

(60min)

Get started with document automation

Learn about document automation, how to install, configure and use it.

1-introduction to the document automation (15min)

In this unit, you will

- Understand which scenarios document automation addresses.
- Learn what you can accomplish with document automation.

Before you begin this course, we recommend that you review the following resources:

- [Introduction to Power Automate](#) learn module.
- [Introduction to Power Apps](#) learn module.
- [Get started with Dataverse](#) learn module.
- [Get started with Form processing in AI Builder](#) learn module.
- [AI Builder form processing model](#) documentation.

What is [document automation](#)?

Thanks to automation solutions and AI, organizations can accelerate and optimize the processing of documents so humans can be freed from performing repetitive, low value and error prone tasks. This applies to any kind of printed or digital form that must be reviewed, have data extracted from it, and processed.

Automating the processing of documents requires a complete solution. The Power Platform enables you to build a rich and robust document automation solution using Power Automate to orchestrate the overall process, AI Builder to bring the Intelligence required to efficiently extract information from documents, Power Apps to allow users to manually review and approve documents, and Dataverse to manage the document queue and store all the data, files and configuration required.

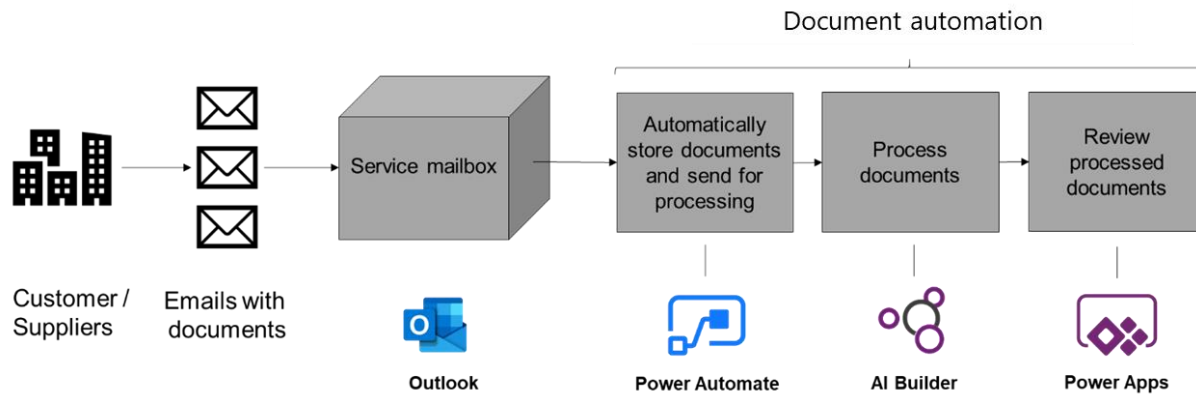
Starting from a blank page can be challenging when designing such a complex system. This document automation solution is a reference implementation that provides a functional end-to-end solution that is ready to be installed and supports a common processing pattern:

- Receiving documents from a service mailbox.
- Automatically extracting data from these documents.
- Exporting the results to a target system like accounting, HR or CRM.

Because of things like compliance rules or the need to evaluate the accuracy of AI, there is a need to include a “human in the loop” manual review in this process.

Document automation provides this standard end-to-end solution. It includes the following components:

- Manage documents received in emails.
- Use AI Builder form processing solution to extract data from those documents.
- Process the data extracted and allow users to review and approve data through a central manual validation application.



The document automation tool is a solution that you install in one of your Environments (learn more about environments [Environments overview](#)). This solution includes several Power Automate flows, a Power App and several Dataverse data tables. It is named “Document automation base kit”.

What does document automation include?

The received documents go through the following steps:

Document Automation Email Importer flow

The Document Automation Email Importer imports documents to process.

This flow is configured to work with document sent via email. If you receive documents in a different manner, you can customize the import flow to retrieve documents from a SharePoint folder or a cloud storage for example. You can find more information about customization of the import mechanism in the next learning modules.

The “Document Automation Email Importer” does the following:

- It triggers when mail is received at a specific outlook email address with an attachment. You can filter on senders or a specific word in the title. In the following module, you will learn how to configure this trigger to best fit how you receive documents.
- It adds the document to the document queue managed in Dataverse.
- It stores the document file in Dataverse.
- This document’s state is set to “extracting data”. This is an indication that the document was received and is ready to be processed with AI to extract the relevant information.

Document Processor flow

The “Document Processor” flow extracts data from the document using an AI Builder model.

This flow does the following:

- It triggers when a document is received and stored in the document queue, and is in the “extracting data” state.
- It retrieves each document and runs an AI Builder form processing model on it to retrieve the relevant data. You can build your own AI Builder model for your unique document layout. More about this configure in the following learn modules.
- It stores the extracted data in a Dataverse table so that further data checks and processing can be performed before it’s exported or used in another system.
- It sets the document’s state to “validating data” to indicate that the data has been extracted and is ready to be processed with the business logic and rules that you need to apply.

Document automation Validator flow

This helps apply business rules and determine if the document requires manual validation.

The “Document Automation Validator” is a placeholder where you can add the business logic that you’d like to apply to the data. For example, you could ask for manual validation if one of the data fields hasn’t been extracted or if the confidence level is below 80%; or you could auto approve data when the dollar amount is below a certain value while sending the others for manual approval.

This flow is not configured with any rules by default and sends all documents for manual review.

This flow does the following:

- It is triggered after a document has been processed and extracted data stored in Dataverse - when it is in the “validating data” state.
- It sets the document’s state to “manual review” to indicate that the data extracted is ready to be reviewed and approved by the someone.

Document Automation Application

This helps with manually reviewing and approving documents.

The “Document Automation Application” is the central place where users can visualize all the documents that are in the pipeline, the state of each, as well as to review and approve the data extracted when required. This application also includes a section for the owner of the solution to configure the process. This application is built in Power Apps, which allows for easy customization.

The “Document Automation Application” allows users to do the following:

For manual reviewer:

- List all documents that are ready to be reviewed.
- Open a document to view side by side the document and the extracted data.
- Edit and/or complete the data extracted for missing data fields or errors.
- Approve the document and sets the state to “Validated”.

For process owners

- Configure the AI Builder model used to process documents.
- List all documents that have been processed.
- Filter based on document states:
 - o **Invalid document:** when not a PDF, PNG or JPEG
 - o **Downloading document:** when email attachment is being retrieved and store in Dataverse.
 - o **Extracting data:** when the AI model is extracting data from the document.
 - o **Validating:** when validation logic is being performed.
 - o **Manual review:** when the document is ready to be reviewed by a reviewer.
 - o **Validated:** when the document has been successfully reviewed.

It is possible to configure who is a reviewer and/or an owner in your team.

The documents and extracted data that are in the “validated” state are ready to be exported to external systems like accounting, HR or CRM.

[How to use document automation?](#)

The “Document automation base kit” is a reference managed solution. Users are free to use and update the components of this solution to adapt it to their business and system specifics.

To use this solution, you need the following licenses:

- One [Power Automate license](#) to run all the flows that orchestrate the process.
- A [Power Apps license](#) for any user who must manually review and approve documents.
- A Power Apps license for the process owner to configure the process.
- AI Builder capacity based on the volume of document processed per month. The [AI Builder calculator](#) helps you to estimate the capacity that is right for you.

You have now understood in which scenario the “Document automation base kit” can help you with in automating the processing of your documents.

2-install the “Document automation base kit” (15min)

In this unit, you will

- Understand how to install the “Document automation base kit”.
- Learn what are the key components installed.
- Learn how to configure the connection to outlook and Dataverse.

The person installing the document automation solution should:

- Have good knowledge of Power Platform concepts (at least Power Automate connections and Dataverse).
- Have Power Platform privileges to configure Power Automate connections and add environment variables.
- Own the connection to the outlook service mailbox that will be used to receive the documents.

Makers or Administrators are usually a good fit for this task.

The following items will be installed with this package:

Display name <input type="checkbox"/>	Name	Type <input type="checkbox"/>
Document Automation Application	... aib_documentautomationapplication_a3a44	Canvas app
Document Automation Configuration	... aib_documentautomationconfiguration	Table
Document Automation Configuration Status	... aib_documentautomationconfigurationstatus	Choice
Document Automation Data	... aib_documentautomationdata	Table
Document Automation Processing	... aib_documentautomationprocessing	Table
Document Automation Processing Status	... aib_documentautomationprocessingstatus	Choice
Document Automation Taxonomy	... aib_documentautomationtaxonomy	Table
Document Automation Email Importer <input type="checkbox"/>	... Document Automation Email Importer	Flow
Document Automation Processor <input type="checkbox"/>	... Document Automation Processor	Flow
Document Automation Reviewer <input type="checkbox"/>	... Document Automation Reviewer	Security Role
Document Automation Validator <input type="checkbox"/>	... Document Automation Validator	Flow

- A Power Apps “Document automation application” allowing makers to configure the AI model to use for the document extraction, and users to track processing of documents and review them.
- 3 Power Automate flows
 - “Document Automation Email Importer” that listens to new emails arriving in the service mailbox, extracts attachment, and creates a new processing request.
 - “Document Automation Processor” that calls the AI Builder model to extract values and store it in Microsoft Dataverse.
 - “Document Automation Validator” that acts as a placeholder for your business rules and sends documents to the validation application.

- 4 Microsoft Dataverse tables
 - “Document Automation Processing” storing the document automation requests, the file to be processed and the status of the processing.
 - “Document Automation Data” storing the values extracted from the document.
 - “Document Automation Configuration” storing the information about the model to use.
 - “Document Automation Taxonomy” mapping where each model labels will be stored in the “Document Automation Data” table fields.
- 2 Microsoft Dataverse choices
 - “Document Automation Processing Status” with steps of the workflow
 - “Document Automation Configuration Status” to indicate if the AI model has been configured.

To install your document automation solution in one of your environments you need to go through the following steps:

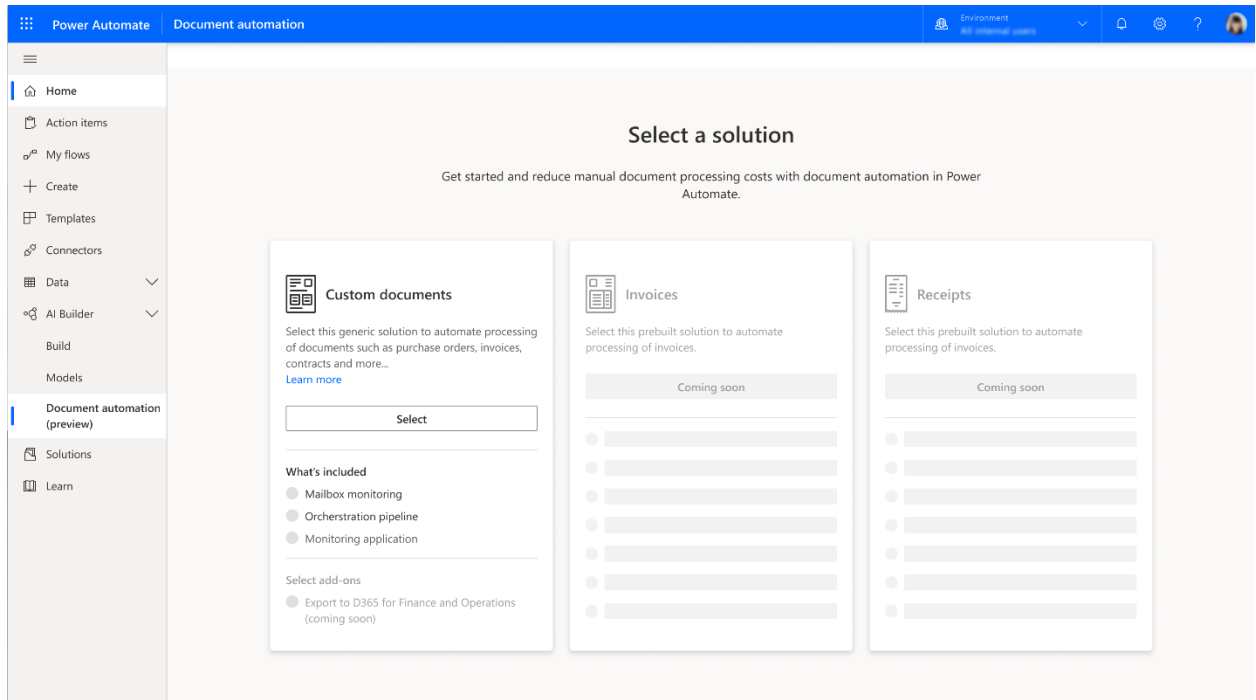
- Install the “Document automation base kit” solution package.
- Activate the flows and data connections with your account.

The flows will run with the user credentials and data connections of the user who is installing and configuring the solution.

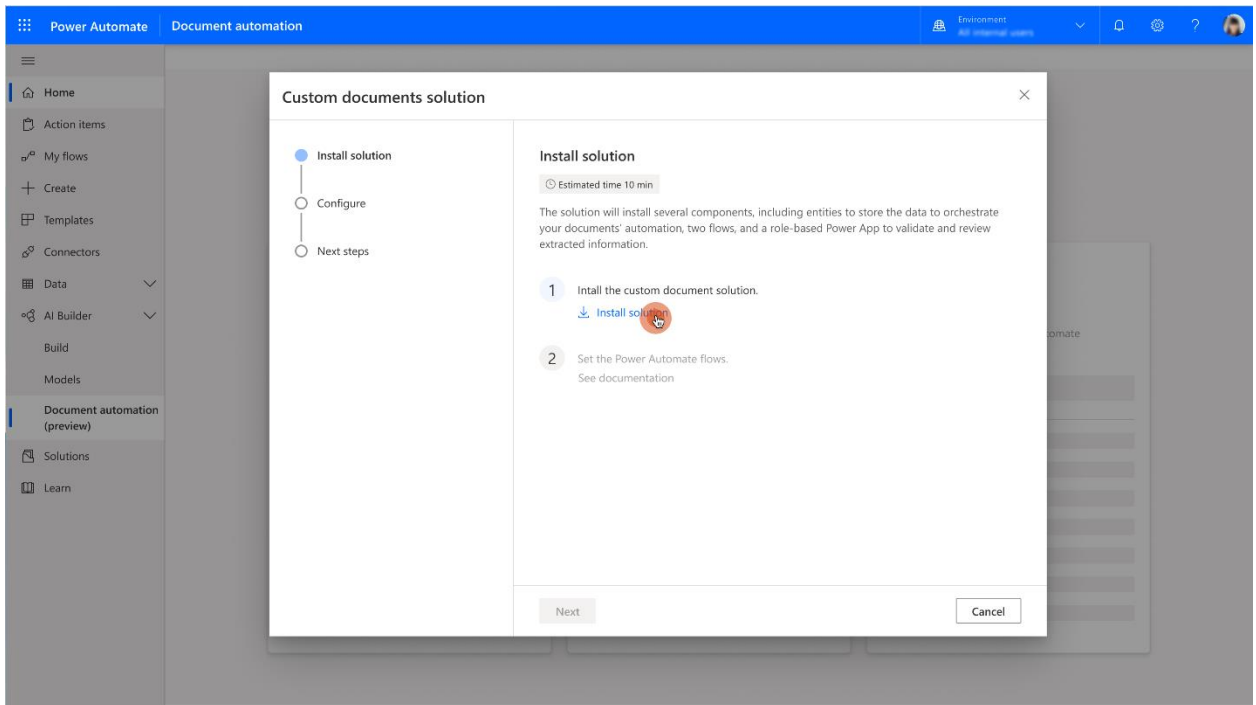
Install the solution

To install and configure the document automation solution, follow these steps:

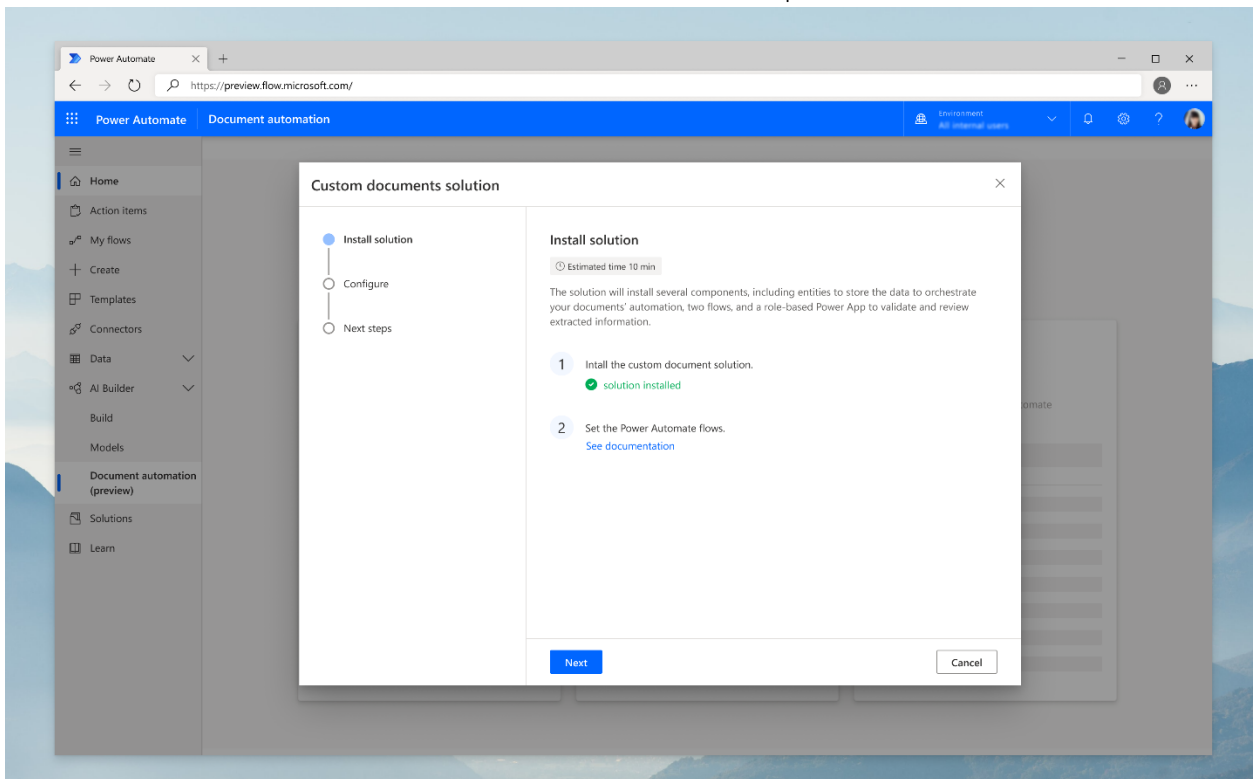
1. Go to Power Automate and navigate to [document automation page](#)
2. Click on “Select”



- Once in the wizard, click on the install solution link



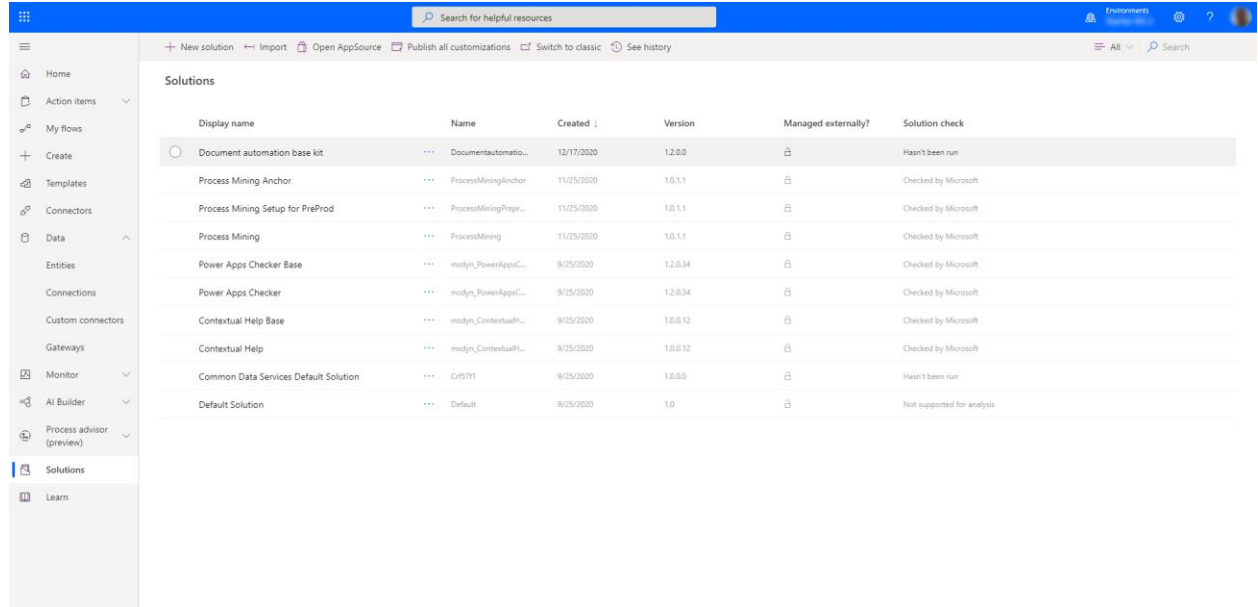
- You are redirected to the Power Platform admin center, accept the term of service, then click on "Install".
- Return to the wizard and wait 5-10min until the installation is complete.



Configure the Power Automate flows

Your document automation solution is now installed but is not activated yet. To finalize the installation and activate your document solution, you need to configure the data connections and turn on the flows used by the solution. We will start by configuring and activation the flow that captures documents to process.

6. Select “Document automation base kit”

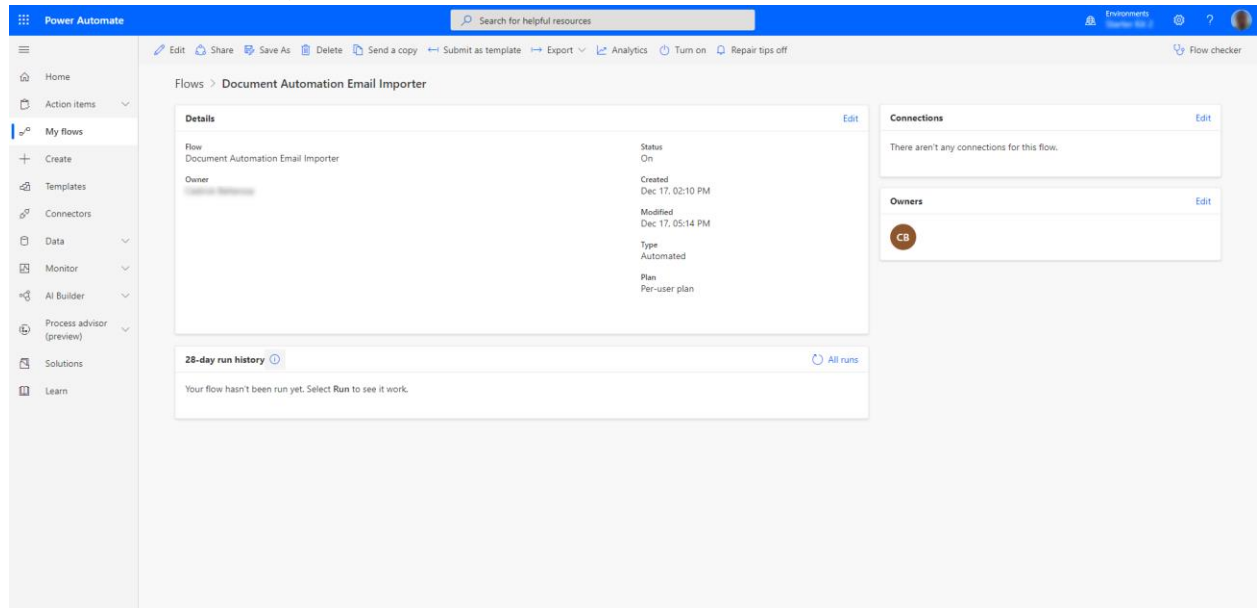


The screenshot shows the 'Solutions' page in Power Automate. The left sidebar contains navigation options: Home, Action items, My flows, Create, Templates, Connectors, Data, Entities, Connections, Custom connectors, Gateways, Monitor, AI Builder, Process advisor (preview), Solutions, and Learn. The main area displays a table of solutions with the following columns: Display name, Name, Created, Version, Managed externally?, and Solution check.

Display name	Name	Created	Version	Managed externally?	Solution check
<input type="radio"/> Document automation base kit	Documentautomatio...	12/17/2020	1.2.0.0		Hasn't been run
Process Mining Anchor	ProcessMiningAnchor	11/25/2020	1.0.1.1		Checked by Microsoft
Process Mining Setup for PreProd	ProcessMiningPrep...	11/25/2020	1.0.1.1		Checked by Microsoft
Process Mining	ProcessMining	11/25/2020	1.0.1.1		Checked by Microsoft
Power Apps Checker Base	msdyn_PowerAppsC...	9/25/2020	1.2.0.34		Checked by Microsoft
Power Apps Checker	msdyn_PowerAppsC...	9/25/2020	1.2.0.34		Checked by Microsoft
Contextual Help Base	msdyn_ContextualH...	9/25/2020	1.0.0.12		Checked by Microsoft
Contextual Help	msdyn_ContextualH...	9/25/2020	1.0.0.12		Checked by Microsoft
Common Data Services Default Solution	CD/9711	9/25/2020	1.0.0.0		Hasn't been run
Default Solution	Default	9/25/2020	1.0		Not supported for analysis

7. Then select “Document Automation Email Importer”

8. Select **Edit** in the top banner



The screenshot shows the 'Document Automation Email Importer' flow details page. The top banner includes actions: Edit, Share, Save As, Delete, Send a copy, Submit as template, Export, Analytics, Turn on, and Repair tips off. The main content area is divided into three sections: Details, Connections, and Owners.

Details (Edit)

Flow	Document Automation Email Importer	Status	On
Owner	[Redacted]	Created	Dec 17, 02:10 PM
		Modified	Dec 17, 05:14 PM
		Type	Automated
		Plan	Per-user plan

28-day run history (All runs)

Your flow hasn't been run yet. Select Run to see it work.

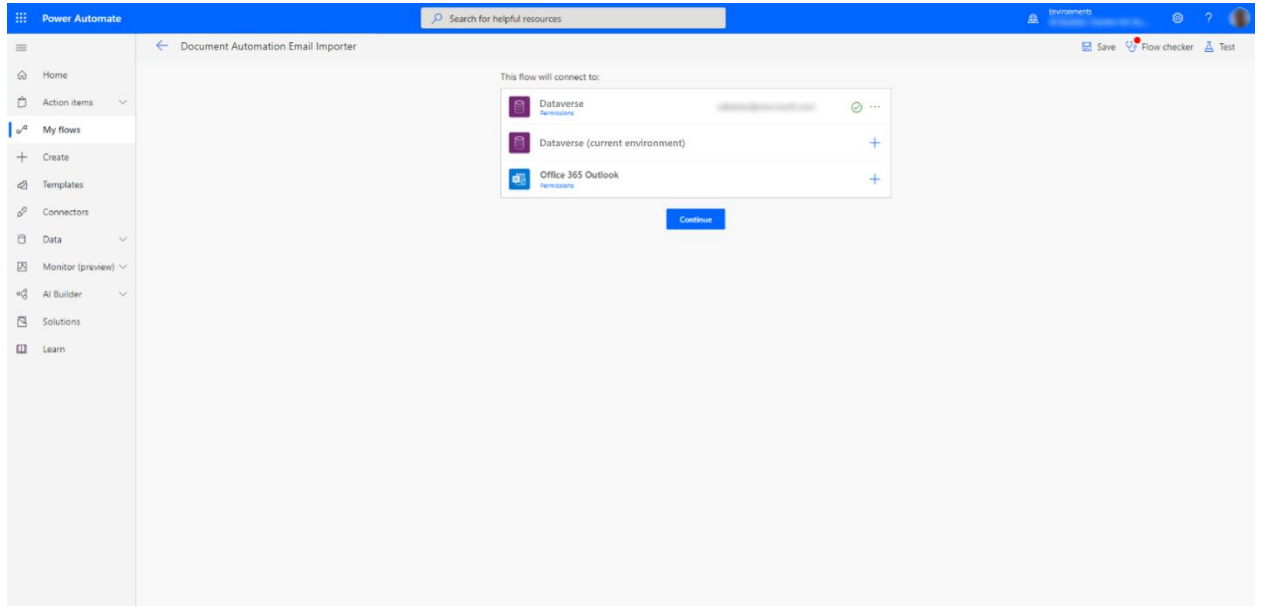
Connections (Edit)

There aren't any connections for this flow.

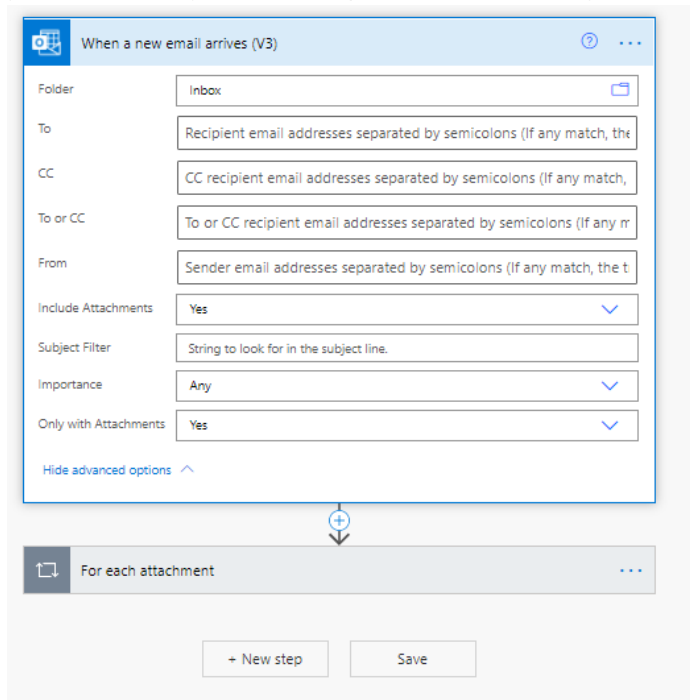
Owners (Edit)

CB

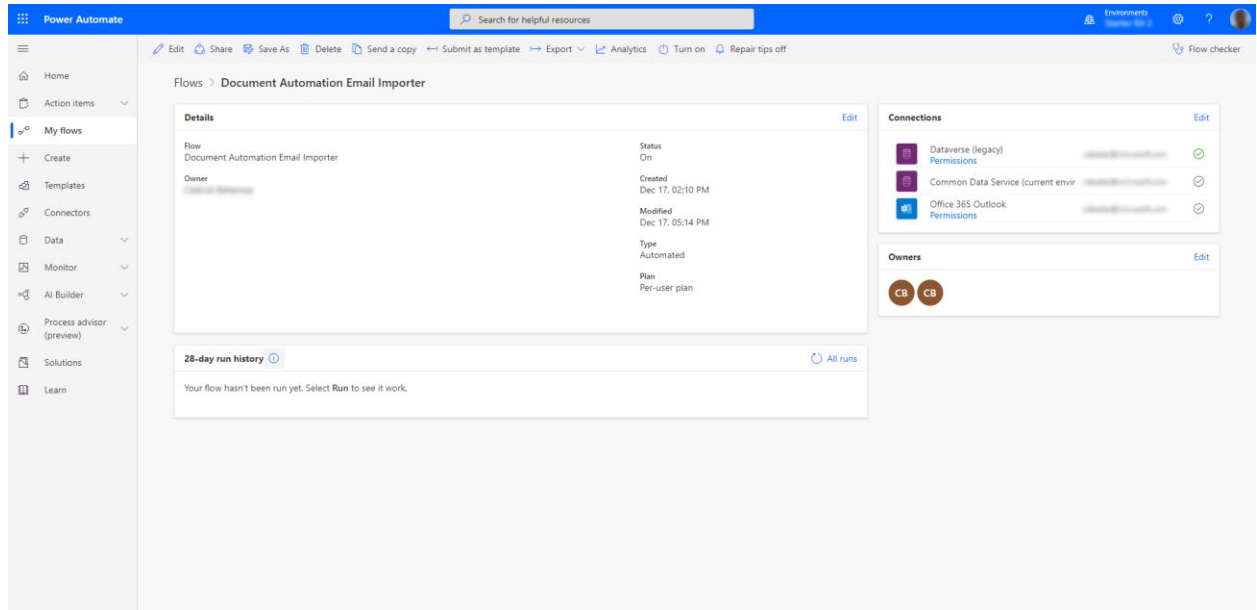
9. Select the “+” for each connection to configure the connection and select “Continue”
- Important:** the account that you use for the “Office 365 outlook” connection is the email account that will be used to receive the documents to process. You should use the email address to which your documents are sent to. If you are documents are received on multiple email addresses you can duplicate this flow to capture documents from all those different addresses.



10. You are in the authoring experience of the email importer flow. Here you can configure the email rules to filter on the specific emails that you want to process. You have to keep the “include attachments” set to “Yes” as this flow takes the document on attachment as the document to be processed. But you can configure filters on the topic, senders etc. based on your needs.



11. Now select “Save” and then on the back arrow on the top left to come back to the previous screen
12. Select “Turn on” on the top banner



The “Document Automation Email Importer” flow is now configured and activated to received documents by email.

13. Do the same 1 – 10 steps for the “Document Automation Processor” and “Document Automation Validator” flows

You have successfully installed the “Document automation base kit” and are ready to configure it.

3-configure the “Document automation base kit” (15min)

In this unit, you will

- Learn which are the predefined personas supported and which features are available
- Discover how to configure the roles
- Understand how to create a forms processing model to extract data from your documents
- Assess how to prepare the pipeline to process your documents

The targeted person for configuring roles and permissions should:

- Understand which users must have access to which features.
- Have good knowledge of the Power Platform’s role-based access control.

Makers are usually a good fit for this task.

The “Document automation starter kit” provides a basic implementation of role-based access control allowing to control features available by each persona described in the previous unit, the manual reviewer, and the process owner.

The features available in the validation application by each persona are summarized in the table

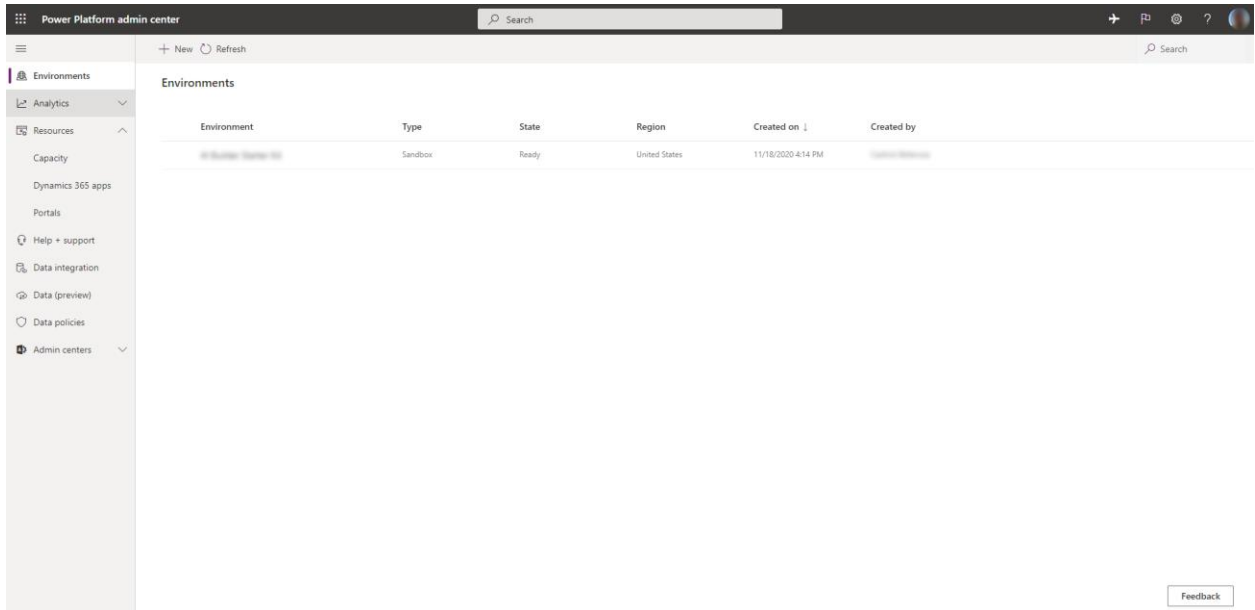
	Manual Reviewer	Process Owner
Controlling Dataverse role	Document Automation Reviewer	System Customizer
Access the “Configuration” tab		X
Configure the model to use		X
Access the “Documents” tab	X	X
View documents	Only in “Manual Review” state if not yet opened by another reviewer*	X
Filter documents list by state		X
Open the side-by-side viewer (file/extracted data)	X	X
Edit fields	X	X
Validate a document	X	X
Delete a document		X

*When someone opens a processed document, he automatically assigns it to himself. Other validators will no longer see this document in the list and would get an error if trying to update it.

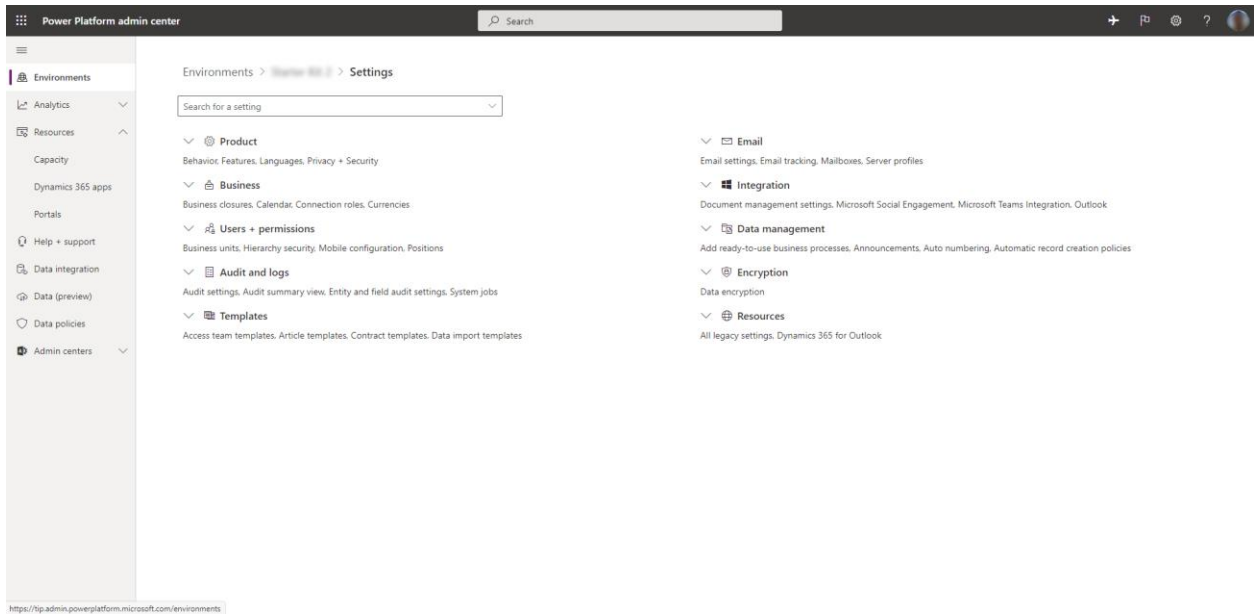
NOTE: If your company does not need to have role-based access control, you can just assign the “System customizer” role to everybody.

Configuring roles

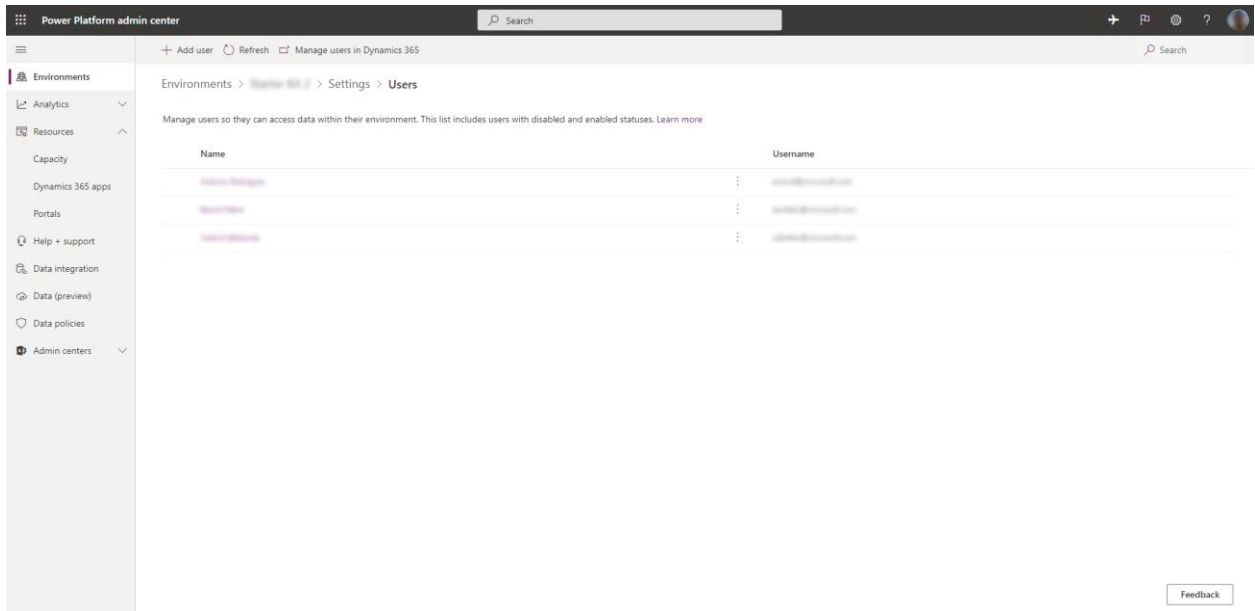
1. Open the [Power Platform Admin center](#) and click select your environment and click on “Settings” on the top



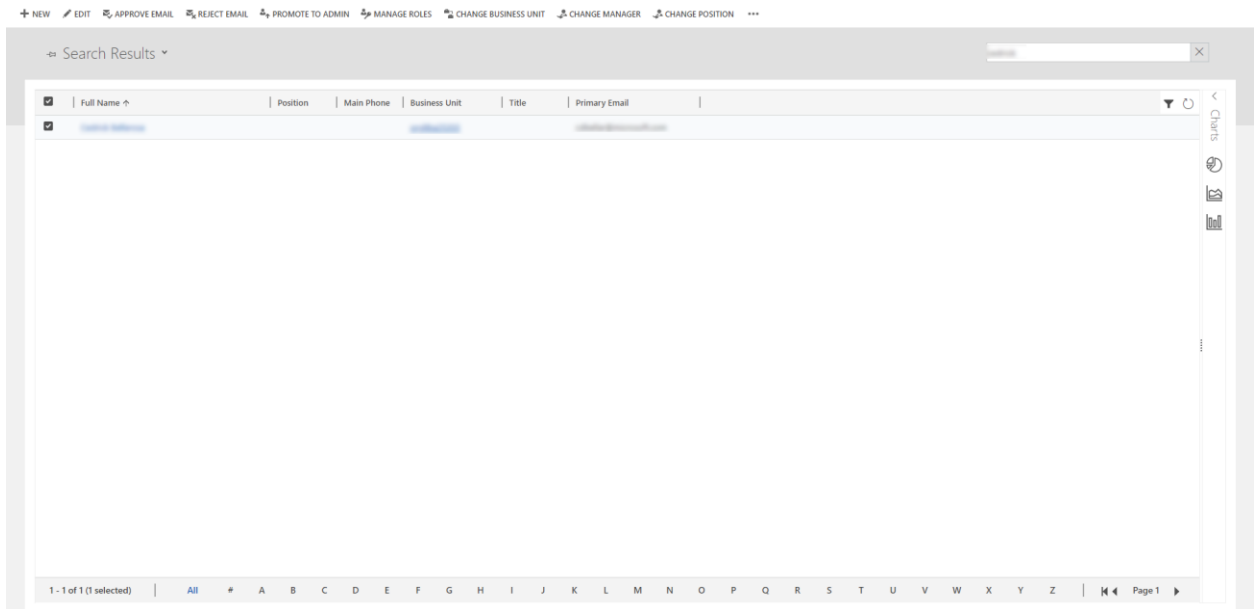
2. Expand the “Users + permissions” and click on “Users”



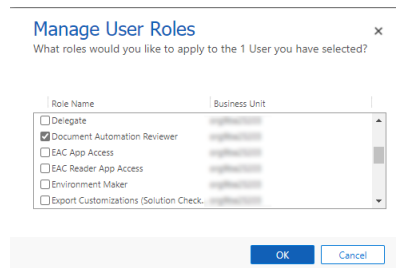
3. Then click on “Manage users in Dynamics 365” on the top banner



4. Search for a user name, select the user and click on “Manage Roles”



5. Add the “System Customizer” role to “Process Owners” or the “Document Automation Reviewer” role to “Manual Reviewers”.



Create a form processing model

The next step is to create a form processing model that will extract the data from your document with AI Builder.

Please follow this module [Get started with Form processing in AI Builder](#) to learn how to make it.

Tips:

To create an AI Builder model, you need at least 5 samples of documents.

If your suppliers are sending documents with various layouts, you should consider creating one collection per document type in the model.

Configuring the model to use

Role

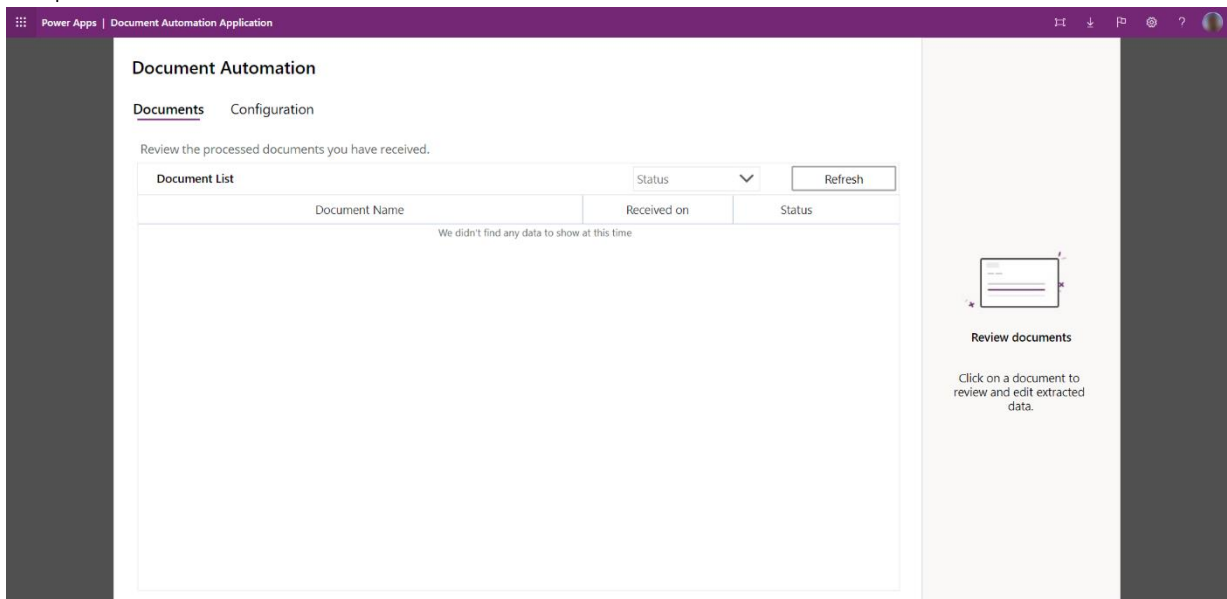
The targeted person for configuring providers should:

- Have an overview of the suppliers of the company and get sample of these documents.
- Have good knowledge of AI Builder including building a Form Processing model.

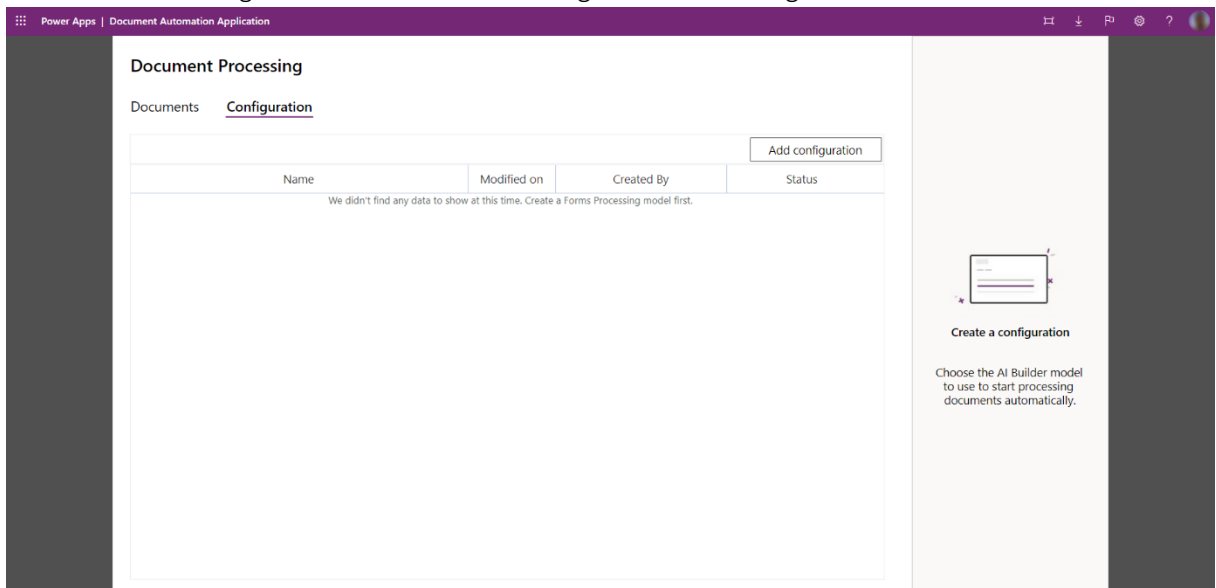
Makers are usually a good fit for this task.

Once the model is created, you can use it in the pipeline.

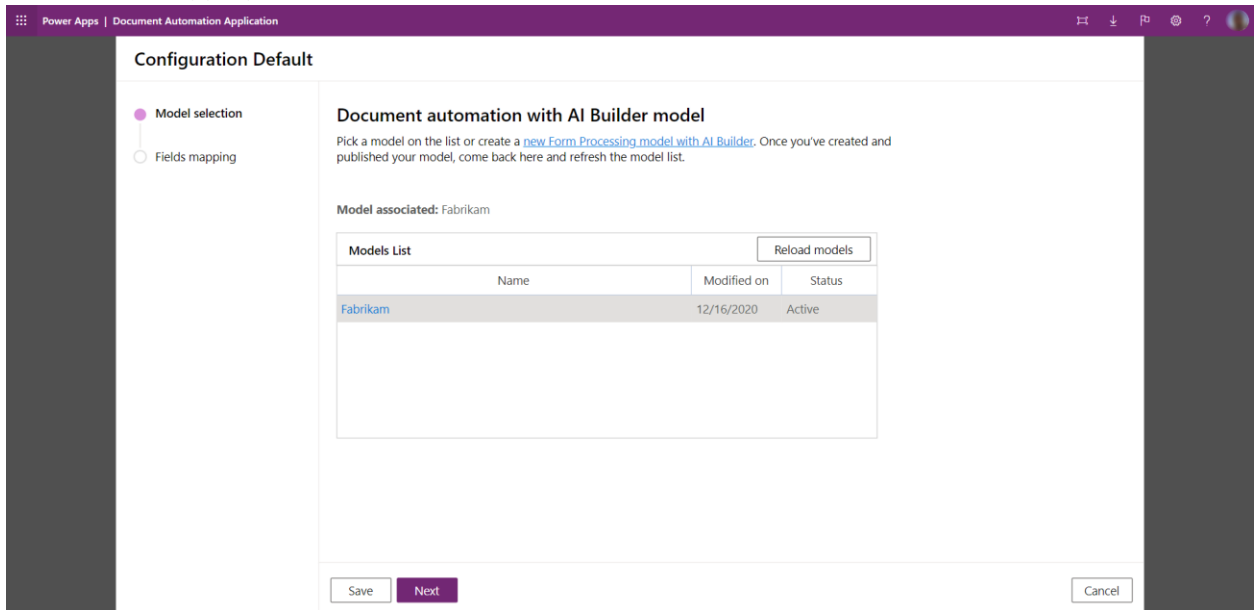
1. Launch the “Document Automation Application” from [Power Automate document automation](#) by clicking on “Open application”. You will land to the documents list page where you will see all processed documents.



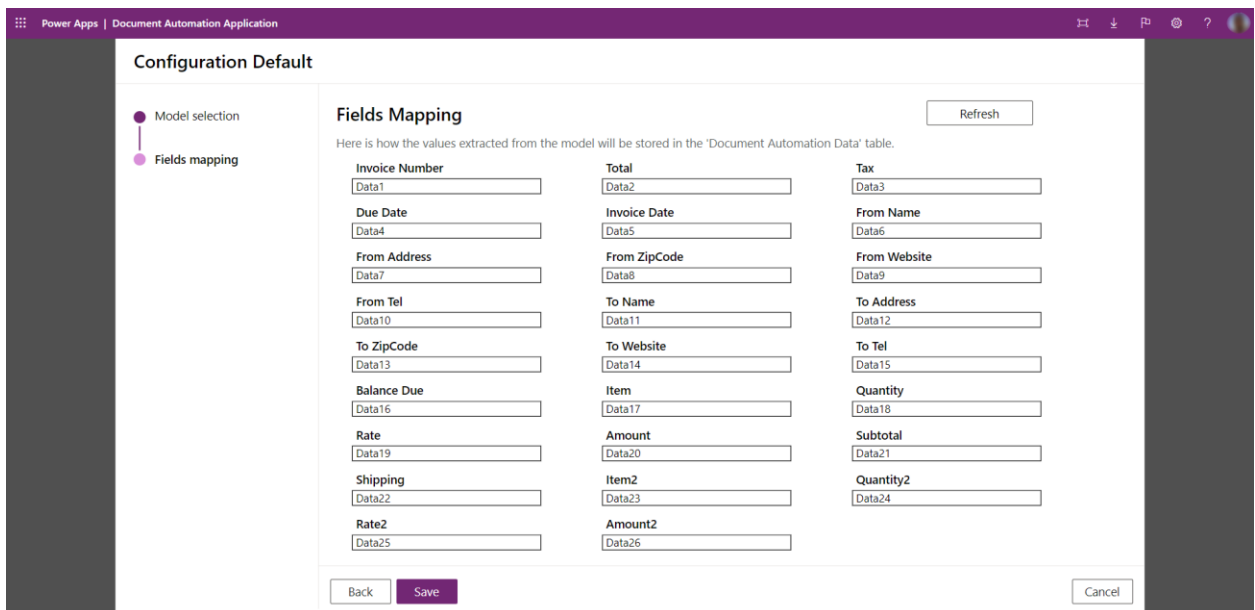
2. . Click on “Configuration” tab and “Add configuration” to configure the AI model to be used.



- You need now to select AI Builder model that will extract labels from documents.
See [Get started with form processing](#) to learn how to create an AI Builder form processing model.
Once your model is created and **published**, you can refresh this page with “Reload models”,
select the appropriate model and click on Next.

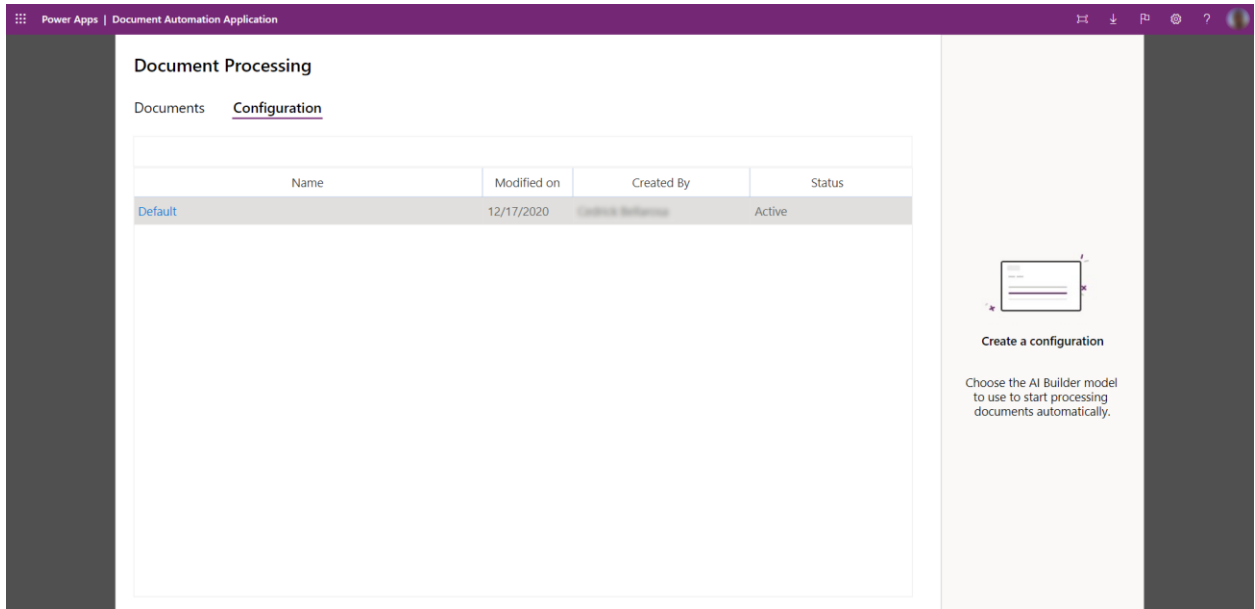


- The next screen will show how the labels of the model will be stored in the “Document Automation Data” table of Dataverse. Click on “Save”



NOTE: If you update your model changing the label of model, you must get back to this page and use the “Refresh” button to have changes applied to the starter kit and click on “Save” again.

5. The kit is ready to perform the document extraction and to automate the processing of your documents.



You have successfully understood how the “Document automation base kit” can allow you to define different security role and how it must be configured to process your documents.

4-monitor and reviewing processing documents with the “Document automation base kit” (10min)

In this unit, you will

- Learn how documents are received and processed
- Understand how validator can monitor incoming documents to be reviewed
- Assess how validator can review and edit processed documents
- Learn how admin can monitor the entire processing and act
- Assess to get further by adding approvals, export to target system, and automatic validation steps

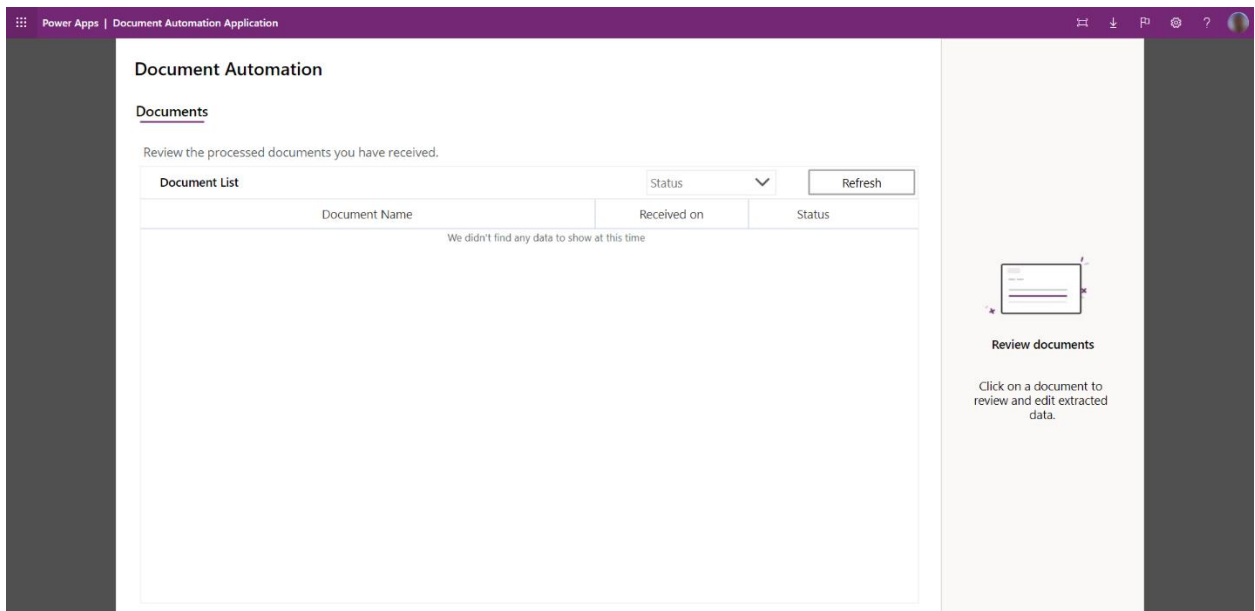
Monitoring and reviewing processed documents

The targeted person for monitoring and reviewing documents should:

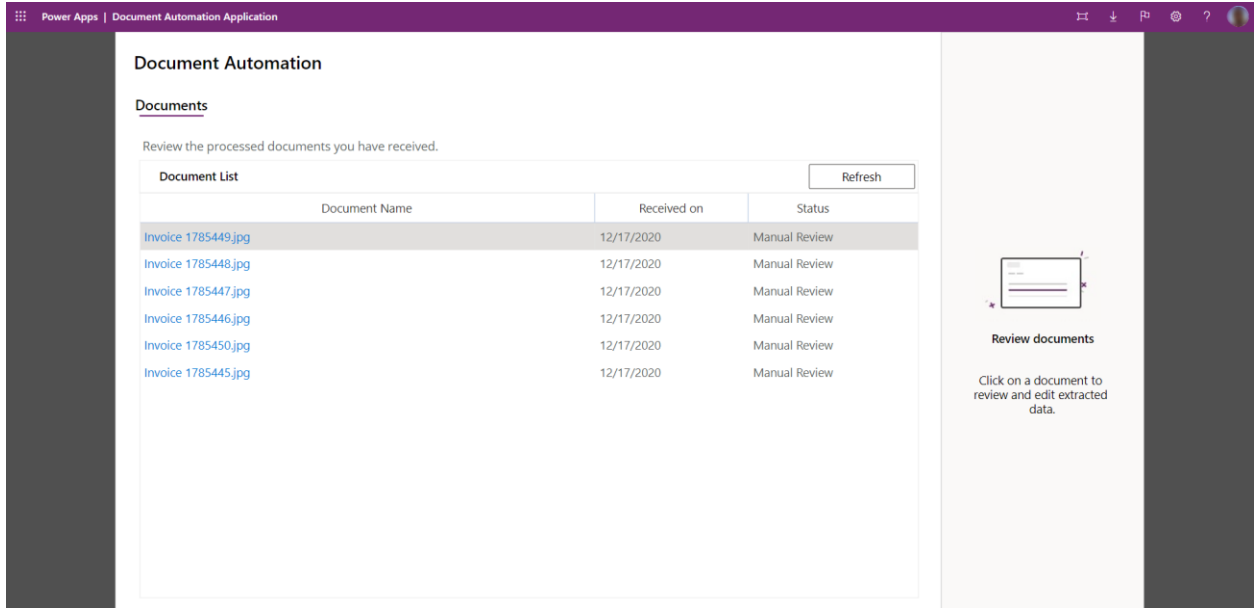
- Get a good business acumen
- Understand in which data must be extracted and eventually be imported to a target system

Business users are usually a good fit for this task.

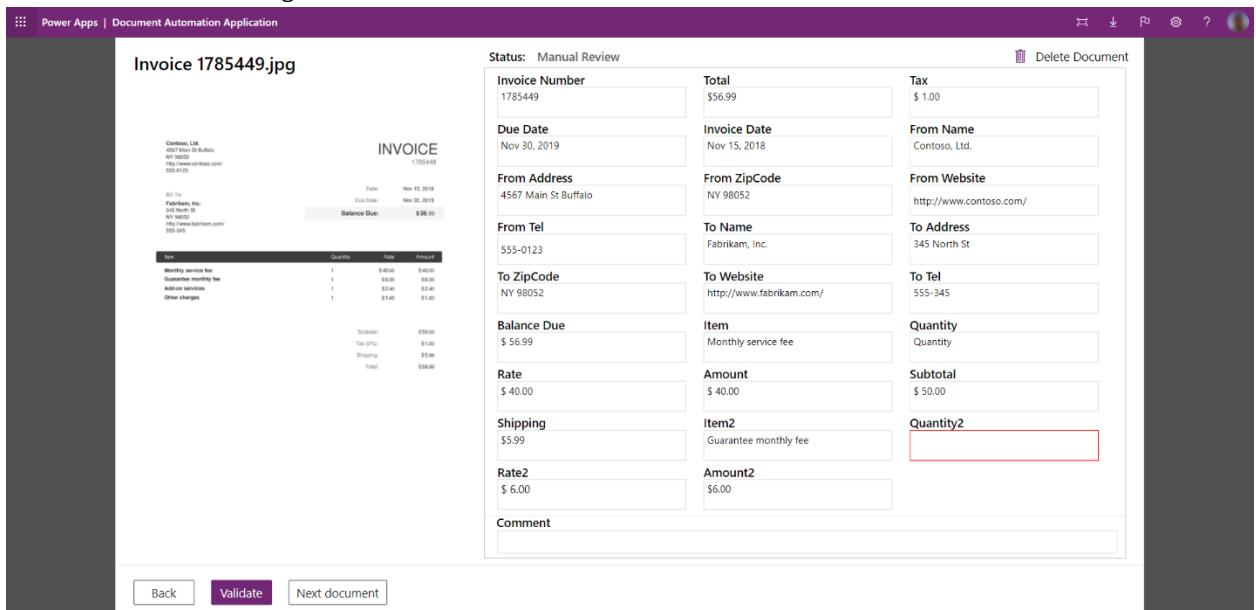
1. When launching the “Document Automation Application”, validators will see only the “Processed” documents. You can also notice that the “Configuration” tab is hidden so only power users can change the model to be used.



- As soon as documents will arrive in the service email box, the “Document Automation Email Importer” flow will detect the new email, extract the attachment, call the AI model and will save the extracted data as a pending processing to be reviewed.



- By clicking on the document name, you can access details, review extracted fields and edit incorrectly extracted values. Click on “Validate” to save your changes. You can also skip this document and navigate to the next one to be reviewed with the “Next document” button



4. The maker has access to all documents including the ones in error and validated.

The screenshot shows the 'Document Automation' application interface. It features a 'Documents' tab and a 'Configuration' tab. Below the tabs, there is a message: 'Review the processed documents you have received.' A table titled 'Document List' displays the following data:

Document Name	Received on	Status
Invoice 1785449.jpg	12/17/2020	Manual Review
Invoice 1785448.jpg	12/17/2020	Manual Review
Invoice 1785447.jpg	12/17/2020	Manual Review
Invoice 1785446.jpg	12/17/2020	Manual Review
Invoice 1785450.jpg	12/17/2020	Manual Review
Invoice 1785451.gif	12/17/2020	Invalid Document
Invoice 1785445.jpg	12/17/2020	Manual Review
Invoice 1785438.jpg	12/17/2020	Validated

To the right of the table is a 'Review documents' panel with a diagram of a document and the text: 'Click on a document to review and edit extracted data.'

Limitations

- Export is not yet implemented in the “Document Automation Application”. If you want to export the extracted data, please go to Power Apps Data\Tables menu and “Document Automation Data” table, then click on top button “Export data”.

The screenshot shows the Power Apps Data\Tables menu. The 'Document Automation Data' table is selected. The table has the following columns: Display name, Name, Data type, Type, Customizable, Required, and Searchable. The data rows are as follows:

Display name	Name	Data type	Type	Customizable	Required	Searchable
Data1	aiib_data1	Text	Custom	✓	Optional	✓
Data10	aiib_data10	Text	Custom	✓	Optional	✓
Data11	aiib_data11	Text	Custom	✓	Optional	✓
Data12	aiib_data12	Text	Custom	✓	Optional	✓
Data13	aiib_data13	Text	Custom	✓	Optional	✓
Data14	aiib_data14	Text	Custom	✓	Optional	✓
Data15	aiib_data15	Text	Custom	✓	Optional	✓
Data16	aiib_data16	Text	Custom	✓	Optional	✓
Data17	aiib_data17	Text	Custom	✓	Optional	✓
Data18	aiib_data18	Text	Custom	✓	Optional	✓
Data19	aiib_data19	Text	Custom	✓	Optional	✓
Data2	aiib_data2	Text	Custom	✓	Optional	✓
Data20	aiib_data20	Text	Custom	✓	Optional	✓
Data21	aiib_data21	Text	Custom	✓	Optional	✓
Data22	aiib_data22	Text	Custom	✓	Optional	✓
Data23	aiib_data23	Text	Custom	✓	Optional	✓
Data24	aiib_data24	Text	Custom	✓	Optional	✓
Data25	aiib_data25	Text	Custom	✓	Optional	✓
Data26	aiib_data26	Text	Custom	✓	Optional	✓
Data27	aiib_data27	Text	Custom	✓	Optional	✓
Data3	aiib_data3	Text	Custom	✓	Optional	✓

You are now ready to automate the processing of your documents leveraging AI and Microsoft Power Platform.

5-check Assessment: “Document automation base kit » (5min)

1. Which scenario the “Document automation base kit” can address?
 - a. Invoices automation
 - b. Purchase orders automation
 - c. Receipts automation
 - d. **All above**

2. Which licenses are required?
 - a. Power PBI
 - b. **Power Apps, Power Automate and AI Builder**
 - c. Power Automate Robotic Process Automation
 - d. Dynamics 365

3. What are the document formats supported?
 - a. GIF, DOCX, and JPEG
 - b. **JPEG, PNG, and PDF**
 - c. All images and document formats

4. Can this reference implementation be customized to fit my company business?
 - a. No, it is already preconfigured to fit all needs
 - b. Yes, using the low code capabilities of the Platform
 - c. **It offers enough flexibility by default to adapt to your business specifics but can be extended as appropriate**

5. What are the personas enabled by this implementation and their role?
 - a. **A manual reviewer reviewing the data extracted and a process owner monitoring the pipeline?**
 - b. An administrator responsible to install, configure and run the process
 - c. There is no role support so all users can access the full range of features

6-summary

In this module, you learned about which scenarios document automation addresses and what you can accomplish with it. You also learned to install and configure the “Document automation base kit”, and to use it to monitor, review, and process documents with the kit.