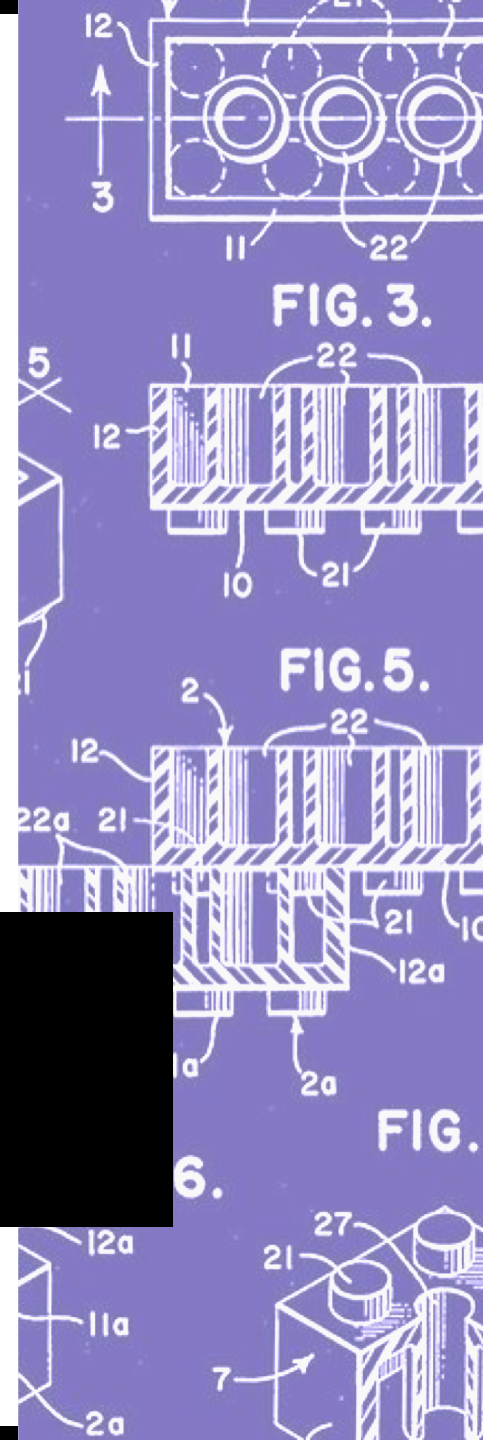# MAKING A JAMF UPLOADER FOR EVERYONE

Sept 18th

MacAdmins Meeting

Marriott Library

The University of Utah

Joshua Harvey

Senior Principle Systems Administrator
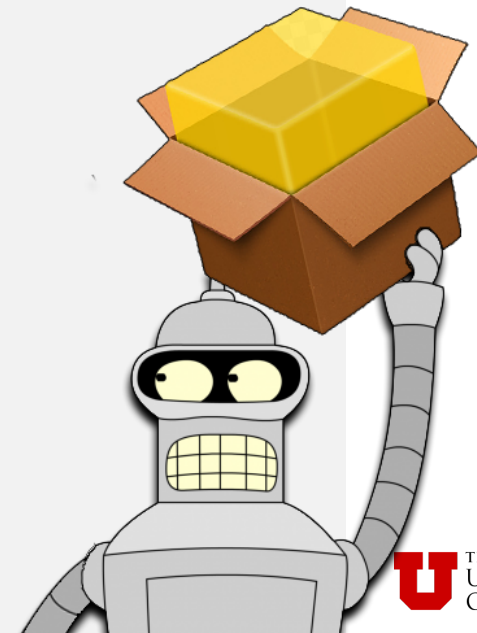
NASA Goddard Space Flight Center

Greenbelt, Maryland

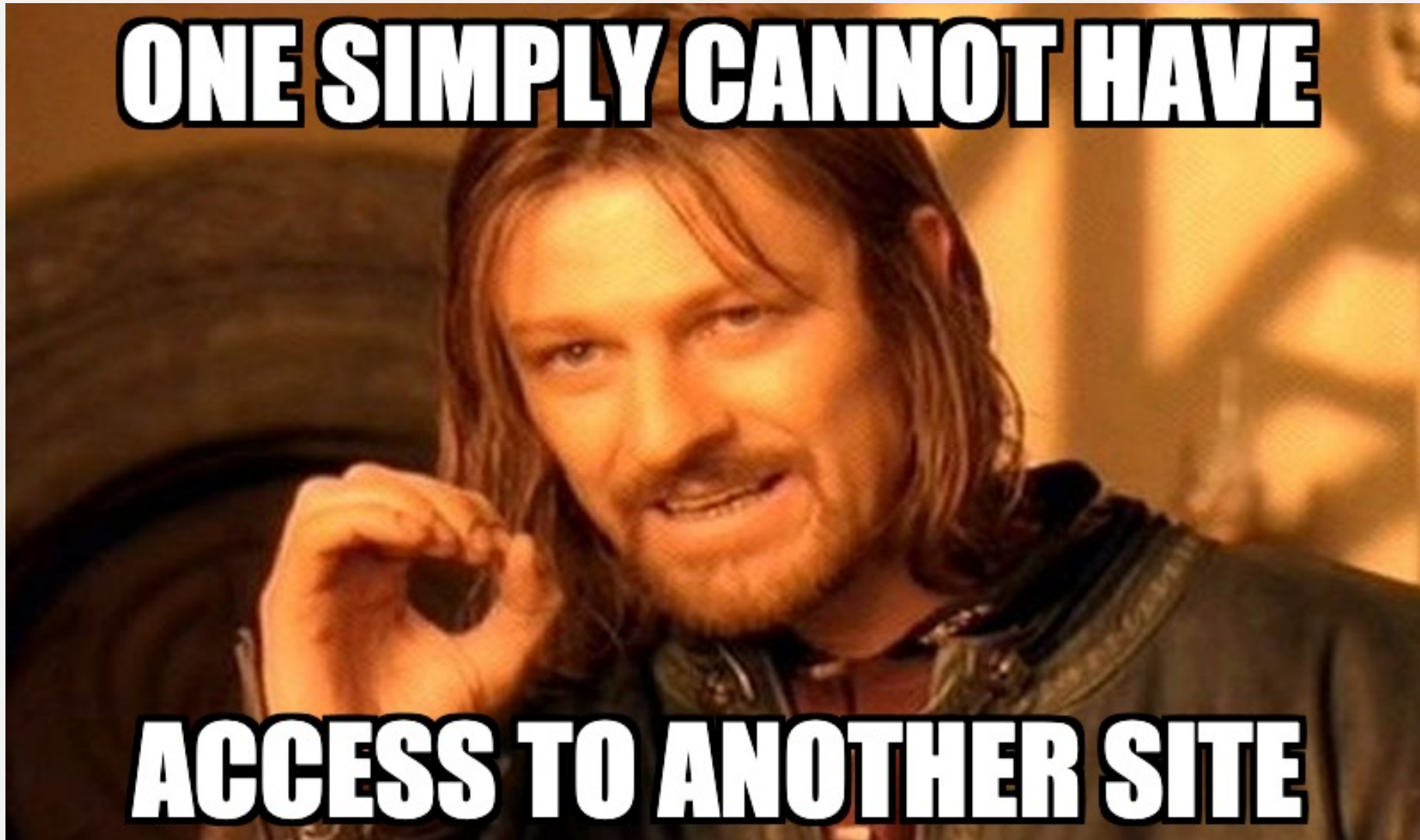# "How can I upload BAM!LearnToCook.pkg to jamf?"

- *B.B. Rodriguez*
Site Admin

jamf Admin

Smartcard Authentication (LOA 4)

Role Based Access (RBA)

ONE SIMPLY CANNOT HAVE

ACCESS TO ANOTHER SITE
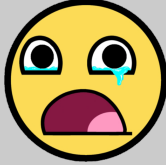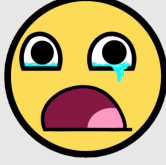
recap.

Our must have list

Needs	jamf Admin
Easy To Use	😄
Uploads to jamf server	😄
Role Based Access	😭
Smartcard Authentication	😭

THERE ARE NO BAD IDEAS

ONLY GOOD IDEAS THAT GO HORRIBLY WRONG

imgflip.com

solution one:
manual uploads

Pros	Cons
• None	• Time Consuming
	• Manual Process
	• Slow Turnaround
	• Not Fun

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solution two:
network share

Pros	Cons
• Automated	• Broke Often
• Easy to use	• Issues = Lost Time
• Quick Turnaround	• Very Picky with Files

solution three:
upload page

Pros	Cons
• Web Based	• I had to learn PHP…
• Easy to use	
• Automated	
• LOA 4 Option	
• Role Based Access	

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"How can I upload BAM!LearnToCook.pkg to jamf?"

- *B.B. Rodriguez*
Site Admin
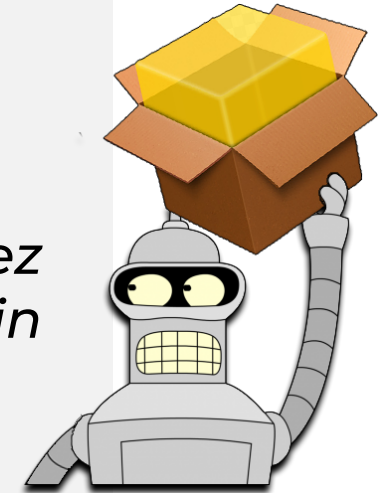
"Use the jamf upload page!"

- *Me*

the upload page.

HOW DOES THIS THING WORK?
Troll.me
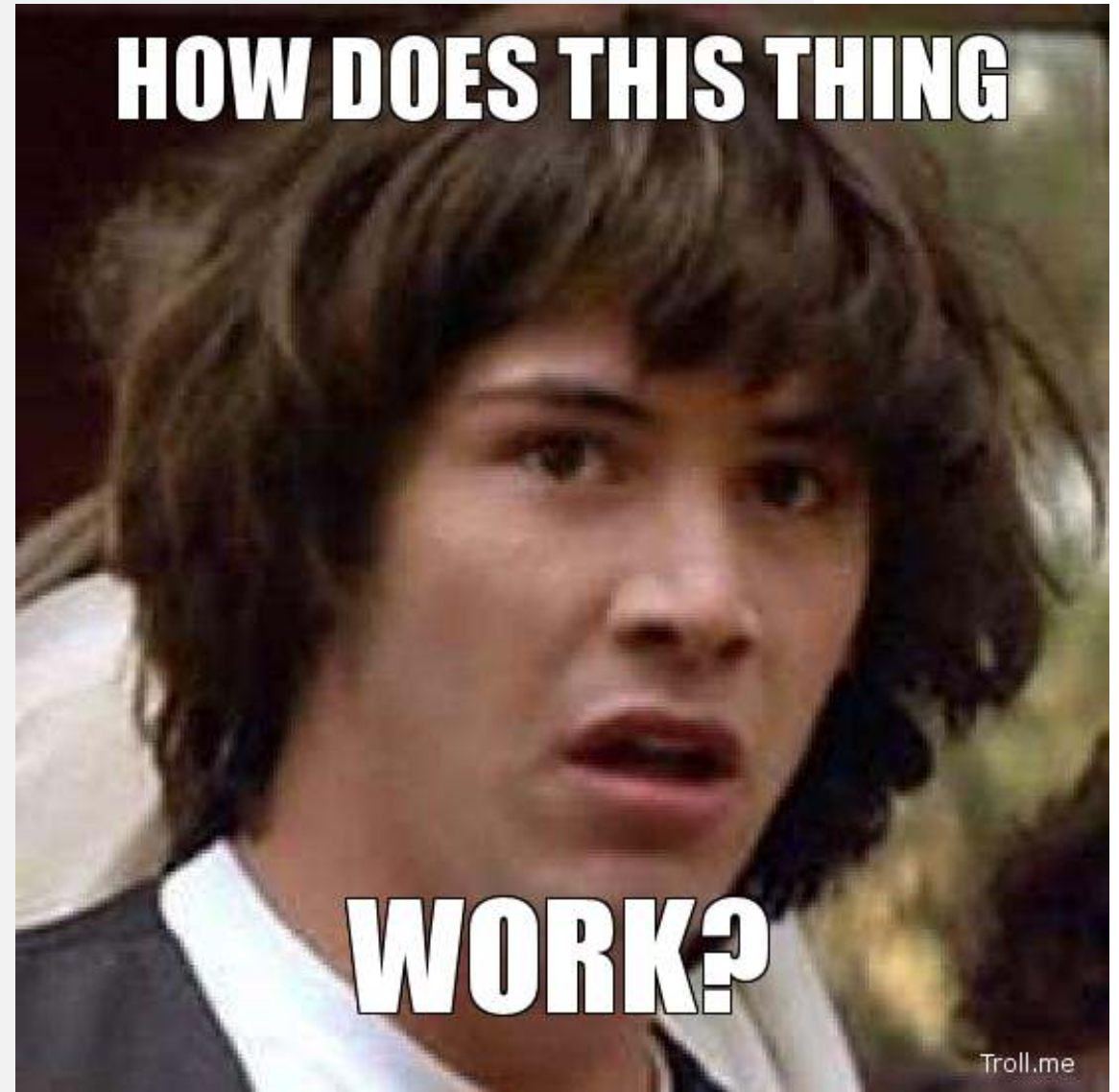
the upload page.
HTML Files *(and one lonely CSS)*

- index.html
- home.html
- newscript.html
- pkgupload.html
- profileupload.html
- scriptupload.html
- uploadstylesheet.css*

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14

the upload page.
PHP Files

- createscript.php
- getscript.php
- getsites.php
- getcategories.php
- pkgupload.php
- profileupload.php
- scriptdownload.php
- scriptupload.php

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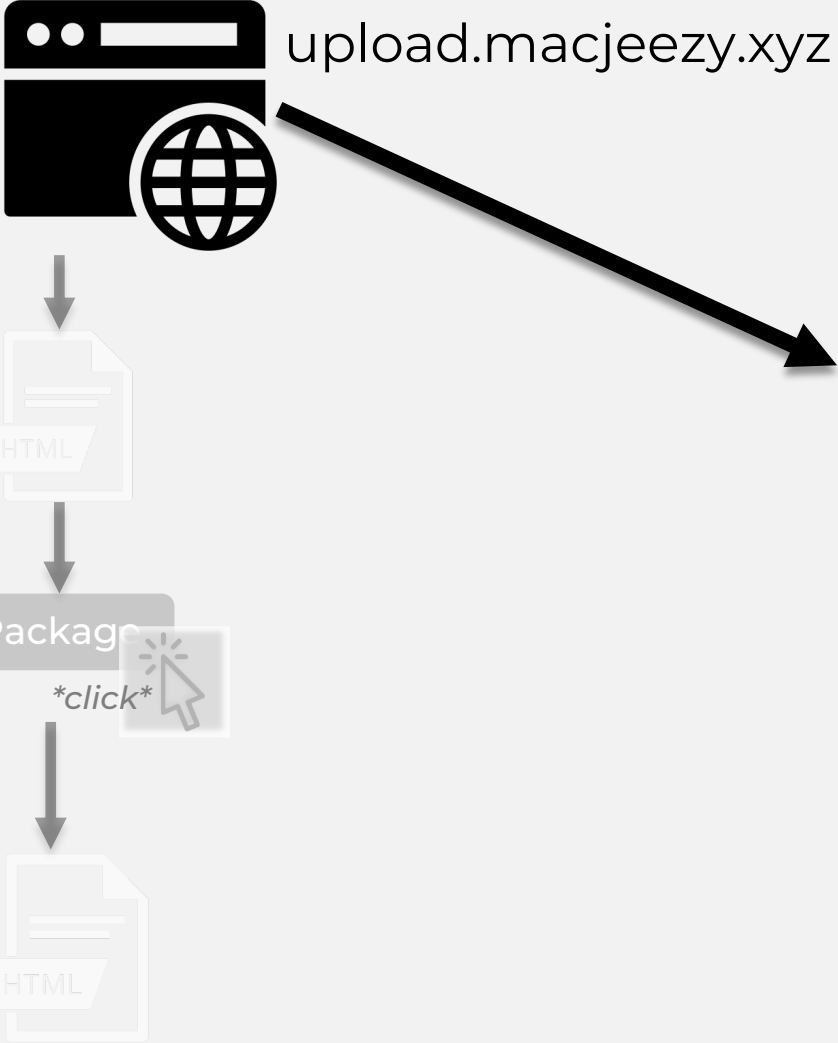
the upload page.
XML Files

- SiteList.xml
- ScriptList.xml
- CategoriesList.xml

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the upload page.
workflow

upload.macjeezy.xyz

HTML

Pages Used
- Index.html
- Home.html

HTML

Package

click

HTML

the upload page.
workflow

index.html

home.html

Jamf Pro File Upload Page

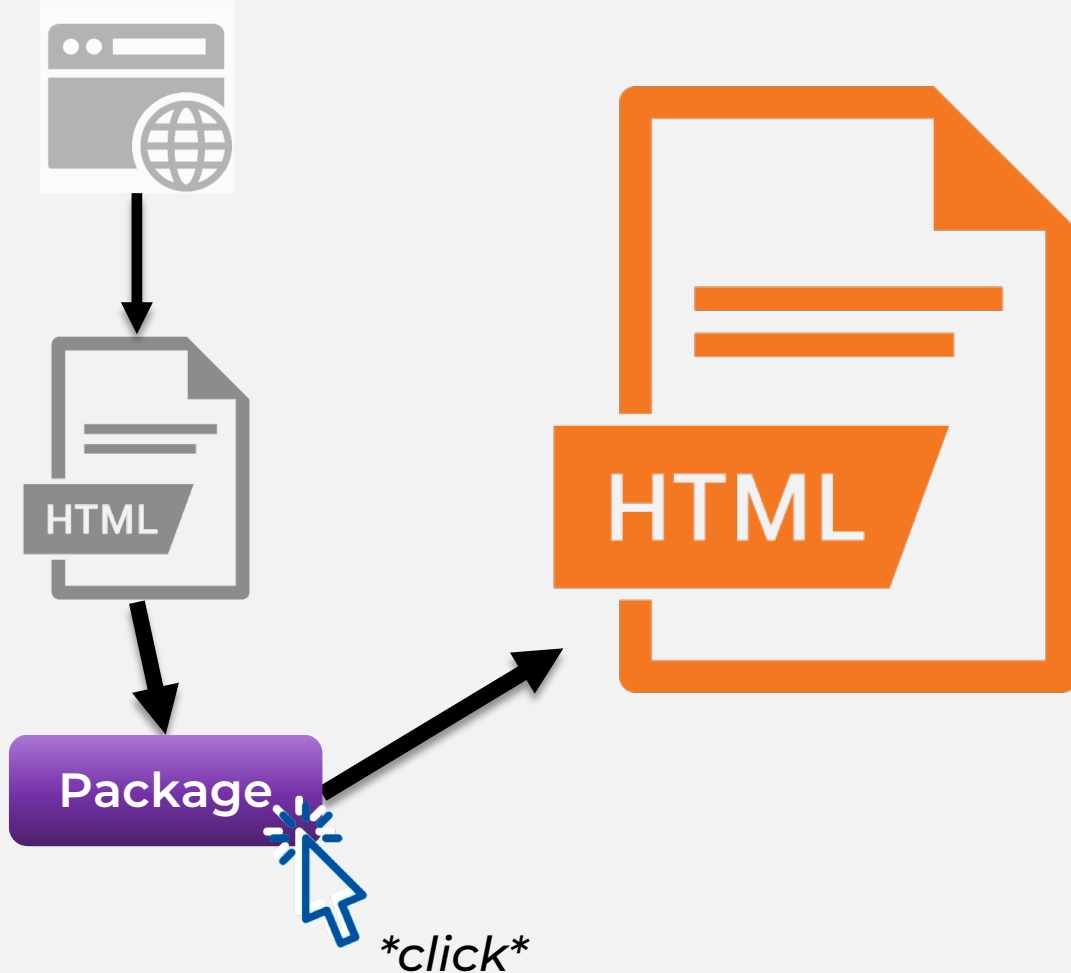Package   Profiles   Scripts   Home

Select an option from the list above to get started.

Created by: Joshua Harvey
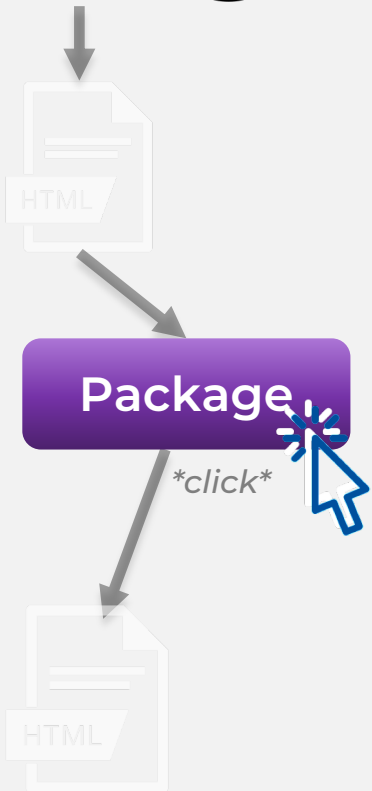**Contact information:** josh@macjeezy.com
Last Updated: Jan 2019

HTML

Package

click

HTML

the upload page.
workflow

Pages Used
- getsites.php
- pkgupload.html
- index.html

Package

click

the upload page.
workflow

index.html

pkgupload.html

Jamf Pro File Upload Page

Package   Profiles   Scripts   Home

Package

click

Upload Package

This page was created to make uploading packages to Jamf Pro easier and more reliable.
Please select your site from the drop down menu below then select the package you want to upload.

All fields are required

Package Requirements:
File Size Limit: 6GB | **Accepted File Types:** .pkg, .mpkg, .dmg

**Select jamf Site:**

Select Package: Browse...   No file selected.   Upload Package

Note: No progress bar will appear during the upload. Please do not refresh or navigate away from this page until the upload is completed. When the upload is completed, you will see an alert appear and get redirected back to the File Upload page.

Created by: Joshua Harvey
Contact information: josh@macjeezy.com
Last Updated: Jan 2019

the upload page.
workflow
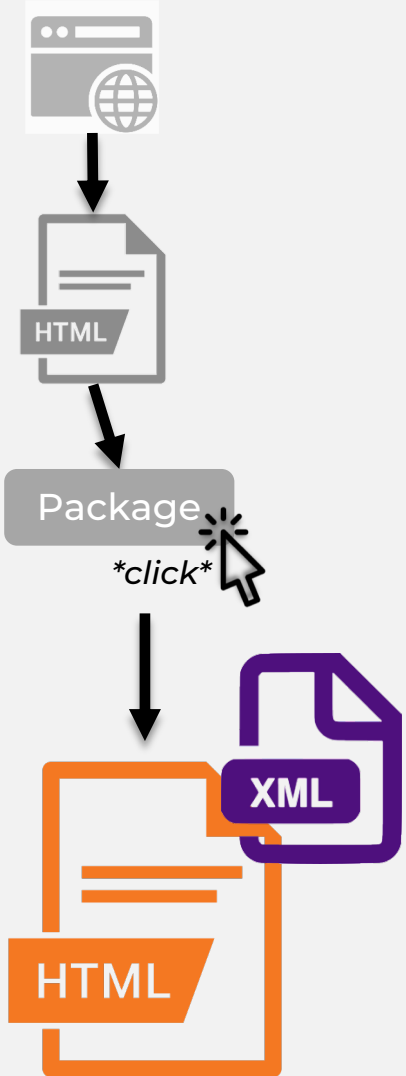
Upload Package

This page was created to make uploading packages to Jamf Pro easier and more reliable.
Please select your site from the drop down menu below then select the package you want to upload.

All fields are required

Package Requirements:
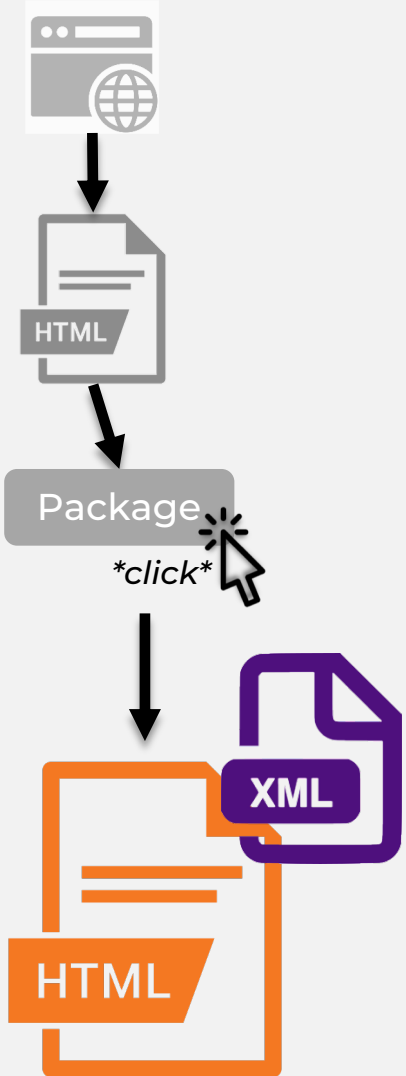**File Size Limit:** 6GB | **Accepted File Types:** .pkg, .mpkg, .dmg

Select jamf Site:

Select Package: Choose File   No file chosen   Upload Package

click

HTML

Package

XML

HTML

getsites.php

1. Captures Sites via API Call
2. Output saved to XML File

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the upload page.
workflow

Upload Package

This page was created to make uploading packages to Jamf Pro easier and more reliable.
Please select your site from the drop down menu below then select the package you want to upload.

All fields are required

Package Requirements:
File Size Limit: 6GB | **Accepted File Types:** .pkg, .mpkg, .dmg

Select jamf Site:

Select Package: Choose File   No file chosen   Upload Package

HTML

Package

click

XML

HTML

pkgupload.html

1. Parses XML File
2. Populates Menu with Sites

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the upload page.
workflow

Upload Package

This page was created to make uploading packages to Jamf Pro easier and more reliable.
Please select your site from the drop down menu below then select the package you want to upload.

All fields are required

Package Requirements:
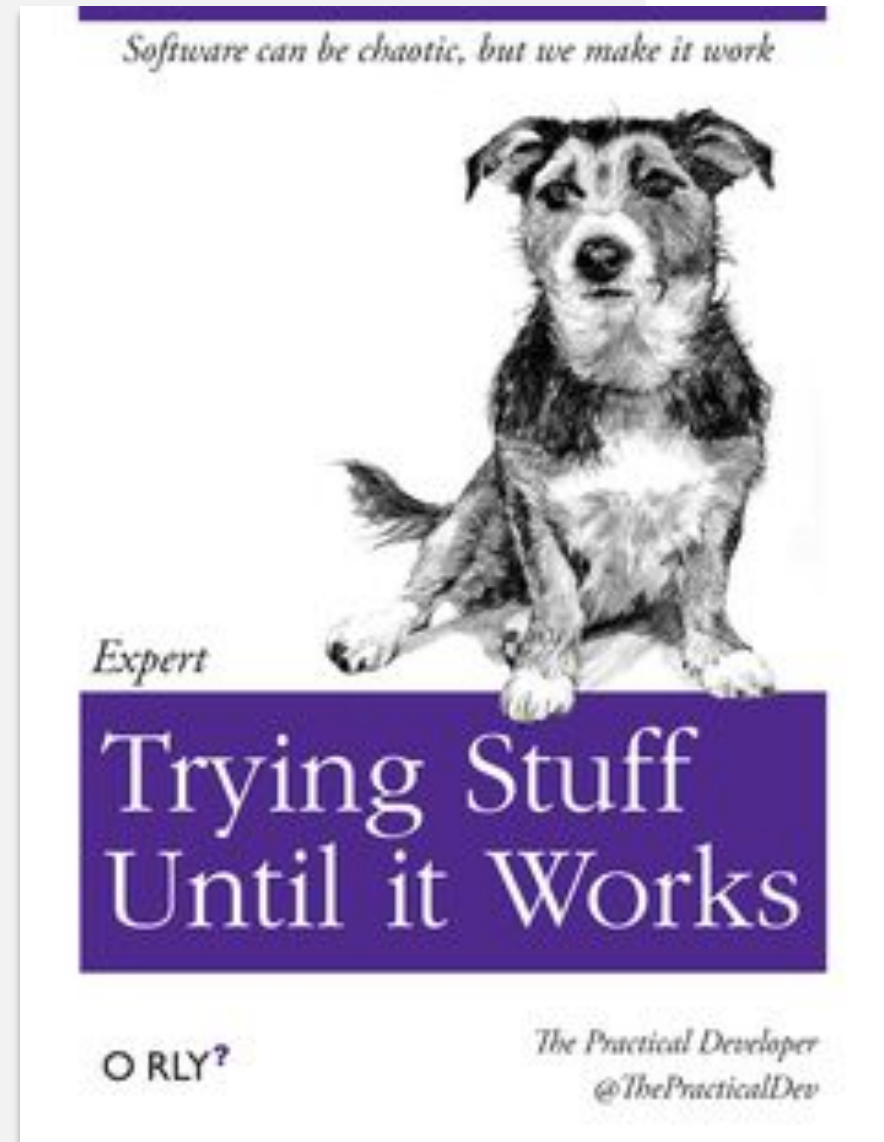**File Size Limit:** 6GB | **Accepted File Types:** .pkg, .mpkg, .dmg

Select jamf Site:

Select Package: Choose File   No file chosen   Upload Package

click

Package

HTML

HTML

pkgupload.php

1. Uploads Package
2. API Call to update jss

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building it.

Software can be chaotic, but we make it work

Expert

Trying Stuff Until it Works

O RLY?

The Practical Developer
@ThePracticalDev

building it.
Requirements

- Webserver with PHP
- jamf API Access
- Resource Files from github

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building it.
Webserver: Apache and PHP

Enable the CentOS Software Collection repo
```
yum -y install centos-release-scl.noarch
```

Install PHP 7 and Apache (httpd)
```
yum -y install rh-php70 rh-php70-php rh-php70-php-fpm httpd
```

Start PHP and Enable it at boot
```
systemctl enable rh-php70-php-fpm.service
systemctl start rh-php70-php-fpm.service
```
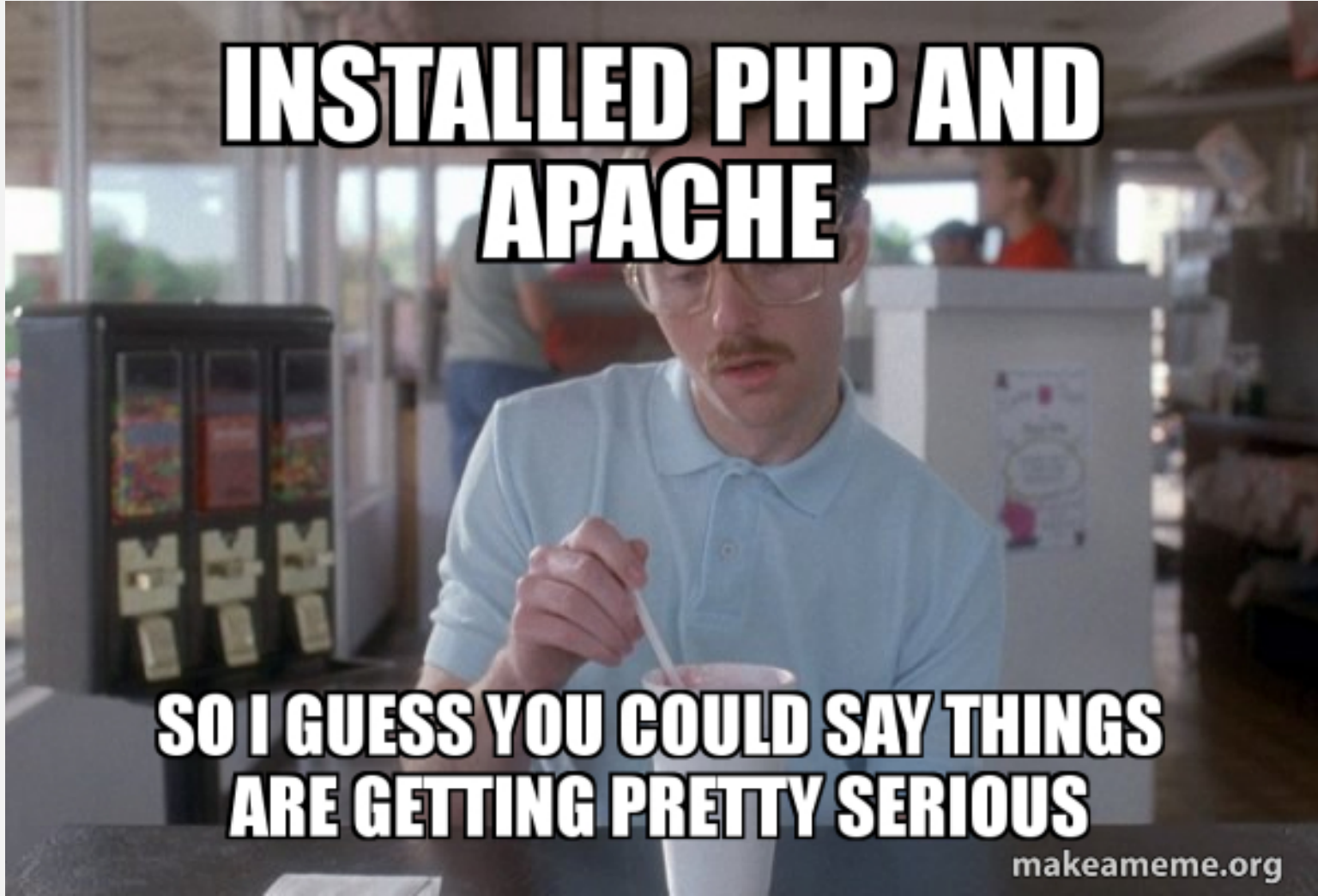
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building it.
Webserver: Apache and PHP pt.2

Configure Apache for PHP
```
nano /etc/httpd/conf.d/fpm.conf
```

```
# PHP scripts setup
ProxyPassMatch ^/(.*.php)$
fcgi://127.0.0.1:9000/var/www/html

Alias / /var/www/html/
```

Installation Guide: https://wiki.centos.org/HowTos/php7

building it.
resource files

Clone Resource Files from GitHub
`git clone https://github.com/therealmacjeezy/JamfProUploadPage.git`

building it.
setup: progress check

Task	Status
Webserver	
PHP Pages	
HTML Pages	
PHP Settings	

building it.
setup: directory prep

- **Create Directories**
  - /var/www/html/PHP
  - /jamfupload/Packages
  - /jamfupload/Scripts
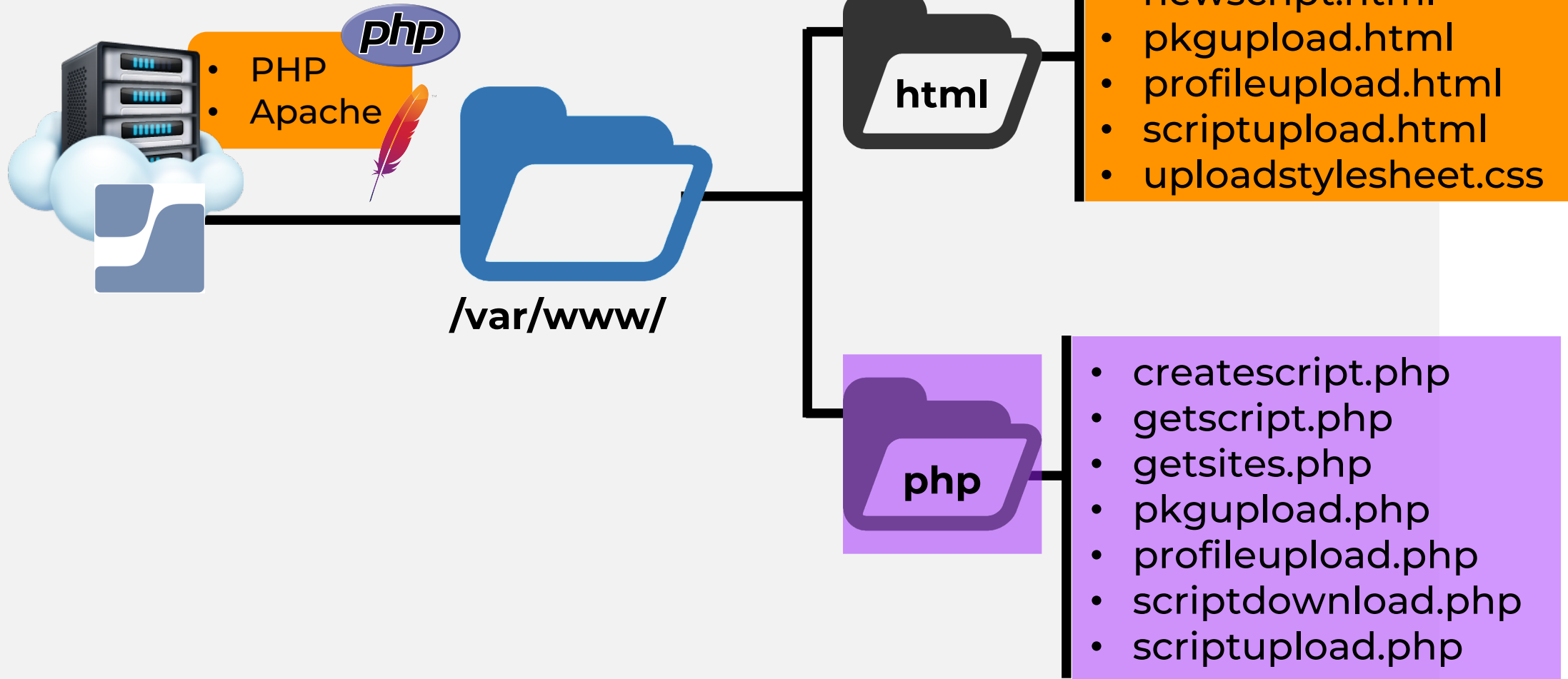 - /jamfupload/Profiles

building it.
setup: server prep

- **Copy resource files over**
  - PHP Files -> /var/www/html/PHP/
  - HTML Files -> /var/www/html/

building it.
file layout

- PHP
- Apache

/var/www/

html
- index.html
- home.html
- newscript.html
- pkgupload.html
- profileupload.html
- scriptupload.html
- uploadstylesheet.css

php
- createscript.php
- getscript.php
- getsites.php
- pkgupload.php
- profileupload.php
- scriptdownload.php
- scriptupload.php

building it.
setup: API Account and cURL Settings

What is it used for..
cURL Function used for API Calls

What files use it..
- getsites.php
- getscripts.php
- createscript.php
- profileupload.php
- pkgupload.php
- scriptdownload.php
- scriptupload.php

building it.
setup: API Account and cURL Settings

jamf API Account Info

Required Changes:

- **cURL Authentication**
  ```
  curl_setopt($curl, CURLOPT_USERPWD, "apiuser:apipass");
  ```

- **cURL Variable (Line 47)**
  ```
  $get_data = callAPI('GET', 'https://jamfurl/JSSResource/[…]', false);
  ```

jamf server URL

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building it.
example: API Account and cURL Settings

```
29          ));
30          curl_setopt($curl, CURLOPT_RETURNTRANSFER, 1);
31          curl_setopt($curl, CURLOPT_HTTPAUTH, CURLAUTH_BASIC);
32          // Change service account before production
33          curl_setopt($curl, CURLOPT_USERPWD, "apiuser:apipass");
34          curl_setopt($curl, CURLOPT_SSL_VERIFYPEER, false);
35          // EXECUTE:
36          $result = curl_exec($curl);
37          if(!$result){die("Connection Failure");}
38          curl_close($curl);
39          return $result;
40      }
41  $get_data = callAPI('GET', 'https://jamfurl/JSSResource/sites', false);
42  $xml = simplexml_load_string($get_data);
43  $fileName = "SiteList.xml";
44  $xml->asXML($fileName);
```

building it.
setup: Upload Directories

What is it used for..
Sets where the files are saved locally

What files use it..
- createscript.php
- profileupload.php
- pkgupload.php*
- scriptupload.php

Be sure to use the actual path for your jamf Distribution Point in **pkgupload.php**

building it.
setup: Upload Directories

Replace with path that matches the file type being saved

Required Changes:

- **Upload Directory Variable**
  `$uploadDirectory = "/Scripts/";`

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building it.
example: Upload Directories

```php
1   <?php
2   // Joshua Harvey <josh@macjeezy.com>
3   // November 2018
4   // GitHub: github.com/therealmacjeezy
5   // JamfNation: therealmacjeezy
6   $errors = []; // Store all foreseen and unforseen err
7   // File Extensions go here.
8   $fileExtensions = ['sh', 'py'];
9   $uploadDirectory = "/PathHere/";
10  $currentDir = getcwd();
11  libxml_use_internal_errors(true);
12  function callAPI($method, $url, $data){
13      $curl = curl_init();
14      switch ($method){
15          case "POST":
```

building it.
setup: Profile Edit URL

What page..
profileupload.php

Why..
Creates a link to edit the profile

Changes Needed:

jamf server URL

- **jamf Profile URL**
  ```
  echo "<a
  href='https://your.jamf.pro/OSXConfigurationProfiles.html?o=r&id=" .
  $matches[1] . "' target='_blank'>Click Here To Edit The Profile in a new
  tab</a>";
  ```

building it.
setup: progress check

Task	Status
Webserver	
PHP Pages	
HTML Pages	
PHP Settings	

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building it.
setup: HTML pages

```
<title>Jamf Pro File Upload</title>
```

```html
<div class="header">
    <img src="tuxlogo.png" width="20%" height="20%"><br>
    <h3><b>Jamf Pro File Upload Page</b></h3>
</div>

<div class="footer">
  <b>Created by:</b> Joshua Harvey<br>
  <b>Contact information:</b> <a
  href="mailto:josh@macjeezy.com">josh@macjeezy.com</a><br>
  <b>Last Updated:</b> Oct 2018<br>
</div>
```

HTML

index.html

- Title
- Header & Footer

building it.
setup: example

Header

Jamf Pro File Upload Page

Package   Profiles   Scripts   Home

Select an option from the list above to get started.

Created by: Joshua Harvey
Contact information: josh@macjeezy.com
Last Updated: Jan 2019

Footer

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building it.
setup: HTML pages

HTML

scriptupload.html

- Script Filter

Value to Filter

```
//if( value.startsWith('keyword') ) {
    select.append("<option
    class='ddindent' value='"+ value
    +"'>"+value+"</option>");
//};
```

Remove Comments

building it.
setup: Script Filter Example

HTML

scriptupload.html

- Script Filter

Keyword = Admin

ScriptList.xml Contents

Set_Time_and_Date.sh

Admin_Create_Local_Account.sh

Create_FileVault_User.sh

Admin_Install_Awesome_Cat_Images.sh

Setup_Local_Printer.sh

Admin_Stream_Futurama.sh

building it.
setup: progress check

Task	Status
Webserver	
PHP Pages	
HTML Pages	
PHP Settings	

building it.
setup: php.ini settings

post_max_size
max size of POST data allowed

upload_max_filesize
max size for uploads

memory_limit
max amount of memory for a script

building it.
setup: progress check

Task	Status
Webserver	👍
PHP Pages	👍
HTML Pages	👍
PHP Settings	👍

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recap.
the upload page: Issues Resolved

✓ Smartcard Login (LOA 4 Compliant)

✓ Role Base Access

✓ Upload to jamf

✓ Easy to Use

But wait.. there's more!

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recap.
the upload page: Additional Features

- **Web Based**

- **Customizable**

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resources

Upload Page GitHub Repo
https://github.com/therealmacjeezy/JamfProUploadPage
PHP Documentation
https://www.php.net/docs.php
HTML Documentation
https://www.w3schools.com/tags/
Apache & PHP Install Guide
https://wiki.centos.org/HowTos/php7
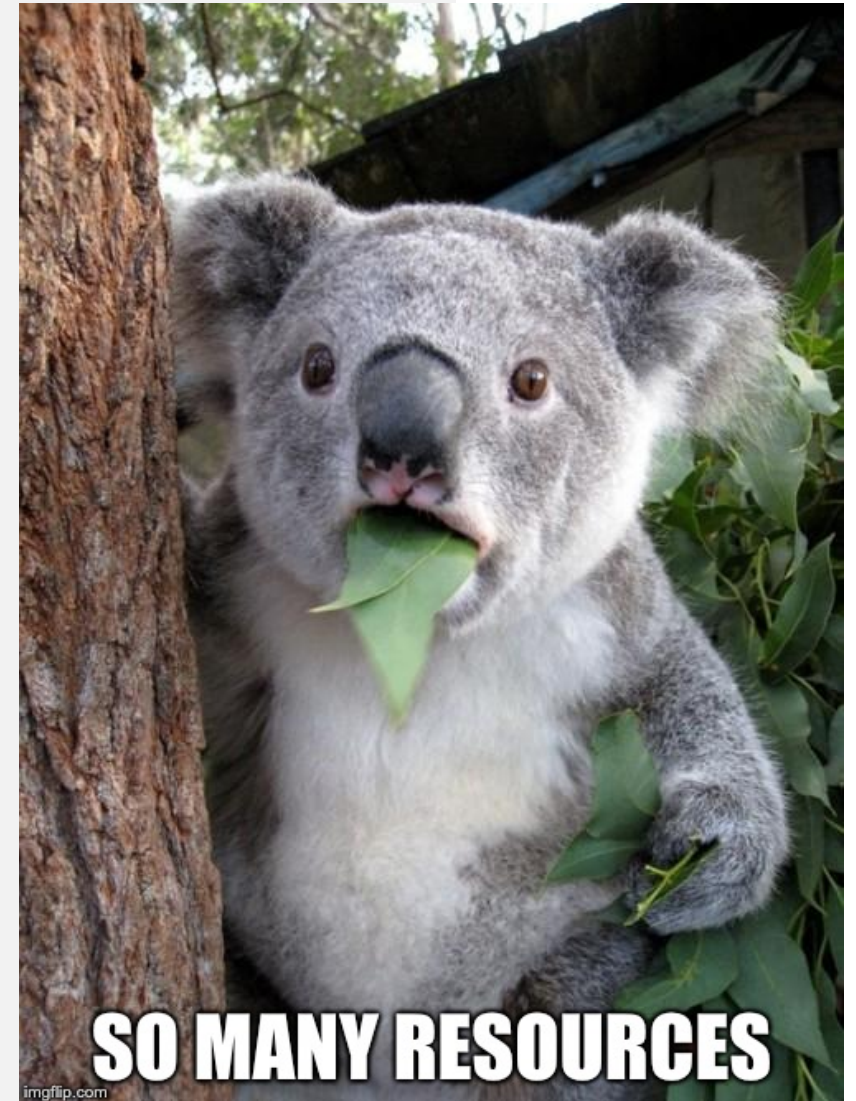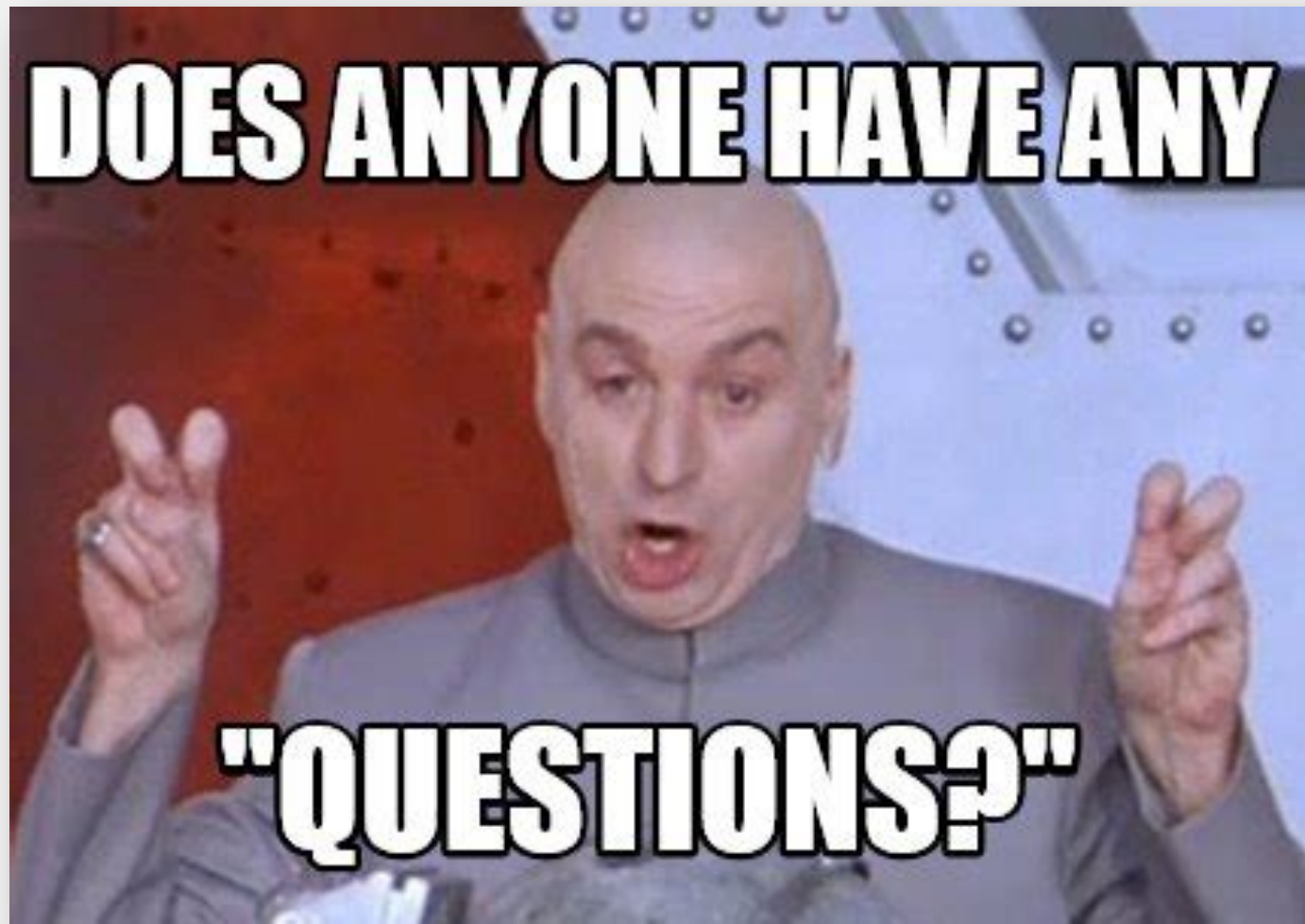**IIS & PHP Install Guide**
https://docs.microsoft.com/en-us/iis/application-frameworks/scenario-build-a-php-website-on-iis/configuring-step-1-install-iis-and-php

SO MANY RESOURCES

THANK YOU FOR LISTENING

Joshua Harvey

therealmacjeezy

josh@macjeezy.com