jamf

Use Jamf Self Service
to upgrade to
macOS Mojave

HCS
TECHNOLOGY GROUP

Project Technology & Best Practice Recommendations

Overview

The purpose of this document is to supply guidance and best practice solutions to facilitate the successful silent in-place upgrade of Mac computers to macOS Mojave 10.14. This workflow is for organizations that have Jamf Pro and allows users to open Self Service and upgrade with one click. The workflow takes advantage of the "startosinstall" command in the "Install macOS Mojave" app.

What is a silent, in-place upgrade?

A silent, in-place upgrade is a method of upgrading a Mac computer to a newer operating system with minimal user interaction with the installer app. By using the "startosinstall" command we can accomplish this using scripting tools and a solution such as Jamf Pro.

More information on macOS Mojave

https://www.apple.com/macos/mojave/

How to install macOS at your organization

https://support.apple.com/en-us/ht208020

More information on the 'startosinstall' option

https://www.jamf.com/blog/streamlining-your-macos-upgrade-process/

See startosinstall usage: "/path/to/Install macOS Mojave.app/Contents/Resources/startosinstall" —usage"

```
Terminal — -bash — 136×20
[ Nicholas McDonald's MacBook Pro:~ nicholasmcdonald$ /Applications/Install\ macOS\ Mojave.app/Contents/Resources/startosinstall --usage ]
Usage: startosinstall

Arguments
--license, prints the user license agreement only.
--agreetolicense, agree to the license you printed with --license.
--rebootdelay, how long to delay the reboot at the end of preparing. This delay is in seconds and has a maximum of 300 (5 minutes).
--pidtosignal, Specify a PID to which to send SIGUSR1 upon completion of the prepare phase. To bypass "rebootdelay" send SIGUSR1 back to
 startosinstall.
--installpackage, the path of a package (built with productbuild(1)) to install after the OS installation is complete; this option can b
e specified multiple times.
--eraseinstall, (Requires APFS) Erase all volumes and install to a new one. Optionally specify the name of the new volume with --newvolu
mename.
--newvolumename, the name of the volume to be created with --eraseinstall.
--preservecontainer, preserves other volumes in your APFS container when using --eraseinstall.
--usage, prints this message.

Example: startosinstall
 Nicholas McDonald's MacBook Pro:~ nicholasmcdonald$
```

Create a package of the "Install macOS Mojave.app"

1.Download the Install macOS Mojave app.
- From the Apple menu, choose App Store.
- Search the App Store for macOS Mojave, or go directly to the macOS Mojave page at http://appstore.com/mac/macosmojave
- Click Download on the macOS Mojave page. The Install macOS Mojave app downloads to your Applications folder. If you already have the app, you'll see an Install button instead of a Download button.
- After the download is complete, Install macOS Mojave automatically opens. Press Command-Q to quit.
- Note: As best practice always obtain the latest version of the Install macOS Mojave.app.
2. Open the Applications folder.
3. Open Composer.
   Note: If you haven't already used Composer, it defaults to opening a New & Modified Snapshot. If you see the "Choose a method to create your package" pane, Click Cancel.

Use Jamf Self Service to upgrade to macOS Mojave
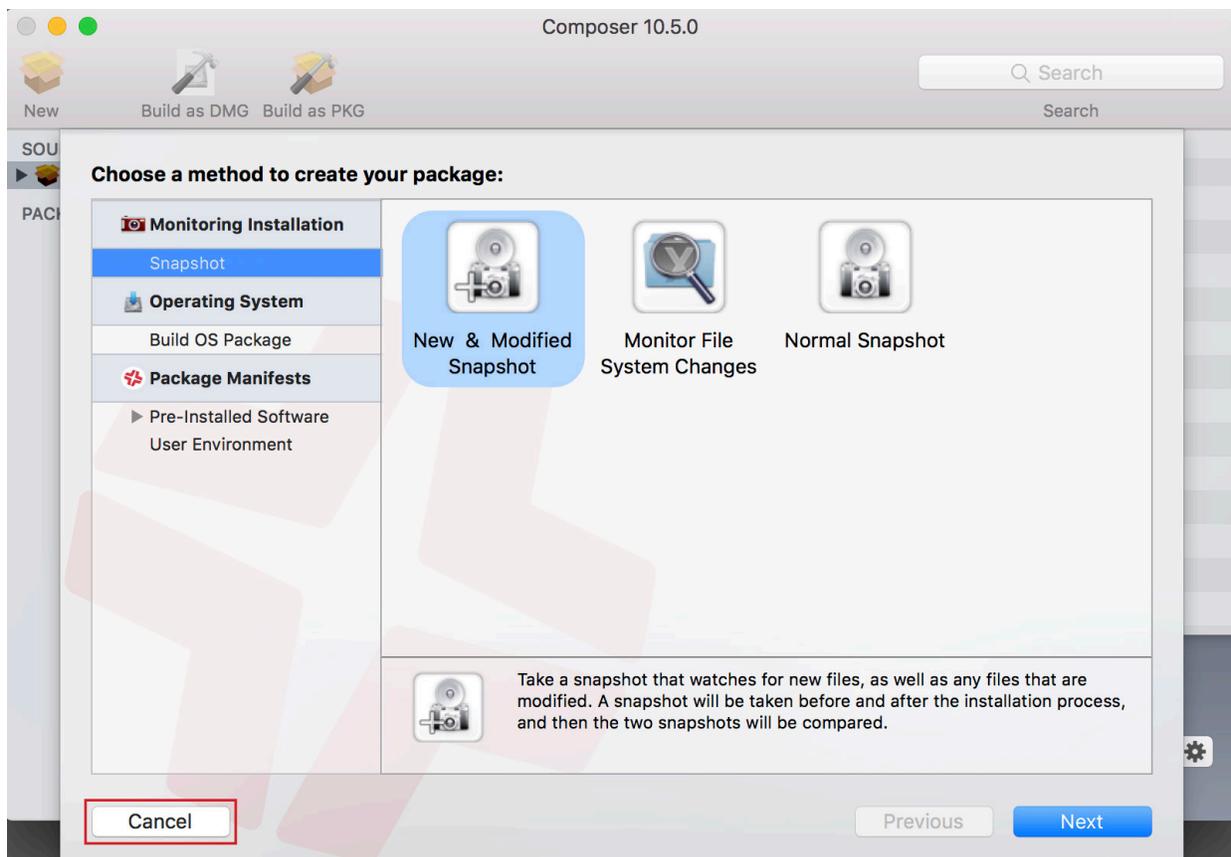
4. Drag the Install macOS Mojave app from the Applications folder to the Sources section of the Composer window.
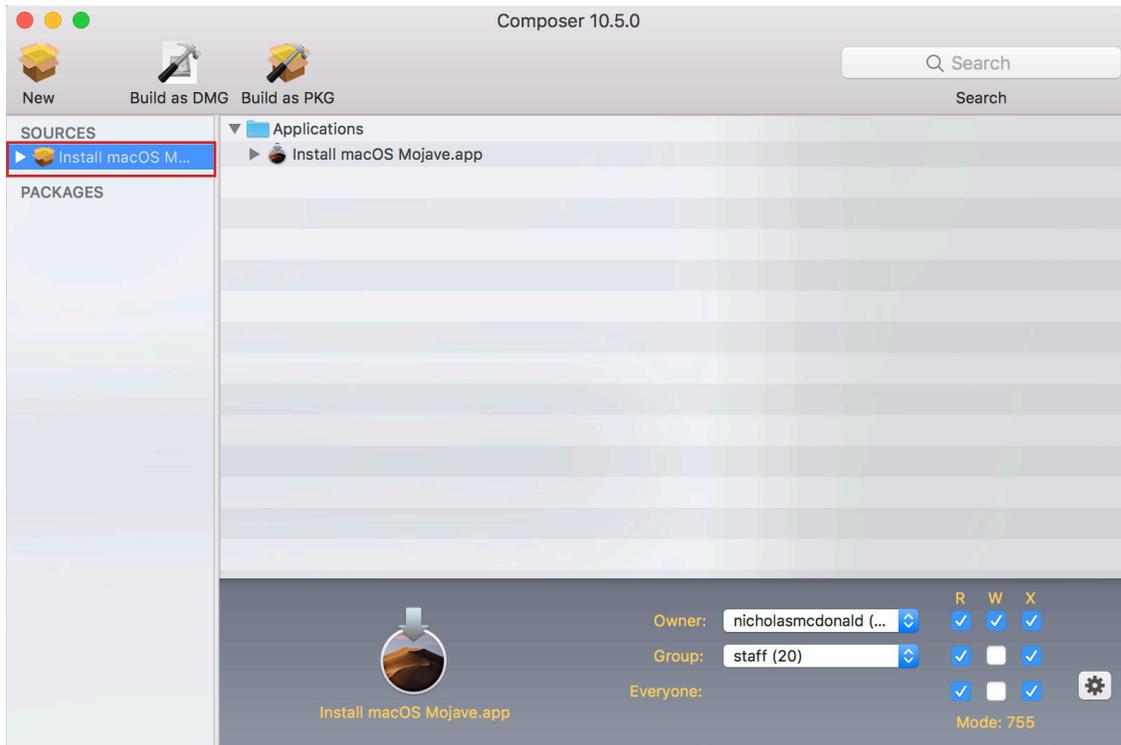
5. In the Composer toolbar click Build as PKG.
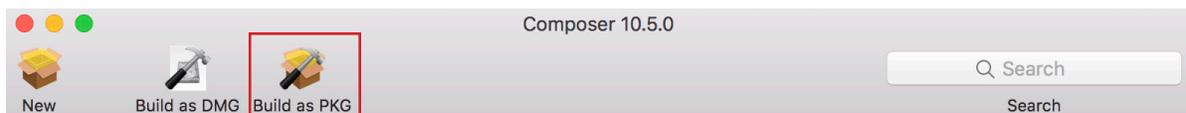
6. Save to the Desktop.

Upload Install macOS Mojave.pkg to your Jamf Pro repository

1. Open Jamf Admin.

    a. If necessary, enter your Jamf Pro Server Address, then click Save.
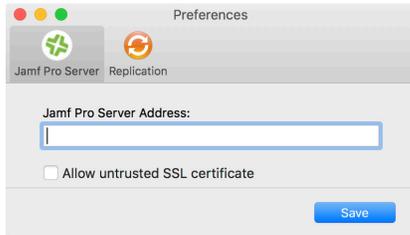
    b. Enter the user name and password for a Jamf Pro administrator account.

    c. Click OK.

2. Drag the Install macOS Mojave.pkg to the All Items Repository section of the Jamf Admin window.

    Note: This will take a few minutes based on your network connection.
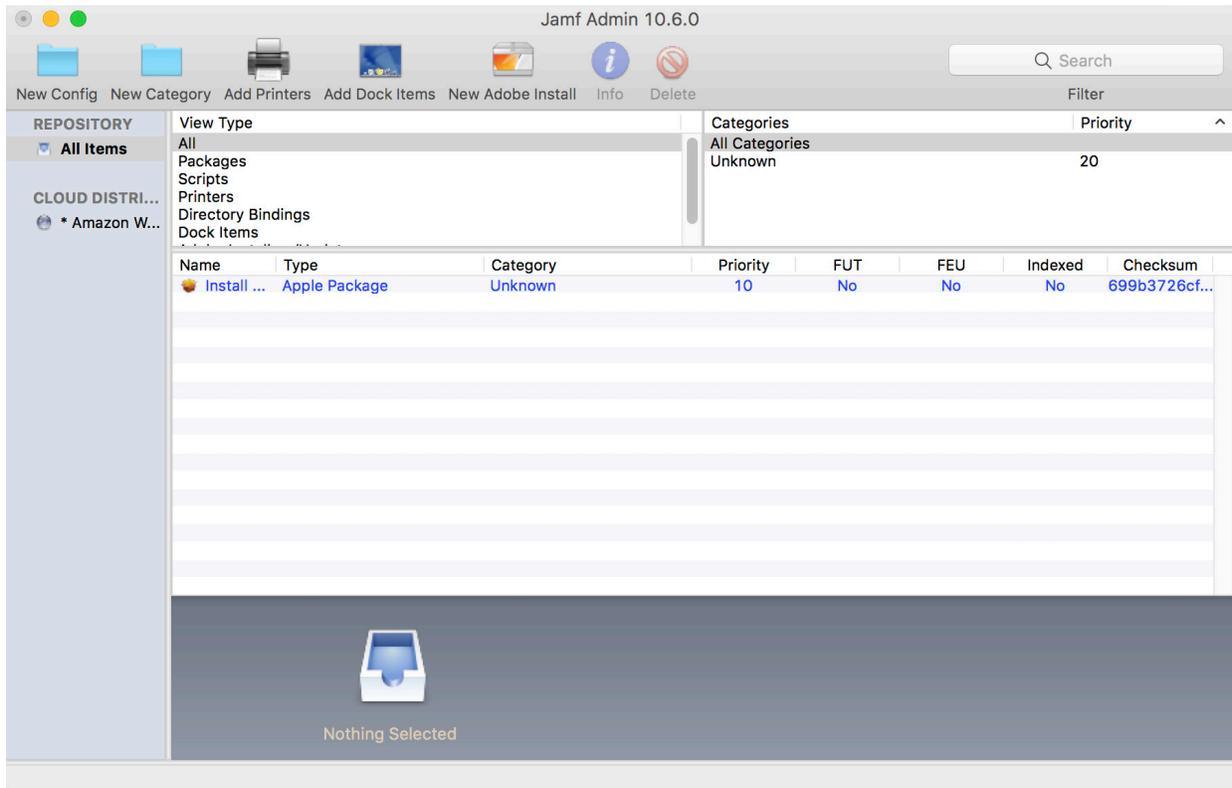
Upload and configure the install macOS Mojave script in Jamf Pro

1. Open a web browser such as Safari and navigate to https://github.com/kc9wwh/macOSUpgrade.
2. Click Clone or download, then click Download ZIP.
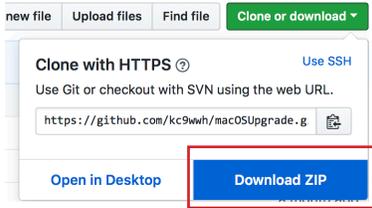
3. By default, Safari downloads the file to the Downloads folder then unzips the file. In the Downloads folder, open the macOSUpgrade-master folder.
4. Drag macOSUpgrade.sh from the Downloads folder to the All Items Repository section of the Jamf Admin window.
5. In Jamf Admin select macOSUpgrade.sh.
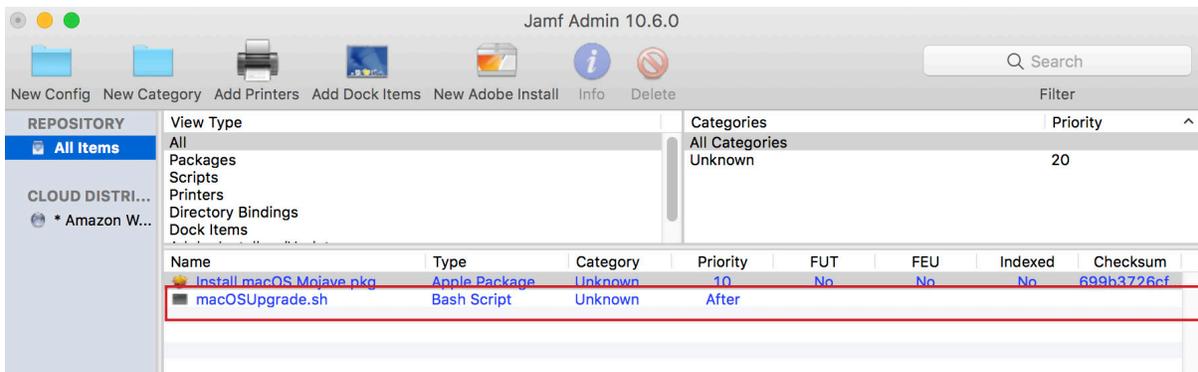
6. Click Info in the Toolbar.
7. Click General.
8. Assign an appropriate Category.
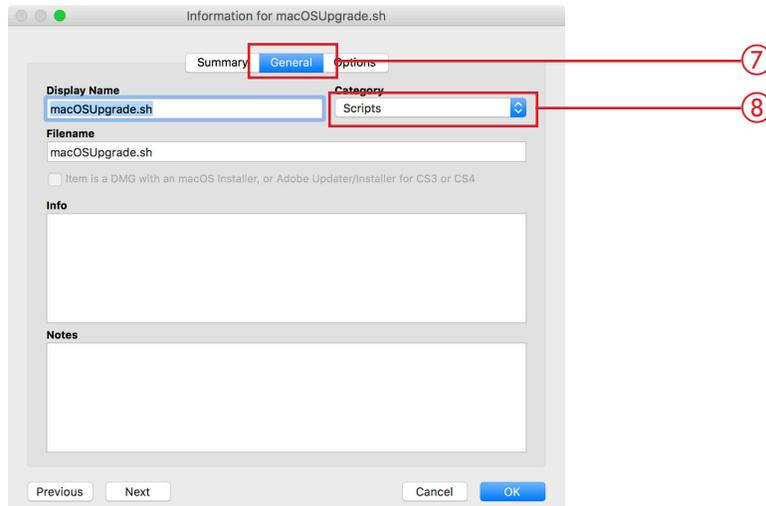
9. Click Options.

10. Click the Priority pop-up menu and choose Before.

11. In Parameter Label 4, enter the following: The path to the Install macOS Mojave app.

12. In Parameter Label 5, enter the following: Version of the Install macOS Mojave app you wish to use.

13. In Parameter Label 6, enter the following: Custom policy trigger to download macOS.
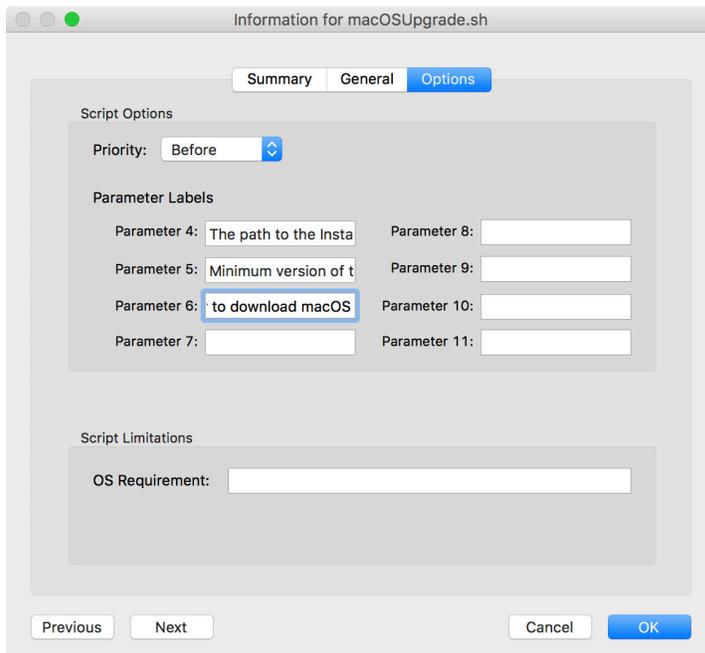
14. Click OK.

15. From the File menu choose Save.

16. If you have multiple distribution points, click Replicate.

7
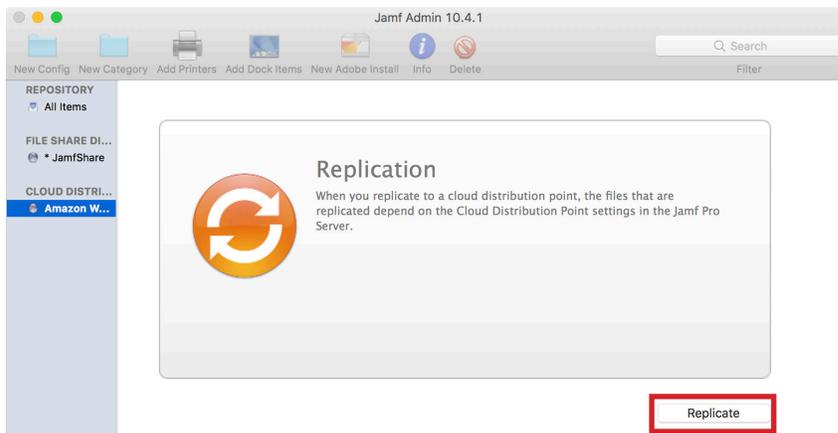
Create a Jamf Pro policy to download the Install macOS Mojave app

1. Use a web browser to open your Jamf Pro management window.
2. Click Computers, and then click Policies.
3. Click New to create a new policy.
4. In the Display Name field enter a descriptive name such as "Download Mojave".
5. In the Trigger section, select the checkbox Custom.
6. In the Custom event field, Enter download-mojave
7. Click the Execution Frequency pop-up menu and choose Ongoing.

DISPLAY NAME Display name for the policy

Download Mojave

☑ Enabled

SITE Site to add the policy to

None ▼

CATEGORY Category to add the policy to

OS ▼

Trigger Event(s) to use to initiate the policy

☐ **Startup**
When a computer starts up. A startup script that checks for policies must be configured in Jamf Pro for this to work

☐ **Login**
When a user logs in to a computer. A login hook that checks for policies must be configured in Jamf Pro for this to work

☐ **Logout**
When a user logs out of a computer. A logout hook that checks for policies must be configured in Jamf Pro for this to work

☐ **Network State Change**
When a computer's network state changes (e.g., when the network connection changes, when the computer name changes, when the IP address changes)

☐ **Enrollment Complete**
Immediately after a computer completes the enrollment process

☐ **Recurring Check-in**
At the recurring check-in frequency configured in Jamf Pro

☑ **Custom**
At a custom event

⑤

CUSTOM EVENT Custom event to use to initiate the policy. For an iBeacon region change event, use "beaconStateChange"

download-mojave

EXECUTION FREQUENCY Frequency at which to run the policy

⑥

Ongoing ▼

8. Navigate to the Packages section of the policy.
9. Click Configure.
10. Next to Install macOS Mojave.pkg, click Add.
11. Click Scope.
12. Click the Target Computers pop-up menu and choose All Computers.
13. Click Save.

Note: When the policy which you will create next runs the installation script, if a current version of the Install macOS Mojave app is not already in the Applications folder, then the installation script uses the custom trigger to call this policy. In step 7 below, ensure that you specify the exact trigger name from step 6 above, otherwise the installation script will not trigger the policy that downloads the Install macOS Mojave app.

Create a Jamf Pro policy to install macOS Mojave with Self Service

1. In Jamf Pro click Computers, then click Policies.

2. Click New to create a new policy.

3. In the Display Name field enter a descriptive name such as "Upgrade to macOS Mojave".

4. Do not select a trigger as the policy will be made avaliable through Self Service.

5. Click the Execution Frequency pop-up menu and choose Ongoing.

General

DISPLAY NAME Display name for the policy

Upgrade to macOS Mojave

☑ Enabled

SITE Site to add the policy to

None ▾

CATEGORY Category to add the policy to

OS ▾

Trigger Event(s) to use to initiate the policy

☐ **Startup**
When a computer starts up. A startup script that checks for policies must be configured in Jamf Pro for this to work

☐ **Login**
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☐ **Enrollment Complete**
Immediately after a computer completes the enrollment process

☐ **Recurring Check-in**
At the recurring check-in frequency configured in Jamf Pro

☐ **Custom**
At a custom event

EXECUTION FREQUENCY Frequency at which to run the policy

Ongoing ▾

☐ **Make Available Offline**
Cache the policy to ensure it runs when Jamf Pro is unavailable

6. Click Scripts. Click Configure. Next to the macOSUpgrade.sh script you recently uploaded, click Add.

7. Complete labeled parameters with the appropriate values:

- Install macOS Mojave app path: Enter the path the script should use for the installer application; if you have followed this guide enter "/Applications/Install macOS Mojave.app".
- macOS version supported: Enter the exact version of the "Install macOS Mojave.app" that the script will check for to determine if a download is needed. I.E. 10.14
- Custom Policy trigger to download macOS: Enter the custom policy trigger that you entered in the policy to download the installer app. The script triggers the custom policy only if the Mac does not already have the Install macOS Mojave app downloaded. If you have followed this guide the trigger is "download-mojave-install".

Scripts

macOSUpgrade.sh   ⊗   ⊕

PRIORITY   Priority to use for running the script in relation to other actions

Before ▾

Parameter Values
Values for script parameters. Parameters 1–3 are predefined as mount point, computer name, and username

THE PATH TO INSTALL MACOS HIGH SIERRA.AP

/Applications/Install macOS Mojave.app

MINIMUM VERSION OF THE INSTALL MACOS HIG

10.14.2

CUSTOM POLICY TRIGGER TO DOWNLOAD MACOS

download-mojave

11. Click Scope.

12. Click the Target Computers pop-up menu and choose "All Computers" or a smart group of devices not on Mojave.

13. Click Self-Service.

14. Select "Make the policy available in Self Service."

15. In the Self Service Display Name field, enter Upgrade.

16. In the Description field, enter a relevant description for your organization. An example follows:

> macOS Mojave is a critical upgrade. The Technology Department recommends that you install this to keep your Mac on the latest version of the Mac operating system. Should you have any questions about this upgrade please contact the Technology Department directly.
>
> *** PLEASE CLOSE ALL APPLICATIONS BEFORE UPGRADING ***
>
> Important: This process will take ~ 45 minutes, depending on network speed and your Mac needs to be connected to power.

17. Select a category to display this policy in; if you do not select a category your policy will not be available in Self Service.

18. Once you have set all options set, save your policy.