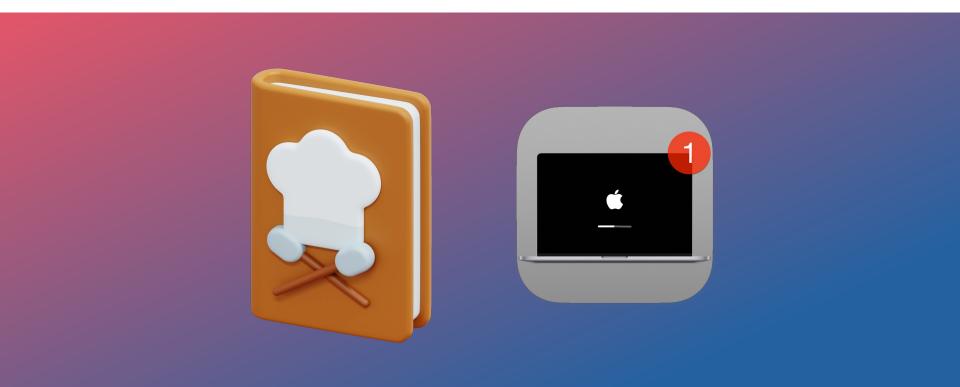
Creating Positive Update Experiences Using Nudge & Jamf

Getting Started Notes

- Assuming a knowledge of basic Jamf Pro concepts and scripting
- Nudge can be complicated, but this setup will try to minimize complexity. This setup won't work for everyone but can be a starting point

Recipe For A Good Nudge



Needs

- Configurations
- Nudge Suite & Launch Agent PKG
- Assets PKG
- Scoping Plan
- Update Plan
- Communications
- Patience

Setting This Up



Nudge Prompt Goal



Required OS Version:11.5.3Current OS Version:11.5.2Days Remaining To Update:7

Your device requires a security update

A friendly reminder from your local IT team

Your device will restart during this update
Updates can take around 30 minutes to complete

Update Device

Important Notes

A fully up-to-date device is required to ensure that IT can accurately protect your device.

If you do not update your device, you may lose access to some items necessary for your day-to-day tasks.

To begin the update, simply click on the Update Device button and follow the provided steps.

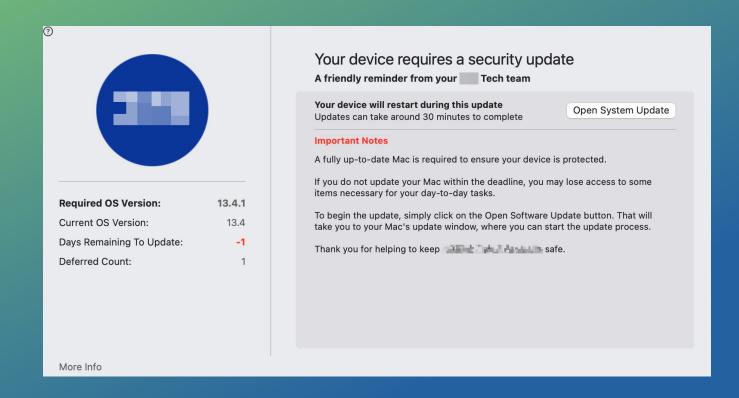


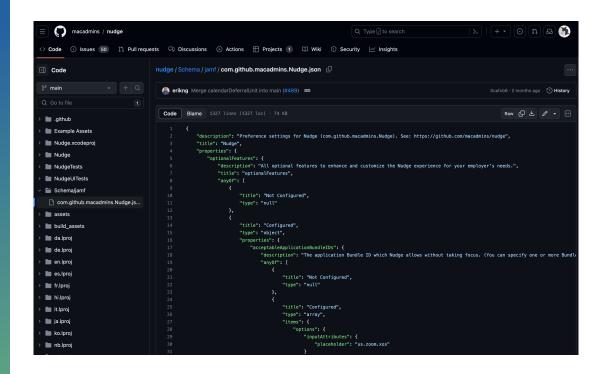
More Info

Deferred Count:

I understand

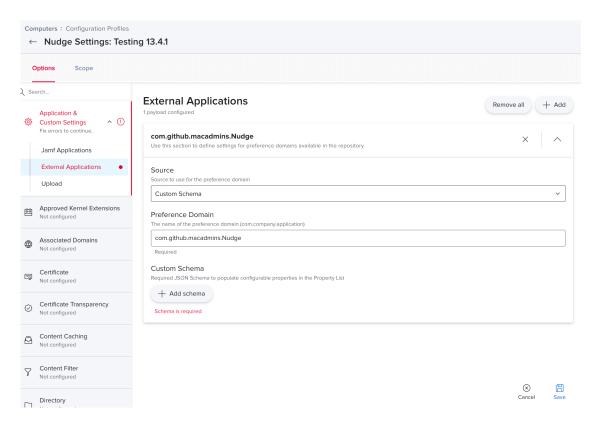
Nudge Prompt Goal

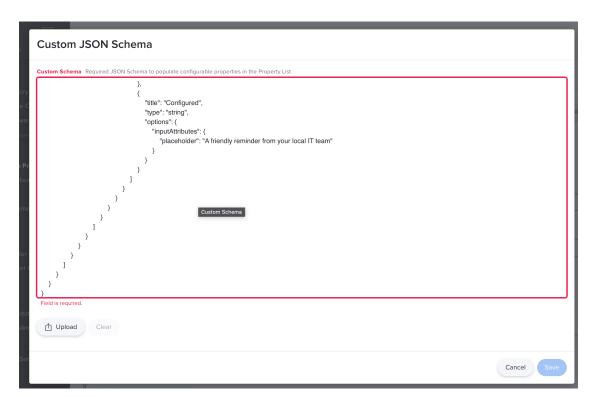


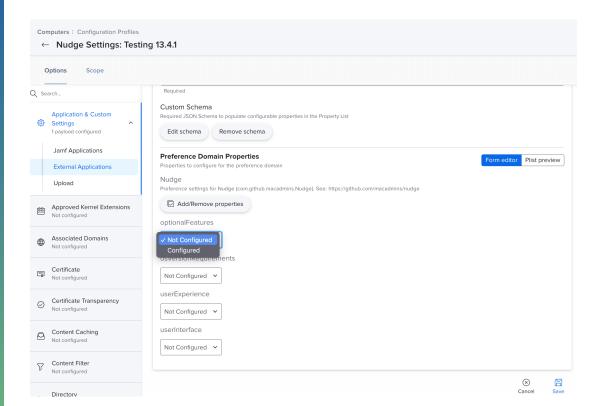


- Jamf Custom Schema

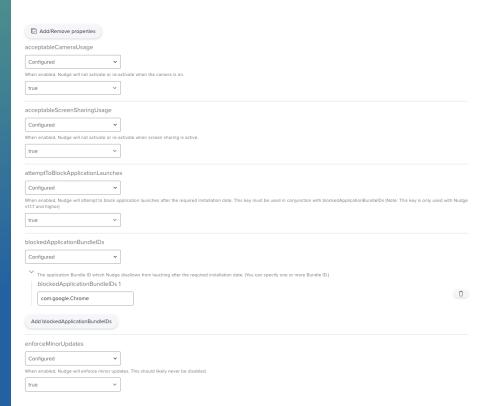
https://raw.githubusercontent.com/macadmins/nudge/main/Schema/jamf/com.github.macadmins.Nudge.json







optionalFeatures
acceptable camera usage
acceptable screen sharing usage
attempt to block
enforce minor updates



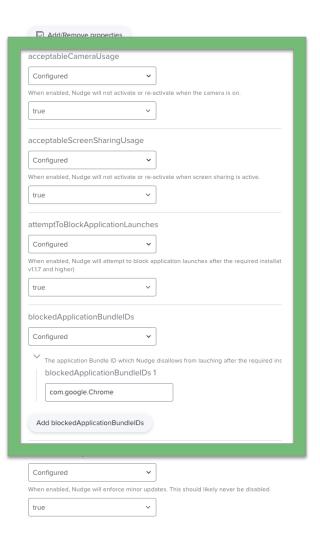
optionalFeatures

acceptable camera usage

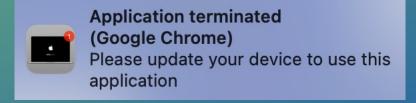
acceptable screen sharing usage

attempt to block

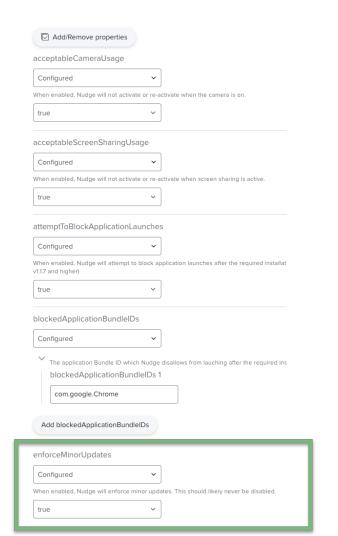
enforce minor updates



Application Terminate Example



optionalFeatures
acceptable camera usage
acceptable screen sharing usage
attempt to block
enforce minor updates



osVersionRequirements
about URL
required installation date (mandatory)
required minimum version (mandatory)

osVersionRequirements



The required components necessary to enforce an Operating System version through Nudge. Specify one array to enforce a single enforcements.

osVersionRequirement 1	
Add/Remove properties	
aboutUpdateURL	
Configured	~
A single URL, enabling the More Info built be ignored.	outton URL path. While this accepts a string, it must be a valid URL (http://, https://
https://support.apple.com/en-us/	/HT21:
requiredInstallationDate	
Configured	~
The required installation date for Nudg	ge to enforce the required operating system version. You must follow a standard
2023-06-23T07:00:00Z	
requiredMinimumOSVersion	
Configured	~
The required minimum operating syste	em version. Note: When passing versions such as `11.2.0`, it will be normalized to
13.4.1	

osVersionRequirements
about URL
required installation date (mandatory)
required minimum version (mandatory)

osVersionRequirements



The required components necessary to enforce an Operating System version through Nudge. Specify one array to enforce a single enforcements

~	osVersionRequirement 1
	✓ Add/Remove properties
	aboutUpdateURL
	Configured
	A single URL, enabling the More Info button URL path. While this accepts a string, it must be a valid URL (http://, https://will be ignored.
	https://support.apple.com/en-us/HT21
	requiredInstallationDate
	Configured
	The required installation date for Nudge to enforce required operating system version. You must follow a standard
	2023-06-23T07:00:00Z
	- soquisodMinimumOSVossion
	Configured
	The required minimum operating system version. Note: When passing versions such as '11.2.0', it will be normalized to
	13.4.1

You must follow a standard date string as below: (remove the Z to follow the device local time)

YYYY-MM-DDTHH:MM:SSZ

Example: 2021-09-15T00:00:00Z

osVersionRequirements



The required components necessary to enforce an Operating System version through Nudge. Specify one array to enforce a single enforcements

\	v osVersionRequirement 1
	Add/Remove properties
	aboutUpdateURL
	Configured
	A single URL, enabling the More Info button URL path. While this accepts a string, it must be a valid URL (http://, https://will be ignored.
	https://support.apple.com/en-us/HT21:
	requiredInstallationDate
	Configured
	The required installation date for Nudge to enforce required operating system version. You must follow a standard
	2023-06-23T07:00:00Z
L	roquirodMinimumQSVorcion
	Configured
	The required minimum operating system version. Note: When passing versions such as '11.2.0', it will be normalized to
	13.4.1

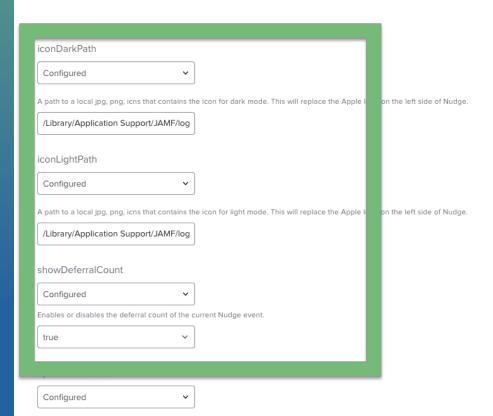
userExperience
allowUserQuitDefferals
allowedDeferrals
approachingWindowTime
imminentWindow
randomDelay

allowUserQuitDeferrals	
Configured	
. ,	be prompted by Nudge. (Set to `False` to maintain v1.0.0 behavior.) xt Nudge event.(See: `*/Library/Preferences/com.github.macadmins
true ×	
allowedDeferrals	
Configured	
The number of times a user can defer Nudge	(change it from the currently active window) before the "aggressive
20	

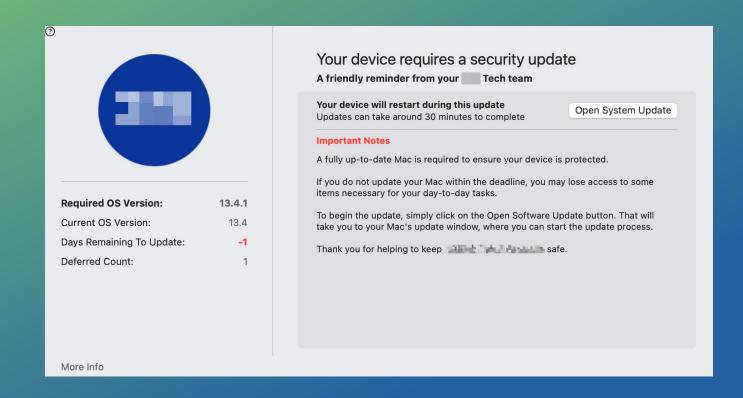
userExperience
allowUserQuitDefferals
allowedDeferrals
approachingWindowTime
imminentWindow
randomDelay

pproachingWindowTime
Configured
ne amount of time in hours Nudge will use to determine that the `requiredInstallationDate` is "approaching".
48
nminentWindowTime
Configured
ne amount of time in hours Nudge will use to determine that the `requiredInstallationDate` is "imminent".
24
andomDelay
Configured
nables an initial delay Nudge before launching the UI. This is useful if you do not want your users to all receive
true

iconDarkPath
iconLightPath
showDefferalCount
updateElements



Nudge Prompt Goal



updateElements
_language
actionButtonTest
mainContentText
subHeader

Configured The individual buttons and text elements that can be customized for your employer's needs. This includes per country localization. updateElement - Dictionary Add/Remove properties _language Configured The targeted language locale for the user interface. Note: For a list of locales, please run the following command in Terminal: /usr/bi actionButtonText Configured Modifies the actionButton, also known as the "Update Device" button. Open System Update mainContentText Configured Modifies the `mainContentText`. This is the "A fully up-to-date device is required to ensure that IT can your accurately protect your de-A fully up-to-date Mac is required to e subHeader Configured Modifies the 'subHeader'. This is the "A friendly reminder from your local IT team" text. A friendly reminder from your Tec

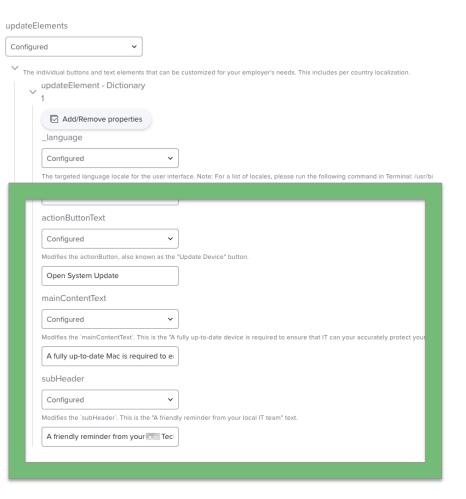
updateElements

updateElements
_language (mandatory)
actionButtonTest
mainContentText
subHeader

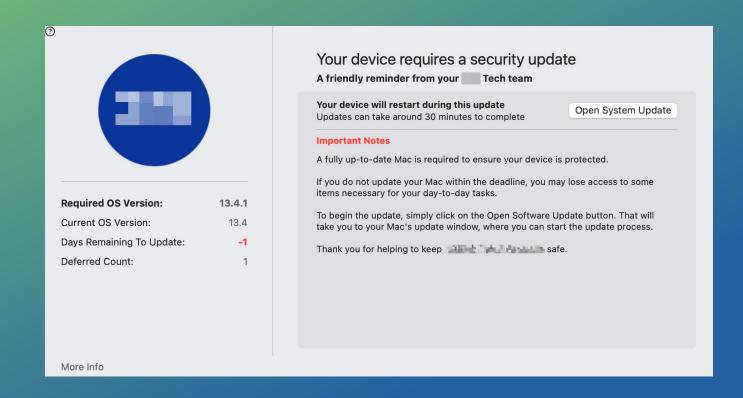
Configured The individual buttons and text elements that can be customized for your employer's needs. This includes per country localization updateElement - Dictionary _language Configured The targeted language locale for the user interface. Note: For st of locales, please run the following command in Terminal: /usr/bi Configured Modifies the actionButton, also known as the "Update Device" button. Open System Update mainContentText Configured Modifies the `mainContentText'. This is the "A fully up-to-date device is required to ensure that IT can your accurately protect your de-A fully up-to-date Mac is required to e subHeader Configured Modifies the 'subHeader'. This is the "A friendly reminder from your local IT team" text. A friendly reminder from your Tec

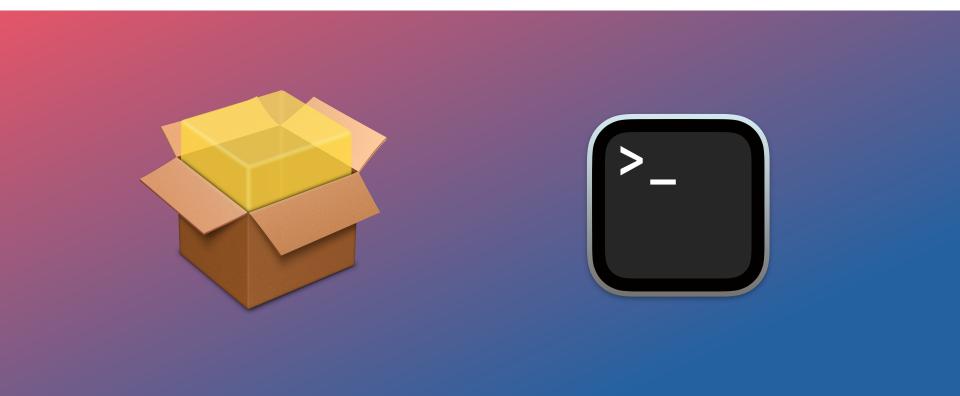
updateElements

updateElements
_language (mandatory)
actionButtonTest
mainContentText
subHeader



Nudge Prompt Goal







Nudge Icon Assets

Company Logo



- Nudge Install Script

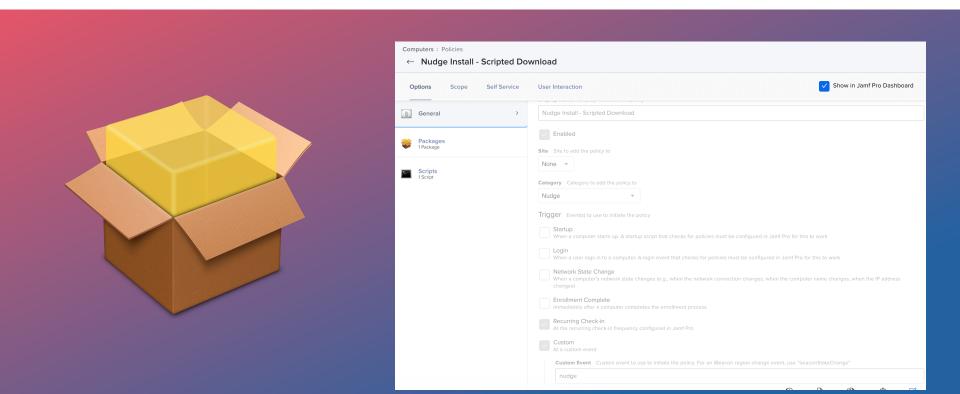
 (Nudge + 30min Launch Agent)
- Nudge Removal Script

Nudge Suite Installer Script

```
#!/bin/sh
     nudgeLatestURL="https://github.com/macadmins/nudge/releases/latest/"
     versionUrl=$(curl "${nudgeLatestURL}" -s -L -I -o /dev/null -w '%{url_effective}')
     versionNumber=$(printf "%s" "${versionUrl[@]}" | sed 's@.*/@@' | sed 's/%20/-/g'| sed 's/v//g')
     downloadUrl="https://github.com/macadmins/nudge/releases/download/v$versionNumber/Nudge_Suite-$versionNumber.pkg"
     pkqName=$(printf "%s" "${downloadUrl[@]}" | sed 's@.*/@@' | sed 's/%20/-/g' | sed 's/v//g')
     pkgPath="/tmp/$pkgName"
     /usr/bin/curl -L -o "$pkgPath" "$downloadUrl"
14
     sudo installer -pkg $pkgPath -target /
18
     sudo /bin/rm "$pkgPath"
20
```

Nudge Removal Script

```
7 console_user=$(/usr/bin/stat -f "%Su" /dev/console)
8 console_user_uid=$(/usr/bin/id -u "$console_user")
9 userHomeDir=$(dscacheutil -q user | grep $console_user | awk 'NR==2 {print $2}')
   deferralFile="$userHomeDir/Library/Preferences/com.github.macadmins.Nudge.plist"
13 killall 'Nudge'
16 sudo -u $console_user launchctl unload /Library/LaunchAgents/com.github.macadmins.Nudge.plist
    rm /Library/LaunchAgents/com.github.macadmins.Nudge.plist
22 rm -r /Applications/Utilities/Nudge.app
      echo "Did not detect user"
28 elif [[ "$console_user" == "loginwindow" ]]; then
        echo "Detected Loginwindow Environment"
31 elif [[ "$console_user" == "_mbsetupuser" ]]; then
        echo "Detect SetupAssistant Environment"
34 elif [[ "$console_user" == "root" ]]; then
        echo "Detect root as currently logged-in user"
        /bin/rm $deferralFile
        echo "Removed $deferralFile file"
43 echo "Nudge Removal Completed"
```



Nudge Defer Status Extension Attr.

Settings : Computer management → Extension attributes ← Nudge Deferral Status	
Display Name Display name for the extension attribute	
Nudge Deferral Status	
Enabled (script input type only)	
Description Description for the extension attribute	
Gets the status of Nudge for troubleshooting purposes.	
Data Type Type of data being collected	
String	
Inventory Display Category in which to display the extension attribute in Jamf Pro Operating System Input Type Input type to use to populate the extension attribute Script V	
Default Mode v Default Theme v -T T	Ţ+ ∨ Commands
#!/bin/zsh # Get the currently logged in user currentUsers"\$(scutil <<< "show State:/Users/ConsoleUser" awk '/Name :/ && ! /loginwindow/ { print \$3 }')" # Check for a logged in user and proceed with last user if needed if [[ScurrentUser == ""]]; then # Set currentUser variable to the last logged in user currentUsers(defaults read /Library/Preferences/com.apple.loginwindow lastUserName) if # Get the current user's UID currentUserID="(id -u "\$currentUser")" # Nudge plist name augustials con girmun augusting plist	⊗ ⊟ Cancel Save

Nudge Defer Status Extension Attr.

```
currentUser="$( scutil <<< "show State:/Users/ConsoleUser" | awk '/Name :/ && ! /loginwindow/ { print $3 }' )"
   if [[ $currentUser == "" ]]; then
       currentUser=$( defaults read /Library/Preferences/com.apple.loginwindow lastUserName )
   currentUserID="( id -u "$currentUser" )"
   osVersion="$( /usr/bin/sw_vers -productVersion )"
   # Get the required minimum OS version from the plist
   minOS="$( launchctl asuser "$currentUserID" sudo -u "$currentUser" defaults read $nudgePlist requiredMinimumOSVersion 2>/dev/null )"
25 if [[ $minOS ]]; then
       autoload is-at-least
       if is-at-least "$minOS" "$osVersion": then
           result="macOS meets minimum required version"
           result="$( launchctl asuser "$currentUserID" sudo -u "$currentUser" defaults read $nudgePlist userDeferrals )"
   else
       result="No minimum required macOS version found"
```

Nudge Log Extension Attr.

Settings: Computer management > Extension attributes	
← Nudge Log	
Display Name Display name for the extension attribute	
Nudge Log	
Enabled (script input type only)	
Description Description for the extension attribute	
Data Type Type of data being collected	
String v	
Inventory Display Category in which to display the extension attribute in Jamf Pro	
Operating System 🔻	
Input Type Input type to use to populate the extension attribute	
Script •	
Default Mode ▼ Cobalt ▼ -T T•	→ Commands
1	
3 #Script is designed to return the Nudge logs	
5 if [-f /private/var/log/Nudge.log]; then 6 Version=\$(/usr/bin/grep com.github.macadmins.Nudge /var/log/Nudge.log /usr/bin/tail -20 /usr/bin/awk '{ split(\$2 7 echo " <result>%Version</result> "	, split_time, ".
8 else	
9 echo " <result>Not-found</result> " 10 fi	
11 exit	
	⊗ 🖺 Cancel Save
	Cancer 5dVe

Nudge Log Extension Attr.

Nudge Log Extension Attr.

Extension Attributes Nudge Deferral Status: 5 2023-07-15 13:14:38 Synthetically clicked updateDevice due to allowedDeferral count 2023-07-15 15:41:50 User clicked moreInfo button 2023-07-15 15:41:54 User clicked updateDevice 2023-07-15 15:42:24 Synthetically clicked updateDevice due to allowedDeferral count 2023-07-15 15:42:27 User clicked updateDevice 2023-07-15 15:48:25 Synthetically clicked updateDevice due to allowedDeferral count 2023-07-15 15:48:31 User clicked updateDevice 2023-07-15 15:48:36 User clicked updateDevice 2023-07-15 15:53:25 Synthetically clicked updateDevice due to Nudge Log: allowedDeferral count 2023-07-15 15:53:36 User clicked updateDevice Filtering the "subsystem == "com.github.macadmins.Nudge"" 2023-07-15 16:10:53 Delaying initial run (in seconds) by: 297 2023-07-15 16:15:50 Device pastRequiredInstallationDate: false 2023-07-15 16:15:50 enforceMinorUpdates: true 2023-07-15 16:16:50 Nudge is currrently the frontmostApplication 2023-07-15 16:16:53 User initiated a deferral: 2023-07-15 21:16:53 +0000 2023-07-15 16:16:53 User clicked primaryQuitButton 2023-07-15 16:49:42 Delaying initial run (in seconds) by: 1007 2023-07-16 22:52:22 Device pastRequiredInstallationDate: false 2023-07-16 22:52:22 enforceMinorUpdates: true

Planning & Scoping



General Update Strategy

- Breakdown deployments into groups (Departments, Disruption Sensitive, Etc.)
- Try to keep the tech savy and responsive users in the first round and the risk averse to the end
- Announce the need to update ASAP, in the most active channels
- Keep the process consistent

User Centric Updating

- Have fun with it (within reason and feel out your audience.)
- Meet with your users when possible (townhalls, security trainings, etc)
- Get to know their concerns and accept feedback on your process
- Build a rapport with your users, and get them invested into the process (remind them its to protect them too)

Deployment



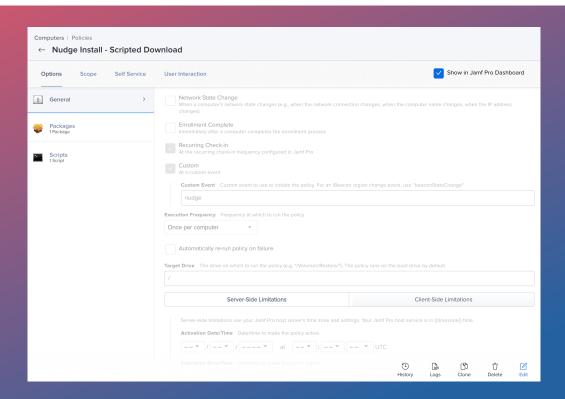
Jamf Smart Groups Example

Smart Group = MacOS < 13.4.1 (Deployed Mac Macs)						0	
Smart Group = MacOS < 13.4.1 (Deployed ORG Macs - NON						0	
Smart Group = MacOS < 13.4.1 (Deployed 😿 🐼 Macs)						3	
Smart Group =	MacOS < 1	13.4.1 (Deployed 🔳 🖟	Macs)				0
Computers: Smart Computer Groups ← Smart Group = MacOS < 13.4.1 (Deployed Macs) Computer Group Criteria Reports							
AND/OR		CRITERIA	OPERATOR		VALUE		
	_	Asset Status	is	•			
		Plant States	13		Deployed		
an 🔻	•	Department	is	•	Deployed	•••	•

Policies Example

Nudge			
Nudge Install - Scripted Download	Once per computer	Check-in, nudge	1 computer, 4 computer groups
Nudge Remove - ASSIGN PEOPLE AS NEEDED	Once per computer	Check-in, nudge-remove, Self Service	No scope defined

Policies



Congrats, You Got Nudged



Questions and Resources

Nudge Wiki

https://github.com/macadmins/nudge/wiki

Nudge Custom Schema

https://raw.githubusercontent.com/macadmins/nudge/main/Schema/jamf/com.github.macadmins.Nudge.json

Jamf Pro Nudge Deploy Guide

https://github.com/macadmins/nudge/wiki/Jamf-Pro-Guide#configuration-profile

Example Files

https://github.com/xanderoliver/macadmins-presentations/tree/main/MacAdmins2023