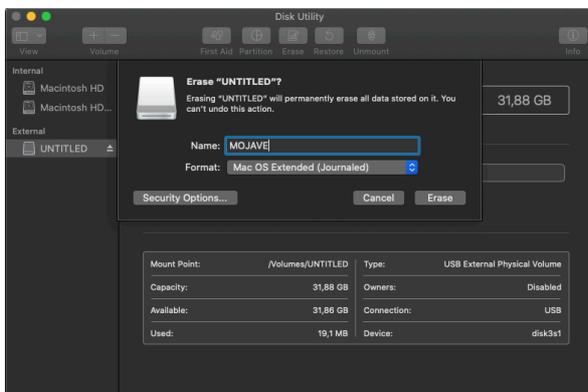


Click on "Get" to initiate the download process. The "Software Update" panel from the macOS "System Preferences" will open showing the latest version of macOS Mojave. Confirm that you want to download the software by clicking on "Download". The download might take some time depending on your internet connection. Once the download is completed, quit the macOS Mojave installer ("Applications" folder) and proceed to the next step.

STEP 2: Create a bootable installer on a memory stick

In order to create a bootable macOS Mojave installer, please follow the below instructions:

- Plug in an external drive (e.g. USD stick) with at least 8GB space (preferably 12GB) as that's how much the macOS Mojave installer will require.
- Launch **"Disk Utility"**. You can either press **Command (⌘)-Spacebar** and type **"Disk Utility"** to run the application or open it from the **"Applications/Utilities"** folder. This also applies to the **"Terminal"** app which we will need later.
- Select the applicable drive in the sidebar and once selected click on **"Erase"**. Choose **"Mac OS Extended (Journaled)"** as the Format. Your drive will be called **"Untitled"** by default, but you could give your drive a name such as **"MOJAVE"** or **"USBBOOT"**. Click again on **"Erase"**.
- Wait while **"Disk Utility"** creates the partition and sets up the drive (this might take a few minutes). Then click **"Done"** to complete the formatting process.



- Next open the **"Terminal"** application and copy the following text string (for macOS Mojave) into a new **"Terminal"** window and press the **"Enter/Return"** key:

```
sudo /Applications/Install\ macOS\ Mojave.app/Contents/Resources/createinstallmedia --volume /Volumes/MOJAVE
```

- The **"Terminal"** app will ask for your user password. After typing in your user password, press the **"Enter"** key again. The **"Terminal"** app will warn you that it is about to erase the drive. Press **"Y"** and then the **"Return"** key to continue. The process might take a while and you will see updates in the window:

```
To continue we need to erase the volume at /Volumes/MOJAVE.
If you wish to continue type (Y) then press return: Y
Erasing disk: 0%... 10%... 20%... 30%... 100%
Copying to disk: 0%... 10%... 20%... 30%... 40%... 50%... 60%... 70%... 80%... 90%... 100%
```

- When the **"Terminal"** app has finished copying the installer related files, it will display **"Install media now available at "/Volumes/Install macOS Mojave"**. Your external macOS Mojave boot drive named **"Install macOS Mojave"** is now ready to use.

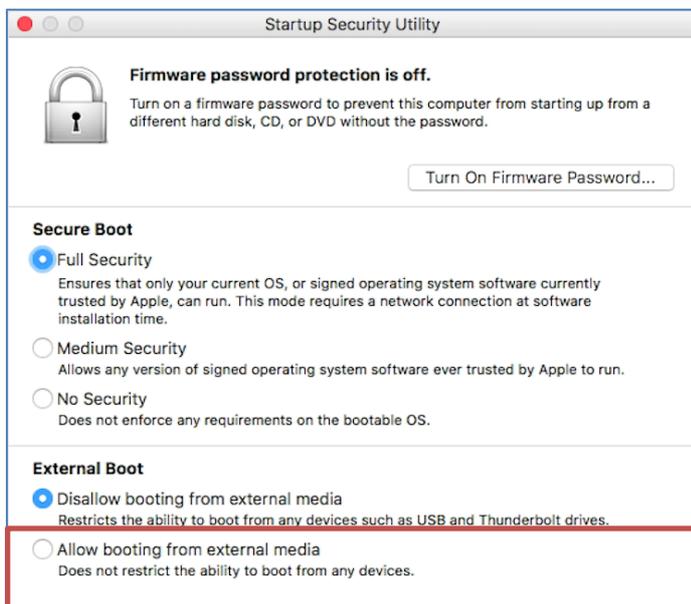
```
Making disk bootable...
Copying boot files...
Install media now available at "/Volumes/Install macOS Mojave"
user@MYMACHINE ~ %
```

Now you have the installer on the external drive, and you can use it to install your copy of macOS Mojave. Before we can proceed to the installation though, we need one more step to allow the machine to boot from an external or removable media, due to the new Secure Boot mechanisms built into newer Mac mini's that come with an Apple T2 Security Chip.

STEP 3: Allow booting from external or removable media

To ensure that booting from an external or removable media is allowed, you need to access the **"Startup Security Utility"** to set the option **"Allow booting from external or removable media"**.

- To do so, restart your Mac mini running macOS Catalina, then immediately press and hold the **"Command (⌘)-R"** keys, after you see the Apple logo, to boot into **"macOS "Recovery" mode**.
- Once in **"macOS "Recovery" mode** the **"macOS Utilities"** window will open. Next, go to the **"Utilities"** menu, choose **"Startup Security Utility"** and when you're asked, authenticate yourself with an admin account.
- In the **"Startup Security Utility"** window, click on the option **"Allow booting from external or removable media"** to make sure you can boot from an external drive or USB stick.

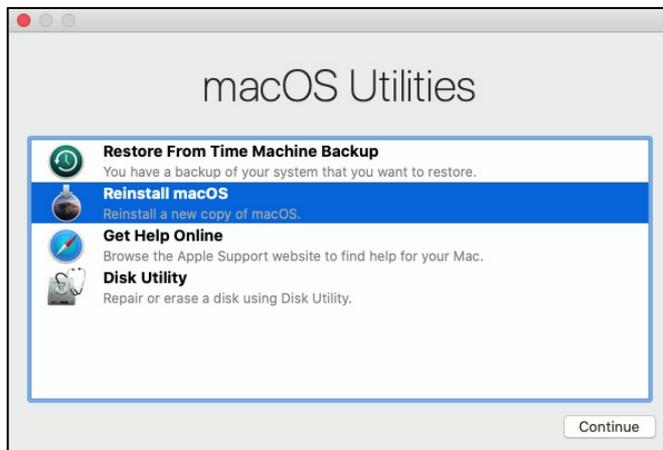


- If you want to select the external startup disk before restarting your Mac mini, quit the **"Startup Security Utility"**, then choose **"Startup Disk"** from the **"Apple ()"** menu. Alternatively, you can always press the **"Alt Key"** upon restart, to select the macOS drive to boot from.

STEP 4: Boot from external drive and install macOS Mojave

If you already chose your startup disk from the description above, then your Mac mini will reboot into “**macOS Recovery**” mode automatically. In case you haven’t, proceed with the instructions below:

- In case that you have some important data on your current startup disk, then please backup your drive before proceeding with the next steps, as we will need to completely erase the macOS Catalina drive in order to reinstall macOS Mojave!
- Plug/connect the external drive with the bootable installer into the Mac.
- From the “**Apple (⌘)**” menu select “**System Preferences**” and click “**Startup Disk**” to choose the external drive with your installer as the startup disk and click “**Restart**”. Your Mac mini will shut down and restart in “**macOS Recovery**” mode.



- From the “**macOS Utilities**” window select “**Disk Utility**” to erase your current macOS Catalina installation. Be aware that this action will completely erase your current macOS startup drive, so in case you need to save some data, backup your current installation! When done quit “**Disk Utility**”.
- You are now ready to install macOS Mojave. From the “**macOS Utilities**” window select “**Reinstall macOS**” and click on “**Continue**”. The installation process will guide you through the next steps. Please allow installation to complete without putting your Mac mini to sleep. During installation, your Mac mini might restart and show a progress bar several times, and the screen might be empty for minutes at a time.
- Once macOS Mojave has been reinstalled, proceed with the installation of ToolsOnAir’s playout application(s) as described in the user’s manuals. Please find the corresponding link: <https://bit.ly/2WVgjmt>

We’d love to hear your feedback and hope that these easy steps will bring the expected benefit to your installation. Please don’t hesitate to contact us in case you need assistance with the described process.

Best regards,
The ToolsOnAir Team