



Beautifying Your Scripts | From Script to App



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Jamf

Why are we here?

Apple Script

Jamf Helper

Cocoa Dialog

Pashua

Script to App



Before we get started...

<https://github.com/kc9wwh/conferences/2017-BeautifyYourScripts>



AppleScript

Apple Script (osascript)

Pros

Available on every Mac

Allows two way user interaction

Simple

One line command

Cons

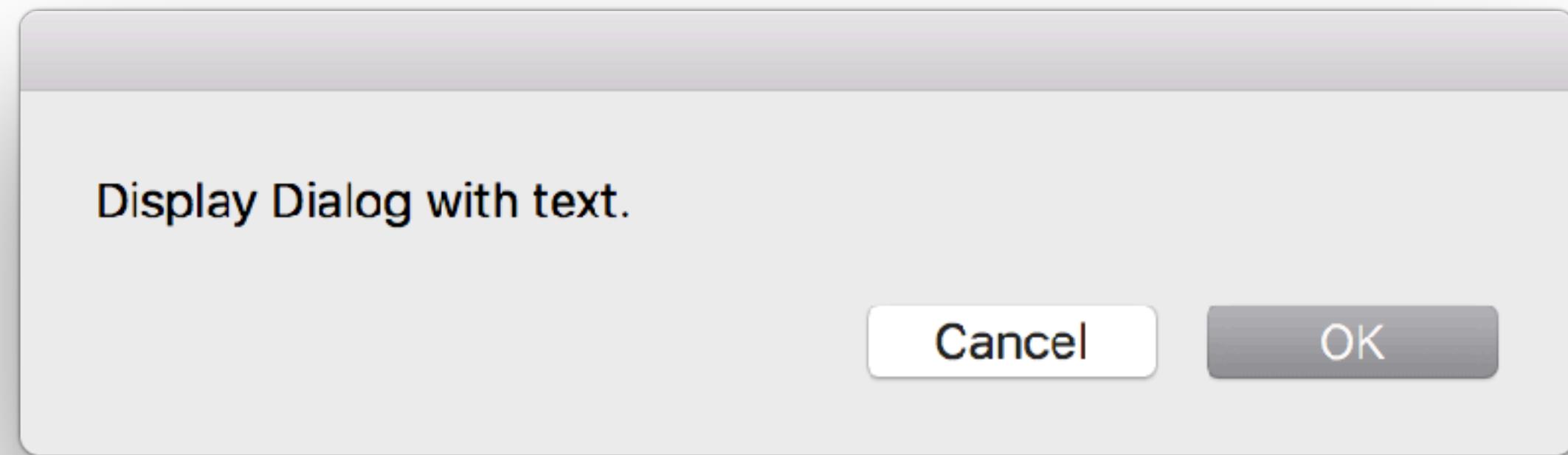
One interaction per dialog

No branding

Apple Script (osascript)

Examples

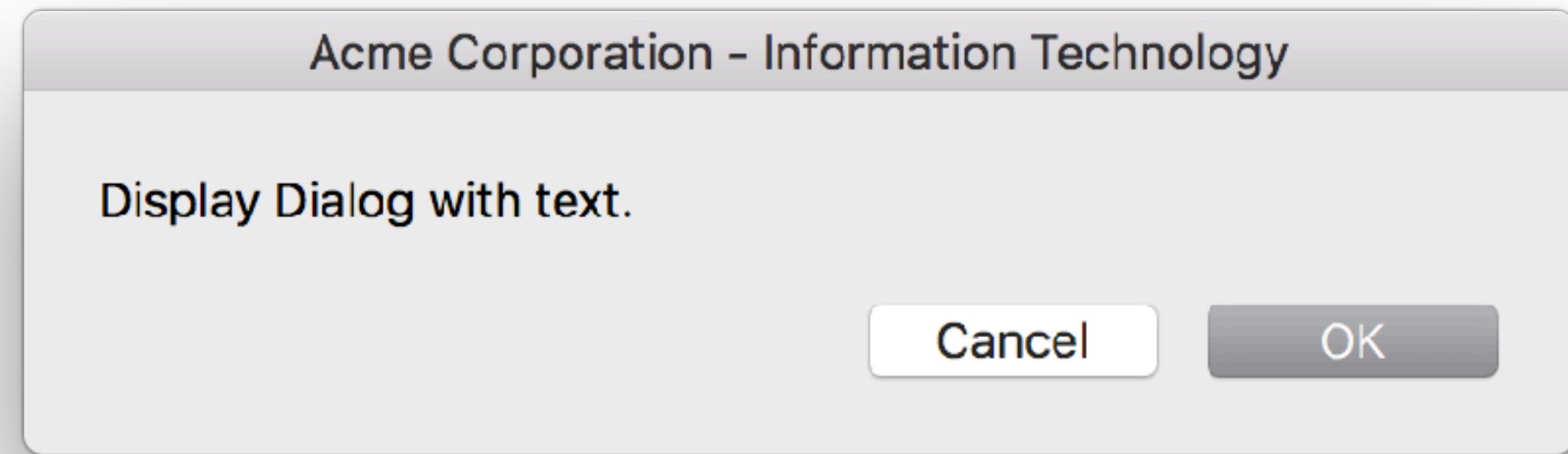
osascript -e 'Tell application "System Events" to display dialog "Display Dialog with text.'"



Apple Script (osascript)

Examples

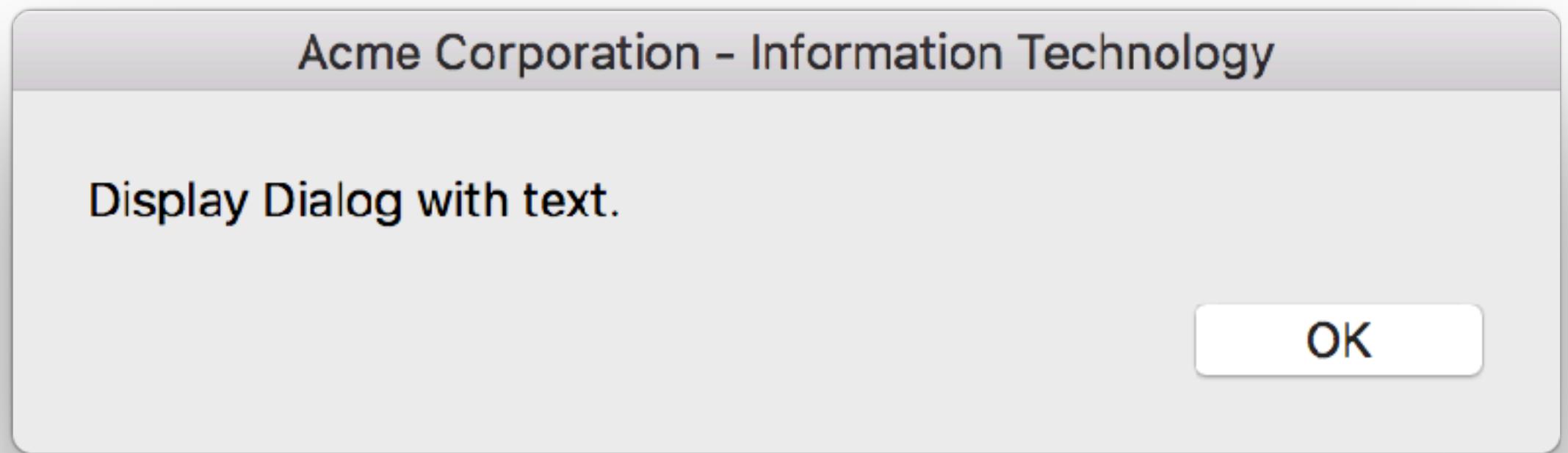
...with title "Acme Corporation - Information Technology"



Apple Script (osascript)

Examples

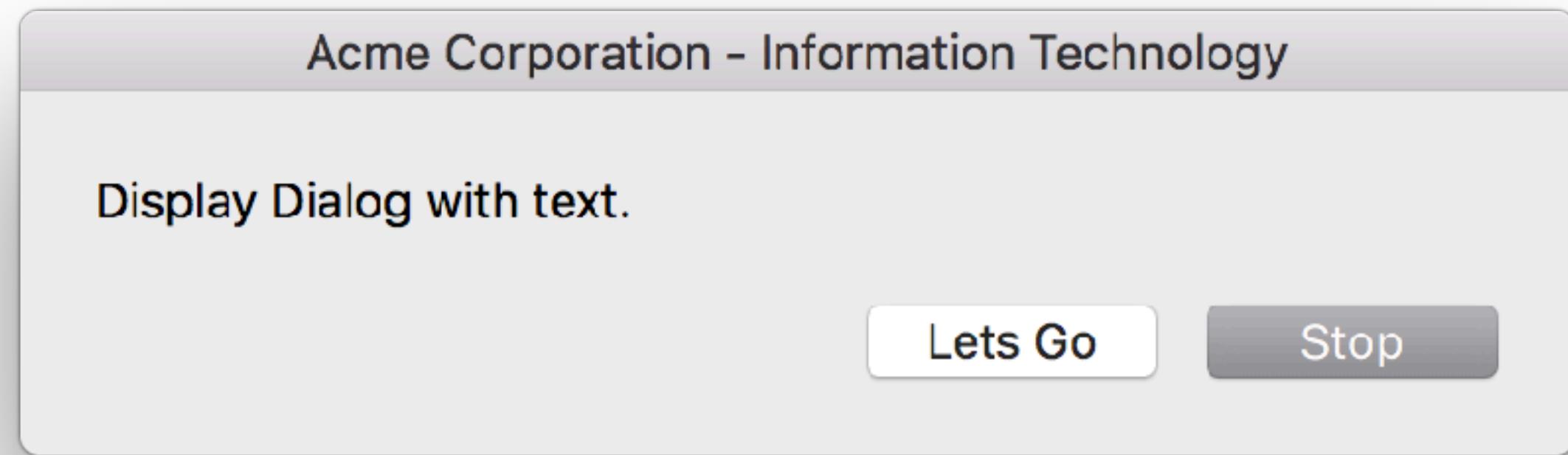
...with text buttons {"OK"}



Apple Script (osascript)

Examples

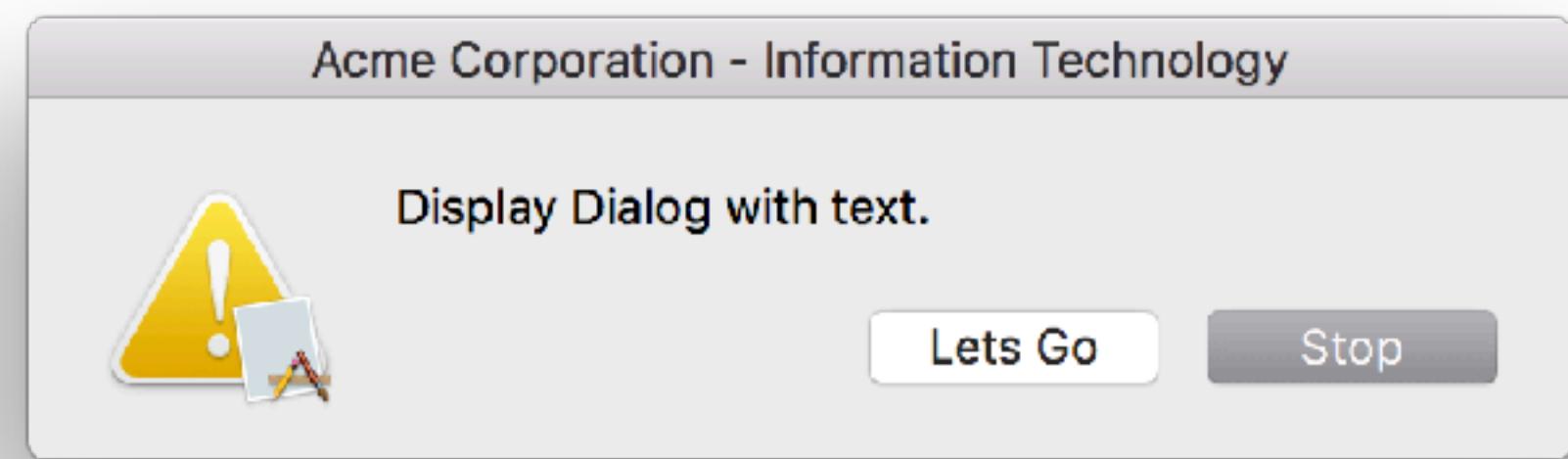
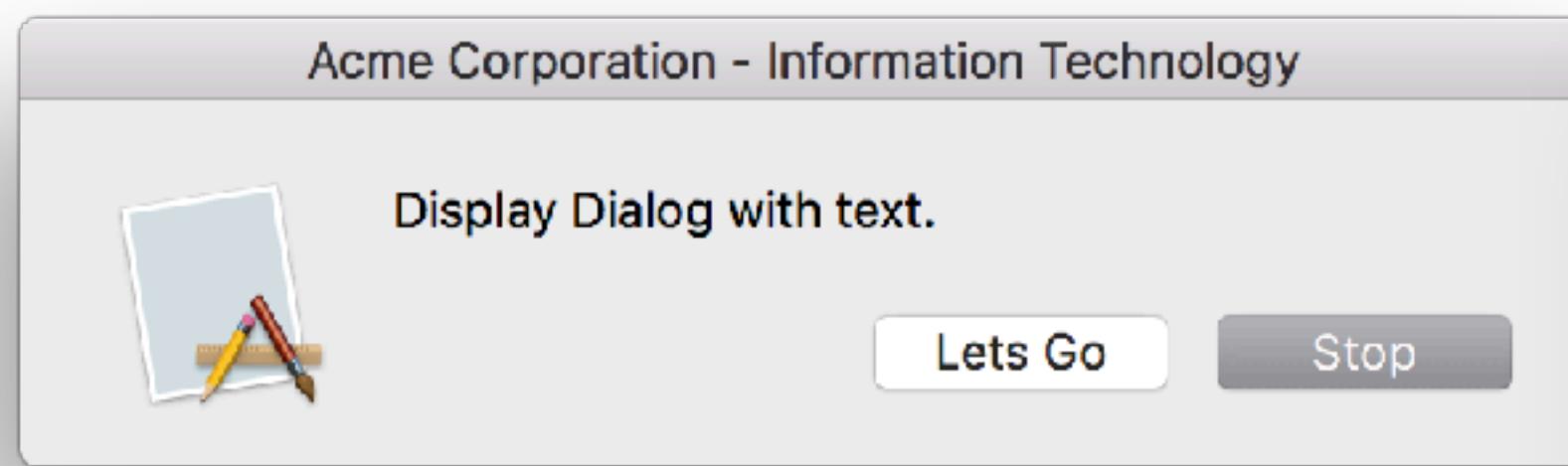
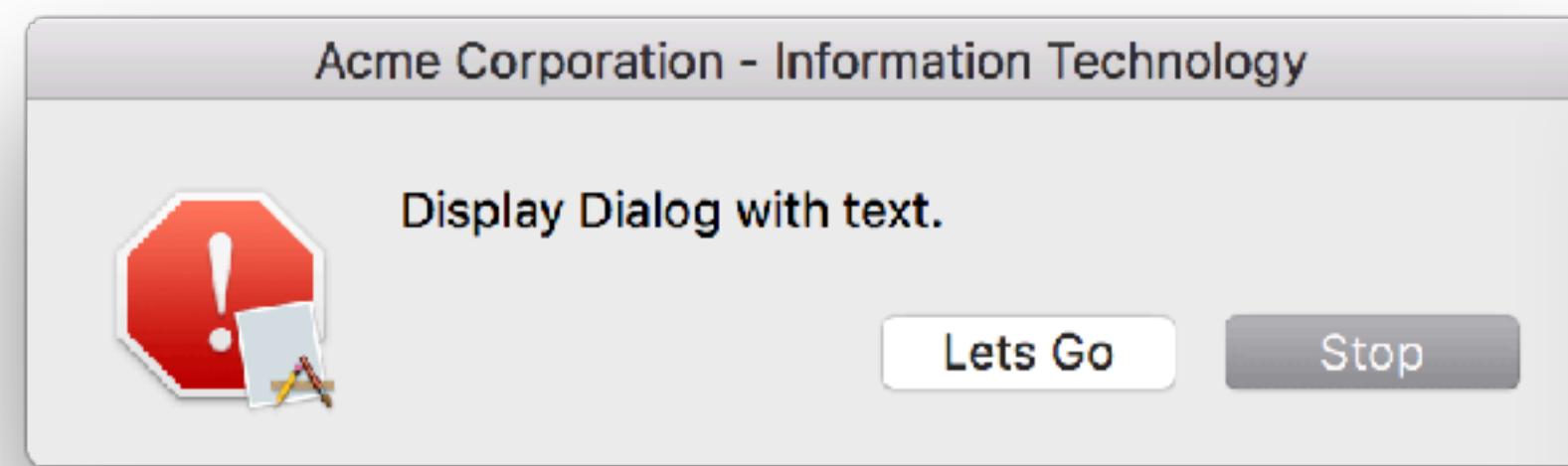
...with text buttons {"Lets Go", "Stop"} default button "Stop"



Apple Script (osascript)

Examples

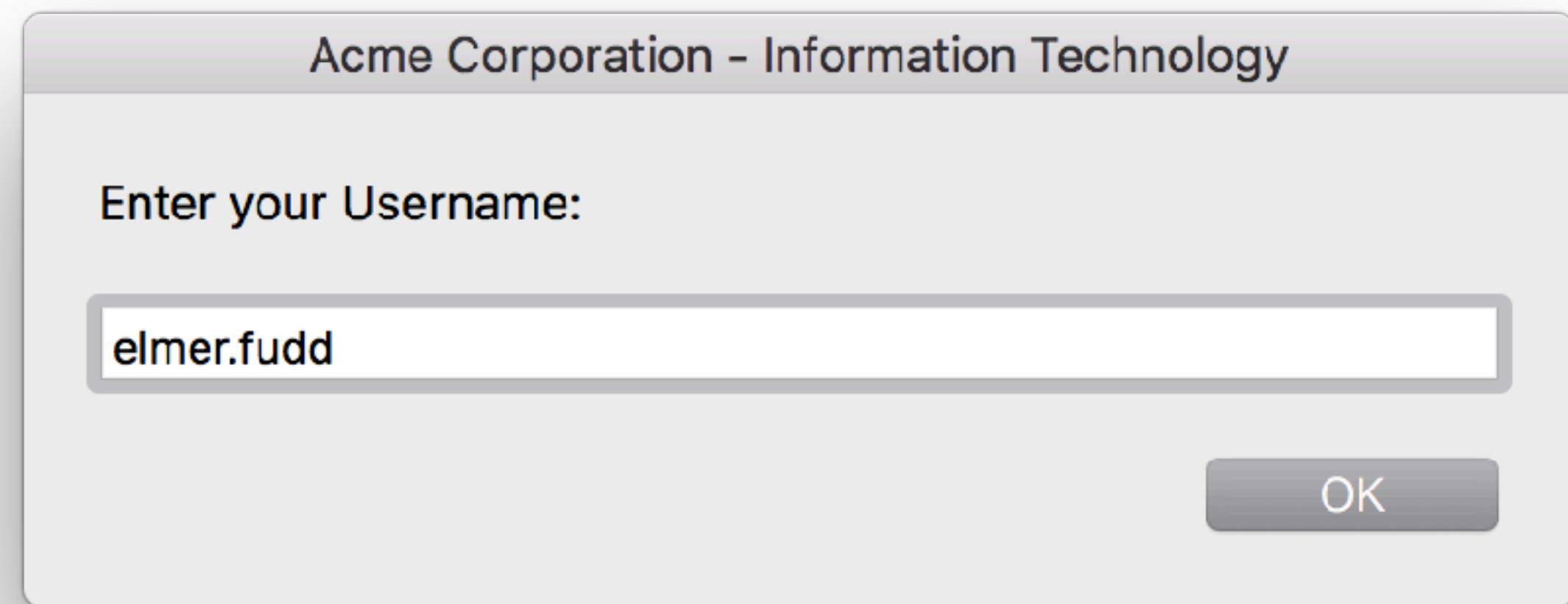
...with icon 0...



Apple Script (osascript)

Examples

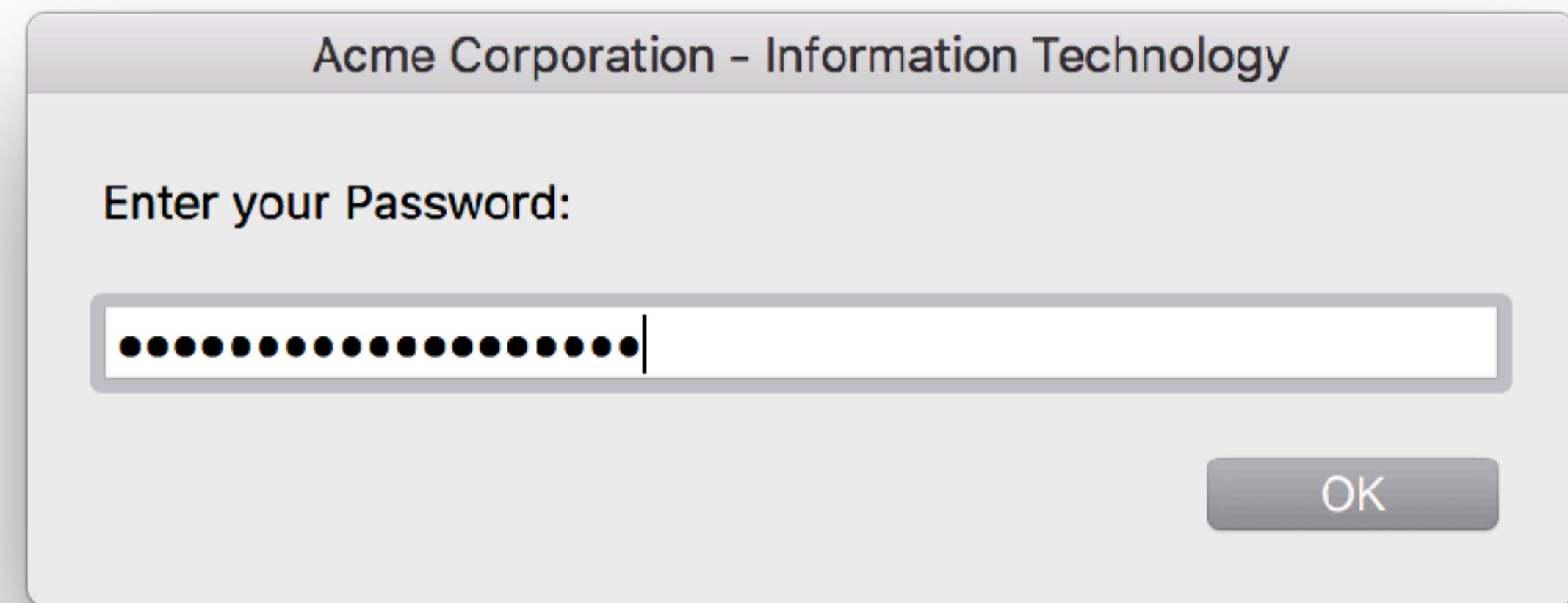
osascript -e 'Tell application "System Events" to display dialog "Enter your Username:" default answer "" with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result'



Apple Script (osascript)

Examples

osascript -e 'Tell application "System Events" to display dialog "Enter your Password:" default answer "" with hidden answer with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result'



Apple Script (osascript)

```
josh.roskos — -bash — 138x29

Roskos-MacBook-Pro:~ josh.roskos$ /usr/bin/osascript -e 'Tell application "System Events" to display dialog "Enter your Username:" default answer "" with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result'
elmer.fudd
Roskos-MacBook-Pro:~ josh.roskos$ /usr/bin/osascript -e 'Tell application "System Events" to display dialog "Enter your Password:" default answer "" with hidden answer with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result'
GonnaGetThatRabbit
Roskos-MacBook-Pro:~ josh.roskos$
```

Apple Script (osascript)

```
josh.roskos — bash — 125x15

[Roskos-MacBook-Pro:~ josh.roskos$ userName=$( /usr/bin/osascript -e 'Tell application "System Events" to display dialog "Enter your Username:" default answer "" with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result' )
[Roskos-MacBook-Pro:~ josh.roskos$ ]
[Roskos-MacBook-Pro:~ josh.roskos$ ]
[Roskos-MacBook-Pro:~ josh.roskos$ userPass=$( /usr/bin/osascript -e 'Tell application "System Events" to display dialog "Enter your Password:" default answer "" with hidden answer with title "Acme Corporation - Information Technology" with text buttons {"OK"} default button 1' -e 'text returned of result' )
[Roskos-MacBook-Pro:~ josh.roskos$ ]
[Roskos-MacBook-Pro:~ josh.roskos$ ]
[Roskos-MacBook-Pro:~ josh.roskos$ echo $userName
elmer.fudd
[Roskos-MacBook-Pro:~ josh.roskos$ echo $userPass
GonnaGetThatRabbit
Roskos-MacBook-Pro:~ josh.roskos$ ]
```



Let's Try it Out!



Jamf Helper

Jamf Helper

Pros

Available when enrolled in Jamf Pro

Simple

One line command

Different display options

Built-in timer

Cons

Only one way user interaction

One interaction per dialog

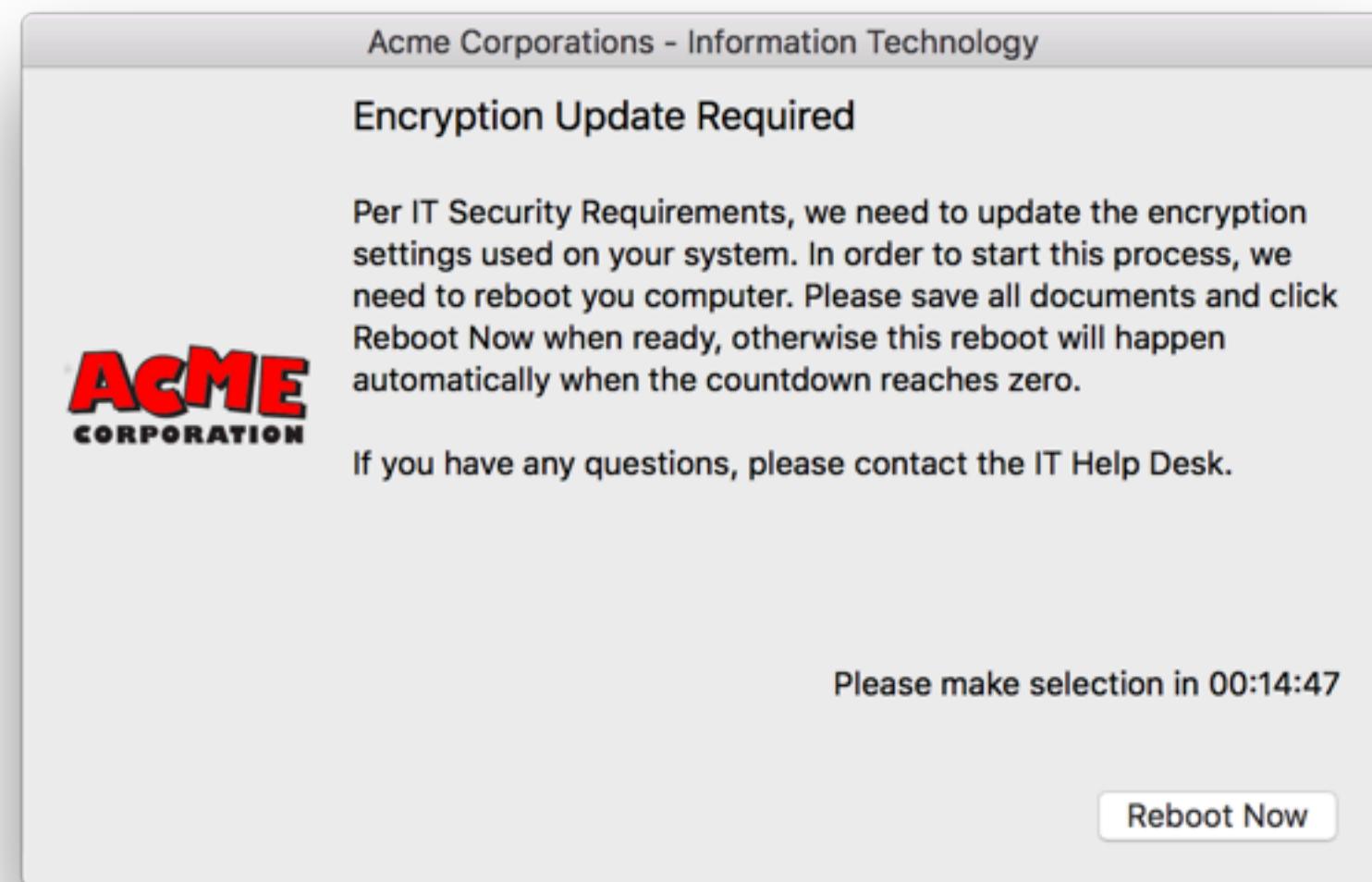
Jamf Helper

Examples

Please wait as we prepare your computer for macOS Sierra...



This process will take approximately 5-10 minutes.
Once completed your computer will reboot and begin the upgrade.





CocoaDialog

CocoaDialog

Pros

Allows two way user interaction

Simple one line command

Many many different display options

Progress bar

Force to foreground

Cons

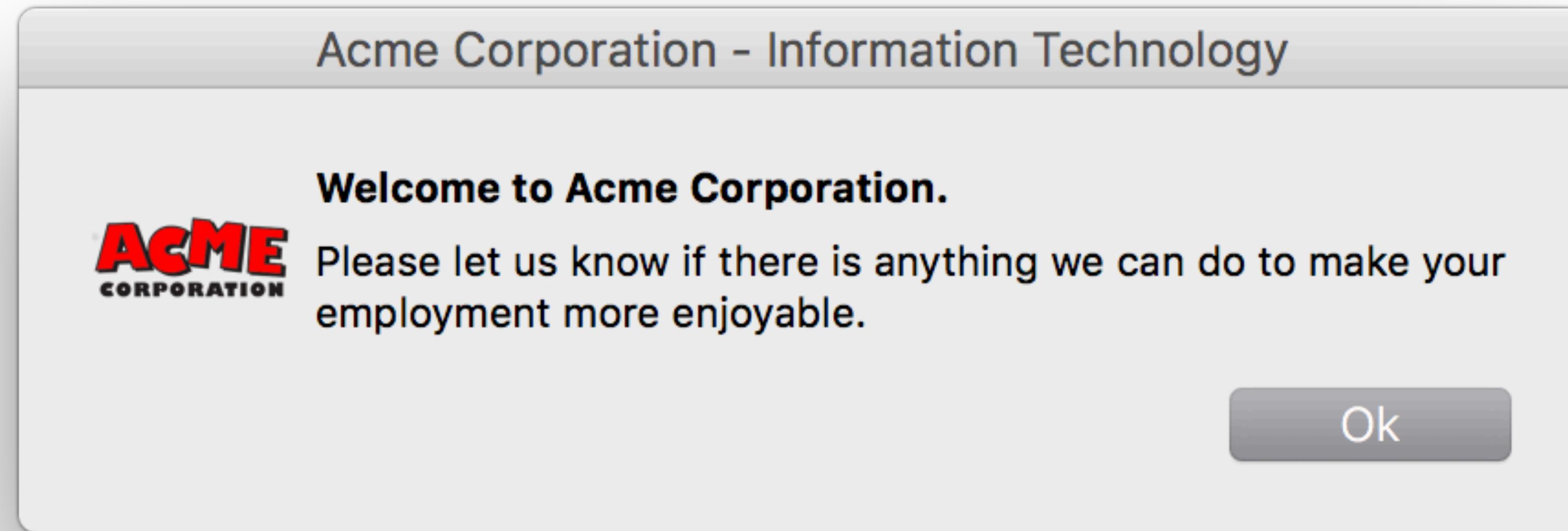
3rd Party Install

Limited branding

One interaction per dialog

CocoaDialog

Examples



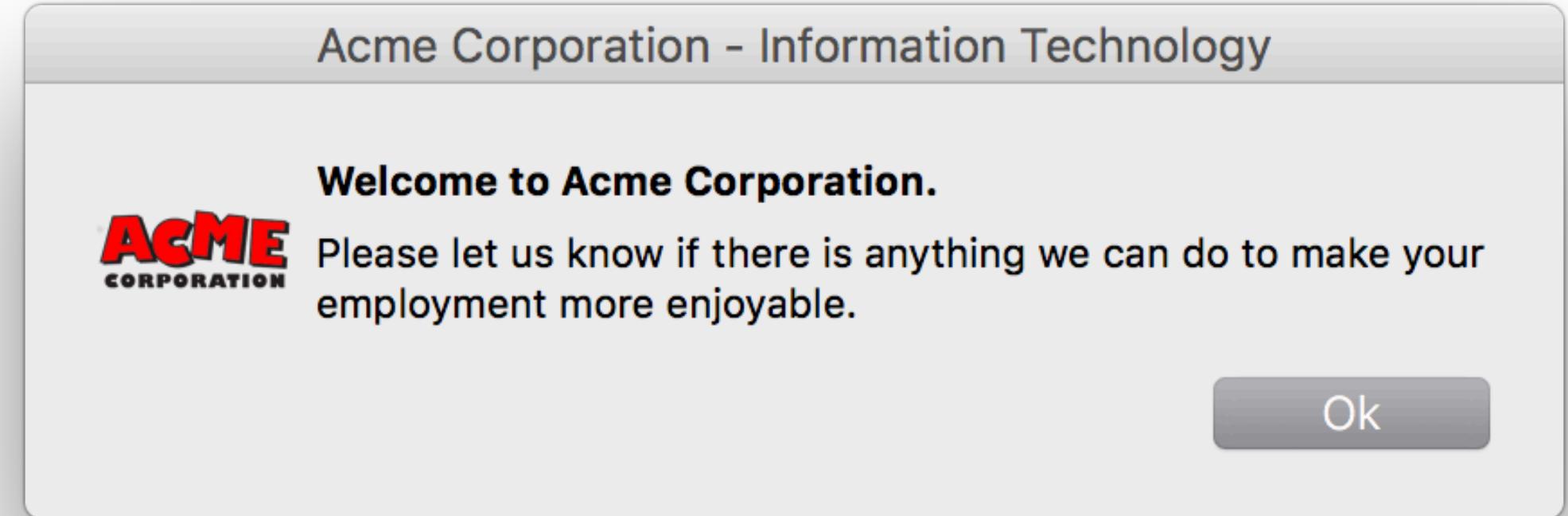
CocoaDialog

Examples

```
/usr/local/jamfps/CocoaDialog.app/Contents/MacOS/CocoaDialog ok-msgbox --title  
"Acme Corporation - Information Technology" --text "Welcome to Acme Corporation." --  
informative-text "Please let us know if there is anything we can do to make your  
employment more enjoyable." --no-cancel --icon-file "/usr/local/jamfps/acme.png" --float
```

CocoaDialog

Examples



cdPath="/usr/local/jamfps/CocoaDialog.app/Contents/MacOS/CocoaDialog"

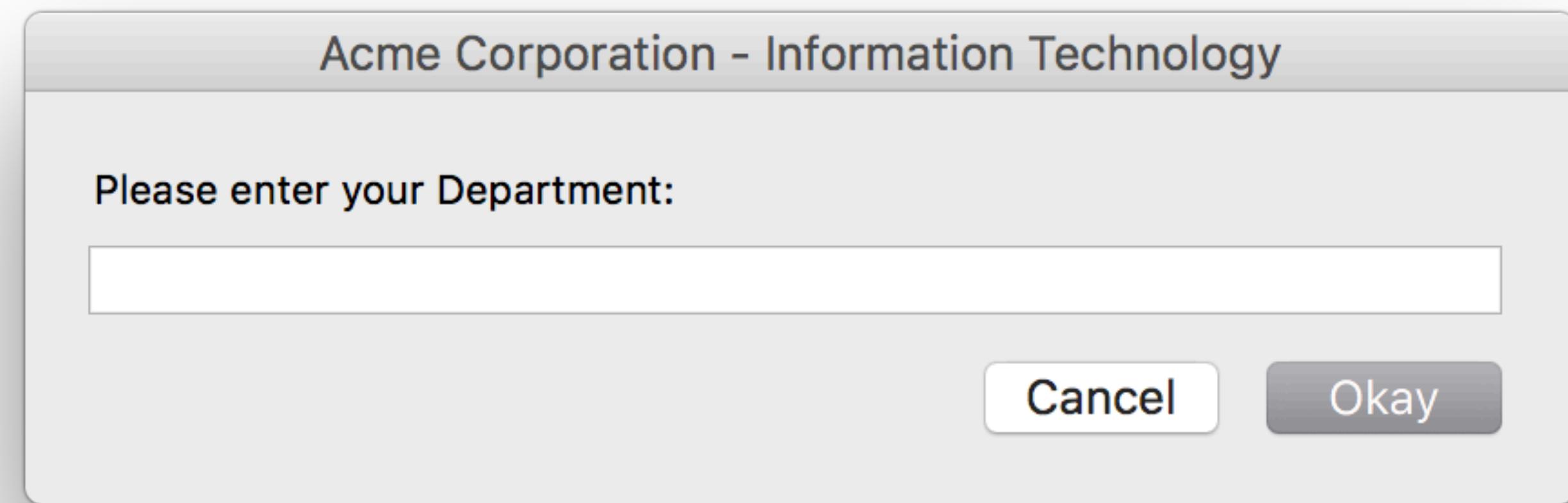
cdTitle="Acme Corporation - Information Technology"

\${cdPath} ok-msgbox --title "\${cdTitle}" --text "Welcome to Acme Corporation." --informative-text "Please let us know if there is anything we can do to make your employment more enjoyable." --no-cancel --icon-file "/usr/local/jamfps/acme.png" --float

CocoaDialog

standard-inputbox

`${cdPath} standard-inputbox --title "${cdTitle}" --informative-text "Please enter your Department:"`

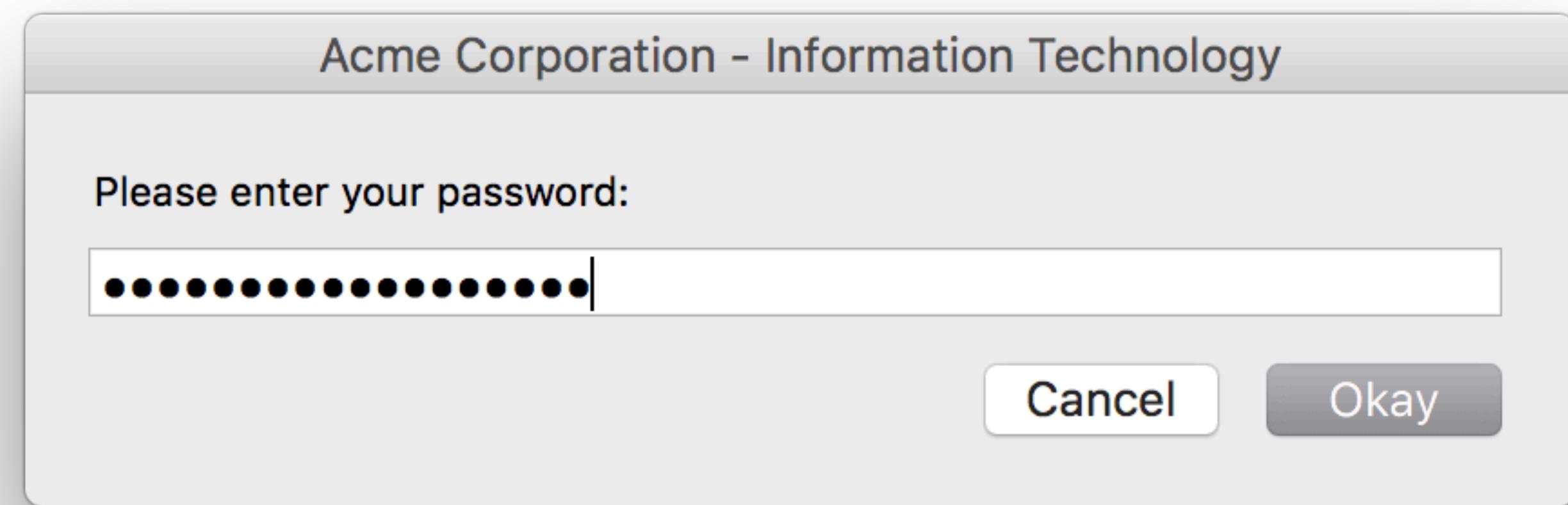


CocoaDialog

secure-standard-inputbox

```
 ${cdPath} secure-standard-inputbox --title "${cdTitle}" --informative-text "Please enter your password:"
```

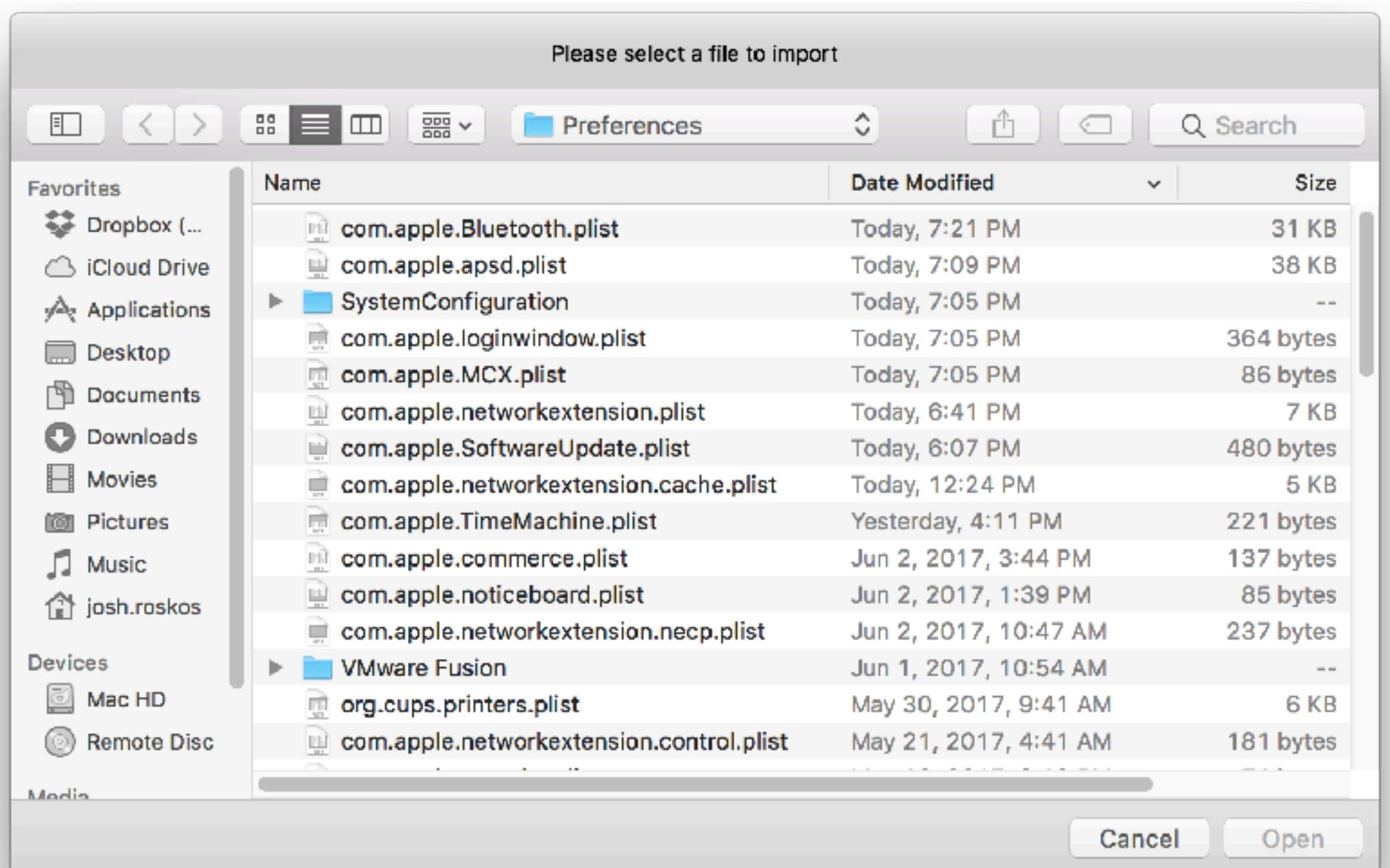
```
 ${cdPath} standard-inputbox --title "${cdTitle}" --informative-text "Please enter your password:" --no-show
```



CocoaDialog

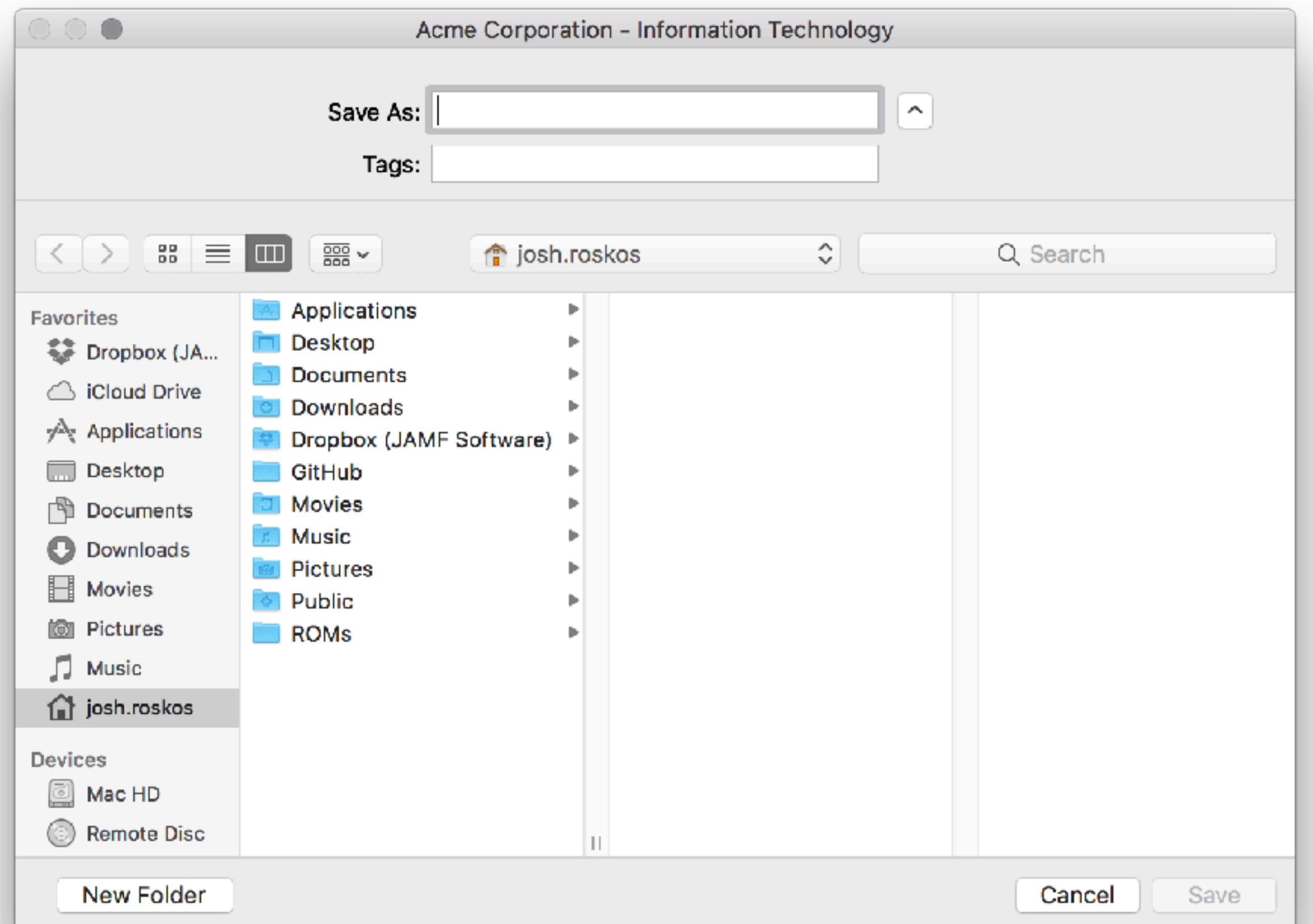
fileselect

```
 ${cdPath} fileselect --title "${cdTitle}" --text "Please select a file to import" --with-extensions .plist  
 -with-directory /Library/Preferences/
```



CocoaDialog

filesave



```
 ${cdPath} filesave --title "${cdTitle}" --with-directory ~/
```

CocoaDialog

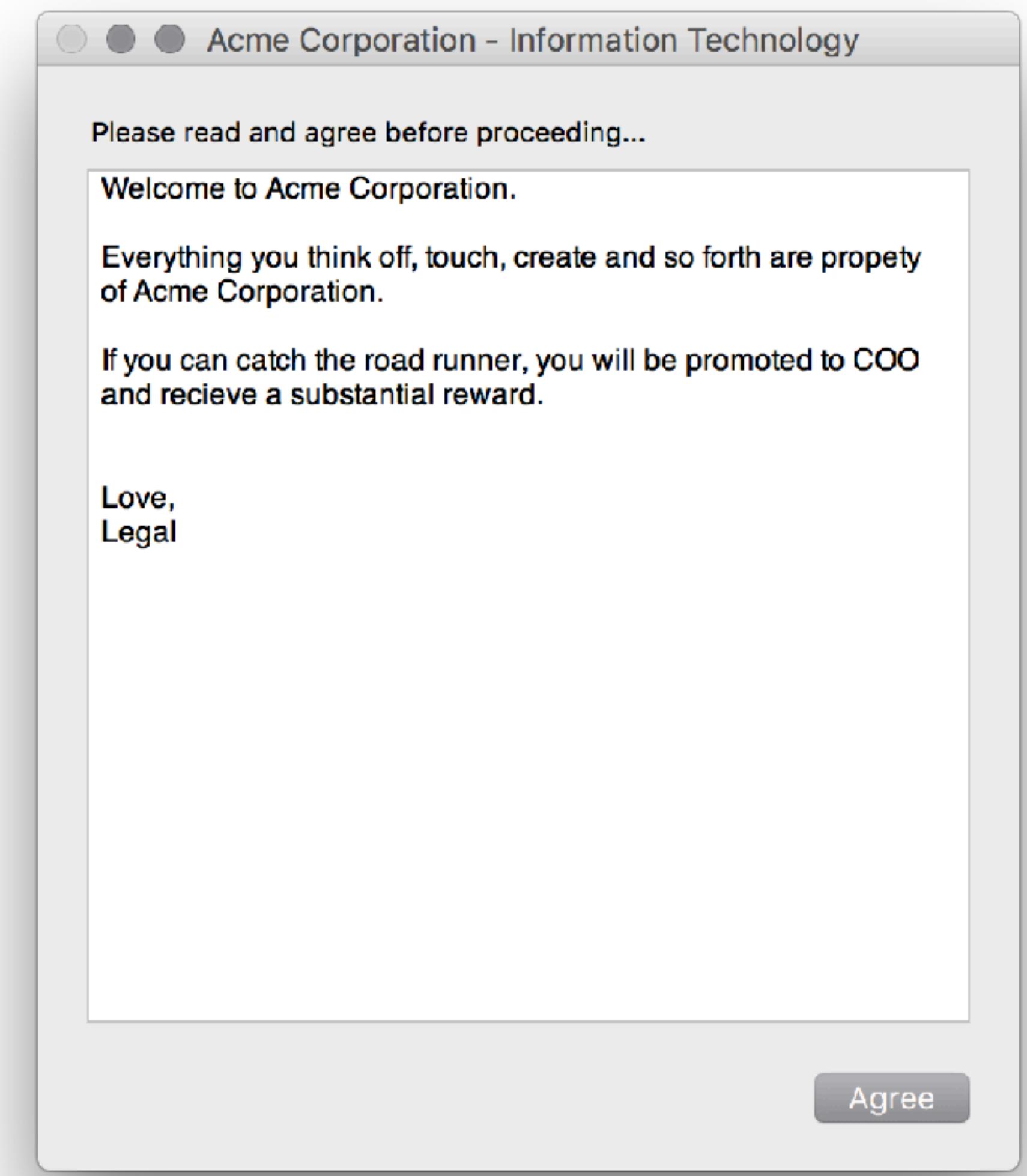
textbox

```
 ${cdPath} textbox --title "${cdTitle}" --informative-text "Please read  
 and agree before proceeding..." --button1 "Agree" --text "Welcome  
 to Acme Corporation."
```

*Everything you think off, touch, create and so forth are property of
Acme Corporation.*

*If you can catch the road runner, you will be promoted to COO and
recieve a substantial reward.*

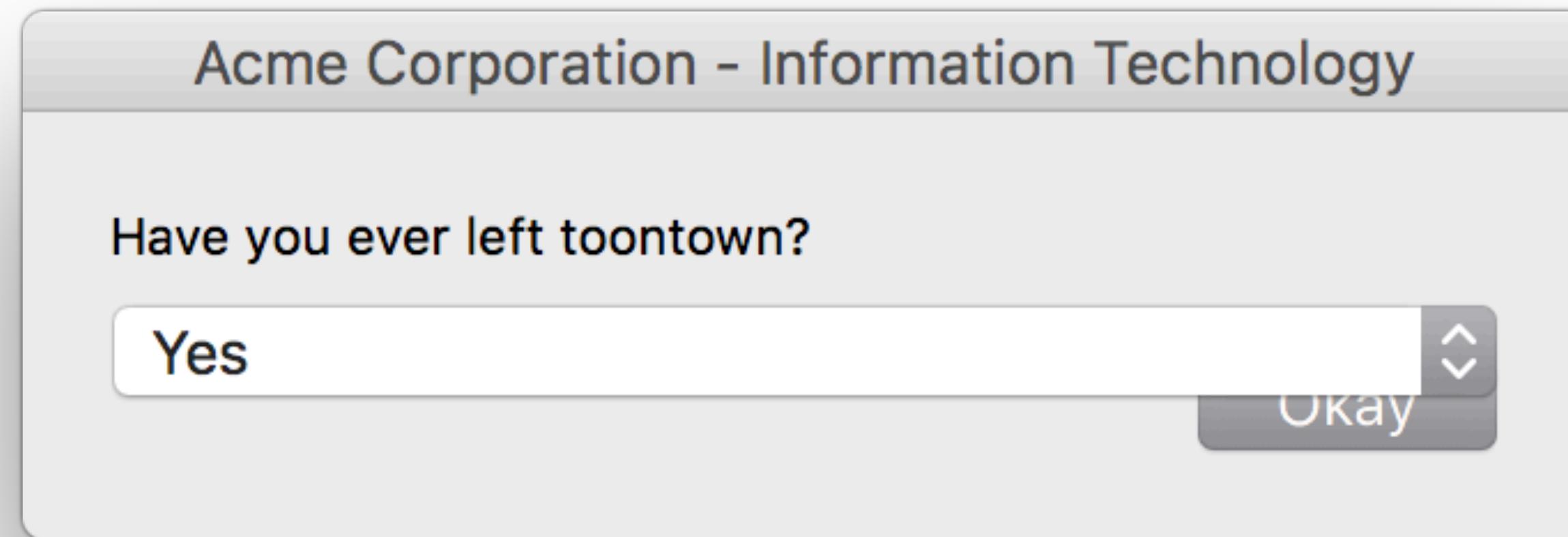
*Love,
Legal"*



CocoaDialog

standard-dropdown

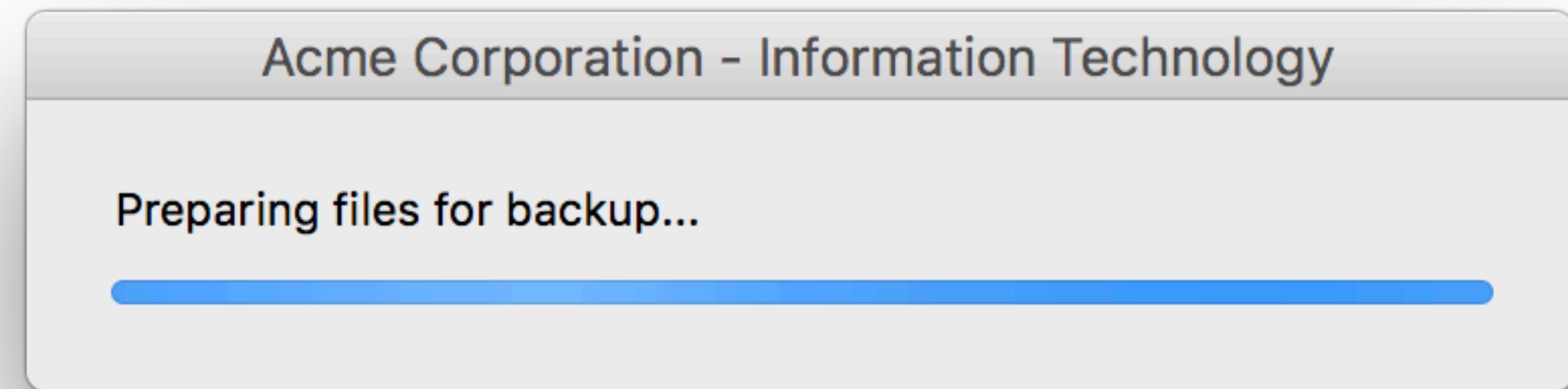
```
 ${cdPath} standard-dropdown --title "${cdTitle}" --text "Have you ever left toontown?"  
 --items "Yes" "No" "Maybe" "Not Sure" --no-cancel
```



CocoaDialog

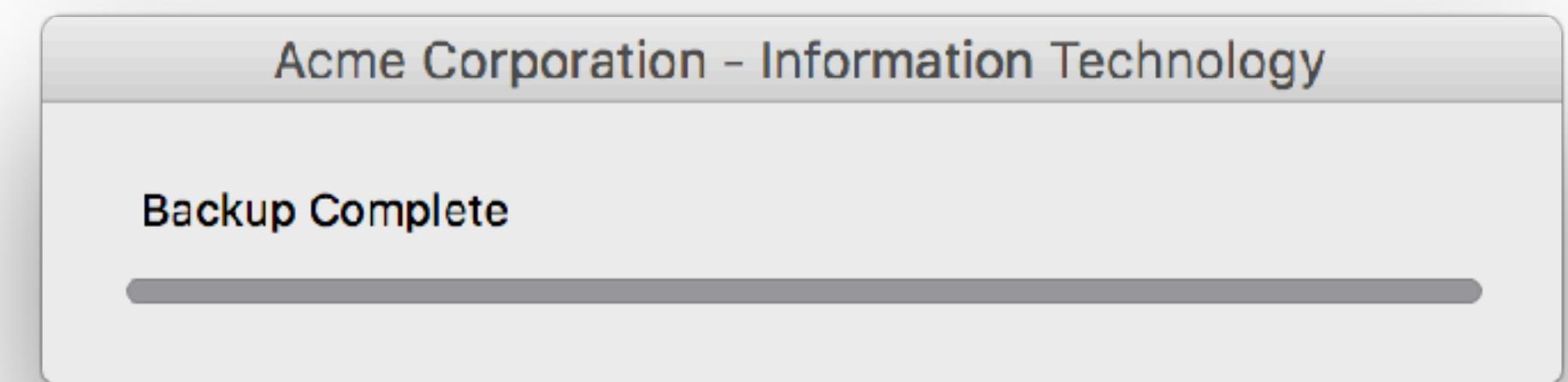
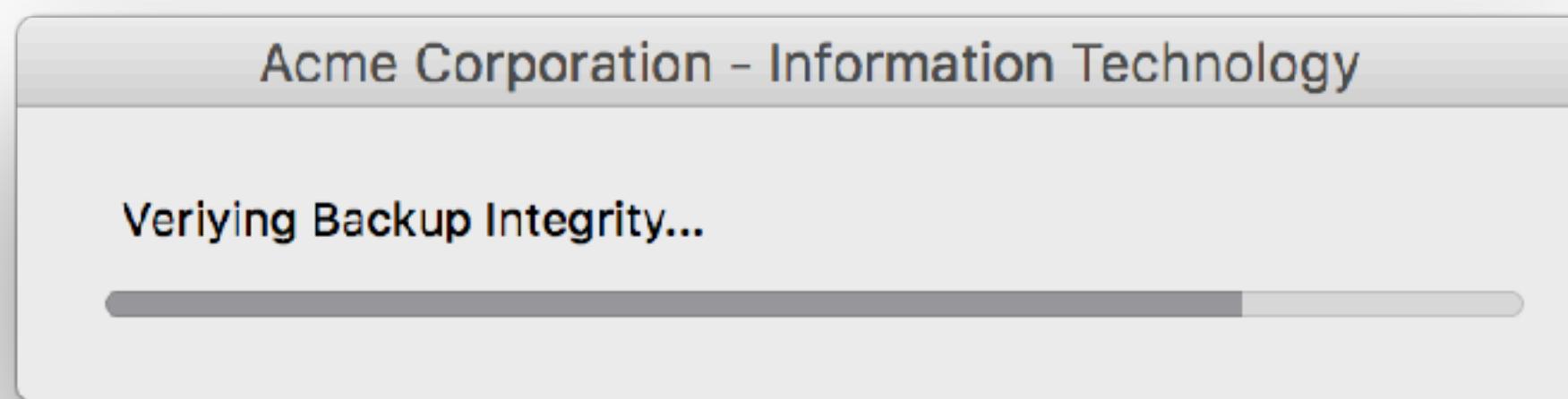
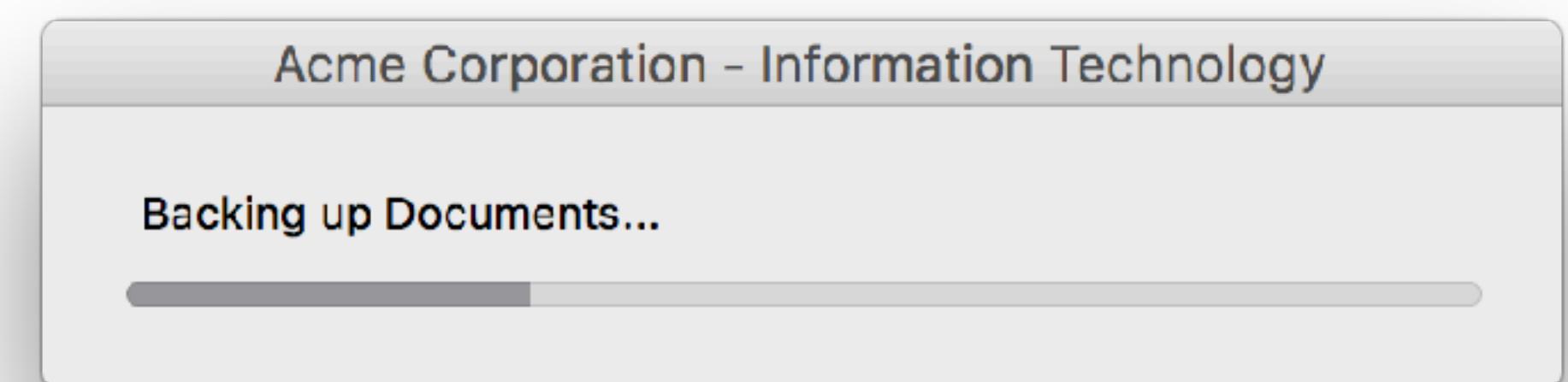
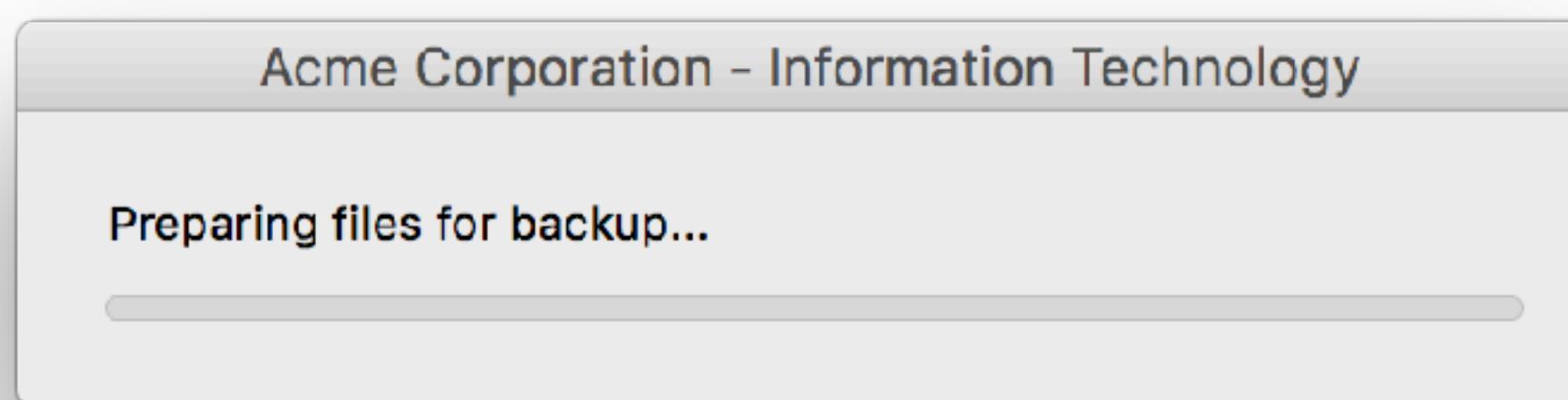
progressbar (indeterminate)

```
 ${cdPath} progressbar --title "${cdTitle}" --indeterminate --text "Preparing files for backup..." --float
```



CocoaDialog

progressbar



CocoaDialog

progressbar

```
/bin/rm -f /tmp/hpipe  
/usr/bin/mkfifo /tmp/hpipe
```

```
 ${cdPath} progressbar --title "${cdTitle}" --text "Preparing files for backup..." --percent 0 --float < /tmp/hpipe &  
 exec 3<> /tmp/hpipe
```

```
/bin/echo "20 Backing up Desktop..." >&3  
/bin/echo "50 Backing up Documents..." >&3  
/bin/echo "80 Veriying Backup Integrity..." >&3  
/bin/echo "90 Compressing Backup..." >&3  
/bin/echo "100 Backup Complete" >&3
```

```
exec 3>&-  
wait  
/bin/rm -f /tmp/hpipe
```



Let's Try it Out!



Pashua

Pashua

Pros

Allows two way user interaction

Many interactions per dialog

Fully customizable dialog

Professional appearance

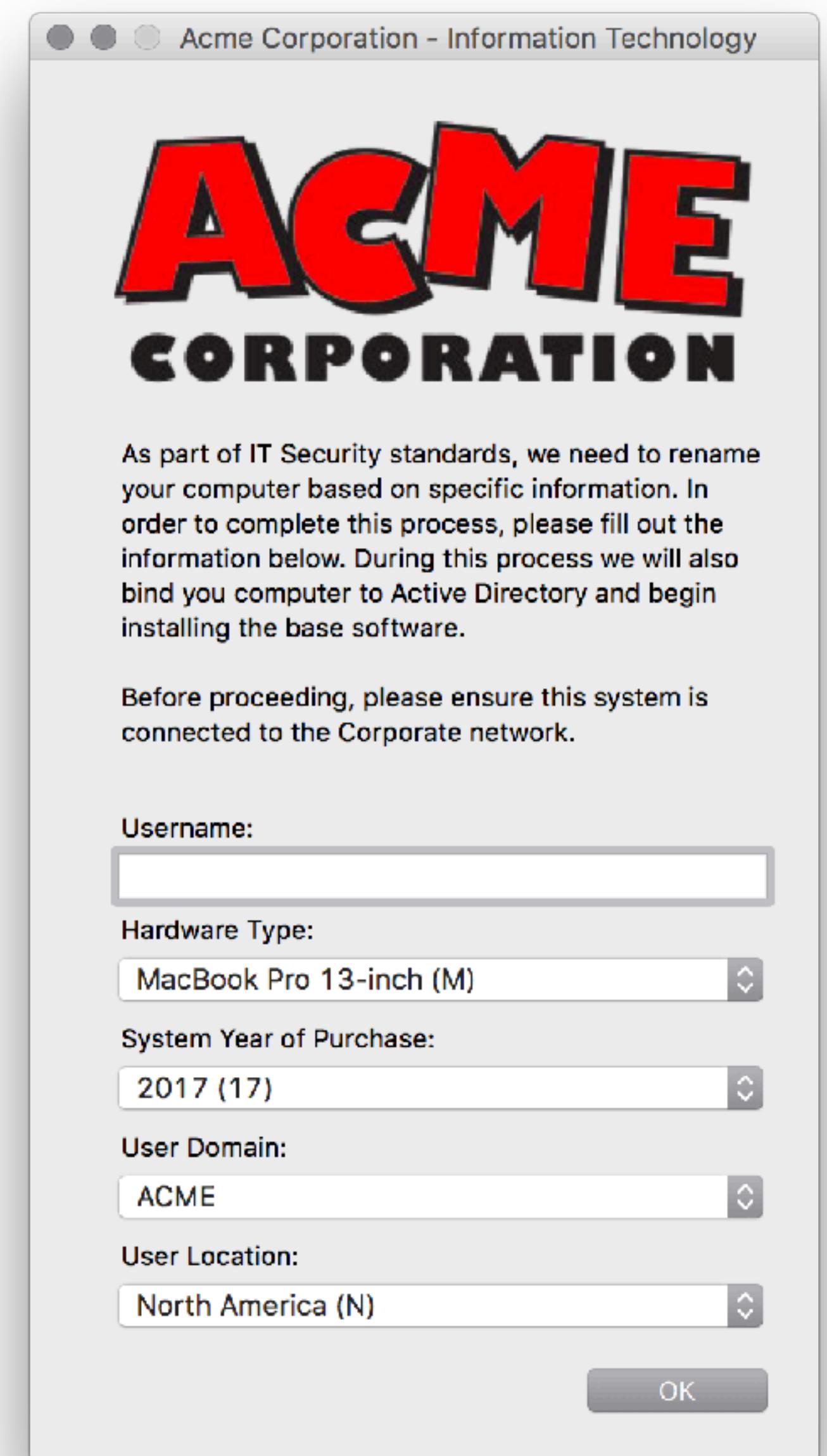
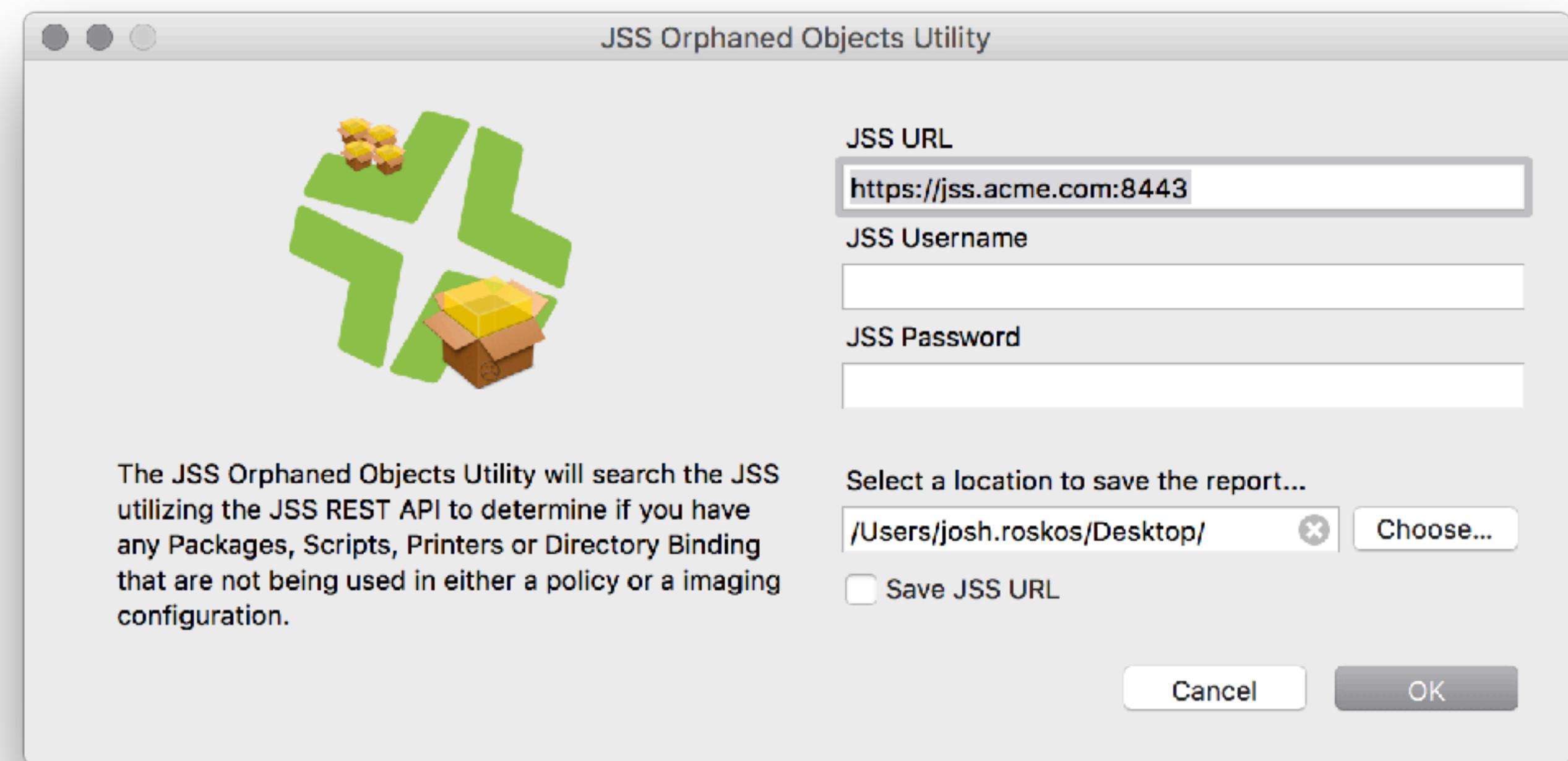
Cons

3rd Party Install

Complex (multiple pieces)

Static variables

Pashua



Pashua

Location variable

Function

Dialog box config

Execute function

Pashua

```
54
55      ######
56
57      ######
58  # VARIABLES
59      ######
60
61  pashuaLocation="/usr/local/jamfps"
62
63      ######
64  # FUNCTIONS
65      ######
66
67  ##Function for communicating with Pashua
68  pashua_run() {
69
70      # Write config file
71      local pashua_configfile=`/usr/bin/mktemp /tmp/pashuaXXXXXX`
72      echo "$1" > "$pashua_configfile"
73
```

Pashua

```
pashua_run() {  
  
    # Write config file  
    local pashua_configfile=`/usr/bin/mktemp /tmp/pashua_XXXXXXXXXX`  
    echo "$1" > "$pashua_configfile"  
  
    local bundlepath="Pashua.app/Contents/MacOS/Pashua"  
    pashuapath="$pashuaLocation/$bundlepath"  
  
    # Get result  
    local result=$( "$pashuapath" "$pashua_configfile" )  
  
    # Remove config file  
    rm "$pashua_configfile"  
  
    oldIFS="$IFS"  
    IFS=$'\n'  
  
    # Parse result  
    for line in $result  
    do  
        local name=$(echo $line | sed 's/^([=]*\')=.*/$/\1/')  
        local value=$(echo $line | sed 's/^([=]*=\'.*\')$/\1/')  
        eval $name='$value'  
    done  
  
    IFS="$oldIFS"  
}
```

Pashua

```
updatePrompt=""  
# Set window title  
*.title = Acme Corporation - Information Technology  
  
logo.type = image  
logo.x = 162  
logo.y = 230  
logo.maxwidth = 250  
logo.path = $pashuaLocation/acme2.png  
  
selfserv.type = image  
selfserv.x = 0  
selfserv.y = 160  
selfserv.maxwidth = 50  
selfserv.path = /Applications/Self Service.app/Contents/Resources/Self Service.icns  
  
# Software Info  
swInfo.type = text  
swInfo.default = Software Name: $4[return]Software Version: $5[return][return]Required By: $6[return]Reboot Required:  
$7[return]Est. Time Required: $8  
swInfo.width = 300  
swInfo.x = 70  
swInfo.y = 107
```

Pashua

```
# Message
txt.type = text
txt.default = You have an available software update![return][return]The latest verison of $4 is ready to be installed.
Please ensure you save all your work if a reboot is required. To run this update now, please click the Install Now button.
[return][return]If you have any questions or need assistance, please contact the Help Desk.
txt.width = 300
txt.x = 320
txt.y = 60

# Install Now Button
installButton.type = defaultbutton
installButton.label = Install Now

# Remind Me Tomorrow Button
remindButton.type = button
remindButton.label = Remind Me Tomorrow
"
```

Pashua

```
132 installButton.type = defaultbutton
133 installButton.label = Install Now
134
135 # Remind Me Tomorrow Button
136 remindButton.type = button
137 remindButton.label = Remind Me Tomorrow
138 "
139
140 ######
141 # APPLICATION
142 #####
143
144 ## Display Dialog to End User
145 /bin/echo "Waiting for user input..."
146 pashua_run "$updatePrompt"
147
148 ## Which Button Was Clicked
149 if [[ $remindButton == 1 ]]; then
150   /bin/echo "User choose to be reminded tomorrow..."
151   exit 0
152 else
153   if [[ $installButton == 1 ]]; then
154     /bin/echo "User choose to install now..."
155     /bin/echo "Launching Self Service and Executing Install for $4 $5..."
156     sudo -u ${userName} /usr/bin/open "$9"
157   fi
158 fi
```

Pashua

Acme Corporation - Information Technology



Software Name: Microsoft Office 2016 You have an available software update!

Software Version: 15.34.0

Required By: June 9th

Reboot Required: No

Est. Time Required: 10 Minutes

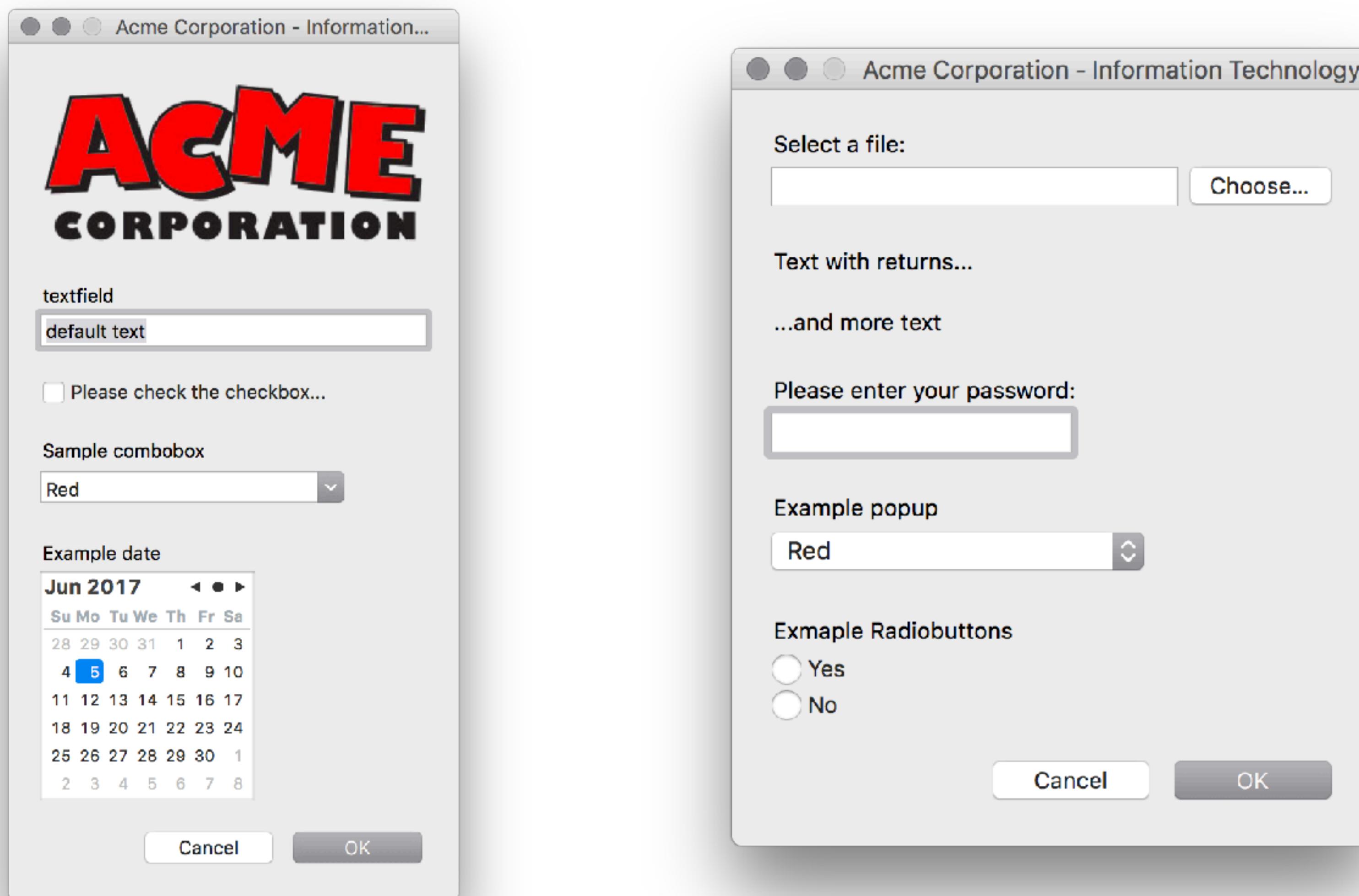
The latest verison of Microsoft Office 2016 is ready to be installed. Please ensure you save all your work if a reboot is required. To run this update now, please click the Install Now button.

If you have any questions or need assistance, please contact the Help Desk.

Remind Me Tomorrow

Install Now

Pashua





Let's Try it Out!



Break





Combing Methods





Let's Try it Out!



Making an Application

Making an App

Your Application.app
/Contents
/MacOS
/Your Application

Making an App

Your Application.app

/Contents

com.YourApplication.info.plist

/MacOS

 /Your Application

/Resources

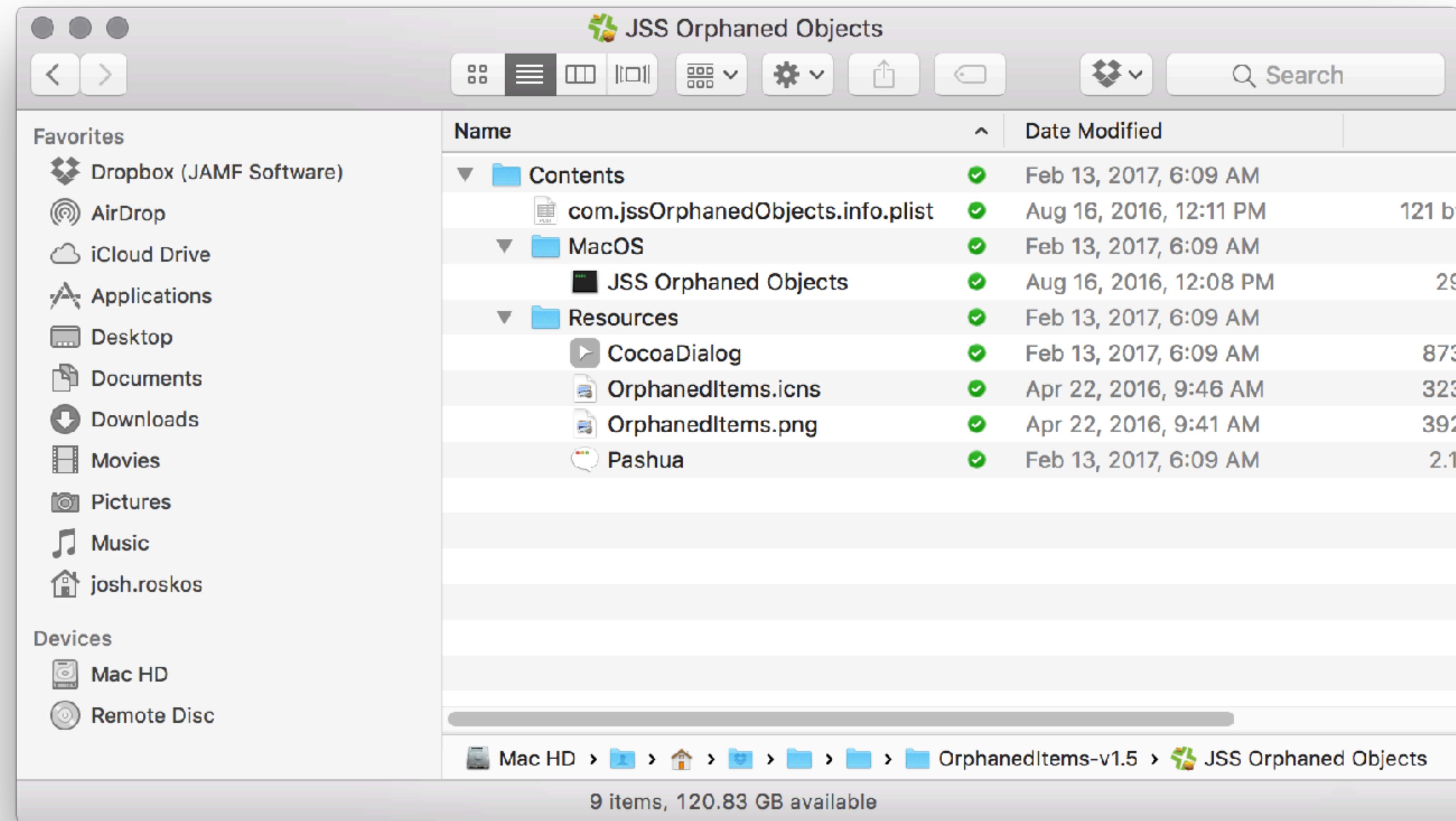
 /YourLogo.icns

 /YourLogo.png

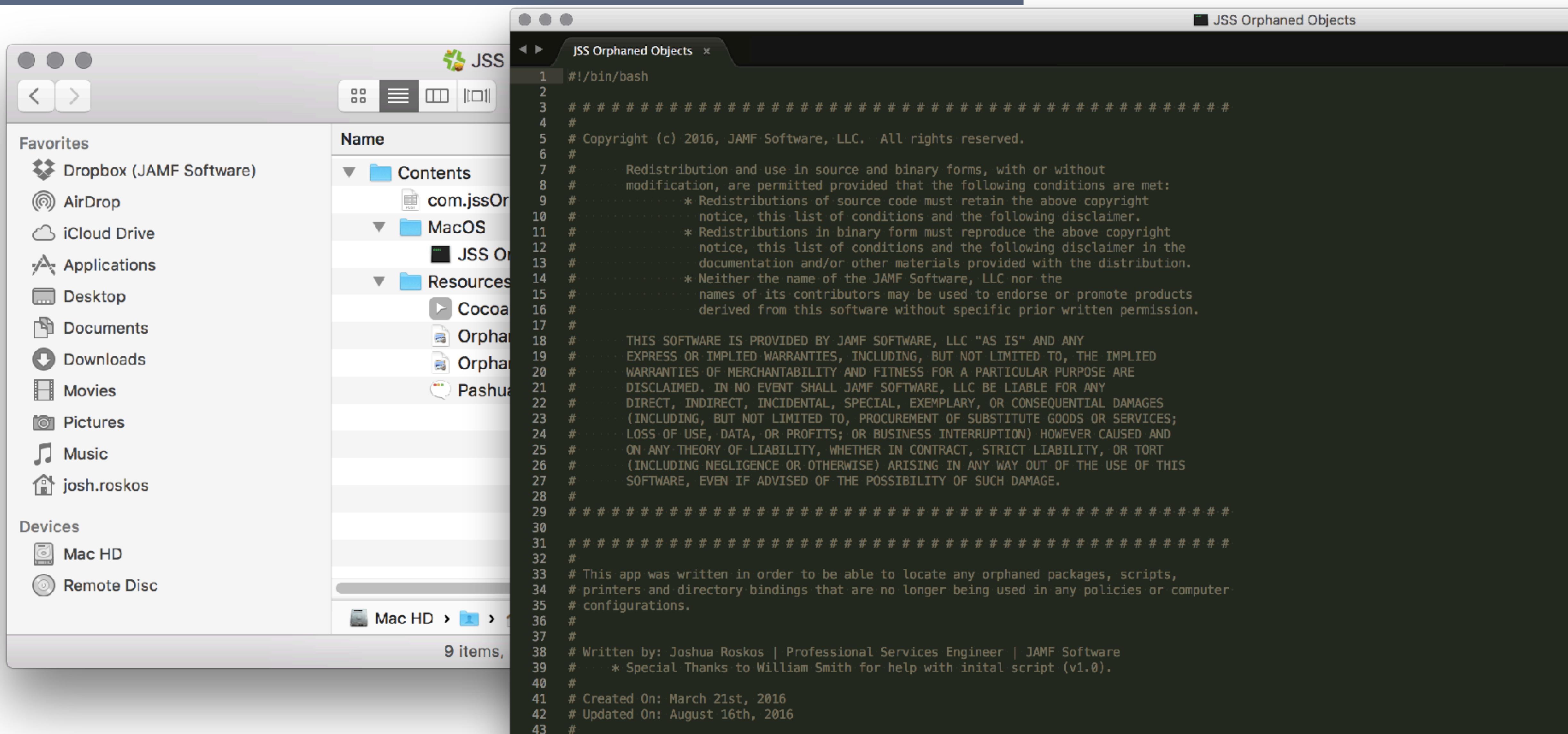
 /CocoaDialog.app

 /Pashua.app

Making an App



Making an App

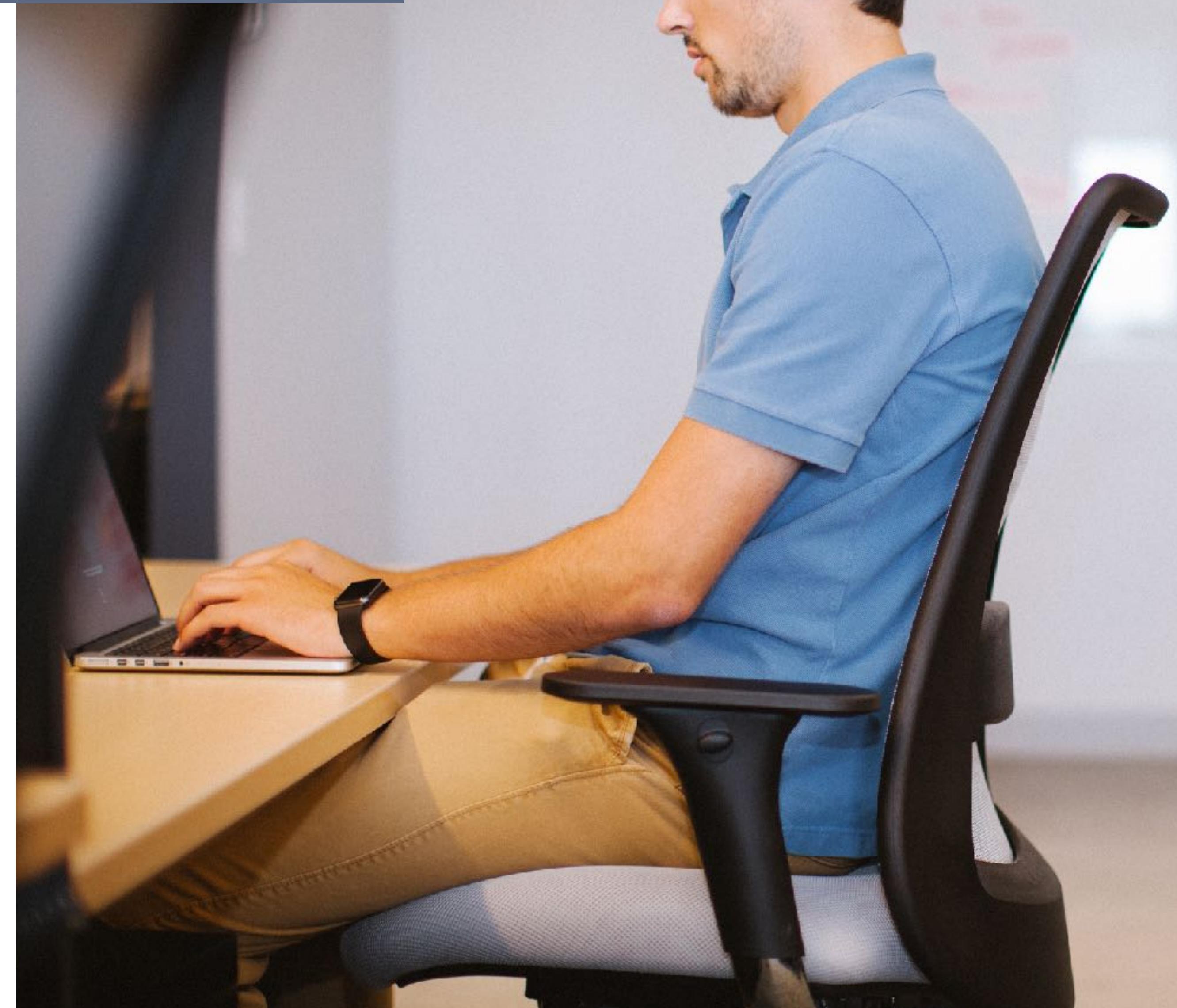


Making an App

Structure

Executable Name

Permissions





Let's Try it Out!

Whats My IP?

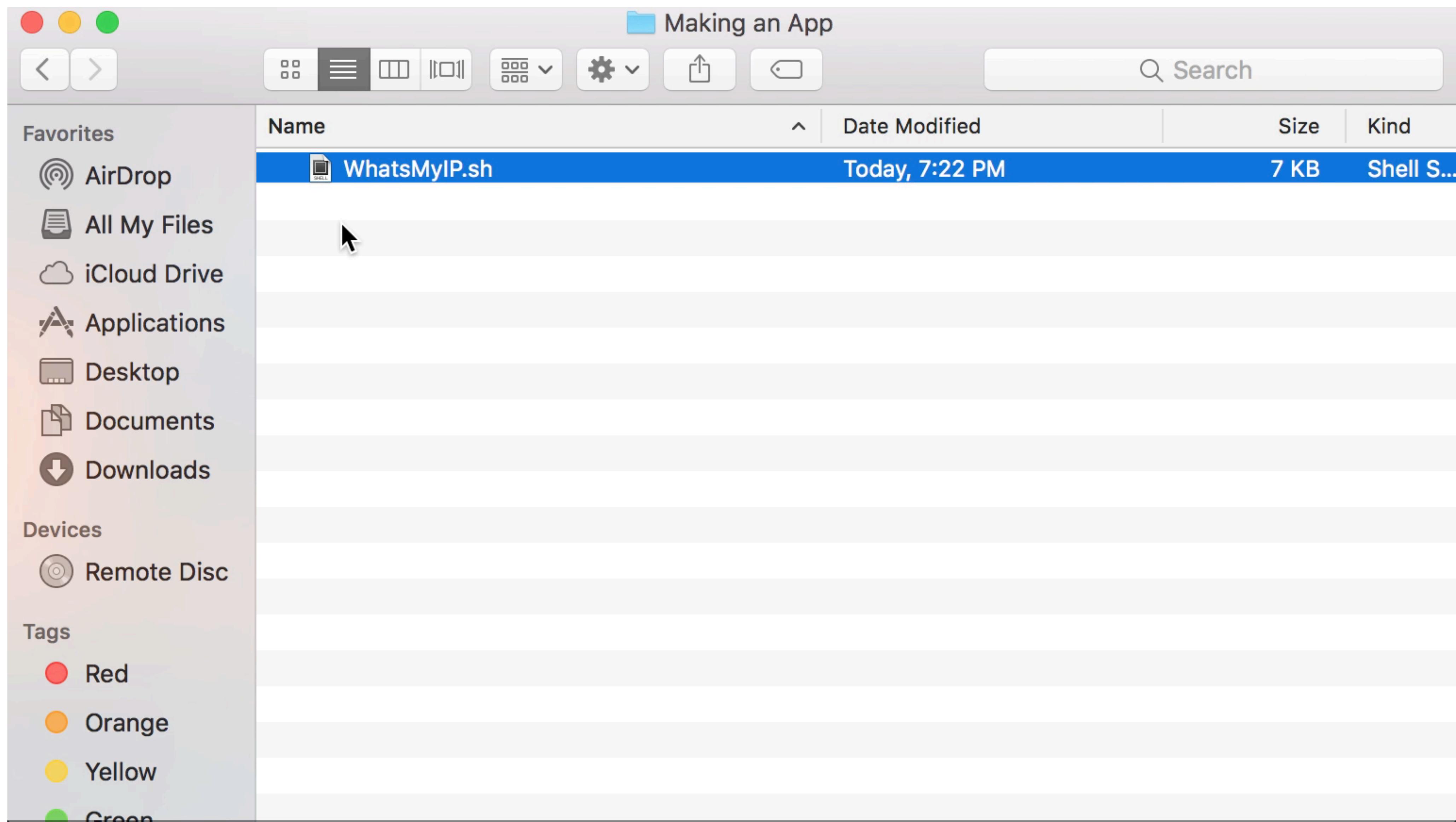
Acme Corporation | Whats My IP?

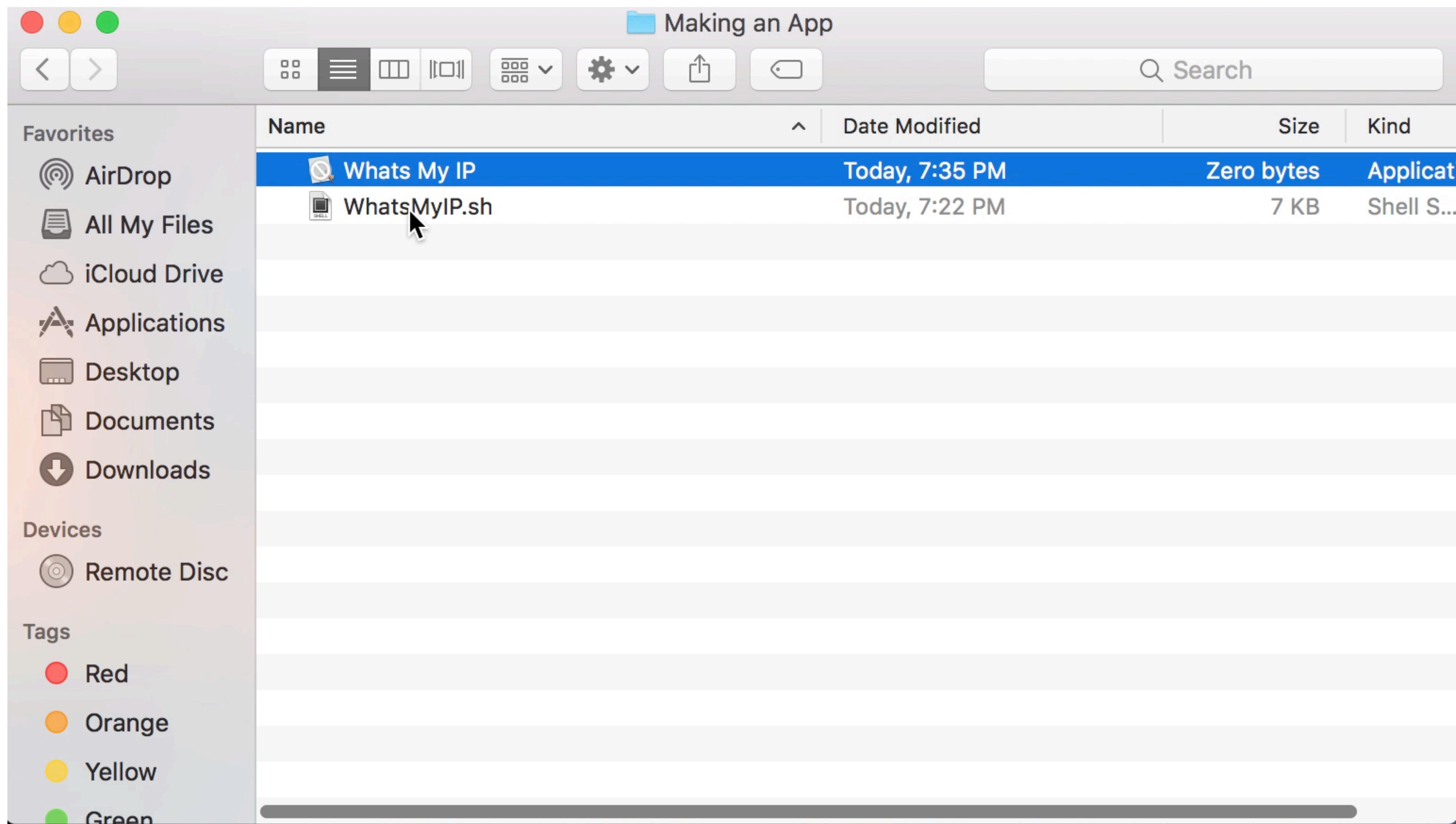


IP Addresses Found

Local IP:	172.20.3.77
External IP:	209.82.111.212
VPN IP:	No IP Address Found!

Ok





Contents

Search

Favorites

- AirDrop
- All My Files
- iCloud Drive
- Applications
- Desktop
- Documents
- Downloads

Devices

- Remote Disc

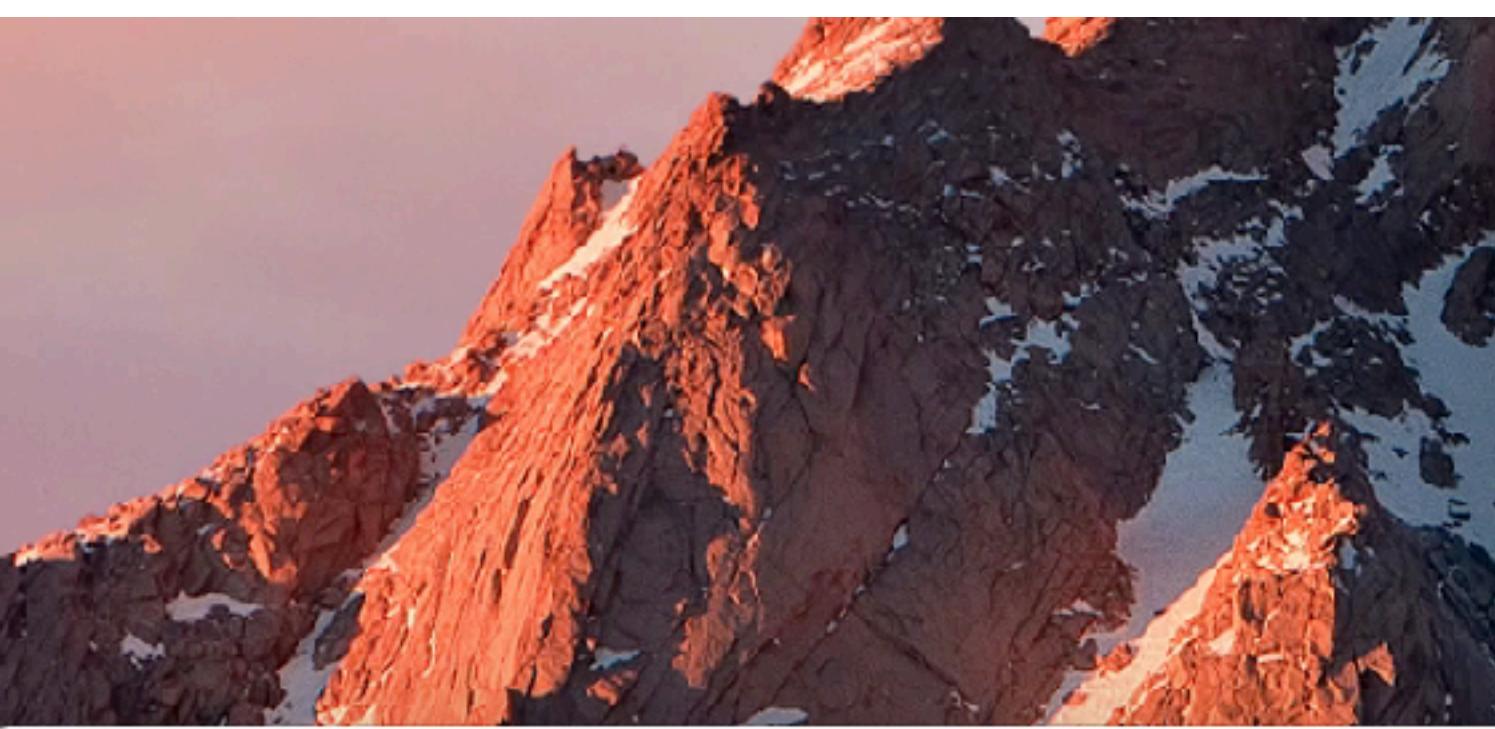
Tags

- Red
- Orange
- Yellow
- Green

Name	Date Modified	Size	Kind
MacOS	Today, 7:38 PM	--	Folder

presenter — -bash — 110x24

Roskos-MacBook-Pro:~ presenter\$



MacOS

< >

Search

Favorites

- AirDrop
- All My Files
- iCloud Drive
- Applications
- Desktop
- Documents
- Downloads

Devices

- Remote Disc

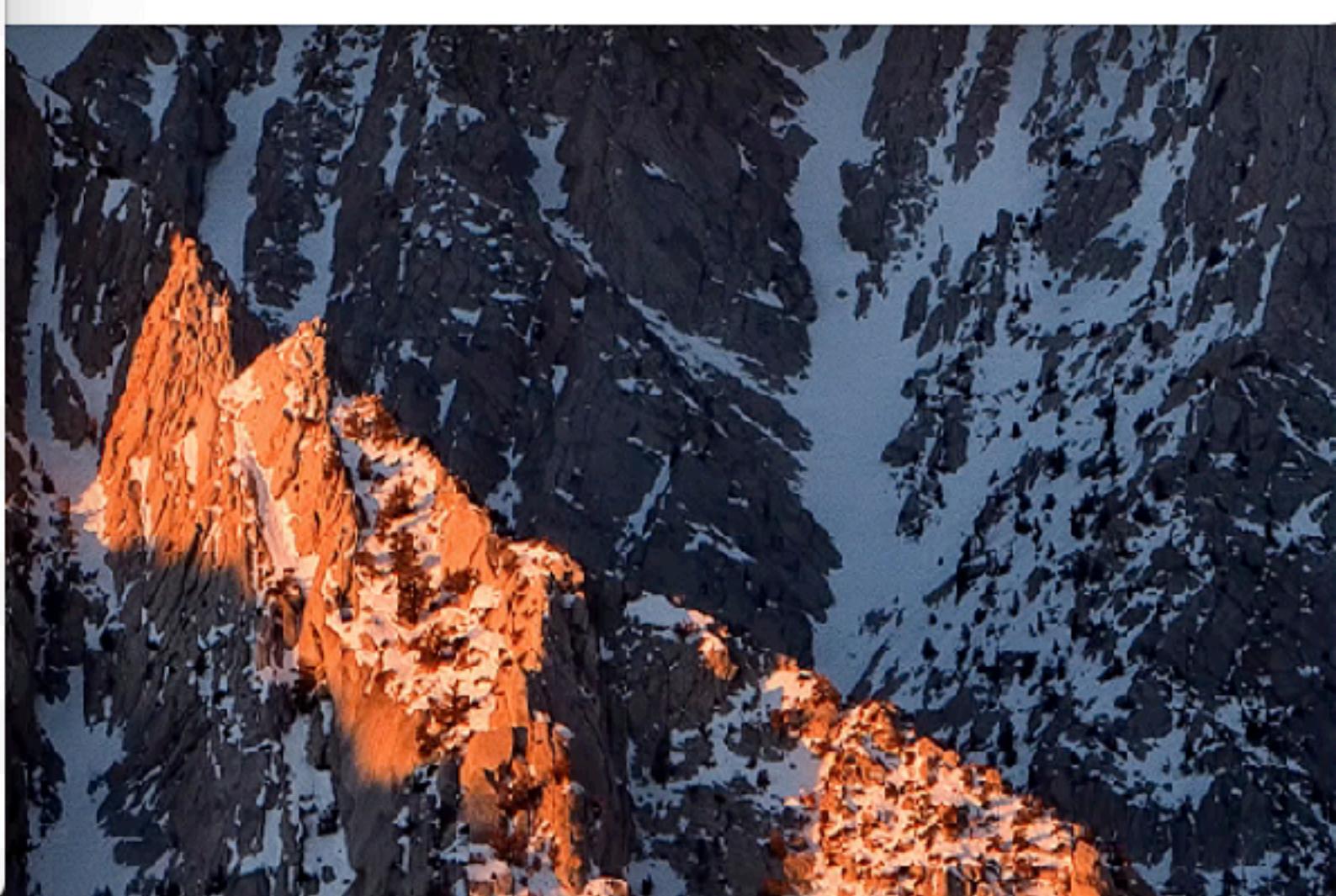
Tags

- Red
- Orange
- Yellow
- Green

WhatsMyIP.sh

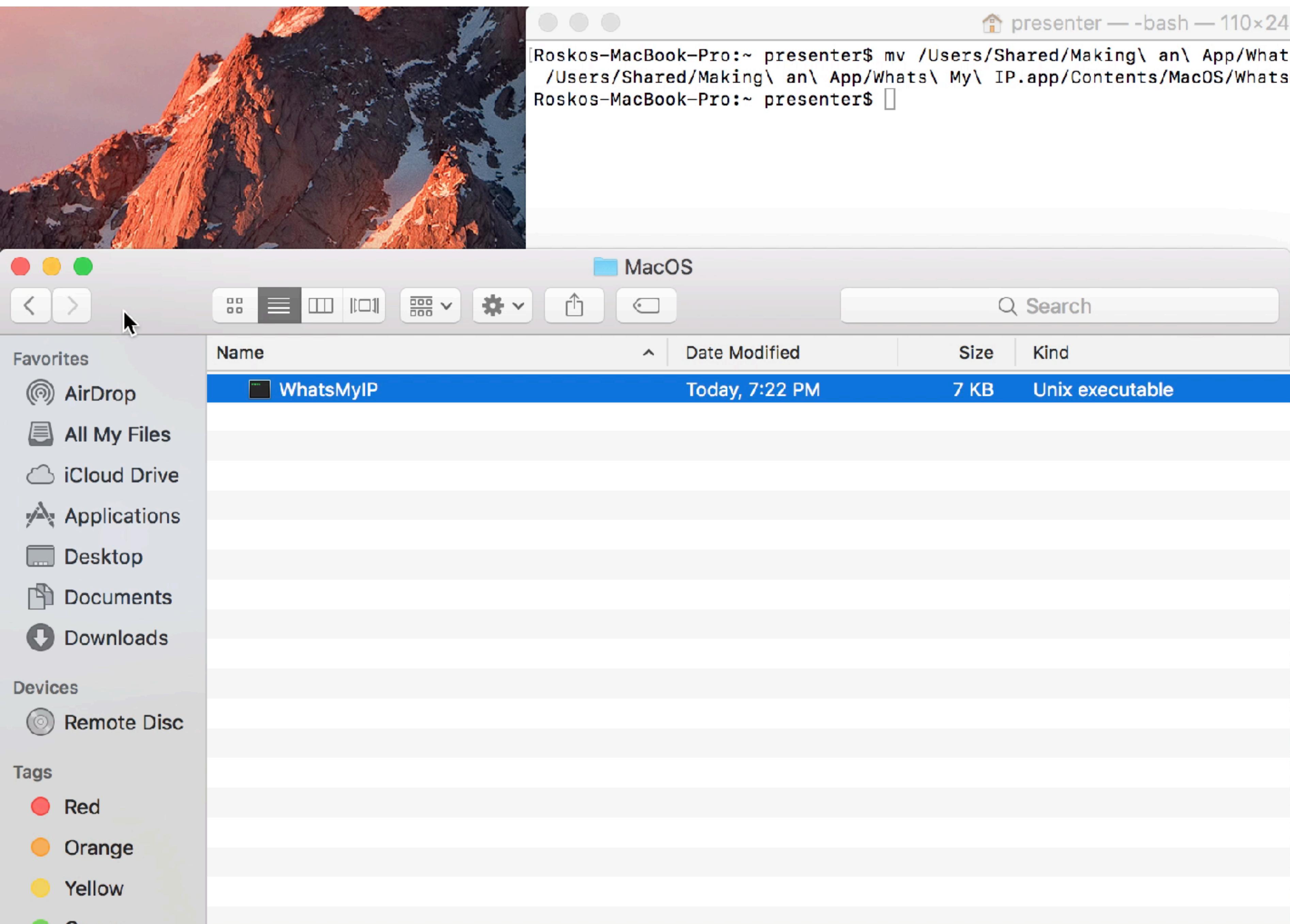
Name Date Modified Size Kind

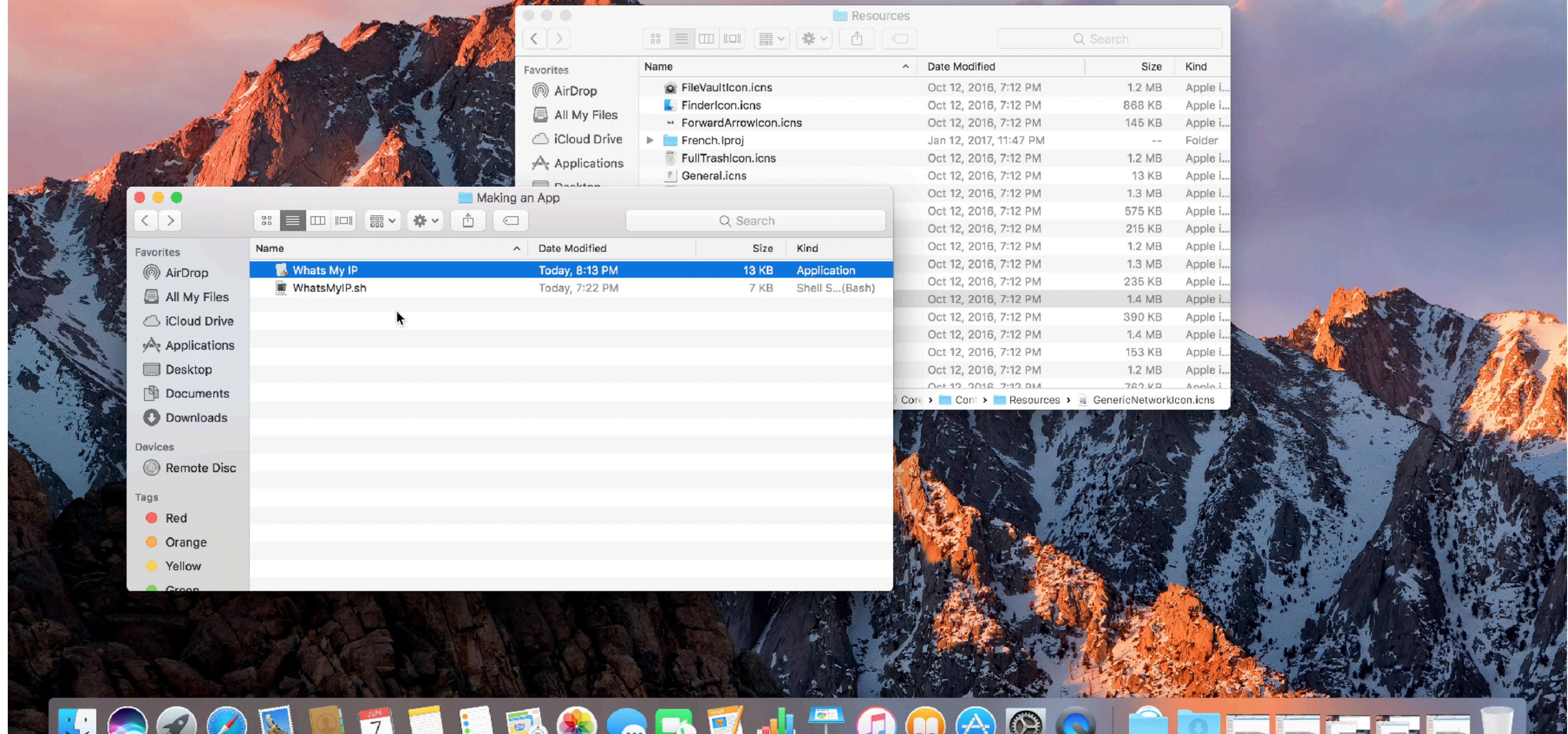
Name	Date Modified	Size	Kind
WhatsMyIP.sh	Today, 7:22 PM	7 KB	Shell Script (Bash)



presenter — bash — 110x24

```
[Roskos-MacBook-Pro:~ presenter$ mv /Users/Shared/Making\ an\ App/Whats\ My\ IP.app/Contents/MacOS/WhatsMyIP.sh  
/Users/Shared/Making\ an\ App/Whats\ My\ IP.app/Contents/MacOS/WhatsMyIP  
Roskos-MacBook-Pro:~ presenter$ ]
```







Thank you

