



USAGE GUIDE

THORAPPS

PWA Configuration Manager
(PCM)

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What is PWA Configuration Manager (PCM)?

The PCM is a tool from ThorApps used to manage the export and import of various Project Web App (PWA) Configuration elements. It is useful for migrating PWA configuration between environments. This means you can migrate from DEV to TEST to PROD, or setup a PWA template that you “rollout” to your customer’s environment.

ThorApps PCM is free. It is comprised of a set of HTML and JavaScript files that you can deploy to Project Server 2016 through to SE (Subscription Edition) and even Project Online.

To get a copy of ThorApps PCM (it’s free) you can just download it from our web site (www.thorapps.com).

IMPORTANT

The ThorApps PCM tool is currently still under development (as of 14th June 2023). If you find bugs or something that does not work as expected, please report it to support@thorapps.com and include all the possible information that even might be relevant. Especially screenshots.

The latest release is version 0.2 (14th June 2023). It uses a different file format (still json, just more verbose), but files exported from version 0.1 cannot be used with version 0.2.

Overview

This document describes the various methods of installing PCM. We have provided PowerShell commands to deploy into either Project Server on premise or online, but we have also provided a fully manual deploy that does not depend on PowerShell or any other 3rd party components.

Prerequisites

To follow this guide, you will need:

- To read what doesn't work at the end of this document!
- A Project Web App (any version).
- Site collection administrator rights on the PWA.
- Optional – PowerShell
- Optional – PowerShell PnP command module (Patterns and Practises)

To begin

If you're reading this document, you've likely already downloaded the PCM package zip file and extracted it to your local computer. But if not, please do so by downloading from <https://docs.thorapps.com/Downloads/ThorAppsPCM.zip>

Then decide on one of the following approaches to deploy it into your Project Web App. The options are using PowerShell or Manual (manual is pretty easy).

Deploy via PowerShell for Project Server On-Premises

The PowerShell file for deploying PCM to an on-premise environment is in the downloaded zip package and called "DeployFilesOnPremise.ps1".

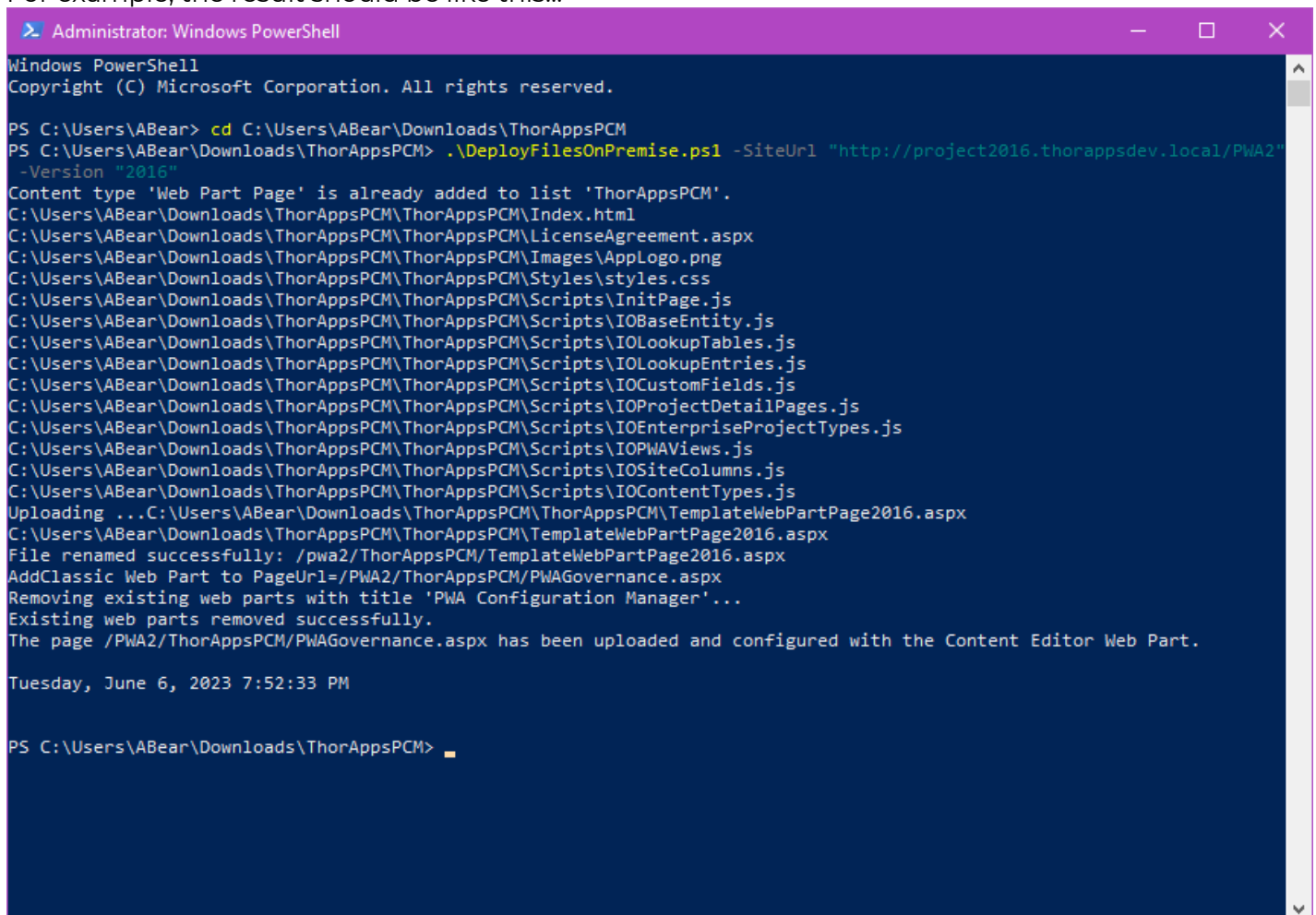
It was developed and tested using PowerShell version 5.1, we think it should work from PowerShell 2.0 onward (but we haven't tested this). It depends on the SharePoint client libraries (CSOM) to have already been installed on your local computer into

"C:\Program Files\Common Files\microsoft shared\Web Server Extensions\16\ISAPI"

If you have met this requirement, just run the PowerShell file like this...

```
.\DeployFilesOnPremise.ps1 -SiteUrl "http://project2016.thorappsdev.local/PWA2" -Version "2016"
```

For example, the result should be like this...



```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\ABear> cd C:\Users\ABear\Downloads\ThorAppsPCM
PS C:\Users\ABear\Downloads\ThorAppsPCM> .\DeployFilesOnPremise.ps1 -SiteUrl "http://project2016.thorappsdev.local/PWA2"
-Verison "2016"
Content type 'Web Part Page' is already added to list 'ThorAppsPCM'.
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Index.html
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\LicenseAgreement.aspx
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Images\AppLogo.png
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Styles\styles.css
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\InitPage.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOBaseEntity.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOLookupTables.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOLookupEntries.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOCustomFields.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOProjectDetailPages.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOEnterpriseProjectTypes.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOPWAViews.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOSiteColumns.js
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\Scripts\IOContentTypes.js
Uploading ...C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\TemplateWebPartPage2016.aspx
C:\Users\ABear\Downloads\ThorAppsPCM\ThorAppsPCM\TemplateWebPartPage2016.aspx
File renamed successfully: /pwa2/ThorAppsPCM/TemplateWebPartPage2016.aspx
AddClassic Web Part to PageUrl=/PWA2/ThorAppsPCM/PWAGovernance.aspx
Removing existing web parts with title 'PWA Configuration Manager'...
Existing web parts removed successfully.
The page /PWA2/ThorAppsPCM/PWAGovernance.aspx has been uploaded and configured with the Content Editor Web Part.

Tuesday, June 6, 2023 7:52:33 PM

PS C:\Users\ABear\Downloads\ThorAppsPCM>
```

Deploy via PowerShell for Project Online

The PowerShell file for deploying PCM to an online environment is in the downloaded zip package and called "DeployFilesOnline.ps1".

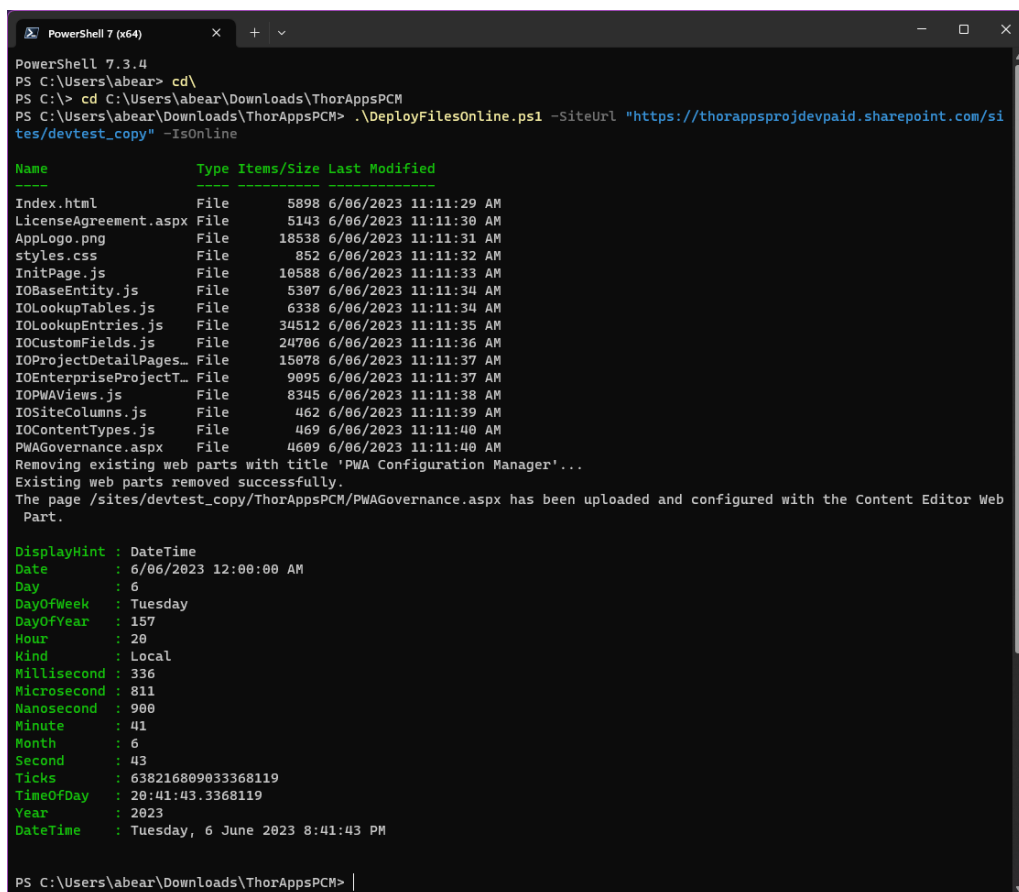
It was developed and tested using PowerShell version 7.3.4, we know it does NOT work lower versions. It depends on the PnP.PowerShell command modules to have already been installed on your local computer. These can be installed with PowerShell command...

```
Install-Module -Name PnP.PowerShell -Force
```

If you have met this requirement, just run the PowerShell file like this...

```
.\DeployFilesOnline.ps1 -SiteUrl "https://your-domain.sharepoint.com/sites/pwa" -IsOnline
```

For example, the result should be like this...



```
PowerShell 7.3.4
PS C:\Users\abear> cd\
PS C:\> cd C:\Users\abear\Downloads\ThorAppsPCM
PS C:\Users\abear\Downloads\ThorAppsPCM> .\DeployFilesOnline.ps1 -SiteUrl "https://thorappsprojdevpaid.sharepoint.com/sites/devtest_copy" -IsOnline

Name                Type Items/Size Last Modified
-----
Index.html          File      5898 6/06/2023 11:11:29 AM
LicenseAgreement.aspx File      5143 6/06/2023 11:11:30 AM
AppLogo.png         File     18538 6/06/2023 11:11:31 AM
styles.css          File       852 6/06/2023 11:11:32 AM
InitPage.js         File     10588 6/06/2023 11:11:33 AM
IOBaseEntity.js     File      5307 6/06/2023 11:11:34 AM
IOLookupTables.js   File      6338 6/06/2023 11:11:34 AM
IOLookupEntries.js  File     34512 6/06/2023 11:11:35 AM
IOCustomFields.js   File     24706 6/06/2023 11:11:36 AM
IOProjectDetailPages... File     15078 6/06/2023 11:11:37 AM
IOEnterpriseProjectT... File      9095 6/06/2023 11:11:37 AM
IOPMAViews.js       File      8345 6/06/2023 11:11:38 AM
IOSiteColumns.js    File       462 6/06/2023 11:11:39 AM
IOContentTypes.js   File       469 6/06/2023 11:11:40 AM
PWAGovernance.aspx  File      4609 6/06/2023 11:11:40 AM
Removing existing web parts with title 'PWA Configuration Manager'...
Existing web parts removed successfully.
The page /sites/devtest_copy/ThorAppsPCM/PWAGovernance.aspx has been uploaded and configured with the Content Editor Web Part.

DisplayHint : DateTime
Date       : 6/06/2023 12:00:00 AM
Day        : 6
DayOfWeek  : Tuesday
DayOfYear  : 157
Hour       : 20
Kind       : Local
Millisecond : 336
Microsecond : 811
Nanosecond : 900
Minute     : 41
Month      : 6
Second     : 43
Ticks      : 638216809033368119
TimeOfDay  : 20:41:43.3368119
Year       : 2023
DateTime   : Tuesday, 6 June 2023 8:41:43 PM

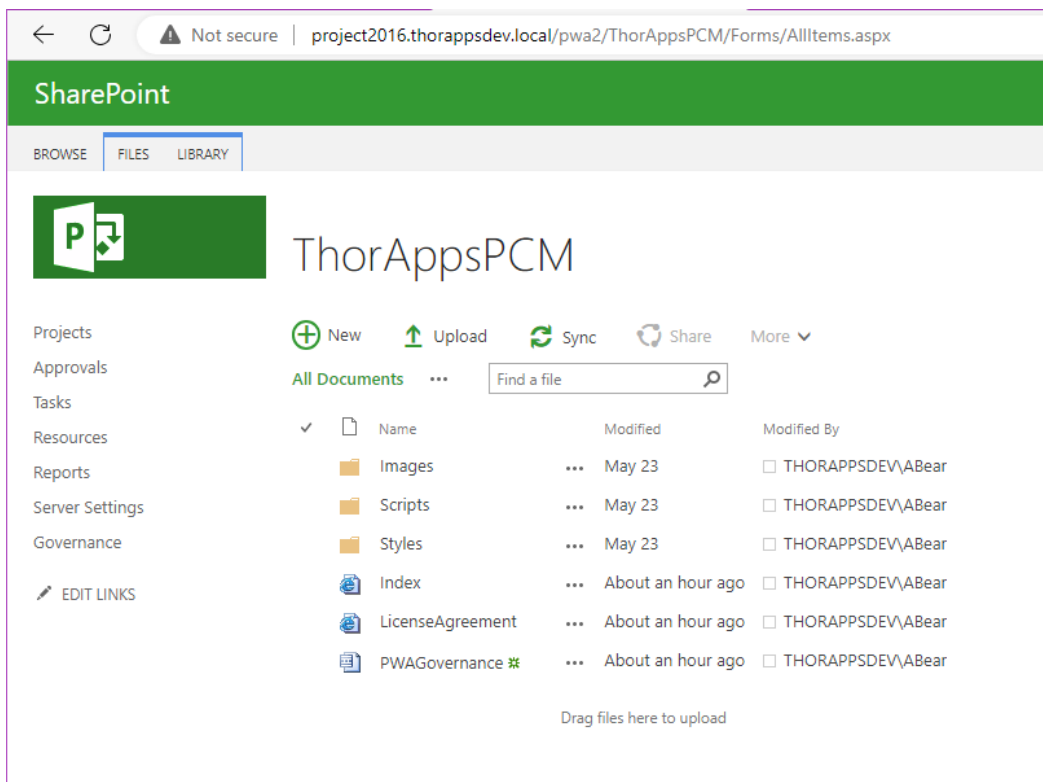
PS C:\Users\abear\Downloads\ThorAppsPCM>
```

Deploy via Manual Method

Deploying manually is actually pretty easy. There are just a few steps.

1. Create a Document Library called “ThorAppsPCM” in the root site of your PWA instance
 - a. NOTE: The document library MUST be called “ThorAppsPCM”
2. The downloaded zip package also contains a folder called ThorAppsPCM, copy the contents of it into the document library.
 - a. The document library should now contain 3 child folders and several html and aspx files
3. Rename a template aspx file to “PWAGovernance.aspx”
 - a. If you’re deploying to Project Server 2016, rename “TemplateWebPartPage2016.aspx”
 - b. If you’re deploying to Project Online, rename “TemplateWebPartPage.aspx”
 - c. If you’re not sure, just create a new WebPart page file called “PWAGovernance.aspx”
4. Open the PWAGovernance.aspx page and add a Content Editor Web Part, then set the content link for the web part to point to the Index.html file in the /ThorAppsPCM document library.
5. Delete the un-used TemplateXXXX.aspx files

That’s it. The document library should look something like this...



After installation

You can add a quick Launch link if you like, but to access the ThorApps PCM, you just open the PWAGovernance.aspx page from the ThorAppsPCM document library at the root of your PWA instance.

In this example, we created a quick launch link (in an Online environment).

The screenshot shows a web browser window displaying the PWAGovernance application. The browser's address bar shows the URL: `https://[redacted]/sites/devtest_copy/ThorAppsPCM/PWAGovernance.aspx`. The application has a dark blue header with the 'Project' title and a search bar. Below the header, there is a sidebar with a list of navigation items: Projects, Approvals, Tasks, Resources, Reports, Server Settings, and PCM (which is highlighted in green). The main content area is titled 'PWA Configuration Manager' and includes a checkbox for 'I agree to the License Terms described here=>License Agreement'. Below this, there is a table with columns for 'Export', 'Import', 'Choose File', 'No file chosen', and a progress percentage. The table lists various configuration items: Lookup Tables, Lookup Entries, Custom Fields, Project Detail Pages (PDP), Enterprise Project Types (EPT), PWA Views, Site Columns, and Site Content Types. All progress percentages are 0%. At the bottom, there is an 'Activity Log' section with a message: 'There are no log entries to display'.

Configuration Item	Export	Import	Choose File	No file chosen	Progress
Lookup Tables			Choose File	No file chosen	0%
Lookup Entries			Choose File	No file chosen	0%
Custom Fields			Choose File	No file chosen	0%
Project Detail Pages (PDP)			Choose File	No file chosen	0%
Enterprise Project Types (EPT)			Choose File	No file chosen	0%
PWA Views			Choose File	No file chosen	0%
Site Columns			Choose File	No file chosen	0%
Site Content Types			Choose File	No file chosen	0%

Usage

Using the ThorApps PCM is pretty simple. Start by reviewing the License terms and then checking the “I agree to the License Terms....” Box. This will enable all the controls.

The screenshot shows the PWAGovernance web application in a browser. The browser's address bar shows the URL: `https://[redacted]/sites/devtest_copy/ThorAppsPCM/PWAGovernance.as...`. The application has a dark blue header with the 'Project' title and a user profile icon. Below the header is a navigation bar with 'BROWSE' and 'PAGE' tabs, and a search bar. The main content area features a green 'PWA Configuration Manager' header. Below this, there is a checkbox labeled 'I agree to the License Terms described here=> [License Agreement](#)' which is checked. A table lists various configuration items with 'Export' and 'Import' buttons, and a 'Choose File' button. The 'Import' column shows 'No file chosen' and '0%'. Below the table is an 'Activity Log' section with a message: 'There are no log entries to display'.

Configuration Item	Export	Import	Choose File	Status	Progress
Lookup Tables	Export	Import	Choose File	No file chosen	0%
Lookup Entries	Export	Import	Choose File	No file chosen	0%
Custom Fields	Export	Import	Choose File	No file chosen	0%
Project Detail Pages (PDP)	Export	Import	Choose File	No file chosen	0%
Enterprise Project Types (EPT)	Export	Import	Choose File	No file chosen	0%
PWA Views	Export	Import	Choose File	No file chosen	0%
Site Columns	Export	Import	Choose File	No file chosen	0%
Site Content Types	Export	Import	Choose File	No file chosen	0%

We **STRONGLY** recommend you start by exporting anything before you import over the top.

To export a set of entities, just click the export button for that entity and save the resulting JSON file.

The screenshot shows the PWAGovernance web application in a browser. The browser's address bar shows the URL: `https://[redacted]/sites/devtest_copy/ThorAppsPCM/PWAGovern...`. The browser's download bar is open, showing a file named `LookupTables.json` with options to `Open`, `Save as`, and `See more`.

The application interface has a dark header with the **Project** menu. Below the header, there's a sidebar with navigation links: **BROWSE**, **PAGE**, **Projects**, **Approvals**, **Tasks**, **Resources**, **Reports**, **Server Settings**, and **PCM** (highlighted). There's also an **EDIT LINKS** button.

The main content area is titled **PWAGovernance** and **PWA Configuration Manager**. It includes a checkbox for **I agree to the License Terms described here=> License Agreement**. Below this, there's a table with columns for **Export**, **Import**, **Choose File**, **No file chosen**, and a progress bar.

Entity	Export	Import	Choose File	No file chosen	Progress
Lookup Tables	Export	Import	Choose File	No file chosen	100%
Lookup Entries	Export	Import	Choose File	No file chosen	0%
Custom Fields	Export	Import	Choose File	No file chosen	0%
Project Detail Pages (PDP)	Export	Import	Choose File	No file chosen	0%
Enterprise Project Types (EPT)	Export	Import	Choose File	No file chosen	0%
PWA Views	Export	Import	Choose File	No file chosen	0%
Site Columns	Export	Import	Choose File	No file chosen	0%
Site Content Types	Export	Import	Choose File	No file chosen	0%

Below the table is an **Activity Log** section with a scrollable list of events:

- Starting new log
- Retrieving Lookup Tables
- Found 9 Lookup Tables in PWA
- Export finished successfully

To import (backup by exporting first), click the corresponding entities “Choose File” button, select your file (don’t mix up the files across entities) and then click the “Import” button.

The screenshot shows the PWAGovernance web application. The left sidebar contains a navigation menu with items: Projects, Approvals, Tasks, Resources, Reports, Server Settings, and PCM (highlighted). Below the menu is an 'EDIT LINKS' option. The main content area is titled 'PWA Configuration Manager' and includes a checkbox for 'I agree to the License Terms described here=> License Agreement'. Below this is a table with columns for 'Export', 'Import', 'Choose File', and a progress percentage.

Entity	Export	Import	Choose File	Progress
Lookup Tables			LookupTables.json	100%
Lookup Entries			No file chosen	0%
Custom Fields			No file chosen	0%
Project Detail Pages (PDP)			No file chosen	0%
Enterprise Project Types (EPT)			No file chosen	0%
PWA Views			No file chosen	0%
Site Columns			No file chosen	0%
Site Content Types			No file chosen	0%

Below the table is an 'Activity Log' section showing the following entries:

- Starting new log
- Reading Lookup Tables from file
- Found 9 Lookup Tables in file
- Reading Lookup Tables from PWA
- Found 9 Lookup Tables in PWA
- Lookup Table 'A Date Lookup' already exists. Skipping.
- Lookup Table 'Change Type LT' already exists. Skipping.

Importing a selection

At this stage no User Interface has been created to limit the content you import from file. Therefore (in this early version) you need to edit files to remove any content you don’t want to import.

What doesn't work in this early version?

Unfortunately, there are a few things that don't work or don't work properly yet and some things are by design.

1. By design each entity does NOT import related or dependant entities. Therefore, importing "Lookup Tables", does NOT also import "Lookup Entries" and importing "Lookup Entries" does NOT import "Lookup Tables". You need to import each in dependency order (i.e., Lookup Tables first, then Lookup Entries)
2. Importing PDP's creates empty pages. There are no web parts configured. This is NOT by design, it's a limitation imposed by the lack of functionality in Microsoft's API's.
3. Updating EPT's does not associate PDP's. This is NOT by design, it is another limitation bug in the Microsoft's JSOM API (it works in the CSOM API, but this is a fully client-side based tool and can't use the CSOM API). The work around is to delete an EPT and have the importer create it.
4. PWA Views can not be imported or exported. We want to support this, but it's insanely complex. Microsoft have not provided this functionality via JSOM (or CSOM, or any other API) but it did once exist in the old SOAP web services. We haven't got a solution...yet.

The code

You can easily view the code. Its just JavaScript, HTML and CSS files. Please do not edit it or distribute it directly. You can distribute a link to the ThorApps web site for others to download it.

The JavaScript uses a combination of the JSOM and REST API's. Generally, we "read" via REST and write via JSOM. This is by design so the code may be used as a reference for how to do this type of thing in the future. Plus reading via REST calls is much faster and simpler to code and writing via JSOM was simpler to code and not need to debug REST post bodies.

Any Questions?

Please contact our team of specialists at info@thorapps.com.