



Use Jamf Self Service
to upgrade to
macOS High Sierra





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 High Sierra 10.13. This workflow for organizations that have Jamf Pro allows users to open Self Service and upgrade with one click. The workflow takes advantage of the “startosinstall” command in the “Install macOS High Sierra” 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 High Sierra

<https://www.apple.com/macos/high-sierra/>

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 High Sierra.app/Contents/Resources/startosinstall” —usage”

```
Craig-A-Rama:~ ccohen$ /Applications/Install\ macOS\ High\ Sierra.app/Contents/Resources/startosinstall --usage
Usage: startosinstall

Arguments
--applicationpath, a path to copy of the OS installer application to start the install with.
--license, prints the user license agreement only.
--agree to license, agree to license 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).
--pidtsignal, Specify a PID to which to send SIGUSR1 upon completion of the prepare phase. To bypass "rebootdelay" sen
d SIGUSR1 back to startosinstall.
--converttoapfs, specify either YES or NO on if you wish to convert to APFS.
--installpackage, the path of a package (built with productbuild(1)) to install after the OS installation is complete;
this option can be specified multiple times.
--eraseinstall, Erase all volumes and install to a new one. Optionally specify the name of the new volume with --newvol
umename.
--newvolumename, the name of the volume to be created with --eraseinstall.
--usage, prints this message.

Example: startosinstall --converttoapfs YES
Craig-A-Rama:~ ccohen$
```



Create a package of the “Install macOS High Sierra.app”

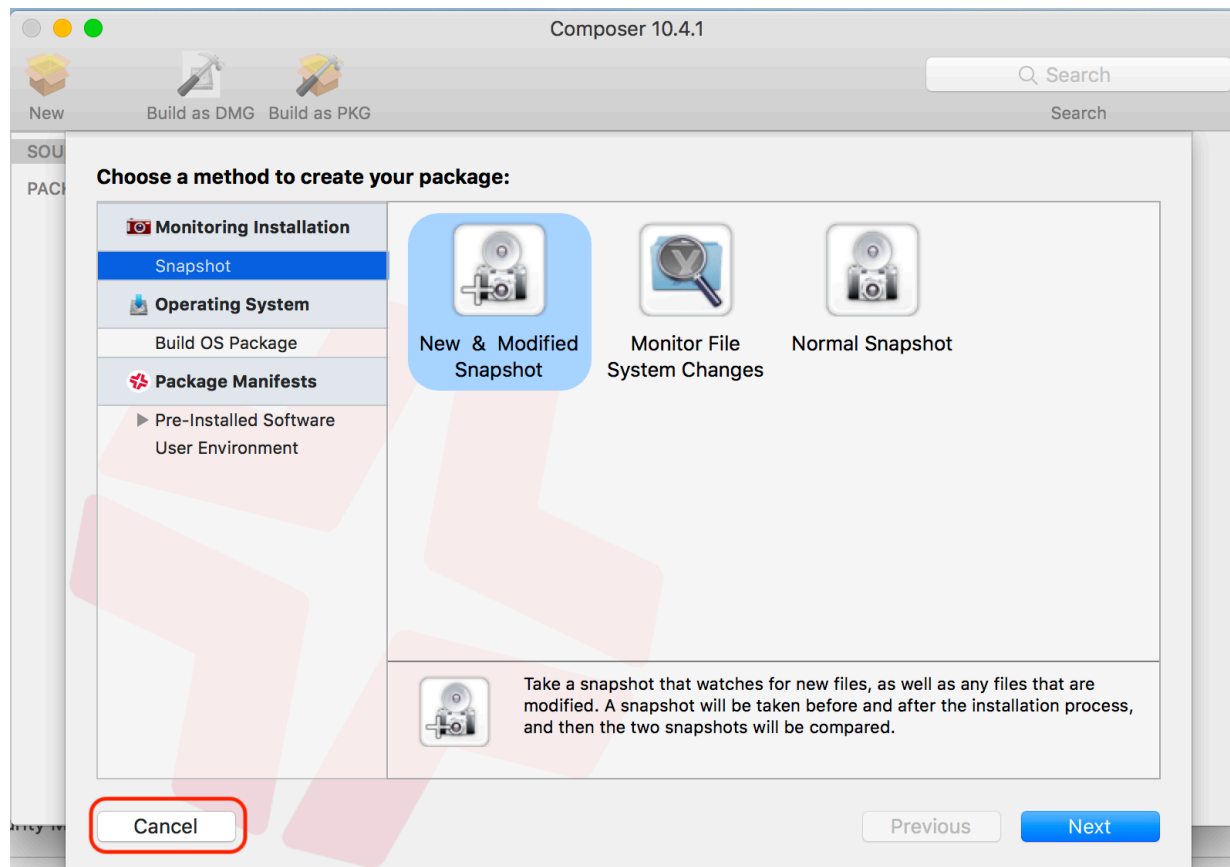
1. Download the Install macOS High Sierra app.

- From the Apple menu, choose App Store.
- Search the App Store for macOS High Sierra, or go directly to the macOS High Sierra page at <http://appstore.com/mac/macoshighsierra>.
- Click Download on the macOS High Sierra page. The Install macOS High Sierra 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 High Sierra automatically opens. Press Command-Q to quit.
- Note: As best practice always obtain the latest version of the Install macOS High Sierra.app.

2. Open the Applications folder.

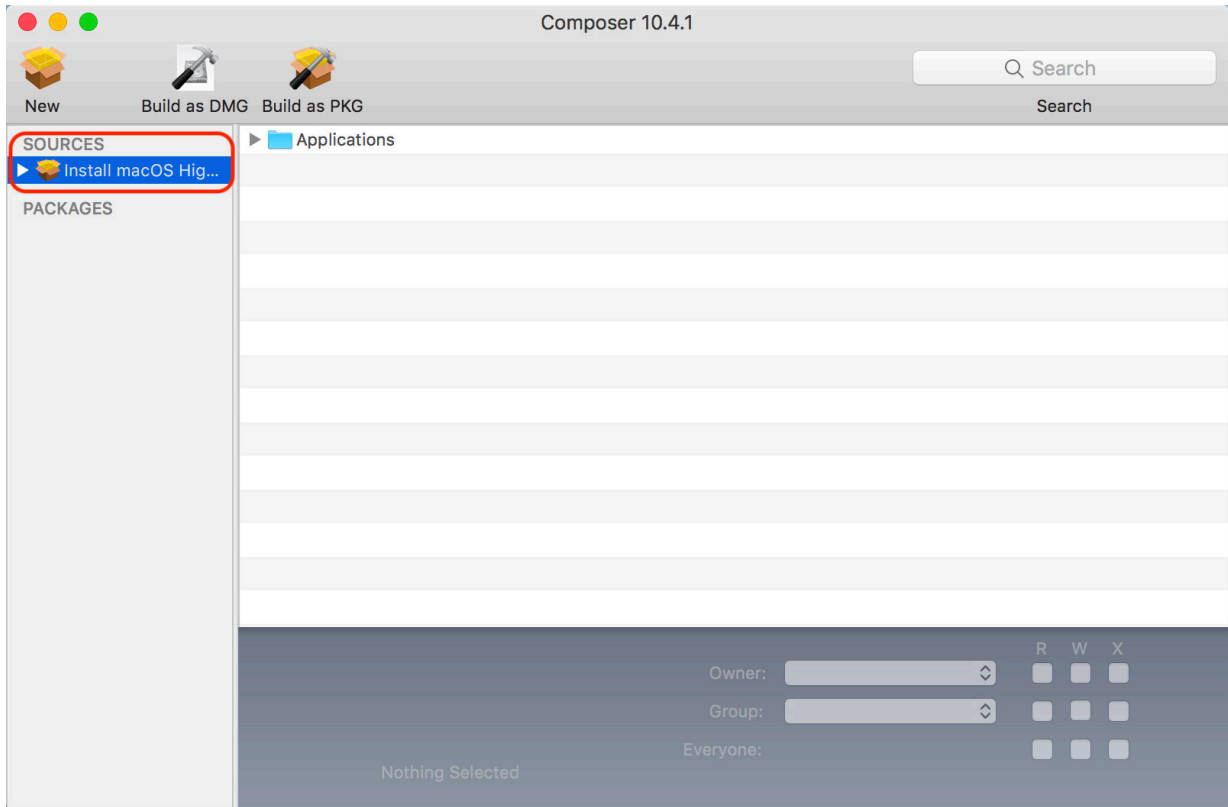
3. Open Composer.

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.





4. Drag the Install macOS High Sierra app from the Applications folder to the Sources section of the Composer window.



5. In the Composer toolbar click Build as PKG.

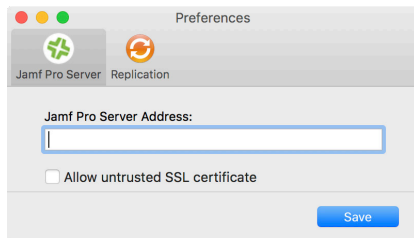


6. Save to the Desktop.



Upload Install macOS High Sierra.pkg to your Jamf Pro repository

1. Open Jamf Admin.
 - a. If necessary, enter your Jamf Pro Server Address, then click Save.



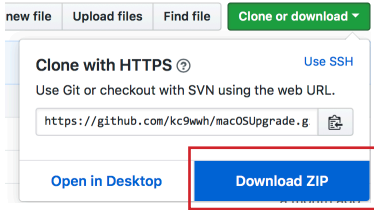
- b. Enter the user name and password for a Jamf Pro administrator account.
 - c. Click OK.
2. Drag the Install macOS High Sierra.pkg to the All Items Repository section of the Jamf Admin window.

Note: This will take a few minutes based on your network connection.

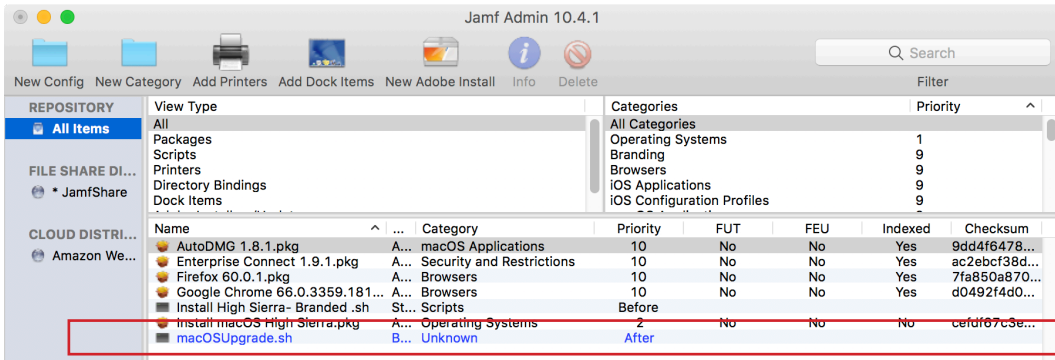


Upload and configure the install macOS High Sierra script in Jamf Pro

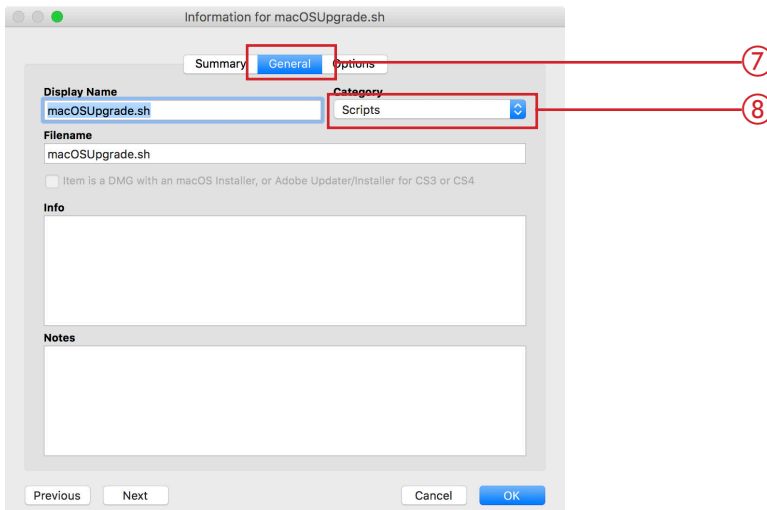
1. Open a web browser such as Safari and navigate to <https://github.com/kc9wwh/macOSUpgrade>.
2. Click Clone or download, then click Download ZIP.



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.

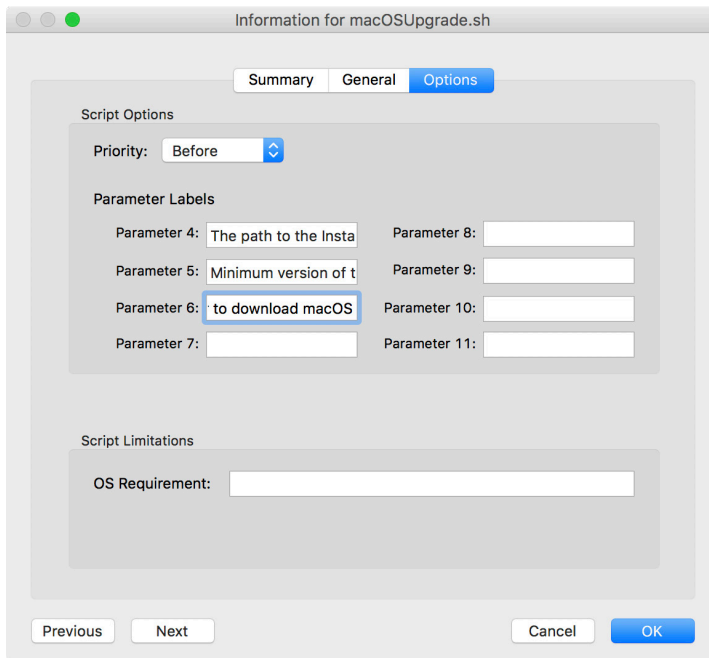


6. Click Info in the Toolbar.
7. Click General.
8. Assign an appropriate Category.

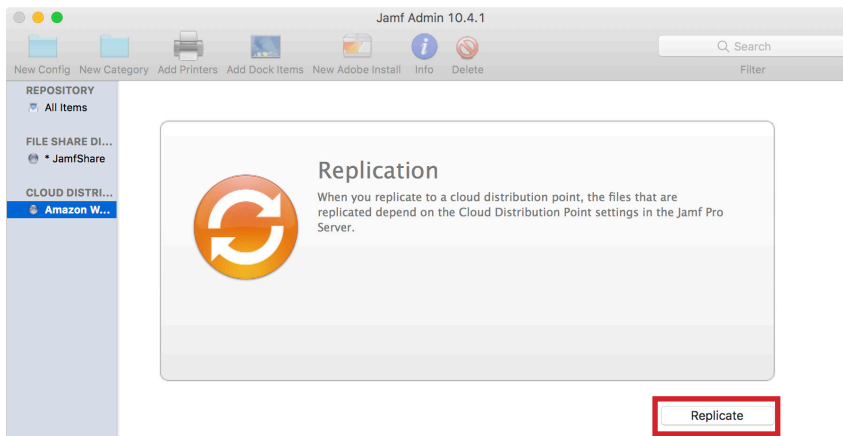




9. Click Options.
10. Click the Priority pop-up menu and choose Before.
11. In Parameter Label 4, enter the following: The path to the Install macOS High Sierra app.
12. In Parameter Label 5, enter the following: Minimum version of the Install macOS High Sierra app supported.
13. In Parameter Label 6, 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.





Create a Jamf Pro policy to download the Install macOS High Sierra 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 the Install macOS High Sierra app”.
5. In the Trigger section, select the checkbox Custom.
6. In the Custom Event field enter a trigger name such as “download-hs-install”.
7. Click the Execution Frequency pop-up menu and choose Ongoing.

General

DISPLAY NAME Display name for the policy

Download the Install macOS High Sierra app

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

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

download-hs-install

EXECUTION FREQUENCY Frequency at which to run the policy

Ongoing

8. Navigate to the Packages section of the policy.
9. Click Configure.
10. Next to Install macOS High Sierra.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 High Sierra 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 High Sierra app.



Create a Jamf Pro policy to install macOS High Sierra 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 “Install macOS High Sierra”.
4. In the Trigger section leave all the checkboxes unselected, because this policy will be triggered only with Self Service.
5. Click the Execution Frequency pop-up menu and choose Ongoing.

General

DISPLAY NAME Display name for the policy

Upgrade to macOS High Sierra

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

EXECUTION FREQUENCY Frequency at which to run the policy

Ongoing

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 High Sierra.app path: Enter path of where the script should look for the installer application; if you have followed this guide enter “/Applications/Install macOS High Sierra.app”.
 - Minimum macOS version supported: Enter the minimum version of macOS that the script will install. This script has only been tested up to 10.13.5.
 - 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 this only if the Mac does not already have the Install macOS High Sierra app downloaded. If you have followed this guide the trigger is “download-hs-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 High Sierra.app

MINIMUM VERSION OF THE INSTALL MACOS HIG
10.13.5

CUSTOM POLICY TRIGGER TO DOWNLOAD MACOS
download-hs-install

11. Click Scope.
12. Click the Target Computers pop-up menu and choose All Computers.
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 High Sierra is 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 about an hour 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.

The script will notify the user if their device and macOS version are not supported (as we set the minimum version inside of the scripts parameters).



Support For Your Apple Solution

Next Steps

This document contains important information about obtaining support for your Apple solution. To ensure the ongoing success of your deployment, APS suggests becoming familiar with these resources, and sharing them with your teachers and staff. Contact your Apple Sales team if you have any questions about these resources.

Successful Adoption of Your Apple Solution

Teachers and staff may want additional information about utilizing Apple products in education. We recommend sharing the Apple in Education resources web site, where your faculty can learn about iPad and Mac features, Apple's commitments to Special Education, and hear real stories from other educators about using Apple products to enhance education.

Visit <http://www.apple.com/education/>.

Continued Success of Your Apple Solution

Continued success of your Apple solution requires having the right support and resources available when you need them. In addition to the coaching and mentoring during your APS engagement, these resources will help you continue to maintain and grow your Apple solution.

- IT Resources
<http://www.apple.com/education/it/>
- Training and Certification
<http://training.apple.com>

AppleCare

Because Apple makes the hardware, the operating system, and many applications, Apple products are truly integrated systems. And only AppleCare products give you one-stop service and support from Apple experts, so most issues can be resolved in a single call.

- Contact AppleCare online
<http://www.apple.com/support/contact/>
- Call AppleCare support for education
1-800-800-APPL (2775)
- AppleCare OS Support
<http://www.apple.com/support/professional/it-departments/>
- iPad support
<http://www.apple.com/support/ipad/>
- Mac Support
<http://www.apple.com/support/mac/>
- Volume Purchase Program support for Education
<https://www.apple.com/support/itunes/vpp-edu/>