


Deploying OS X v10.7 or Later with the Casper Suite

Technical Paper
11 November 2013



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Introduction

What's in This Guide

This guide provides step-by-step instructions on how to deploy OS X v10.7 or later with the Casper Suite.

Additional Resources

For more information on Casper Suite-related topics, see the *Casper Suite Administrator's Guide*, available at:

<http://jamfsoftware.com/product-documentation/administrators-guides>

Overview

This guide provides workflows for two different OS X deployment scenarios:

- **Deploying an OS X upgrade**—This should be used for upgrading OS X on computers that are already configured in your environment. It allows you to preserve the settings and files on computers. For instructions, see [Deploying an OS X Upgrade](#).
- **Deploying OS X by imaging**— This should be used for configuring newly purchased computers or re-purposing computers that are already part of your environment. It gives you complete control over the settings and files on computers. For instructions, see [Deploying OS X by Imaging](#).

Deploying an OS X Upgrade

Deploying OS X v10.7 or later as an upgrade involves the following steps:

1. Add the .app file for OS X to Casper Admin.
2. Cache the InstallESD.dmg file using a policy.
3. Create a smart computer group.
4. Create a Self Service policy for upgrading OS X.

Requirements

- The JSS v9.21 or later

Note: If you are using the JSS v8.3-9.1, see the following Knowledge Base article for instructions on deploying an OS X upgrade:

[Deploying OS X v10.7 or Later](#)

- Casper Admin
- The .app file for the version of OS X that you plan to deploy (For example, Install OS X Mountain Lion.app.)

You can obtain the latest .app file for OS X from the Mac App Store.

- Managed computers with Self Service and the system requirements for the version of OS X that you plan to deploy.

For system requirements, see the following Knowledge Base articles from Apple:

- OS X v10.7: <http://support.apple.com/kb/HT4949>
- OS X v10.8: <http://support.apple.com/kb/HT5444>
- OS X v10.9: <http://support.apple.com/kb/HT5842>

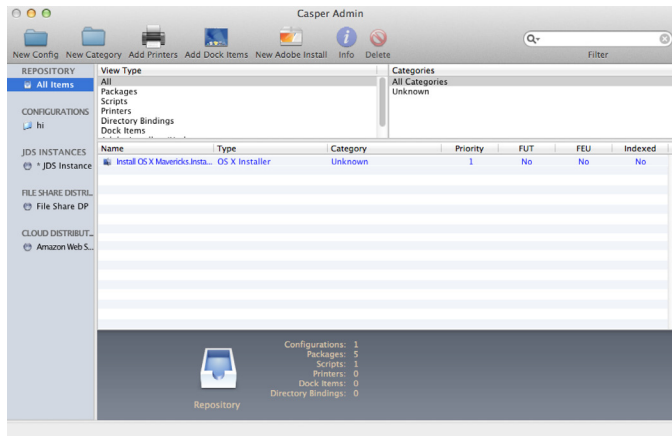
Step 1: Add the .app File for OS X to Casper Admin

Add the .app file for OS X to Casper Admin. Casper Admin extracts the `InstallESD.dmg` file from the .app file so you can cache and install it using policies.

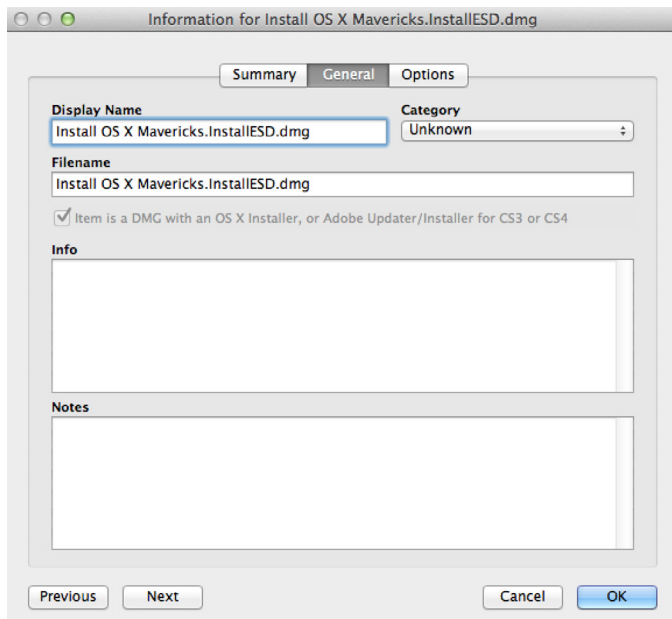
1. Open Casper Admin and authenticate to the JSS.
2. Drag the .app file to the main repository in Casper Admin.

Casper Admin extracts the `InstallESD.dmg` file, analyzes its contents, and adds it to the master distribution point and the JSS.

The `InstallESD.dmg` file is displayed in blue text until you add it to a category.




3. Double-click the package in the main repository.
4. Click the **General** tab and choose a category for the package.

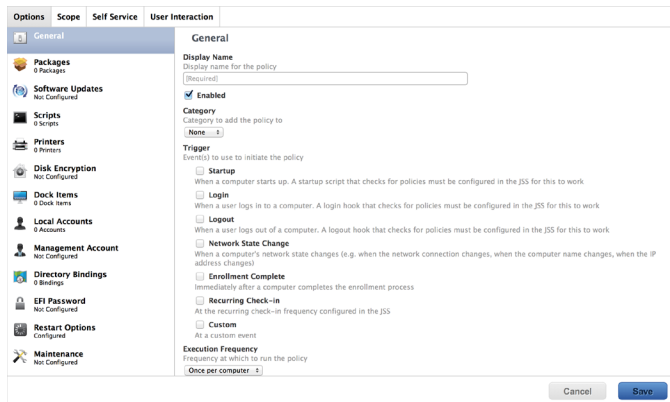


5. Click **OK**.

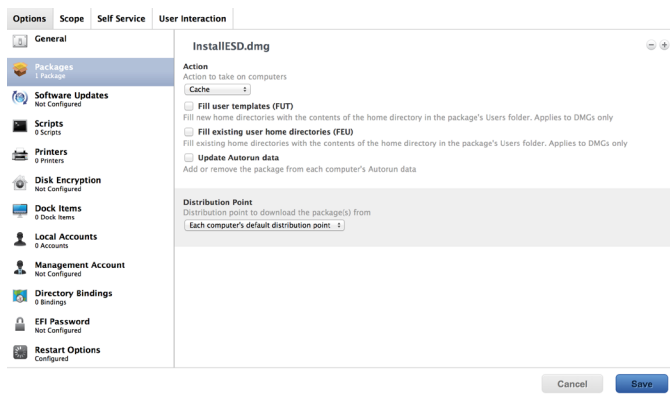
Step 2: Cache the InstallESD.dmg File

After adding the .app file to Casper Admin, you can cache the InstallESD.dmg file using a policy. Caching the file ahead of time speeds up the upgrade process.

1. Log in to the JSS with a web browser.
2. Click **Computers** at the top of the page.
3. Click **Policies**.
On a smartphone, this option is in the pop-up menu.
4. Click **New** .
5. In the General payload, enter a display name for the policy. For example, "Cache InstallESD.dmg".



6. Select **Recurring Check-in** as the trigger.
7. Choose "Once per Computer" from the **Execution Frequency** pop-up menu.
8. Select the **Packages** payload and click **Configure**.
9. Click **Add** for the **InstallESD.dmg** file.
10. Choose "Cache" from the **Action** pop-up menu.




11. Specify a distribution point for computers to download the package from.
12. Select the Maintenance payload and click **Configure**.
13. Ensure that the **Update Inventory** checkbox is selected.
14. Click the **Scope** tab and configure the scope of the policy.


15. Click **Save**.

The `InstallESD.dmg` file is cached on computers in the scope the next time they check in with the JSS and meet the criteria in the General payload.

Step 3: Create a Smart Computer Group

Create a smart group of computers with the `InstallESD.dmg` file cached. The smart group will be used as the scope of the Self Service policy for upgrading OS X.

1. Log in to the JSS with a web browser.
2. Click **Computers** at the top of the page.
3. Click **Smart Computer Groups**.
On a smartphone, this option is in the pop-up menu.
4. Click **New** .
5. On the Computer Group pane, enter a display name for the smart computer group. For example, "InstallESD.dmg Cached".

6. Click the **Criteria** tab.
7. Click **Add** .

8. Click **Choose** for “All Criteria”.
9. Click **Choose** for “Cached Packages”.
10. Choose “has” from the **Operator** pop-up menu.

And/Or	Criteria	Operator	Value
	Cached Packages	has	

11. Click **Browse** .
12. Click **Choose** for the `InstallESD.dmg` file.

Note: The `InstallESD.dmg` file is not available as a value until it has been cached on at least one computer.

13. Click **Save**.

Step 4: Create a Self Service Policy for Upgrading OS X

After caching the `InstallESD.dmg` file, you can create a Self Service policy that allows users to upgrade OS X.

1. Log in to the JSS with a web browser.
 2. Click **Computers** at the top of the page.
 3. Click **Policies**.
- On a smartphone, this option is in the pop-up menu.

4. Click **New** .
5. In the General payload, enter a display name for the policy. For example, “Upgrade OS X”.

General

Display Name
Display name for the policy
(Required)

☒ **Enabled**
Category to add the policy to
None

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 the JSS for this to work

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

☐ **Logout**
When a user logs out of a computer. A logout hook that checks for policies must be configured in the JSS 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)

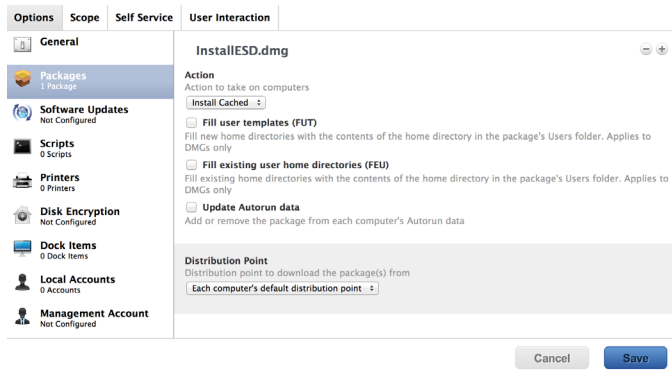
☐ **Enrollment Complete**
Immediately after a computer completes the enrollment process


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

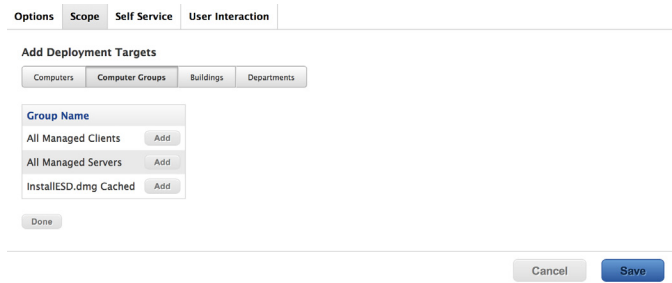
☐ **Custom**
At a custom event

Execution Frequency
Frequency at which to run the policy
Once per computer

6. Choose "Once per Computer" from the **Execution Frequency** pop-up menu.
7. Select the Packages payload and click **Configure**.
8. Click **Add** for the InstallESD.dmg file.
9. Choose "Install Cached" from the **Action** pop-up menu.



10. Click the **Scope** tab.
11. Click **Add** .
12. Click the **Computer Groups** tab.
13. Click **Add** for the smart computer group you just created.



14. Click the **Self Service** tab.

15. Select **Make the policy available in Self Service**.
16. Configure how the policy is displayed in Self Service using the settings on the pane.

Options Scope **Self Service** User Interaction

☒ **Make the policy available in Self Service**

Button Name
Name for the button that users click to initiate the policy
Install

Description
Description to display for the policy in Self Service

☐ **Ensure that users view the description**
Force users to view the description before the policy runs

Icon
Icon to display for the policy in Self Service. It is recommended that you use a file with the GIF or PNG format. The recommended size is 128x128 pixels

Upload icon

Select Existing icon

☐ Feature the policy on the main page

Categories
Categories in which to display or feature the policy in Self Service

Display in Feature in

Cancel Save

17. Click **Save**.

The policy is made available in Self Service on computers in the scope the next time they check in with the JSS and meet the criteria in the General payload. OS X is upgraded when users run the policy from Self Service.

Note: When users upgrade drives that are encrypted with FileVault, they are prompted to enter their password after reboot.

Deploying OS X by Imaging

Deploying OS X by imaging involves the following steps:


1. Prepare to image a main partition.
2. (Optional) Prepare to create or modify a “Recovery HD” partition during imaging.
3. Image computers.

Requirements

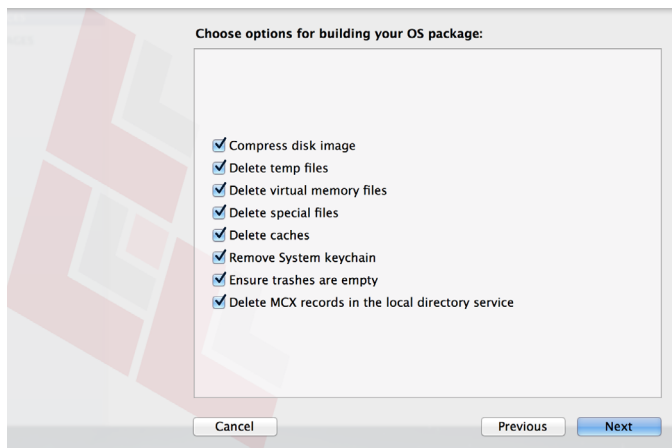
To deploy OS X by imaging, you need:

- The JSS v8.3 or later
 - A test computer with:
 - Composer
 - A “Recovery HD” partition
 - Casper Admin
 - A distribution point
 - A startup disk other than the target drive that has Casper Imaging installed
- Some common startup disks used for imaging are USB or FireWire drives, Restore partitions, and NetBoot images.

Step 1: Prepare to Image a Main Partition

1. Build an OS package:
 - a. On the test computer, install and configure the OS. For complete instructions, see the following Knowledge Base article:
[Creating a Minimal Base OS Image](#)
 - b. Open Composer and authenticate locally.
 - c. In the toolbar, click **New** .
 - d. Under the Operating System heading in the sidebar, select **Build OS Package**.
 - e. Select the drive you want to package and click **Next**.

- f. Choose options for removing unnecessary files from the package and click **Next**.

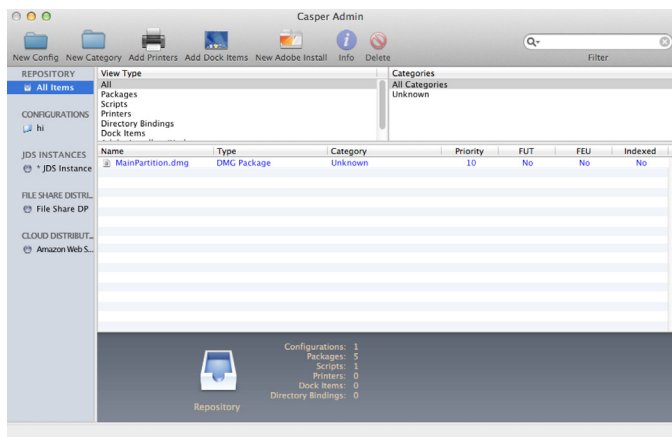


- g. Enter a package name and select a location to save the package, and then click **Build**.

2. Add the OS package to Casper Admin:

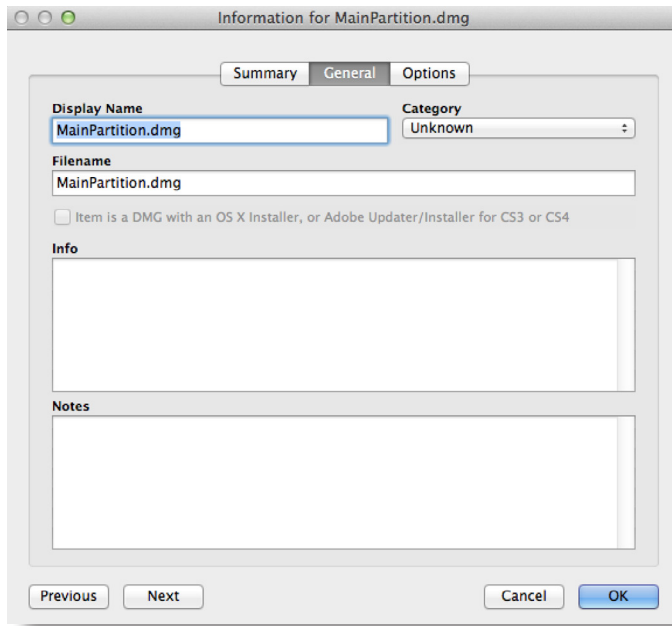
- Open Casper Admin and authenticate to the JSS.
- Drag the package to the main repository in Casper Admin.

The package is displayed in blue text until you add it to a category.

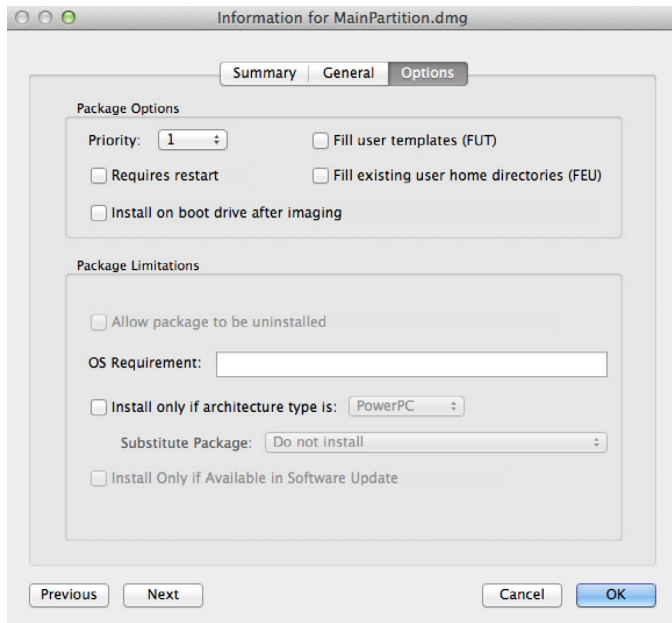



- Double-click the package in the main repository.

- d. Click the **General** tab and choose a category for the package.

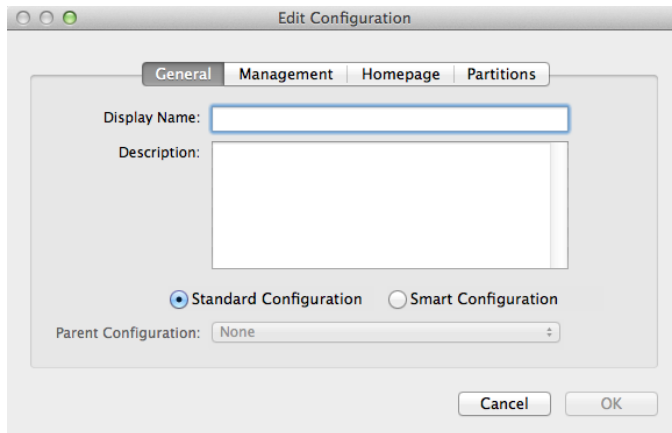


- e. Click the **Options** tab and choose a priority for the package.
The recommended priority is "1".



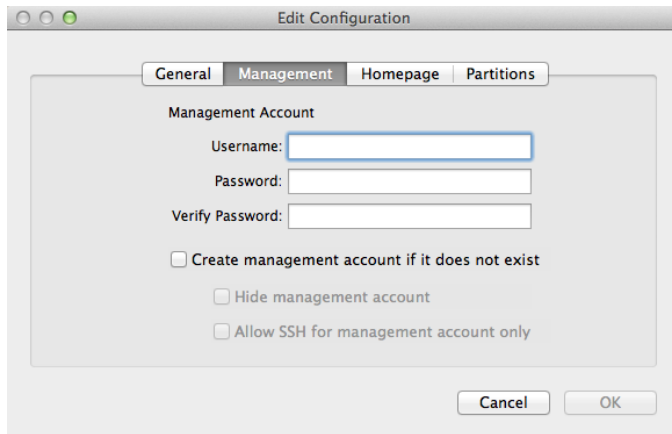
- f. Click **OK**.
3. Create a configuration:
- Open Casper Admin and authenticate to the JSS.
 - Click **New Config**  .

- c. On the General pane, enter a display name for the configuration.



The screenshot shows the 'Edit Configuration' dialog box with the 'General' tab selected. The 'Display Name' field is highlighted with a blue border. Below it is a larger 'Description' text area. At the bottom, there are two radio buttons: 'Standard Configuration' (selected) and 'Smart Configuration'. Below these is a 'Parent Configuration' dropdown menu set to 'None'. 'Cancel' and 'OK' buttons are at the bottom right.

- d. Click the **Management** tab and enter credentials for a local administrator account that you want to use for management.



The screenshot shows the 'Edit Configuration' dialog box with the 'Management' tab selected. Under the 'Management Account' section, there are three input fields: 'Username', 'Password', and 'Verify Password'. Below these are three checkboxes: 'Create management account if it does not exist' (checked), 'Hide management account', and 'Allow SSH for management account only'. 'Cancel' and 'OK' buttons are at the bottom right.


- e. Click **OK**.
The configuration is added to the list of configurations in the sidebar.
- f. Drag the OS package from the main repository to the configuration that you just created.

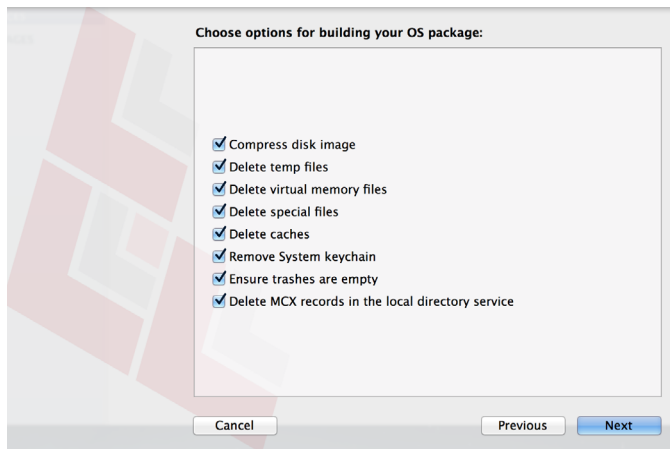
Step 2: (Optional) Prepare to Create or Modify a “Recovery HD” Partition During Imaging

As of OS X v10.7, newly purchased Macs come with a “Recovery HD” partition that can be used for recovery tasks, such as repairing disks or reinstalling OS X. Use the instructions in this section if you need to create or modify a “Recovery HD” partition during the imaging process.

Important: It is recommended that the OS X version of the “Recovery HD” partition matches the OS X version of the main partition.

1. Build an OS package:
 - a. On the test computer, mount the “Recovery HD” partition by executing:

```
sudo diskutil mount disk0s3
```
 - b. Open Composer and authenticate locally.
 - c. In the toolbar, click **New** .
 - d. Under the Operating System heading in the sidebar, select **Build OS Package**.
 - e. Select the drive you want to package and click **Next**.
 - f. Choose options for removing unnecessary files from the package and click **Next**.



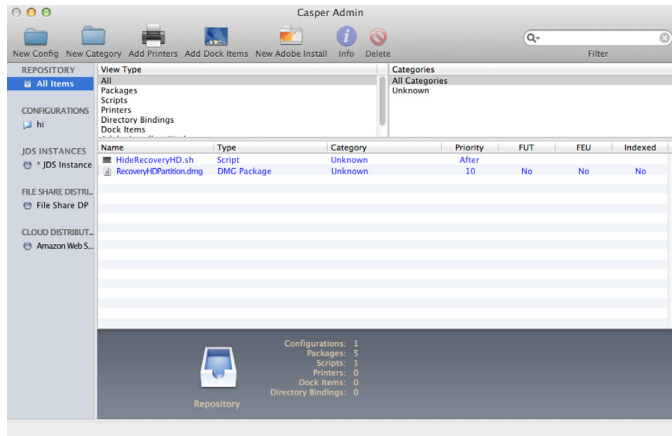
- g. Enter a package name and select a location to save the package, and then click **Build**.
2. Create a script to hide the “Recovery HD” partition:
 - a. Create a new file in a text editor.
 - b. Type the following text:

```
#!/bin/sh
/usr/sbin/diskutil unmount /dev/disk0s3
/usr/sbin/asr adjust --target /dev/disk0s3 --settype Apple_Boot
```

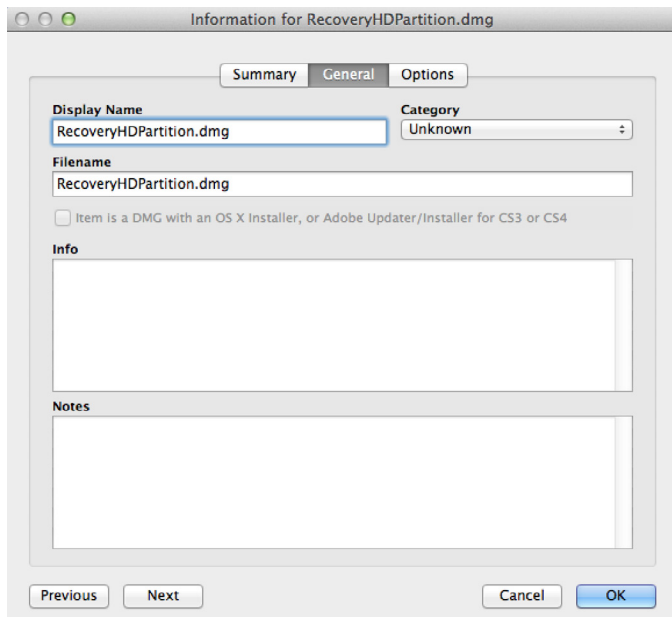
- c. Save the file with a .sh file extension. For example, “HideRecoveryHD.sh”.

3. Add the OS package and script to Casper Admin:
 - a. Open Casper Admin and authenticate to the JSS.
 - b. Drag the package and script to the main repository in Casper Admin.

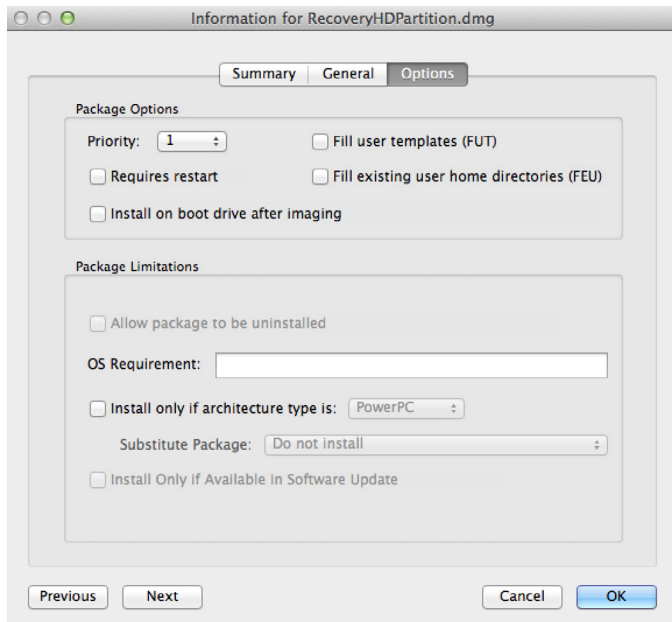
The package and script are displayed in blue text until you add them to a category.



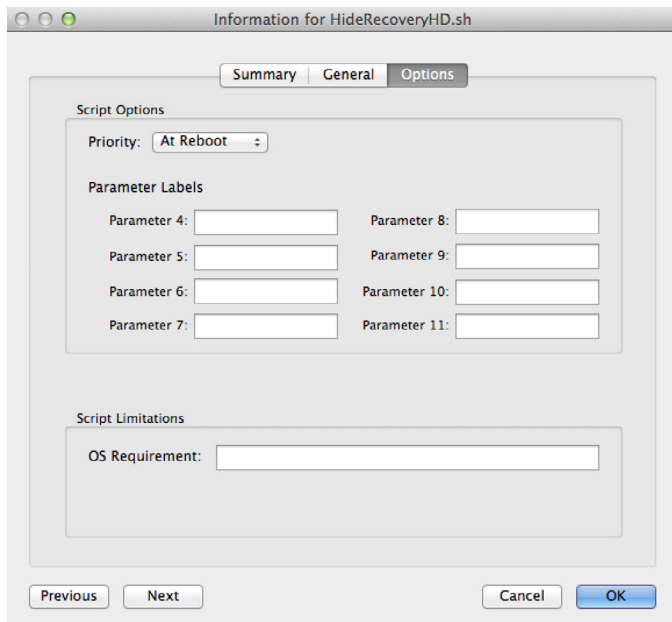
- c. Double-click the package in the main repository.
- d. Click the **General** tab and choose a category for the package.




- e. Click the **Options** tab and choose a priority for the package.
The recommended priority is “1”.

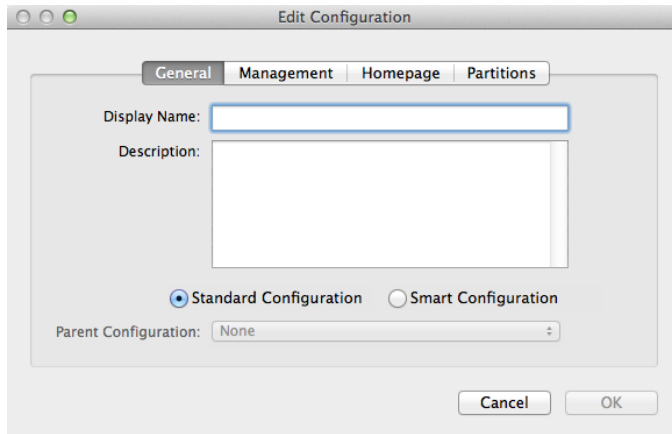


- f. Click **OK**.
g. Double-click the script in the main repository.
h. Click the **Options** tab and verify that the priority is set to “At Reboot”.



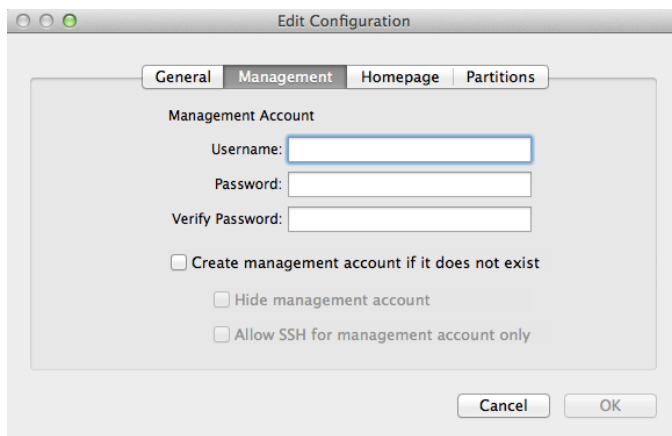
- i. Click **OK**.
4. Drag the script from the main repository to the configuration you created for the main partition.

5. Create a configuration for the “Recovery HD” partition:
 - a. Open Casper Admin and authenticate to the JSS.
 - b. Click **New Config** .
 - c. On the General pane, enter a display name for the configuration. For example, “Recovery HD”.



The screenshot shows the 'Edit Configuration' dialog box with the 'General' tab selected. The 'Display Name' field is empty and highlighted. Below it is a larger 'Description' text area. At the bottom, there are two radio buttons: 'Standard Configuration' (selected) and 'Smart Configuration'. Below these is a 'Parent Configuration' dropdown menu set to 'None'. 'Cancel' and 'OK' buttons are at the bottom right.

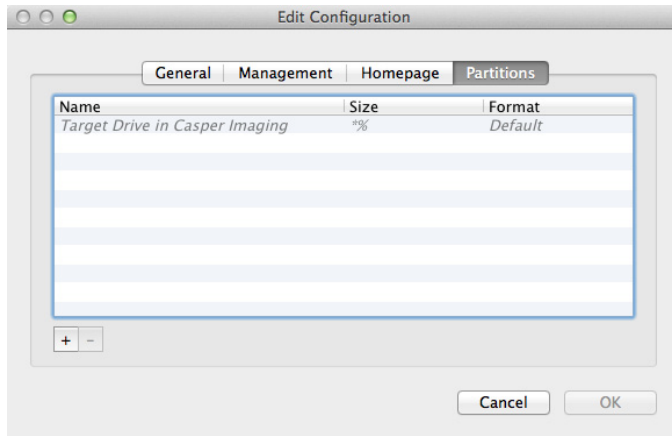
- d. Click the **Management** tab and enter credentials for a local administrator account that you want to use for management.



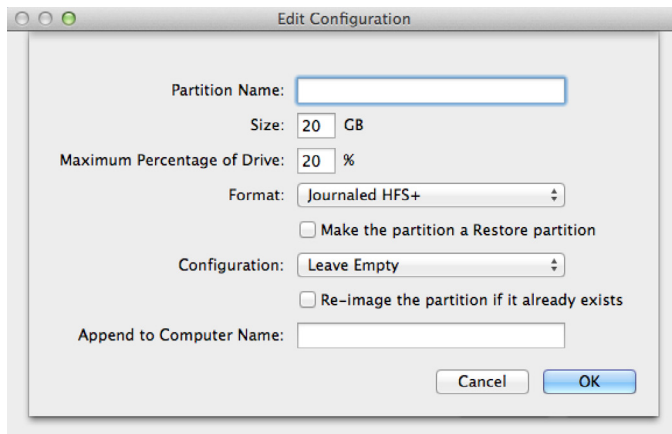
The screenshot shows the 'Edit Configuration' dialog box with the 'Management' tab selected. It contains fields for 'Username:', 'Password:', and 'Verify Password:'. Below these fields are three checkboxes: 'Create management account if it does not exist' (unchecked), 'Hide management account' (unchecked), and 'Allow SSH for management account only' (unchecked). 'Cancel' and 'OK' buttons are at the bottom right.

- e. Click **OK**.
The configuration is added to the list of configurations in the sidebar.
 - f. Drag the “Recovery HD” OS package from the main repository to the configuration that you just created.

6. Add a "Recovery HD" partition to the configuration you created in "Step 1: Preparing to Image a Main Partition":
 - a. In the list of configurations in the sidebar, double-click the configuration.
 - b. Click the **Partitions** tab.
 - c. Click **Add (+)**.



- d. Type "Recovery HD" in the **Partition Name** field.

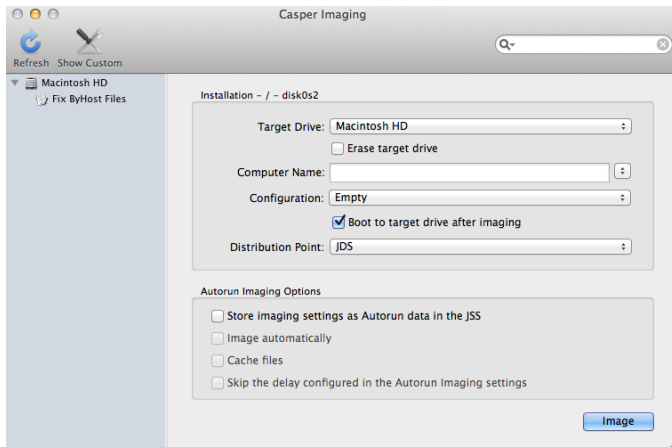


- e. Type "1" in the **Size** field.
 - f. Type "99" in the **Maximum Percentage of Drive** field.
 - g. From the **Configuration** pop-up menu, choose the configuration you just created.
 - h. If the target computers already have a "Recovery HD" partition and do not have other additional partitions, select the **Re-image the partition if it already exists** checkbox.

Note: If the target computers already have a "Recovery HD" partition *and* other additional partitions, you must remove the "Recovery HD" partition so that it can be recreated during imaging.

Step 3: Image Computers

1. On a target computer, boot to a startup disk other than the target drive.
2. Open Casper Imaging and authenticate locally.
3. Authenticate to the JSS when prompted.
4. Choose the drive to image from the **Target Drive** pop-up menu.



5. Select the **Erase target drive** checkbox.
6. Assign a name to the computer by entering a name in the **Computer Name** field.
7. From the **Configuration** pop-up menu, choose the configuration you created in "Step 1: Preparing to Image a Main Partition".
8. Select the **Boot to target drive after imaging** checkbox.
9. Choose a distribution point from the **Distribution Point** pop-up menu.
10. Click **Image**.
11. Repeat as needed for other target computers.

Revision History

Revision Date	Changes
11 November 2013	<p>"Deploying an OS X Upgrade" section:</p> <ul style="list-style-type: none">• Added a link to a Knowledge Base article from Apple that contains system requirements for OS X v10.9.• Removed the note about the known issue that prevents drives encrypted with FileVault from being upgraded from OS X v10.7 to 10.8. This issue was fixed in v9.21.• Updated procedure for adding the .app file for OS X to Casper Admin.• Added a step for selecting the Update Inventory checkbox when creating a policy to cache the <code>InstallESD.dmg</code> file. <p>"Deploying OS X by Imaging" section:</p> <p>Updated procedure for preparing to create or modify a "Recovery HD" partition during imaging.</p>