

# Center of Excellence Starter Kit

The Center of Excellence (CoE) starter kit is a collection of components and tools that are designed to help get started with developing a strategy for adopting and supporting the Power Platform, with a focus on Power Apps and Power Automate.

Download the most updated assets from the [GitHub repository](#).

The entire content package can be downloaded directly at [aka.ms/CoEStarterKitDownload](https://aka.ms/CoEStarterKitDownload)

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## DISCLAIMER

The Center of Excellence (CoE) Starter Kit is not supported by the Power Platform product team (which is true for all tools available in [this GitHub repo](#)). We are a small team in Engineering who built this unsupported community sample solution for anyone to use and modify as their own, made available to customers on an as-is basis via an MIT license. It's possible you might run into some issues, such as installation problems, authorization issues, or bugs in the apps and flows within the solution.

Please, **do not raise support tickets for issues related to this toolkit** in the Power Platform Admin Center or any official product portal. Instead, kindly.

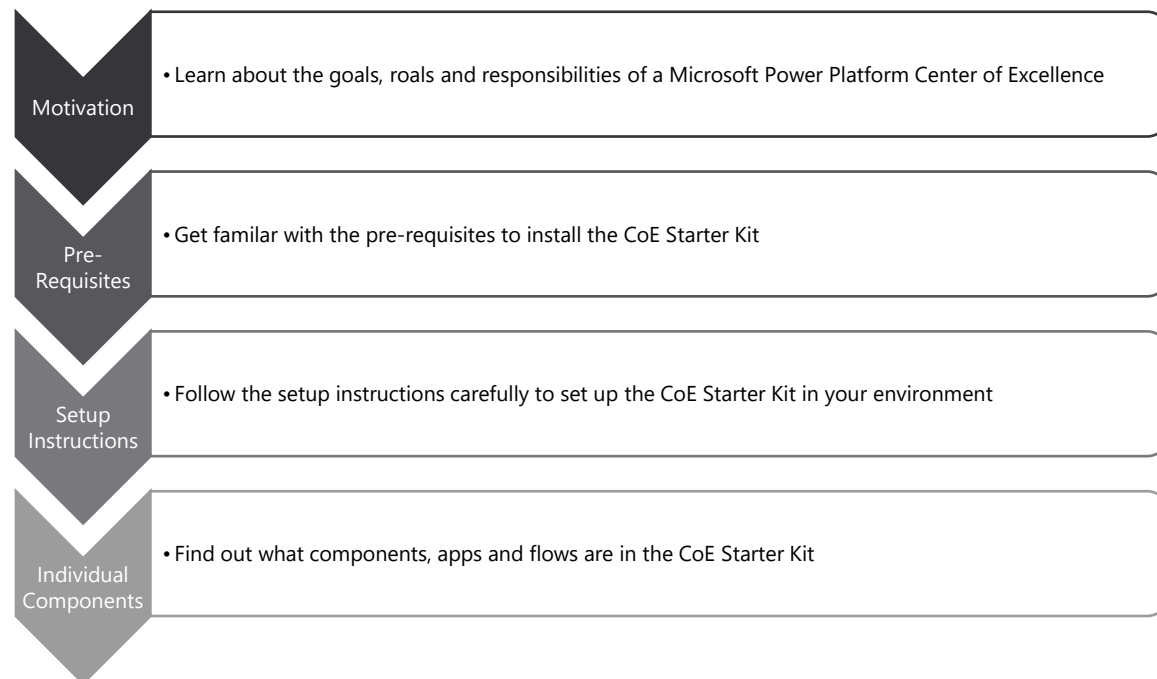
1. Make sure you have read through the entire documentation
2. If the issue is not addressed in the documentation, raise a new issue in the [issues tab](#) of this repository. Someone from the team will respond to your issue there.

## PURPOSE OF THIS DOCUMENT

This document is targeted toward the person or department responsible for setting up a Microsoft Power Platform CoE in their organization. The goal of the document is to help you understand what the motivation as well as responsibilities of a Center of Excellence are, as well as walk you through the pre-requisites, setup instructions and individual components of the CoE Starter Kit.

## HOW TO GET STARTED

While we recommend absorbing the document in its entirety, we thought it might be useful to give you some suggested areas on which to focus.



## MOTIVATION

Power Apps and Power Automate have drastically matured as a platform since 2017. When it was first announced and gained popularity, there was more focus on understanding and adjusting to the nature of the product and how it could best be utilized on an individual level. Nowadays, Power Apps and Power Automate have achieved much more widespread adoption, and companies are looking to understand how to scale adoption throughout their own organizations in a maintainable way to fully benefit from it.

Developing a Power Platform Center of Excellence (CoE) is a high-level goal, a Center of Excellence is a coordinating function which ensures that change initiatives are delivered consistently and well, through standard processes and competent staff.<sup>1</sup> Establishing a Microsoft Power Platform CoE means investing in and nurturing organic growth while maintaining governance and control. A CoE is designed to drive innovation and improvement, and through its central function can break down geographic and organizational silos in order to bring together like minded people with similar business goals to share knowledge and success, experiment and encourage each other, whilst at the same time providing standards, consistency and governance to the organization. In summary, a CoE can be a powerful way for an organization to align around business goals rather than individual department metrics.

There are multiple responsibilities of an established CoE, and it's up to each organization to figure out how they decide to define parameters for those responsibilities.



### Administration & Governance

Secure  
Monitor  
Alert and Act



### Nurture

Evangelism and training  
Technical guidance  
Standards and components



### Support & Operations

Level 2/3 Support  
Helpdesk awareness  
Application Lifecycle Management  
Infrastructure automations

The Center of Excellence Starter Kit is a template that might not match every organization's requirements, so it's recommended that you extend the solution to fit your organization's requirements defined by your CoE.

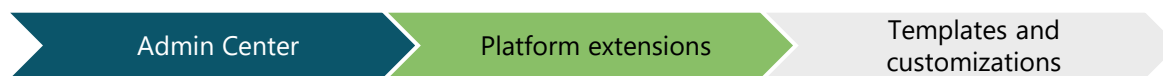
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<sup>1</sup> Stephen Jenner and Craig Kilford, in Management of Portfolios

## PHILOSOPHY

A Power Platform Center of Excellence is a group in an organization that takes ownership of the Power Platform administration, nurturing and operations support. Part of devising a strategy for this requires interaction with the platform directly.

Follow this process when thinking about the medium in which a Center of Excellence strategy should be executed:



**Admin Center** The core, most important capabilities for admins and makers exist in the supported product portal features. These features are designed to be the easiest and most robust way to complete tasks, and are fully supported by the engineering team:

- Environment and Environment Security management
- Data Loss Prevention (DLP) policy management
- Data integration and Gateway management
- Admin Analytics (to view Capacity and activity on CDS, PowerApps and Flow)
- Support ticket requests

The admin centers include:

- [Power Platform Admin Center](#)
- [Power Apps Admin Center](#)
- [Power Automate Admin Center](#)
- [Dynamics 365 Admin Center](#)

**Platform extensions** There are four connectors that provide access to the same APIs that the out-of-box product use. These have been exposed through the connectors library to give users the ability to create custom solutions to execute administrative or governance related tasks.

**Admin connectors** ([Announcement](#)):

- [Power Platform for Admins](#)
- [PowerApps for Admins](#)
- [Flow Management](#)
- [PowerApps for App Makers](#)

**Templates & customizations** The CoE starter kit falls into this category, which is a set of templates that use the admin connectors in combination with other connectors and formulas to achieve some specified goal. The nature of a template is to provide a good solution for that specific task, but it might not have the exact functionality that everyone needs and could require adjustment to achieve what others might be looking for. It is better to first explore the other two options before instantiating a template, unless it's clear that the template has everything you need from the start.

## COE STARTER KIT EXPLAINED

The CoE Starter Kit is a collection of components and tools that are designed to help get started with developing a strategy for adopting and supporting the Power Platform, with a focus on Power Apps and Power Automate. It contains solutions that **help** manage resources and information about those resources.

The kit **does not represent the entire Center of Excellence**, because **managing a CoE requires more** than the tools alone; the Center of Excellence also requires people, communication, defined requirements and processes. The tools provided here are just a means to get to the end goal, but the Center of Excellence itself must be thoughtfully designed by each organization based on their needs and preferences.

Download the most updated assets from the GitHub repository [aka.ms/coestarterkitrepo](https://aka.ms/coestarterkitrepo).

The kit provides some automation and tooling to help teams build monitoring and automation necessary to support a CoE. The foundation of the kit is a Common Data Service (CDS) data model and workflows to collect resource information across the environments in the tenant. The kit includes multiple Power Apps and Power BI analytics to view and interact with the data collected, as well as flows to collect data across environments, and help with workflows for your Compliance needs. The kit also provides several assets that provide templates and suggested patterns and practices for implementing CoE efforts.

The CoE Starter Kit is shipped in three modules:

1. **Center of Excellence – Core Components**

These components provide the core to get started with setting up a CoE – they sync all your resources into entities and build admin apps on top of that to help you get more visibility of what apps, flows and makers are in your environment. Additionally, apps like the DLP Editor and Set New App Owner help with daily admin tasks.

The Core Components solution only contains assets relevant to admins.

2. **Center of Excellence – Audit and Report Components**

Once you are familiar with your environments and resources, you might start thinking about audit and compliance processes for your apps. You might want to gather additional information about your apps from your makers, you might want to audit specific connectors or app usage - the apps and flows part of this solution help you get started.

The Audit and Report Components solution contains assets relevant to admins and makers.

3. **Center of Excellence – Nurture Components**

An essential part of establishing a CoE is nurturing your makers and an internal community. You will want to share best practices and templates and onboard new makers – the assets part of this solution can help develop a strategy for this motion.

The Nurture Components solution contains assets relevant to everyone in the organization, admins, makers as well as end users of apps and flows.

We recommend getting started and familiar with the **Center of Excellence – Core Components** before adding the Audit&Report and Nurture components.

## CENTER OF EXCELLENCE STARTER KIT SETUP

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### SETTING UP

Instructions for Set Up of the CoE Starter kit can be found here: [CoE Starter Kit Setup Instructions](#)

These Setup Instructions will walk you through how to setup our starter kit as a managed solution, which can then receive updates from the Microsoft solution when you choose to upgrade. We recommend beginning with this managed solution, exploring the reports and capabilities, and then when you are ready, extending the solution into your own unmanaged solution.

A description of these solution types, and the layering upon which they are built, can be read here: [Solutions overview](#)

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### EXTENDING THE TOOLKIT

When you are ready to extend the CoE Starter Kit, you will do so by making modifications to the solution components in your own unmanaged solution:

1. **Read about solutions** in our documentation which will introduce you to the concepts as well as to notions like how to create your publisher: [introduction solutions](#)
  2. **Create a new UNMANAGED solution**
  3. **Choose components from the CoE starter kit to add to your new solution**, you decide which ones you want to use. See here for the elements needed to import to extend and utilize the entire CoE Starter Kit: [Elements to Import to Unmanaged Solution](#)
  4. **Update the Environment Variables**
  5. **Extend the CoE starter kit** by making modifications to the solution components in the context of your new unmanaged solution.
  6. If you are **extending canvas apps or flows**, create a copy of the app from the managed solution and add the unmanaged copy of the app to your unmanaged solution.  
For an example of extending an app, please see [Template Catalog](#) below.
  7. **Deploy to test and production**. We recommend making modifications and installing updates pushed by our team to the solution in a development environment dedicated to this kit and hosting a production environment that has the real data. If data is being accessed and contributed by other end users, that would be a scenario to have a dev/test/prod environment.
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### RECENT CHANGES TO THE COE STARTER KIT

Previously, the CoE Starter Kit was shipped as one package (solution). In order to make it easier for you to get started with the installation and deployment, we have split the components into three solutions.

- 1) If you are **new** to the CoE Starter Kit, you can skip this section.
- 2) If you have **previously installed the CoE Starter Kit UNMANAGED solution**, uninstall the solution before installing the CoE Starter Kit – Core Components solution.  
The solution will be deleted but because its unmanaged, components that are contained in this solution will not be deleted. You will need to manually delete all components (entities, flows, apps)
- 3) If you have **previously installed the CoE Starter Kit MANAGED solution** and have already started collecting metadata for your apps through the Developer Compliance Center, export the data in the

Power Apps App entity, uninstall the CoE Starter Kit solution, install the CoE Starter Kit – Core Components solution and re-import the Power Apps App entity data

- Navigate to [make.powerapps.com](https://make.powerapps.com) → Solutions → Center of Excellence solution
- Open the PowerApps App entity
- Select Export Data

+ Add field Edit data in Excel Get data Export data Export to data lake Delete entity Settings Switch to classic

Solutions > Center of Excellence > PowerApps App

Fields Relationships Business rules Views Forms Dashboards Charts Keys Data

Display name ↑ ↓	Name ↓	Data type ↓
Admin Requirement - Reviewed App	admin_reviewedapp	Two Options
Admin Requirement - Risk Assessment	admin_riskassessment	Option Set
App	admin_appid	Unique Identifier
App Created On	admin_appcreatedon	Date and Time
App Deleted	admin_appdeleted	Two Options
App Deleted On	admin_appdeletedon	Date and Time

- Wait for the export to be done and download the exported data

✓ PowerApps App was exported successfully. Click the link below to download the exported data.

Export data

[Download exported data](#)

- Navigate back to the solution and select Delete

+ New + Add existing Delete Export Publish all customizations ...

⚠ 9 environment variables need to be updated. [See environment variables](#)

Solutions > Center of Excellence

- After you install the new solution, navigate to the solution and open the Power Apps App entity
- Select Get Data → Get Data from Excel and upload the Excel file

Import

Click the Upload button to upload csv or Excel files to import. Use the Map fields button to map source file fields to entity fields.

Import data

Choose the file you want imported for each entity, and we'll map the fields that match. [Learn more](#)

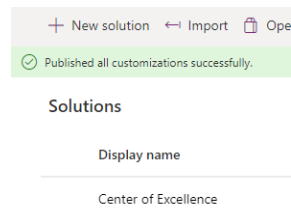
Name	File	Mapping status
PowerApps App	admin_apps.csv Upload	Mapping was successful Map fields



## INSTALLING UPDATES

Periodically, the solution will receive updates to implement new features and fixes for bugs or optimizations. These updates will be announced on the [GitHub repo](#) and can be downloaded from there or the direct download at <https://aka.ms/CoEStarterKitDownload>

Install the updates by importing the latest version to the environment where you originally installed the solution.



**Known Limitations:** Currently, only model-driven components and CDS entities will be updated with managed solution updates. Canvas Apps and Flows will be replaced during an update. If you are extending and customizing canvas apps, you will need to make a copy of the app first (which will not receive updates).

If you originally installed the UNMANAGED solution, uninstall that solution and re-install the MANAGED solution to correctly receive all updates.

## COMPONENTS OVERVIEW

The following section provides an overview of each component included in the CoE starter kit. Some are included in the solution package (called 'Solution Aware'), and others live just outside of the package ('Non- Solution Aware').

Solution	Scenario	Starter Kit Component
Core Components	Catalog tenant resources	<ol style="list-style-type: none"> <li>1. CDS Entities: Environments, Apps, Flows</li> <li>2. Admin   Sync Template v2 (Flows) – all, Apps, Flows, Custom Connectors, Connectors, Model Driven Apps</li> <li>3. Admin   Sync Audit Log (Flow)</li> <li>4. Power BI Dashboard</li> <li>5. Custom Connector for Office 365 Audit Logs</li> <li>6. Power Platform Admin View (Model Driven App)</li> </ol>
	DLP Strategy and Visibility	<ol style="list-style-type: none"> <li>7. DLP Editor (Canvas App)</li> <li>8. DLP Customizer (Canvas App)</li> </ol>
	Change App Ownership	<ol style="list-style-type: none"> <li>9. Set New App Owner (Canvas App)</li> </ol>
Audit and Report Components	Sample Audit Process	<ol style="list-style-type: none"> <li>10. Developer Compliance Center (Canvas App)</li> <li>11. Flow – Compliance detail request</li> <li>12. Business Process Flow for Auditing resources</li> </ol>
	Archive unused apps	<ol style="list-style-type: none"> <li>13. App Archive and Clean Up – Start Approval and Check Approval (Flows)</li> </ol>

		14. App Archive and Clean Up Admin View (Model Driven App)
	Act based on certain connector usage	15. Find and add admins as owners for apps that leverage certain connectors (Flow) 16. Find and disable flows that leverage certain connectors (Flow)
<b>Nurture Components</b>	Onboard new makers, provide training and share best practices	17. Admin   Welcome Email (Flow) 18. Template Catalog (Canvas App) 19. Admin   Newsletter with Product Updates (Flow) 20. Training in a day Management and Registration (Canvas Apps) 21. Training in a day Feedback Reminder, Registration Confirmation and Reminder (Flow)
	Encourage Adoption	22. App Catalog (Canvas App)

## COMMON DATA SERVICE ENTITIES

These entities are defined in the solution package.

<b>Core Components</b>	<ul style="list-style-type: none"> <li>• <b>ENVIRONMENT</b> Represents the Environment object, which contains Power Apps, Flows and Connectors.</li> <li>• <b>POWERAPPS APP</b> Represents a Power Apps App.</li> <li>• <b>FLOW</b> Represents a flow.</li> <li>• <b>POWERAPPS CONNECTOR</b> Represents a standard or custom connector.</li> <li>• <b>CONNECTION REFERENCE</b> The linking table for the many to many relationships between Connectors (POWERAPPS CONNECTOR) and flows (FLOW) / Power Apps (POWERAPPS APP)</li> <li>• <b>MAKER</b> Represents a user who has created a Power App, flow, Custom Connector or Environment.</li> <li>• <b>AUDIT LOG</b> Represents session details for Power Apps.</li> <li>• <b>COE SETTINGS</b> Settings configurations live in a record here. This is an important entity to populate data into during the setup process, because it contains details that are important for configuring the branding and support aspect of the solution</li> <li>• <b>SYNC FLOW ERRORS</b> Represents daily occurrence of Sync Flow errors to provide a summary email to admin</li> </ul>
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<b>Audit and Report Components</b>	<ul style="list-style-type: none"> <li>• <b>ARCHIVE APPROVAL</b> Represents archival approval tasks started during the App Archive and Clean Up Flow</li> </ul>
<b>Nurture Components</b>	<ul style="list-style-type: none"> <li>• <b>INADAYATTENDEES</b> Represents attendees that have registered for a Training in a day course using the Training in a day registration canvas app</li> <li>• <b>INADAYEVENT</b> Represents training events available and created through the Training in a day management canvas app</li> </ul>

## SECURITY ROLES

- **POWER PLATFORM ADMIN SR**  
Gives full access to create, read, write and delete operations on the custom entities.
- **POWER PLATFORM MAKER SR**  
Gives read and write access to the custom entities (e.g., Environments, Apps, etc).
- **POWER PLATFORM USER SR**  
Gives read only access to the resources in the custom entities.

## FLOWS - CORE COMPONENTS SOLUTION

### ADMIN | SYNC AUDIT LOGS

Uses the Office 365 Audit logs custom connector to write audit log data into the CDS Audit Log entity. This will generate a view of usage for Power Apps. This flow also comes in a separate package outside of the solution when you download the CoE Starter Kit because it's easier to import the package separately with the custom connector. Follow the instructions in the audit log section to learn more.

### ADMIN | SYNC TEMPLATE V2

Runs on a schedule and updates environments. This and subsequent 'Sync Template V2' flows are an optimized version of the Sync Template V1, split out into separate Flows to make it easier to read and modify.

Running this flow will also trigger the rest of the Sync flows indirectly by updating the Environment records in the CDS instance you instantiated.

### ADMIN | SYNC TEMPLATE V2 (APPS)

Runs when an environment is created/modified and gets App information, also updates record if Apps are deleted.

### ADMIN | SYNC TEMPLATE V2 (FLOWS)

Runs when an environment is created/modified and gets flow information, also updates record if flows are deleted.

### ADMIN | SYNC TEMPLATE V2 (CONNECTORS)

Runs once daily on a schedule and gets Connector information.

## ADMIN | SYNC TEMPLATE V2 (CUSTOM CONNECTOR)

Runs when an environment is created/modified and gets Custom Connector information.

## ADMIN | SYNC TEMPLATE V2 (SYNC FLOW ERRORS)

Runs on a schedule and sends an email of environments that failed to sync with a link to the flow instance to the admin

## FLows - AUDIT AND REPORT COMPONENTS SOLUTION

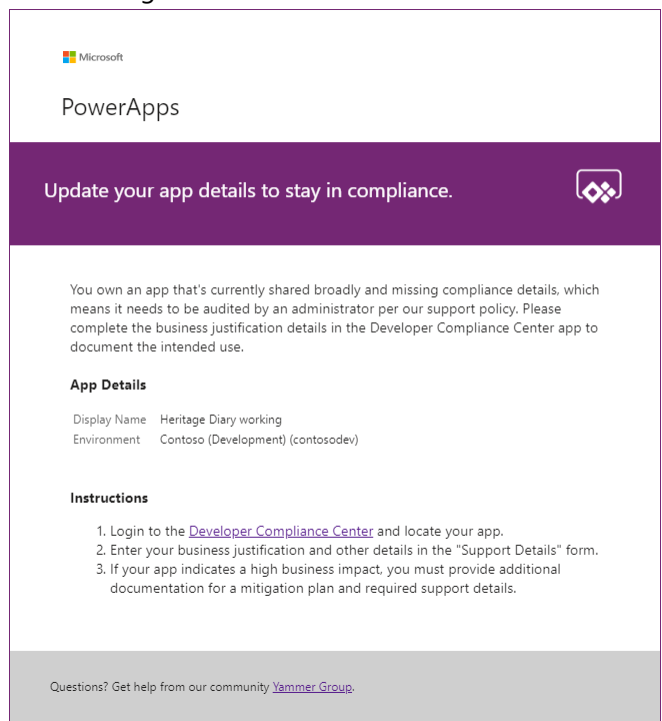
### ADMIN | COMPLIANCE DETAIL REQUEST

This flow works in conjunction with other apps and flows in the CoE toolkit to facilitate a process described in the following section: [PowerApps App Auditing Process](#)

It sends an email to users who have Power Apps apps in the tenant who are not compliant with specific thresholds:

- The app is shared with > 20 Users or at least 1 group and the business justification details have not been provided.
- The app has business justification details provided but has not been published in 60 days or is missing a description.
- The app has business justification details provided and has indicated high business impact and has not submitted a mitigation plan to the attachments field.

The Flow has a template you can customize in the email sent out by the Flow, but will otherwise look like the following:



SCREENSHOT: COMPLIANCE REQUEST EMAIL

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### ADMIN | APP ARCHIVE AND CLEAN UP – START APPROVAL

Checks for apps that have not been modified in the last six months (configurable) and asks the app owner (via Flow Approvals) if the app can be archived.

This flow starts the approval process and writes the Approval Task to the 'Archive Approval' CDS Entity.

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### ADMIN | APP ARCHIVE AND CLEAN UP – CHECK APPROVAL

Monitors Approval Responses of the App Archive and Clean Up – Start Approval Flow and, if approved, archives the app file to SharePoint.

**Pre-Requirement:** Create a SharePoint document library to store the archived apps and configure this in flow

**Update:** By default, this flow will archive the application but not remove it or its permission from the environment. Update this flow based on your requirements, to delete the app from the environment, or remove app permissions.

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### SETUP REQUIRED | ADMIN | FIND AND DISABLE FLOWS THAT LEVERAGE CERTAIN CONNECTORS

Checks if any Flows are using specific connectors, notifies the Flow maker and disables the Flow. The admin will receive a report.

**Update:** On setup, the array provided is blank so that we do not inadvertently disable connectors in your tenant. You must specify what connectors you want to audit by editing the Flow and updating the disableConnectorArray as shown for the connectors of your choice:

The screenshot shows the configuration for the 'Initialize disableConnectorArray' step. The 'Name' field is 'disableConnectorArray', the 'Type' is 'Array', and the 'Value' is a JSON array: `["PowerApps for Admins", "PowerPlatform for Admins", "Twitter"]`.

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### SETUP REQUIRED | ADMIN | FIND AND ADD ADMINS AS OWNERS FOR APPS THAT LEVERAGE CERTAIN CONNECTORS

Checks for apps that leverage certain connectors; notifies the app maker and shares the app with the admin security group.

**Update:** On setup, the array provided is blank so that we do not inadvertently add owners to apps with connectors in your tenant. You must specify what connectors you want to audit by editing the Flow and

updating the disableConnectorArray as shown for the connectors of your choice:

**{x} Initialize disableConnectorArray**

Add connector names that will cause a Flow to be disabled here

\* Name: disableConnectorArray

\* Type: Array

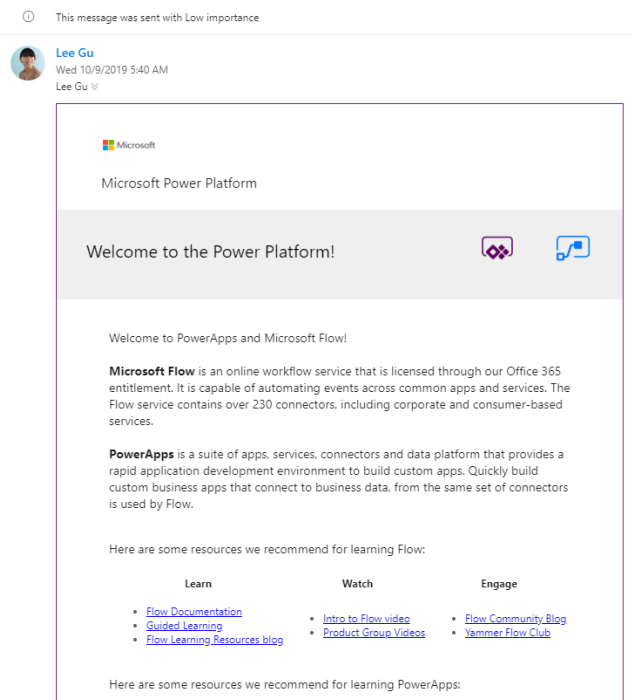
Value: [ "PowerApps for Admins", "PowerPlatform for Admins", "Twitter" ]

## FLows - Nurture Components Solution

### ADMIN | WELCOME EMAIL

Sends an email to a user who created a Power App, Flow, Custom Connector or Environment. This Flow gets triggered when a new record is created in the Maker table.

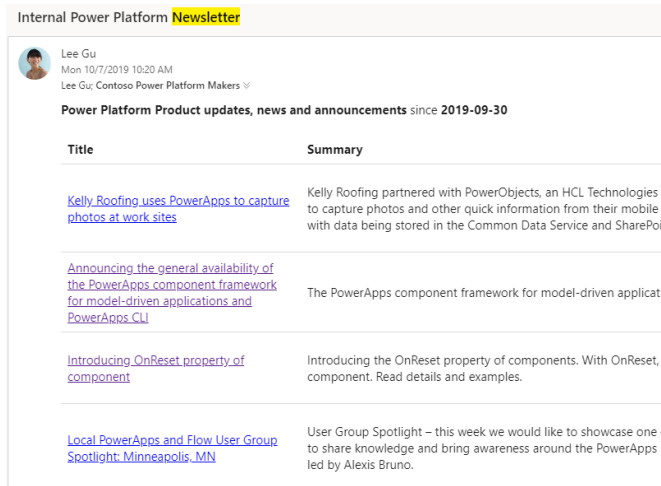
Welcome to PowerApps and Microsoft Flow



### SCREENSHOT: WELCOME EMAIL

### ADMIN | NEWSLETTER WITH PRODUCT UPDATES

Sends a weekly email with a summary of product updates, consisting of blog posts from the Power Apps / flow / Power BI Product blogs and Power Apps Community blog



SCREENSHOT: NEWSLETTER WITH PRODUCT UPDATES

## TRAINING IN A DAY | FEEDBACK REMINDER

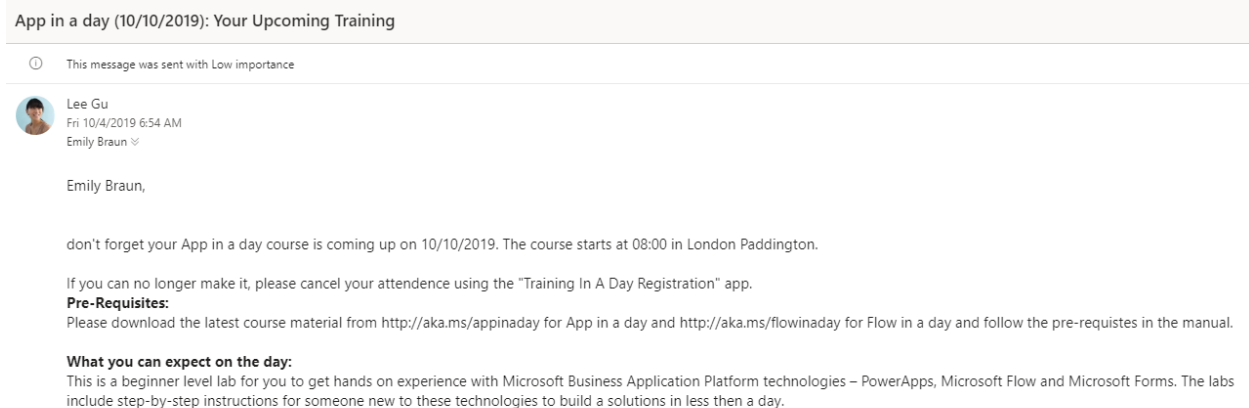
Sends an email to attendees of a training in a day event on the day and requests feedback

## TRAINING IN A DAY | REGISTRATION CONFIRMATION

Sends an email to an attendee when they register for a training in a day event

## TRAINING IN A DAY | REMINDER 3 DAYS PRIOR TO EVENT

Sends an email to an attendee of a training in a day event 3 days prior to the event



SCREENSHOT: SAMPLE APP IN A DAY REMINDER EMAIL

## CHANGE WELCOME EMAIL FROM OFFICE 365 GROUP TO AZURE AD SECURITY GROUP

If you would prefer to use an Azure AD Security Group instead of an Office 365 Group for your makers, the **Admin | Welcome Email** Flow needs amending.

Note: Using an Azure AD Security Group will allow you to share apps with this your maker security group. Currently, apps can not be shared with Office 365 Groups

1. Go to <https://make.powerapps.com> and set the current Environment to the same Environment where the Center of Excellence solution is installed
2. Click **Solutions > Center of Excellence**
3. Select Flow from the Filter option at the top
4. Select the ellipse (...) menu of Admin | Welcome Email and > **Edit**
5. Update the "Initialize Office 365 Group ID" with your Azure AD Group ID (you can rename the variable and action as well)

**Initialize Office 365 Group ID**

\* Name: office365GroupID

\* Type: String

Value: Enter initial value

Add dynamic content +

6. Remove the List Group members action underneath
7. In the same place, select + Add an action, search for and insert "Get Group Members" from the Azure AD connector. Set the Group ID to the office365GroupID variable from dynamic content.

**Get group members**

\* Group Id: {x} office365Grou... x

Show advanced options v

8. Click on the **condition** and on the string expression in the left hand value. Update 'List\_group\_members' to 'Get\_group\_members' in the body of the expression – the expression should look like the highlighted below.

**Condition**

string(...) x

Add dynamic content +

+ Add v

**Expression**

string(body('Get\_group\_members'))

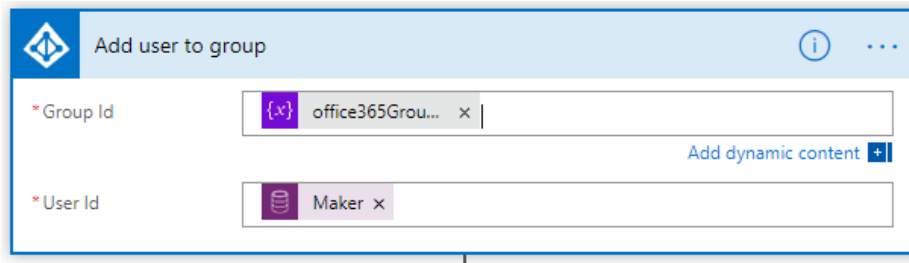
Update

String functions See more

9. Open the No branch of the condition and remove the **Add member to group** action



10. In the same place, select + Add an action, search for and insert **"Add user to group"** from the Azure AD connector. Set the Group ID to the office365GroupID variable and the User Id to Maker (from Dynamic Content)

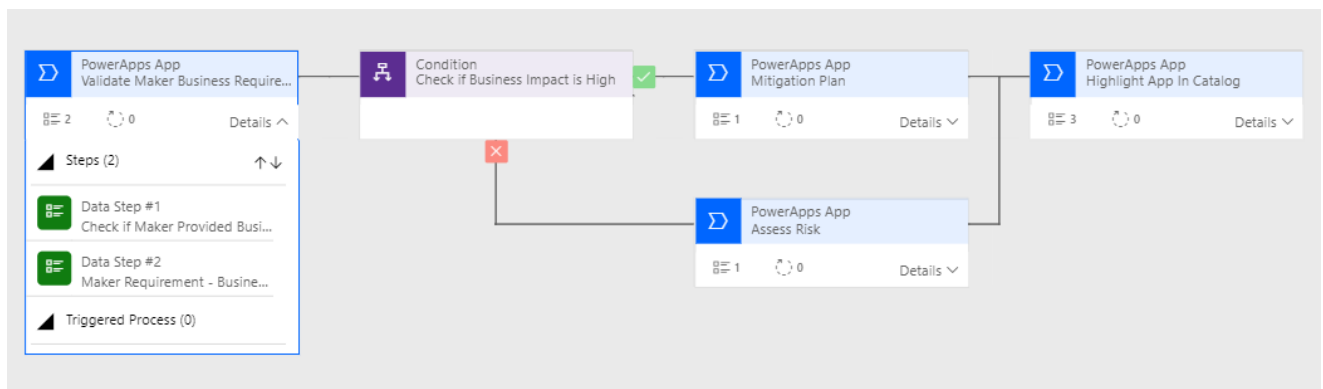


11. Save the Flow

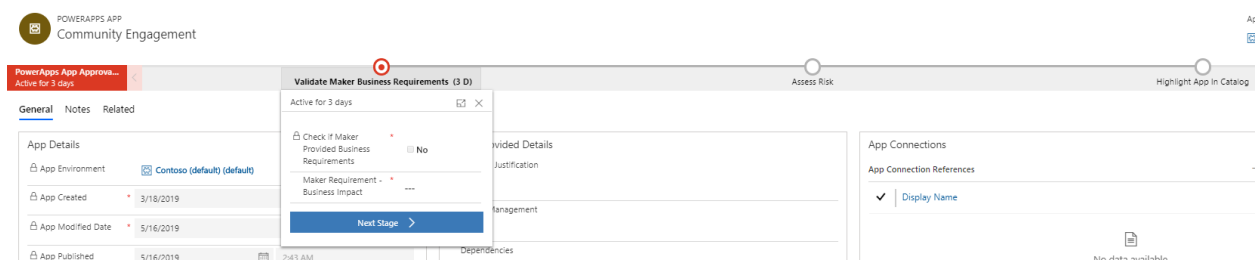
## BUSINESS PROCESS FLOWS

### Power Apps App Approval BPF

This process helps the admin audit the Power Apps App audit process by providing a visual placeholder for the stage in the process they are currently on.



SCREENSHOT: AN IMPLEMENTATION OF AN AUDITING PROCESS USING A BUSINESS PROCESS FLOW COMPONENT



SCREENSHOT: THE BPF VIEW WHILE PLAYING THE MODEL DRIVEN APP, ON THE APP FORM.

## ACTIVATE BUSINESS PROCESS FLOW

The Power Apps App Approval BPF, that helps admins implement an audit process, is disabled by default. In order to enable it

1. Go to <https://make.powerapps.com> and set the current Environment to the same Environment where the Center of Excellence solution is installed
2. Click **Solutions > Center of Excellence**
3. Select Process from the Filter option at the top
4. Select the ellipse (...) menu of Power Apps App Approval BPF and > **Turn On**

## CANVAS APPS – CORE COMPONENTS SOLUTION

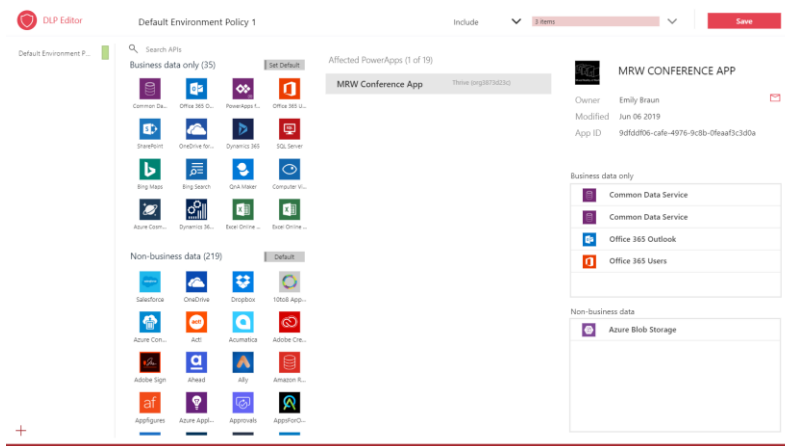
### DLP EDITOR

Canvas app that reads and updates DLP policies while showing a list of apps that are affected by the policy configurations.

Use this app to make changes to the DLP policies to see what impact it will have, and mitigate the risk of breaking a Flow / App through DLP changes by contacting makers.

To learn more about DLP data groups, read [introduction to data groups](#)

**Permission:** Intended to be used only by admins, Power Platform Service Admin or Global Admin permission required. Share with your CoE Admins.



### DLP CUSTOMIZER

Canvas app that allows you to add Custom Connectors to the Business Data Group of a DLP Policy, or to enable HTTP Connectors to a DLP Policy. For more information read [http and custom connector support for dlp policies](#)

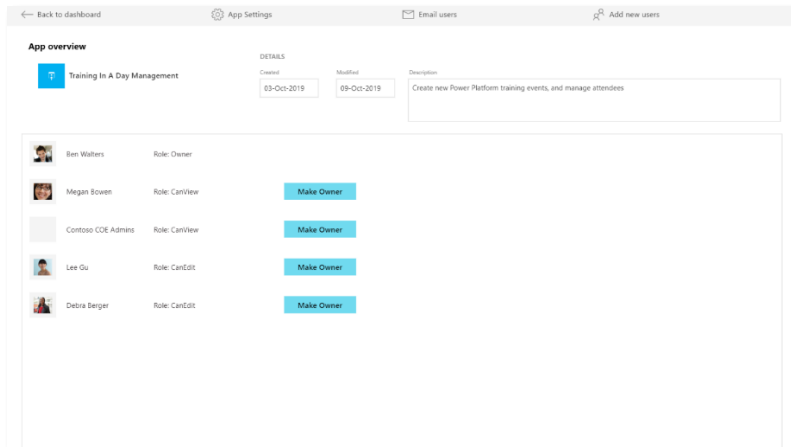
**Permission:** Intended to be used only by admins, Power Platform Service Admin or Global Admin permission required. Share with your CoE Admins.

## SET NEW APP OWNER

Canvas app that an admin can use to discover apps by app or maker name, and set a new **app owner** or add new viewers and editors.

For more information on application permissions see [canvas apps - share app](#).

**Permission:** Intended to be used only by admins, Power Platform Service Admin or Global Admin permission required. Share with your CoE Admins.



## CANVAS APPS – AUDIT COMPONENTS SOLUTION

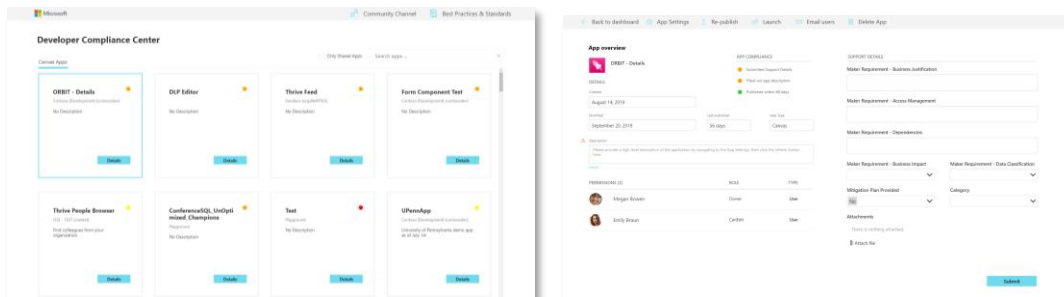
### DEVELOPER COMPLIANCE CENTER

This app is used in the [PowerApps App Auditing Process](#), defined later in this document, as a tool for users to check if their app is compliant and to submit information to the Center of Excellence admins as business justification to stay in compliance. They can also use the app to update the description and re-publish, which are other ways to stay in compliance.

**Permission:** Once you are using the [PowerApps App Auditing Process](#), this app needs to be shared with your App Makers. If you are intending to use this process, modify the "Welcome email" Flow to add users to a Security Group and then share this app with the Security Group.

**Pre-Requisite:** This app uses CDS, a Premium license is therefore required.

**Update:** Verify the Support Details form matches your requirement, and update if necessary.



## CANVAS APPS – NURTURE COMPONENTS SOLUTION

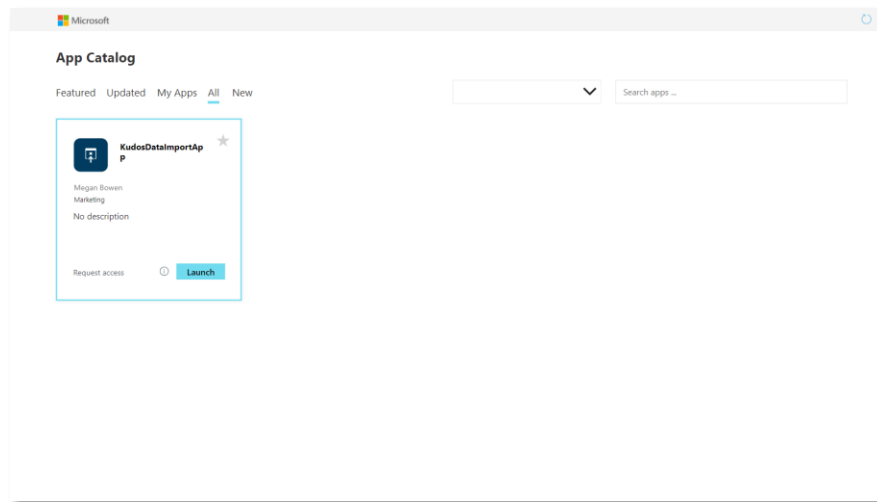
### APP CATALOG

A Canvas app that gives access to the entire organization to make apps more discoverable. Admins audit and validate certain apps which are graduated to the app catalog if the app is meant to be shared broadly.

When you first open the App Catalog, you will not see any apps there at first. There is a field on the Power Apps App entity called “In App Catalog”, which is a two-option set type field (aka Boolean). If the value is set to “Yes”, the app will show up in the catalog. Following the [Compliance Business Process](#) in the Admin app will allow you to publish an app to the App Catalog.

**Permission:** Once you are using this process, the App Catalog can be shared with the entire organization.

**Pre-Requirement:** This app uses CDS, a Premium license is therefore required.



### TEMPLATE CATALOG

Canvas app that allows CoE Admins to share app and component templates as well as best practice documents with their makers.

Note that this app cannot be tested out in the managed solution, only once you’ve [imported it into your extended unmanaged solution](#). This is due to some limitations in the environment variables and data sources in the canvas apps.

**Permission:** Once you have content ready, the Template Catalog can be shared with the entire organization.

**Pre-Requirement:** This app is using SharePoint in the background and requires a SharePoint site to be configured.

## SharePoint setup:

Create a document library to store templates on a SharePoint site of your choice – we recommend having a dedicated Power Apps CoE SharePoint site. Ensure everyone has read-only and download access to this library.

Name the library AppTemplates to make conversion of the app easy, and add the meta-data columns shown below with precise naming to your library. See [create a managed metadata column](#) for assistance.

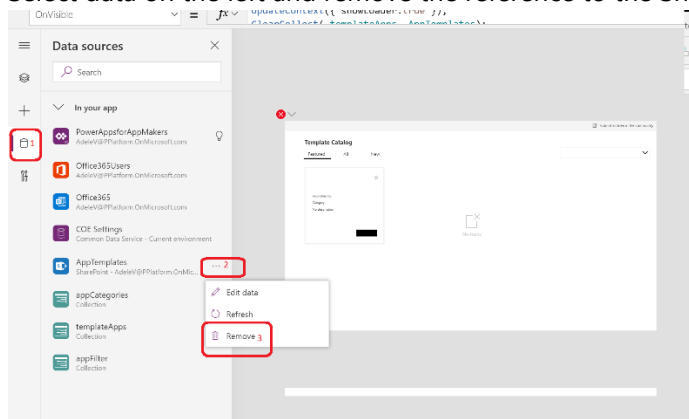
Columns		
A column stores information about each document in the document library. The following columns are currently available in this document library:		
Column (click to edit)	Type	Required
Title	Single line of text	
Description	Multiple lines of text	
Featured	Yes/No	
Display Name	Single line of text	
Category	Choice	
Template Type	Choice	
Created	Date and Time	
Modified	Date and Time	
Created By	Person or Group	
Modified By	Person or Group	
Checked Out To	Person or Group	

Upload your templates so that there is content within the application.

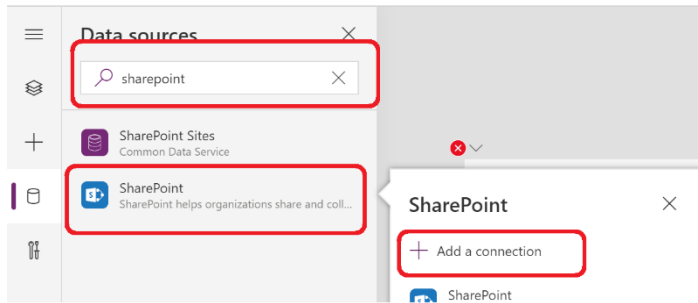
## Power Apps setup:

Open the Template Catalog Power Apps and edit the SharePoint connection to point to your new Document library.

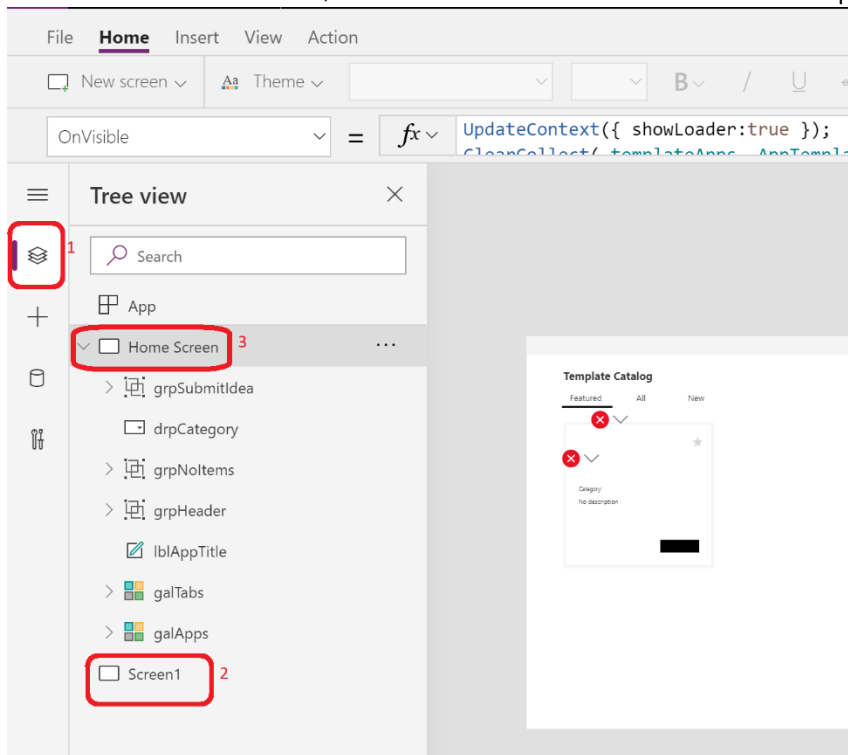
- Browse to your extended solution
- Select Template Catalog and hit Edit
- File > Save As to create your own copy so that updates to the toolkit do not erase your changes
- Give it a name that will allow you to recognize this as your own copy
- Hit the back arrow to return to the edit canvas
- Select data on the left and remove the reference to the SharePoint Doc Lib shown



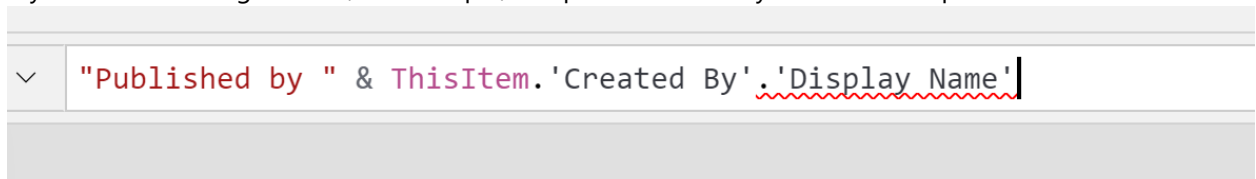
- g) In the search bar under Data sources, type SharePoint, and select the SharePoint data source shown, then Add a connection



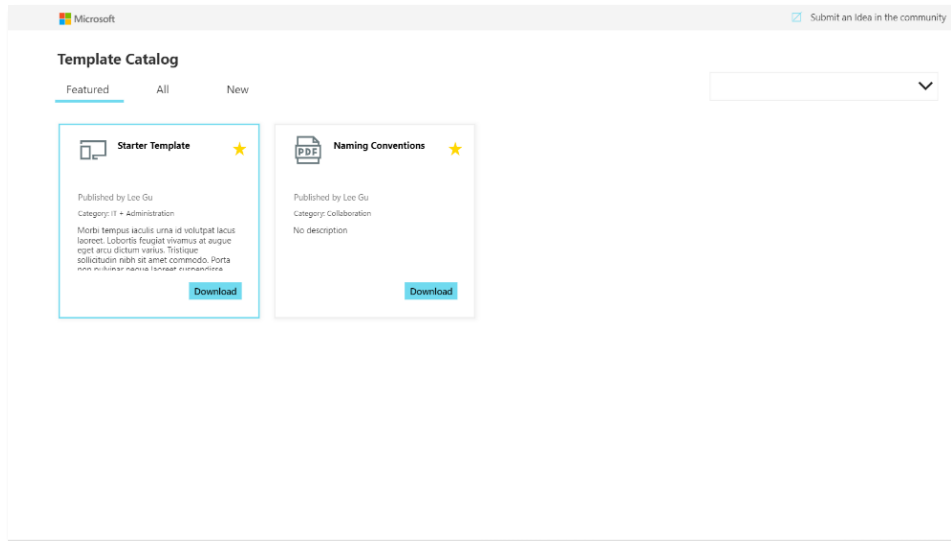
- h) Choose to connect directly, enter the URL of the library and choose connect  
 i) Select the AppTemplates library and connect  
 j) In the Tree View on the left, select Screen1 and then HomeScreen to repopulate the gallery



- k) If you see any additional errors, its likey due to naming convension issues.  
 If you see something like this, for example, fix up the name and you will be complete.



Your Template Catalog is now ready

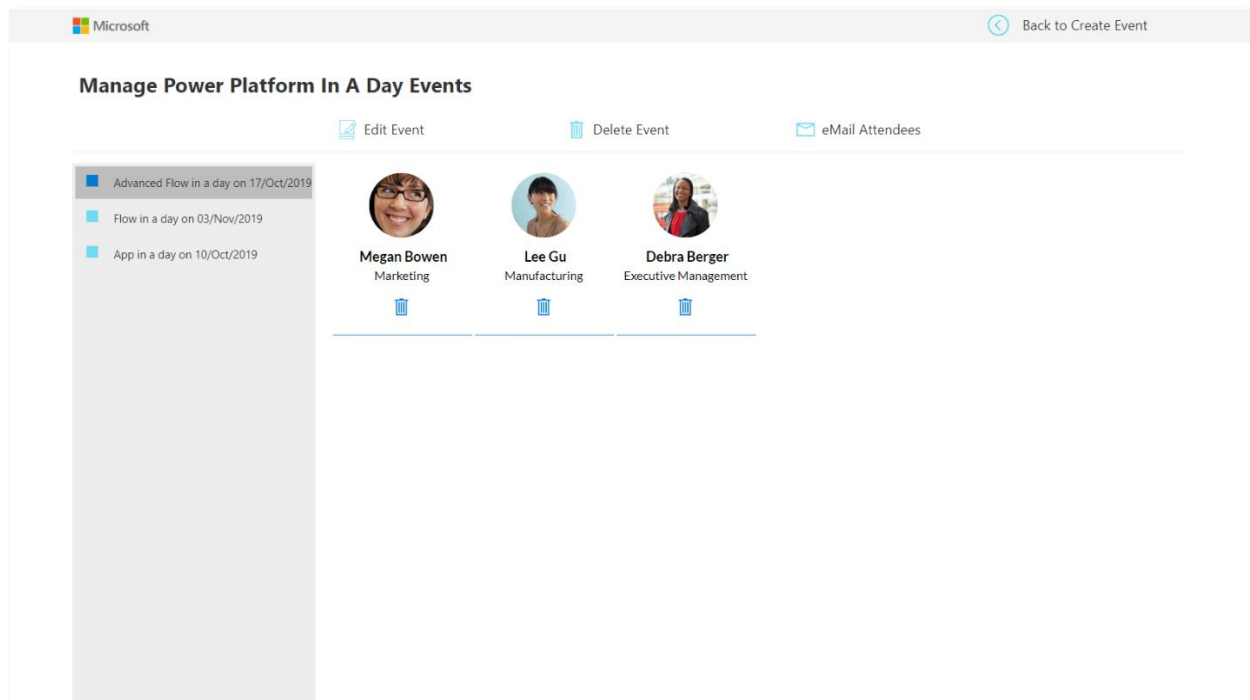


## TRAINING IN A DAY – MANAGEMENT

If you are planning to run internal App / Flow / Custom in a day event, this canvas app will enable you to create and manage events

**Permission:** Share with CoE Admins or the owners of your internal training events.

**Pre-Requisite:** This app uses CDS, a Premium license is therefore required.

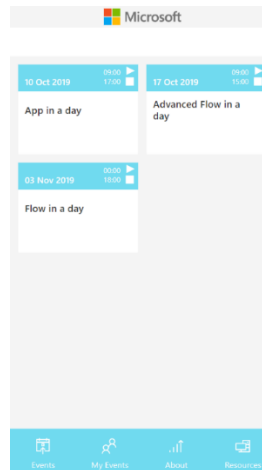


## TRAINING IN A DAY – REGISTRATION

If you are planning to run internal App / Flow / Custom in a day event, this canvas app will enable your end users to register for upcoming events

**Permission:** Once you are running internal training events, share with everyone in the organization.

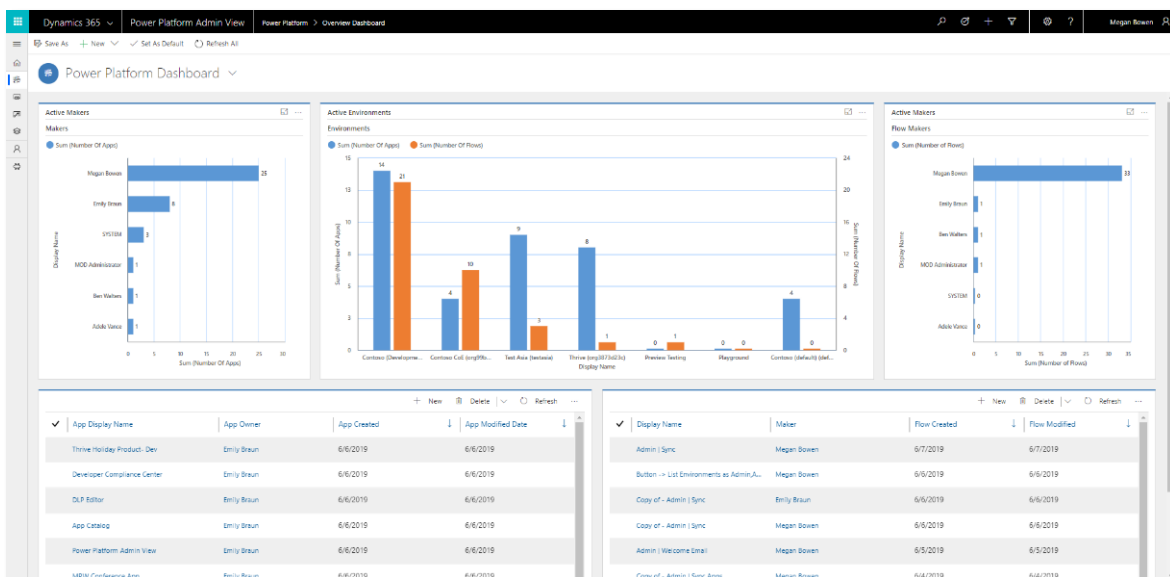
**Pre-Requisite:** This app uses CDS, a Premium license is therefore required.



## MODEL DRIVEN APPS – CORE COMPONENTS

### POWER PLATFORM ADMIN VIEW

A model driven app that provides an interface used to navigate the items in the CDS custom entities. It provides access to views and forms for the custom entities in the solution.





## MODEL DRIVEN APPS – AUDIT AND REPORT COMPONENTS

### APP ARCHIVE AND CLEAN UP VIEW

A model driven app that provides an interface to canvas apps that have been highlighted for archiving, and their approval status.

This Model Driven App works in conjunction with other apps and flows in the CoE toolkit to facilitate a process described in the following section: [PowerApps App Auditing Process](#)

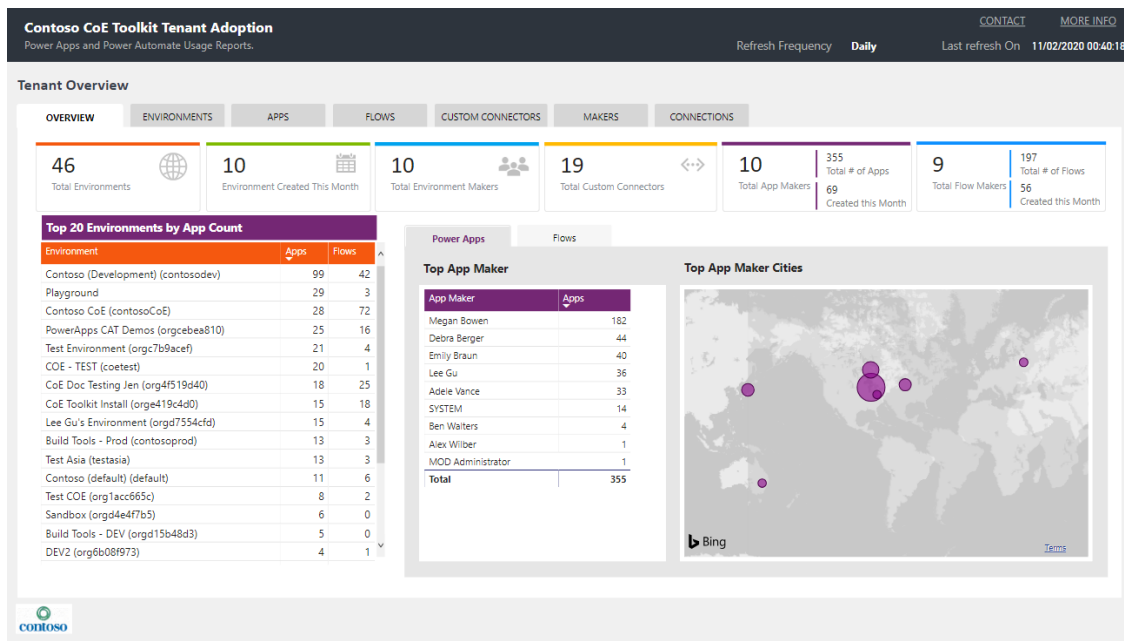
Active Archive Approvals Search for record

App Display Name	App Name	App Environment Name	App Owner eMail	App Owner Name	Approval Response	Approval Comment	Created On
Device Ordering Requests				Emily Braun	---	---	1/2/2020 4:18 AM
Heritage Diary working				Megan Bowen	Approve	---	1/2/2020 4:18 AM
App Creator Portal				Megan Bowen	---	---	1/2/2020 4:18 AM
Device Ordering App				Emily Braun	---	---	1/2/2020 4:18 AM
App Catalog				Megan Bowen	---	---	1/2/2020 4:18 AM
UPennApp				Megan Bowen	---	---	1/2/2020 4:18 AM
ConferenceSQL_Optimized				Megan Bowen	Approve	can be archived	1/2/2020 4:17 AM
Learning Portal				Ben Walters	Reject	used as template	1/2/2020 4:16 AM

## NON-SOLUTION AWARE

### POWER BI REPORT

Provides a wholistic view with visualizations and insights of data in the CDS entities: Environments, Power Apps Apps, Flows, Connectors, Connection References, Makers and Audit Logs.



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## AUDIT LOG CUSTOM CONNECTOR

The Audit Logs are usage logs and log in events. They are normally accessible from the Security and Compliance Center. We collect them here for the Power BI to show usage of applications across the tenant. For more info on these logs see: [logging powerapps](#)

## EXAMPLE PROCESSES

The components listed above are designed for multiple uses, including an implementation of some the example processes. These are meant to showcase common patterns that exist, and hopefully act as inspiration on how to define your own processes to manage.

## POWERAPPS APP AUDITING PROCESS

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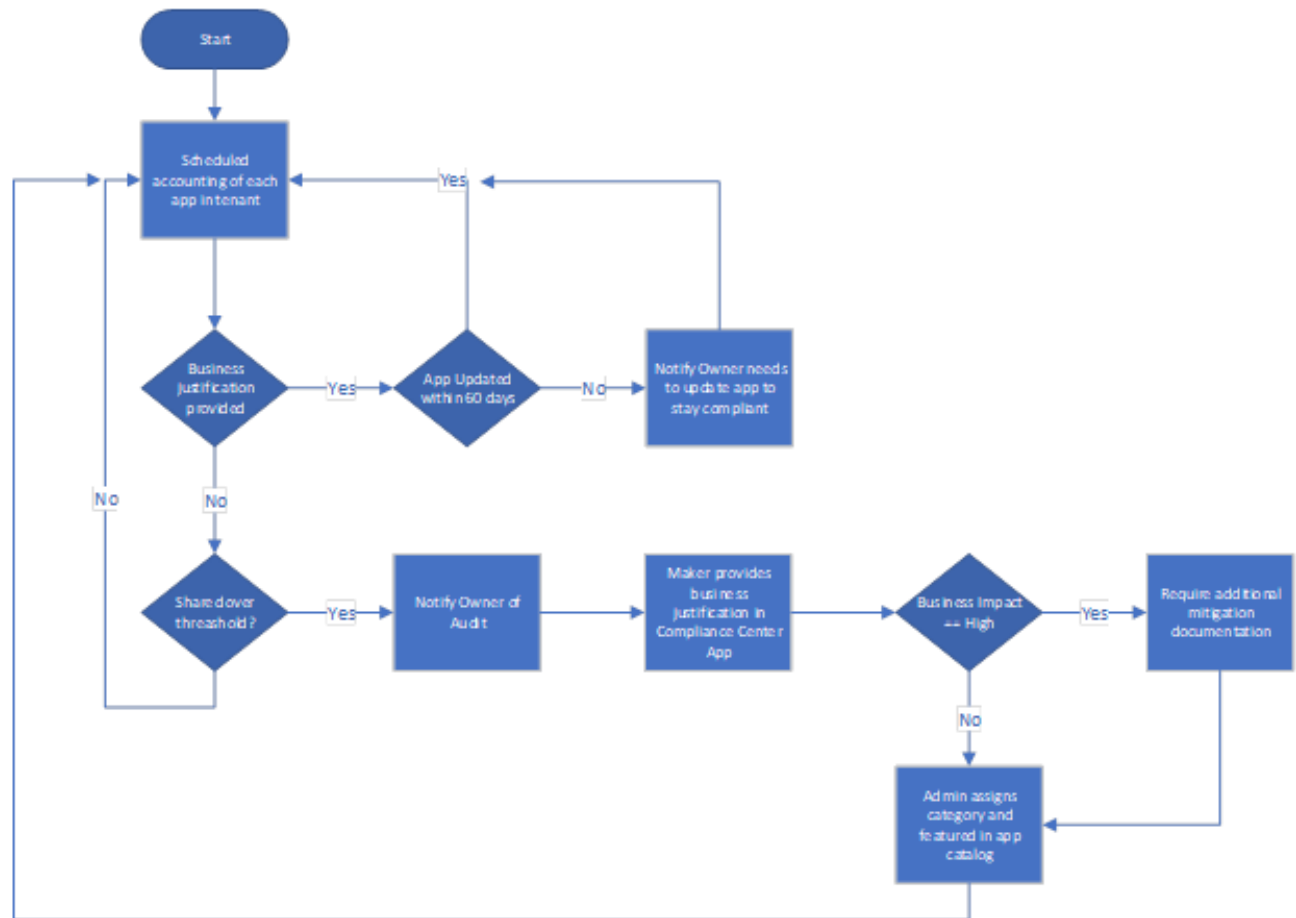
### PROCESS DESCRIPTION

**Problem statement:** There are many apps in the Contoso tenant. IT does not know what all these apps are intended for, how to support individual apps when the helpdesk is called, and it's unclear if all the apps are being maintained to any standard. They can see details like the description and number of shared users from the Power Apps for Admins connector, but they need to communicate directly with the app owner to fully understand the situation around their apps. Especially in a large organization like Contoso, it's not feasible for the IT team to be responsible for manually reaching out to each owner individually for the apps, and those details cannot be stored in email conversations.

**Solution:** The CoE has decided there should be an auditing process on an app-level basis, using the CDS as a data store for business justification details. They decide to use apps and flows built around the data to facilitate this process.

The flow called '**Admin | Compliance detail request**' is used to iterate through all the apps in the tenant and check if the apps are compliant. If the owner has not submitted a business justification and the app was indicated to have been shared broadly (in this example, with more than 20 users or at least 1 group), then the flow will send the owner an email to notify them that the specific app is not compliant with the company's policy. The email contains a link to the Developer Compliance Center canvas app where they can provide the business justification details in a form submission. The app also contains details about the compliance thresholds and has links to the app settings so they can configure the description and re-publish if needed.

Once the maker has proven compliance by adding these details, the admin can review those details and the app itself. A business process flow in the Power Platform Admin View (model driven app) helps facilitate the auditing process.



### USER POV OF THE PROCESS

Here is that process from the point of view of the people involved, and the components they interact with.

**Maker:** The maker gets a notification that they have work to do to come into compliance for an app. The notification includes a deep link to [Developer Compliance Center](#) for their application.

There are 3 items tracked in the system and the user make have 1 to 3 things to do:

1. A fresh publish (last 60 days) to show its an active app
2. A description of the application to indicate its purpose
3. Support details showing business justification and other support details

← Back to dashboard App Settings Re-publish Launch Email users Delete App

### App overview

**Training In A Day Registration**

**APP COMPLIANCE**

- 3 Submitted Support Details
- 2 Filled out app description
- 1 Published within 60 days

**DETAILS**

Created: February 06, 2020

Modified: February 06, 2020

Last published: 1 days

App type: Canvas

**Description**

Register for our hands on training events and learn more about the Power Platform

**PERMISSIONS (3)**

	ROLE	TYPE
Adele Vance	Owner	User
Contoso Power Platform Makers	CanView	Group
Contoso Users	CanView	Group

**SUPPORT DETAILS**

**Maker Requirement - Business Justification**

Makers need to be educated on the Power Platform in order to be good citizens. This app lets them see upcoming trainings and to register for them

**Maker Requirement - Access Management**

Should be shared with all the users that are makers in the org.

**Maker Requirement - Dependencies**

These flows and CDS entities

**Maker Requirement - Business Impact**

Important

**Maker Requirement - Data Classification**

General

**Mitigation Plan Provided**

Yes

**Category**

Productivity

**Attachments**

CoE Starter Kit - Documents...

Attach file

**Admin:** Once applications have hit all three of these markers, they show up in the Admin Review filter view on the [Model Driven Apps – Audit and Report Components](#)

PowerApps Power Platform Admin View Power Platform > Apps

Show Chart Delete Refresh Email a Link Flow Run Report Excel Templates Export to Excel

**Admin Review**

Search for records

App Display Name	App Description	Maker Requirement - Business Justification	Maker R...	App Owner
Training In A Day Registration	Register for our hands on training events...	Makers need to be educated on the ...	General	Adele Vance

Home Recent Pinned Monitor Overview Dashboard Apps Flows Environments Connectors

Admin click into the app and comes to the workflow, they go to the audit tab and investigate the work by the Maker, then mark their assessment in the admin review section.

Their decision to put it in the app catalog, as featured or not, will expose the app to the user in the next step shown below.

The admin marks the process to the next stage for the next two steps (first shown) and finish.

POWERAPPS APP  
Training In A Day Registration

App Owner  
Adele Vance

PowerApps App Approva...  
Active for 17 hours

Validate Maker Business Require... (17 Hrs)

Assess Risk

Highlight App In Catalog

General Audit Notes Related

JUSTIFICATION

Business Justification

Makers Platform them s them

Dependencies

These f

Access Management

Should be shared with all the users that are make...

Data Classification

General

Business Impact

Low risk Important Critical

Mitigation Plan

Yes

Check if Maker Provided Business Requirements

Yes

Confirm Business Impact

Important

Next Stage >

ADMIN REVIEW

Admin Risk Assessment

Minor

Category

Productivity

In App Catalog

Yes


Featured

No

**Maker:** The maker can now see the app in the [App Catalog](#).


## App Catalog


Featured Updated My Apps All New



**Developer Compliance Center**


Portal for PowerApps creators to view their apps and submit more information to get better support from their Center of Excellence.

Request access ⓘ 



**Training In A Day Registration**

Register for our hands on training events and learn more about the Power Platform

Request access ⓘ 

## LIMITATIONS

There is no 'one size fits all' solution for a Center of Excellence. Some companies will want a very restrictive set of rules on their organization in the mind-frame of mitigating the unknown, while others will want to let users personally explore without limitations. Because of this, the CoE starter kit does not come equipped with a set of design patterns for everyone. For example, there are no components that are configured to automatically delete resources, because we did not want to provide a tool that might have unintentionally disrupted a business when installed. Therefore, if more restrictive implementations are desired, it must be implemented in addition to these tools.

In addition to this high-level warning, there are some additional notes on some components:

### TIMEOUTS IN THE ADMIN | SYNC TEMPLATE V2

- The CDS connector might experience some throttling limits if the tenant has a lot of resources. If you see 429 errors in the flow run history occurring in the later runs, you can the following things
  - Configure Retry
    - a) Open Admin | Sync Template v2 to Edit
    - b) Expand the step: Get Environments and store them in the CoE CDS Entity
    - c) Expand the step: **Apply to each Environment**
    - d) Go to settings for each call to the CDS

Settings for 'Upsert Environment (SYSTEM maker) - Preview'

Secure Inputs (Preview)  
Secure inputs of the operation.  
Secure Inputs ☐ Off

Secure Outputs (Preview)  
Secure outputs of the operation and references of output properties.  
Secure Outputs ☐ Off

Asynchronous Pattern  
With the asynchronous pattern, if the remote server indicates that the request is accepted for processing with a 202 (Accepted) response, the Logic Apps engine will keep polling the URL specified in the response's location header until reaching a terminal state.  
Asynchronous Pattern ☒ On

Automatic decompression  
Automatically decompress gzip response.  
Automatic decompression ☒ On

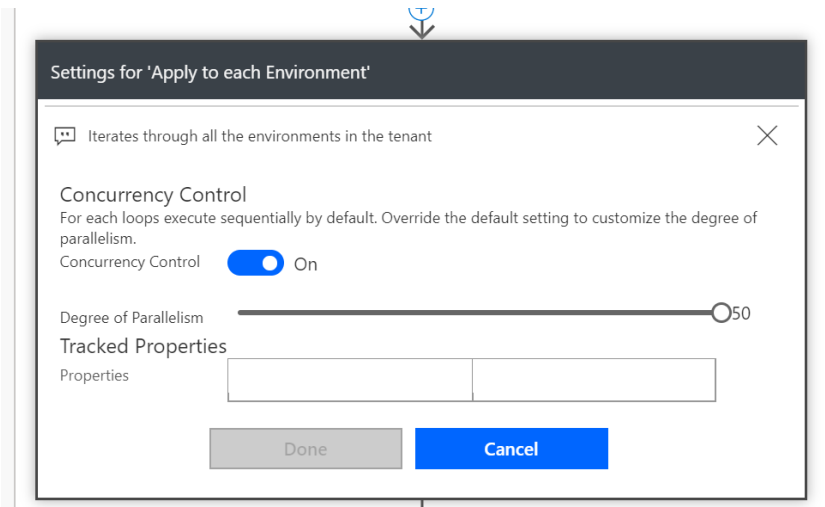
Timeout  
Limit the maximum duration an asynchronous pattern may take. Note: this does not alter the request timeout of a single request.  
Duration ⓘ Example: P1D

Retry Policy  
A retry policy applies to intermittent failures, characterized as HTTP status codes 408, 429, and 5xx, in addition to any connectivity exceptions. The default is an exponential interval policy set to retry 4 times.  
Type Fixed Interval ▼  
\* Count 90  
\* Interval ⓘ 1M

Tracked Properties  
Properties

Done Cancel

- e) And configure the timeout / retry settings
- Reduce concurrency in Foreach loops to reduce simultaneous calls
  - a) Open Admin | Sync Template v2 to Edit
  - b) Expand the step: **Get Environments and store them in the CoE CDS Entity**
  - c) Go to Settings for the **Apply to each Environment** step



d) Reduce the degree of parallelism here.

## DLP EDITOR

- The Environments call only returns the first 2000 environments. We will be updating the tool to accommodate up to 6000, but you can also follow the pattern that's implemented and implement it yourself.
- Cannot write back Environment-type policies.

## GOVERNMENT COMMUNITY CLOUD ENVIRONMENTS

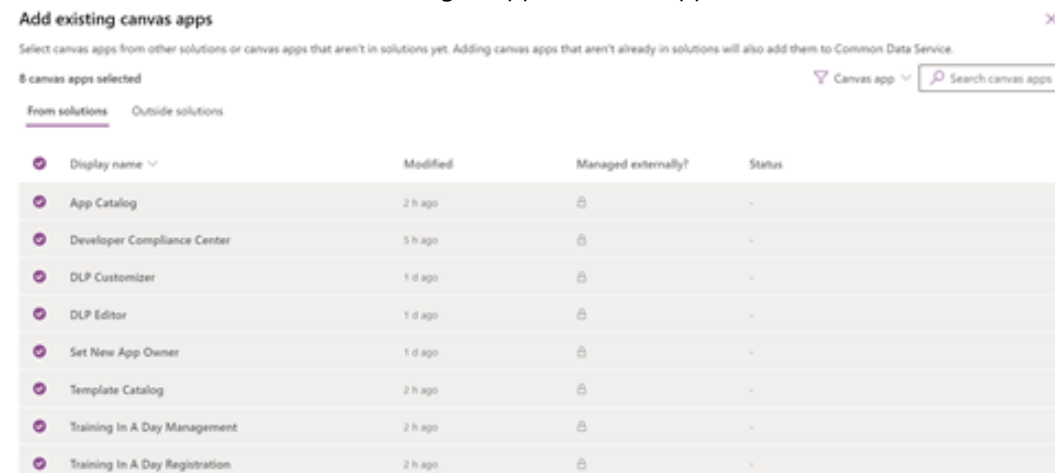
- The CoE Starter Kit is currently not available for GCC Environments, as the Flow Management Connector and the Custom Connector to connect to Office 365 Audit Logs are not available for GCC environments yet.

## ELEMENTS TO IMPORT TO UNMANAGED SOLUTION

Shown here are the elements needed to import to your extended, unmanaged solution. It shows the elements to take if you wish to import and utilize the entire starter kit:

a) Canvas Apps:

Go to the new solution > Add Existing > App > Canvas App



## b) Model Driven Apps:

Go to the new solution > Add Existing > App > Model Driven Apps

### Add existing model-driven apps

Select model-driven apps from other solutions or model-driven apps that aren't in solutions yet. Adding model-driven apps that aren't

2 model-driven apps selected

✓ Display name ▾	Type ▾	Managed externally?
✓ App Archive and Clean Up View	Model-driven app	🔒
✓ Power Platform Admin View	Model-driven app	🔒

## c) Entities:

Go to the new solution > Add Existing > Entities

ARCHIVE APPROVAL  
 AUDIT LOG  
 COE SETTINGS  
 CONNECTION REFERENCE  
 ENVIRONMENT  
 FLOW  
 INADAYATTENDEES  
 INADAYEVENT  
 MAKER  
 POWERAPPS APP  
 POWERAPPS CONNECTOR  
 SYNC FLOW ERRORS

Choose to Include all Components and then Add

## d) Environment Variables:

Go to the new solution > Add Existing > Environment Variables

✓ Display name ▾	Name
✓ Admin eMail	admin_AdminMail
✓ Archive Folder	admin_ArchiveFolder
✓ Archive Site URL (SharePoint Site)	admin_ArchiveSiteURLSharePointSite
✓ Developer Compliance Center URL	admin_DeveloperComplianceCenterURL
✓ eMail Header Style	admin_eMailHeaderStyle
✓ Power Automate Environment Variable	admin_PowerAutomateEnvironmentVariable
✓ Power Platform Admin Security Group	admin_PowerPlatformAdminSecurityGroup
✓ Power Platform Make Office 365 Group	admin_PowerPlatformMakeSecurityGroup
✓ Training In a Day - Feedback Form	admin_TrainingInaDayFeedbackForm



Include the definition but not the current value, and then add

e) Flow:

Go to the new solution > Add Existing > Flow

✓ Display name ▾	Modified
✓ Admin   App Archive and Clean Up - Check Approval...	4 h ago
✓ Admin   App Archive and Clean Up - Start Approval	5 h ago
✓ Admin   Compliance detail request	5 h ago
✓ Admin   Newsletter with Product Updates	2 h ago
✓ Admin   Sync Template v2	1 d ago
✓ Admin   Sync Template v2 (Apps)	1 d ago
✓ Admin   Sync Template v2 (Connectors)	1 d ago
✓ Admin   Sync Template v2 (Custom Connectors)	1 d ago
✓ Admin   Sync Template v2 (Flows)	1 d ago
✓ Admin   Sync Template v2 (Model Driven Apps)	1 d ago
✓ Admin   Sync Template v2 (Sync Flow Errors)	1 d ago
✓ Admin   Welcome Email	2 h ago
✓ SETUP REQUIRED   Admin   Find and add admins as o...	5 h ago
✓ SETUP REQUIRED   Admin   Find and disable flows th...	5 h ago
✓ Training In A Day   Feedback Reminder	2 h ago
✓ Training In A Day   Registration Confirmation	2 h ago
✓ Training In A Day   Reminder 3 days prior event	2 h ago

f) Process:

Go to the new solution > Add Existing > App > Process

Display name ▾
Error Code Visibility
Exception Message Visibility
Expired Process
GetKAOObjectFromTemplate
New Process
Overwrite Customizations Visibility
✓ PowerApps App Approval BPF
Set default Timeout
Translation Process
Update Contact

## OTHER RESOURCES

- Power Apps admin documentation: <https://docs.microsoft.com/en-us/powerapps/#pivot=home&panel=admin>
- Find training resources, including guided learning and step-by-step guides <aka.ms/PowerPlatformLabs>
- Read up on customer success stories and find resources relevant to your experience, technical background and skill level <aka.ms/PowerPlatformResources>
- Get started with the Microsoft Power Platform path on Microsoft Learn, a free online and interactive training platform <https://aka.ms/PowerUp>
- As an admin looking after the Center of Excellence, you should be familiar with the Administration and Governance of the Power Platform. We recommend the following whitepaper as a resource: <https://aka.ms/powerappsadminwhitepaper>
- While not part of the CoE Starter Kit, you might find the following template flows useful
  - List new apps, flows and connectors - <aka.ms/listpoweractivity>
  - List new custom connectors <aka.ms/newconnectornotification>

## FEEDBACK AND SUPPORT

Questions, comments, concerns, or ideas of additions? Please post your feedback in the Issues section of the GitHub repository <https://aka.ms/CoEStarterKitRepo>.