Invoice Processing Automation Starter Kit – Documentation

Introduction

Dealing with invoices can be a manual and tedious process for numerous companies. Automating this process smoothly and without deeply changing internal routines is often a challenge.

To respond to this problematic, we created a starter kit using Power Platform capabilities:

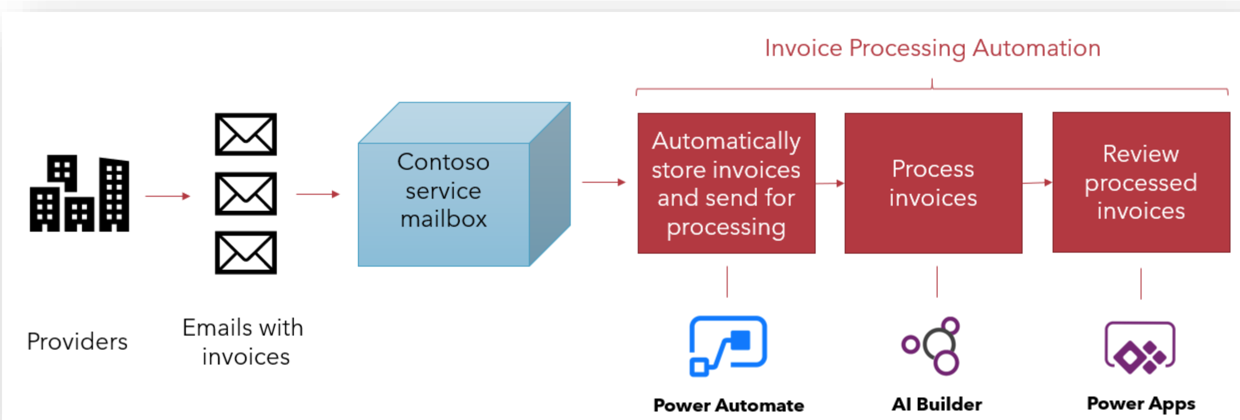
- A **Power App** that guides the user into configuration of invoices providers
- A set of dynamic **Power Automate flows** that manages the backend pipeline
- **AI Builder Forms processing models** that provide the intelligence for the invoice data extraction

This documentation explains the base principles and usage of this reference implementation.

Important: we are not providing a product with actual maintenance and support but a reference implementation that can be used and modifier by our customers for their own needs.

Scenario covered

Our starter kit focuses on invoices received by email (outlook):



As this is a reference implementation, our customers are free to use and update the starter kit components to adapt to their system specifics.

Installing the Starter Kit

Role

The targeted person for the starter kit package installation should:

- Have good knowledge of Power Platform concepts (At least Power Automate connections and Common Data Service)
- Be aware of which company's organization to use
- Have enough privileges to configures Power Automate connections and add environment variables
- Owns the connection to the outlook service mailbox that will be used to receive the invoices

Power Users or Administrators are usually a good fit for this task.

Inventory

Following items will be installed with this package:

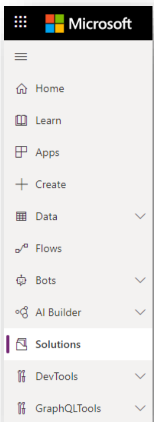
- A Power Apps "IPA Application" allowing to configure providers, track processing of invoices and edit them.
- A Power Automate flow "IPA Email" listening to new emails arriving in the service mailbox, extracting attachment, identifying the provider and creating an invoice processing request.
- A Power Automate flow "IPA Processor" calling the AI Builder model to extract values and updating the invoice.
- 4 Common Data Service entities
    - "IPA Provider" storing the information about configured providers, name, model, sender's email, mapping between model keys and expected fields.
    - "IPA Processing" storing the invoice processing requests, the file to be processed and the status of the processing.
    - "IPA Invoice" storing the values extracted from the invoice.
    - "IPA Region" storing which fields are required for a given region and which team controls access to invoice in this region.
- 2 option sets used inside "IPA provider" and "IPA processing" entities.
- A "Validator" role which is the role to assign to invoice validators. Power User will have the standard "System customizer" role.

Process

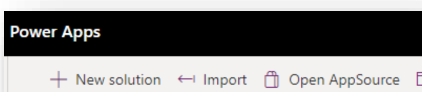
To install and configure the Invoice Processing Automation package, you must follow these steps:

1. Download the AIBuilderInvoiceProcessingAutomationSK_managed.zip on your local file system.

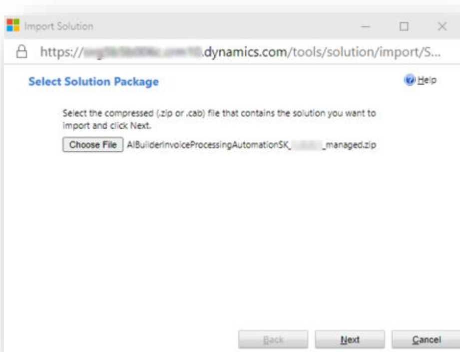
2. In your Power App environment, navigate on left menu to "Solutions".



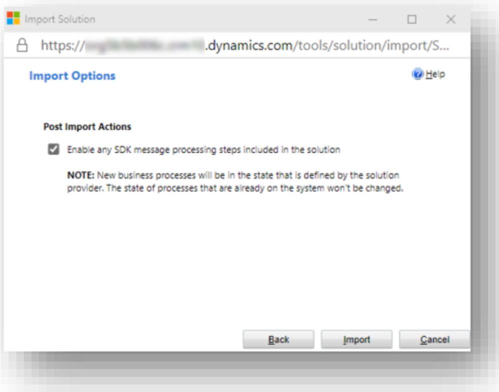
3. Click on the top menu on "Import".



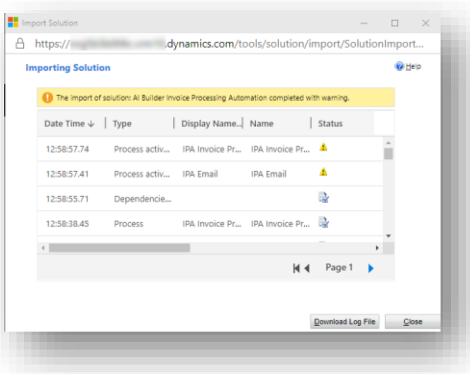
4. Click on "Choose File" and select the zip file in your local file system and click on "Next" and same on the following screen.



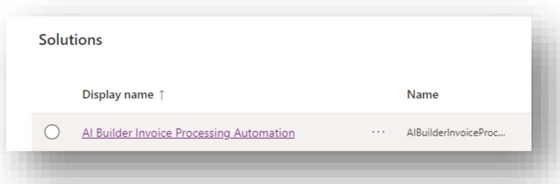
5. Then click on “Import”.



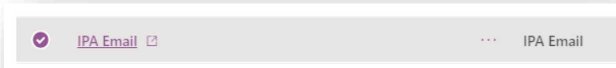
6. Once complete, you will get a report with warnings as you now need to configure the flows to enter Common Data Service credentials and configure the mailbox receiving the invoices



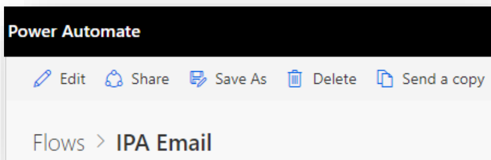
6.1. Now click on the “AI Builder Invoice Automation” solution



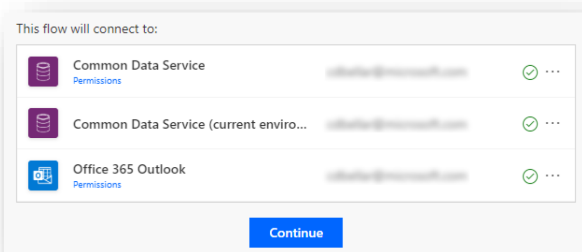
6.2. Then click on "IPA Email" flow



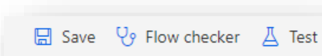
6.3. Click on "Edit"



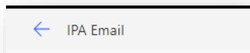
6.4. Fix the Common Data Service connection credentials and Outlook mailbox by clicking on "Permissions" or "…" to select an existing connection. Then click on "Continue"

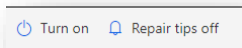


6.5. Save the flow.

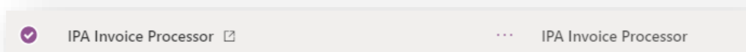


6.6. Click on ← icon and then “Turn on” the flow.

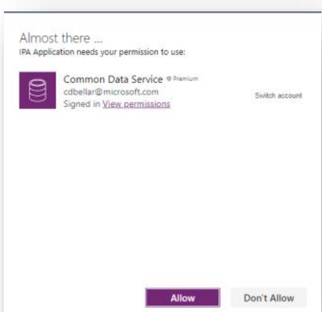




6.7. Do the same steps above for “IPA Invoice Processor” flow, also available in the solution.



7. When running the IPA Application for the first time you will be prompted to enter your credentials for the access to Common Data Service



Configuring Roles and Permissions

Role

The targeted person for configuring roles and permissions should:

- Have an overview of regional specificities and authorizations by region. They should understand which fields may be not required in some countries, which users should have access to which features.
- Have good knowledge of the Power Platform's role-based access control.

Power users are usually a good fit for this task.

The Invoice Processing Automation starter kit provides a basic implementation of role-based access control which is summarized in this table

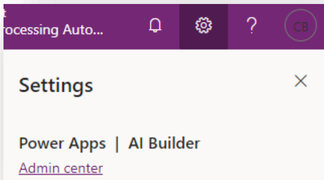
	Power User	**Validator**
Built-in Role	System Customizer	Validator (part of the starter kit solution)
Create and view region configuration	X	
Create and view models and providers	X	
Update and view processed invoices	X	Only the invoices in his region in Processed state if not already assigned to another person*

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

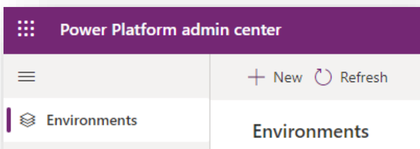
<u>NOTE:</u> If your company doesn't need to have role-based access control or have regional specificities, you can just assign the "System customizer" role and create a default region.

Configuring roles

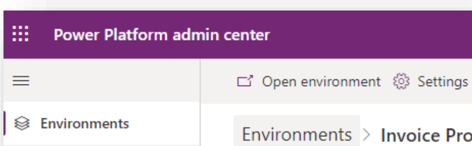
1. Open the Power Platform Admin center by clicking on the wheel in the top right of Power Apps or power Automate shell



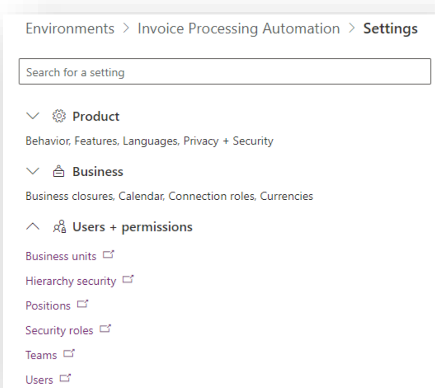
2. Click on “Environments” in the left menu



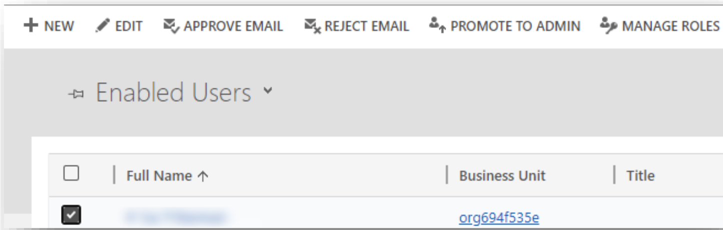
3. Select your environment on the right pane and click on “Settings”

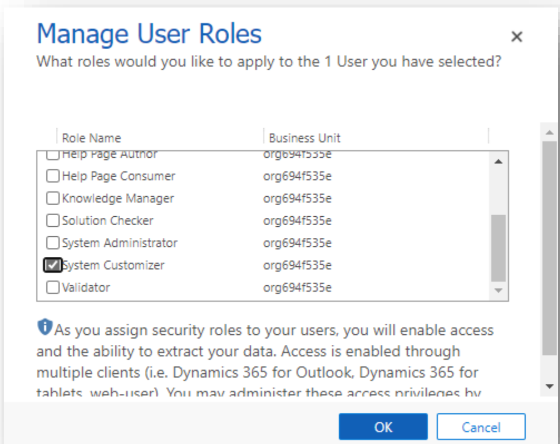


4. Then click on Users. This will open the user management console.



5. To define a Power user, select a user from the list, click on top menu in “Manage Roles” and then assign the “System Customizer” role



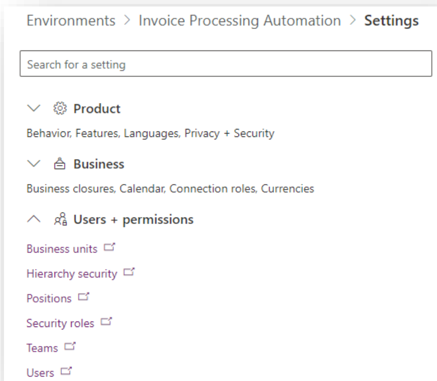


6. For Validators, do the same choosing the “Validator” roles also assigning the “Common Data Service User” role.

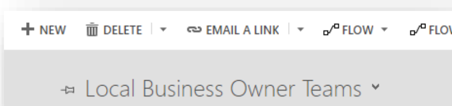
Configure regional permissions

We are now going to define which user can see processed invoice depending on the region where the provider is configured.

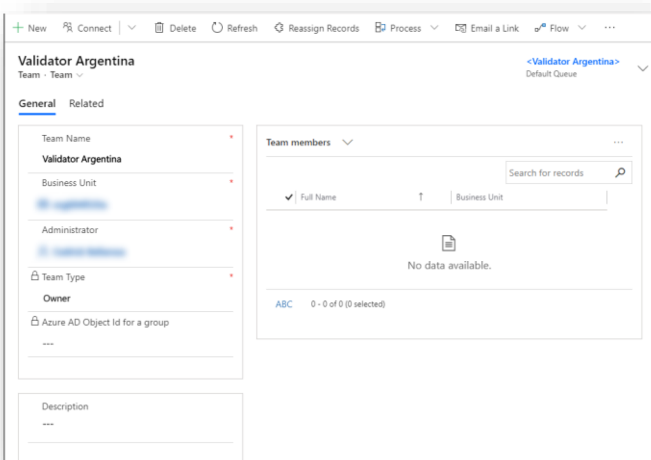
1. Still in the Power Platform Admin center, click on Teams. This will open the team management console.



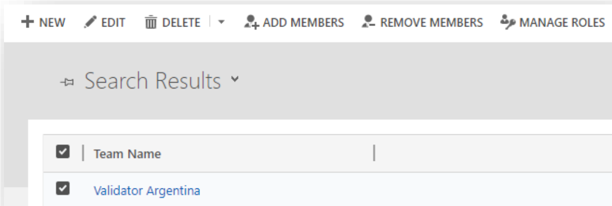
2. Click on "+new" in the top menu, to create a new Team.

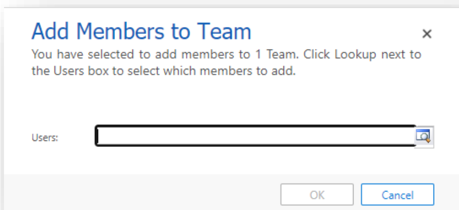


3. Set the "Team Name", "Business Unit" and "Administrator"

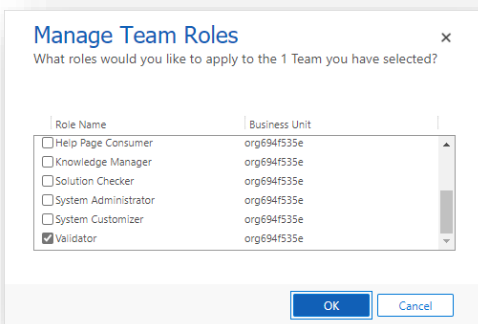


4. Select the created team and click in the top menu on “Add Members” and enter the user name of the validator.

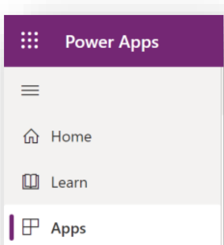




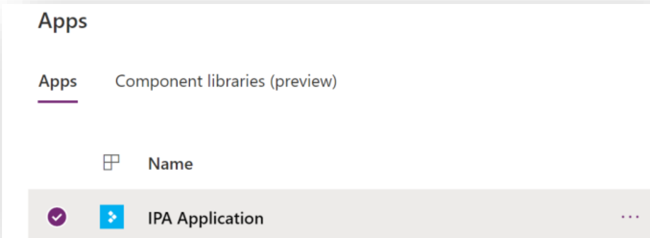
5. Now click in top the menu on “Manage Roles” and add the Validator role to this team.



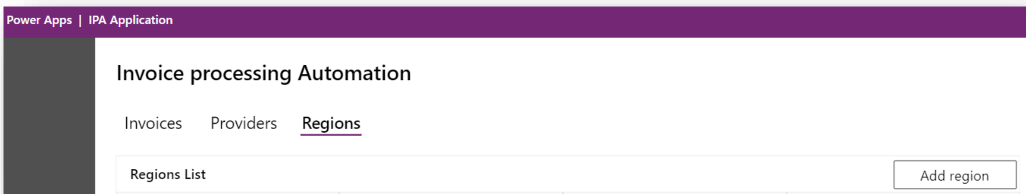
6. Now, we need to launch the IPA Application with a user with “System Customizer” role. Go to Power Apps and navigate on left menu to Apps



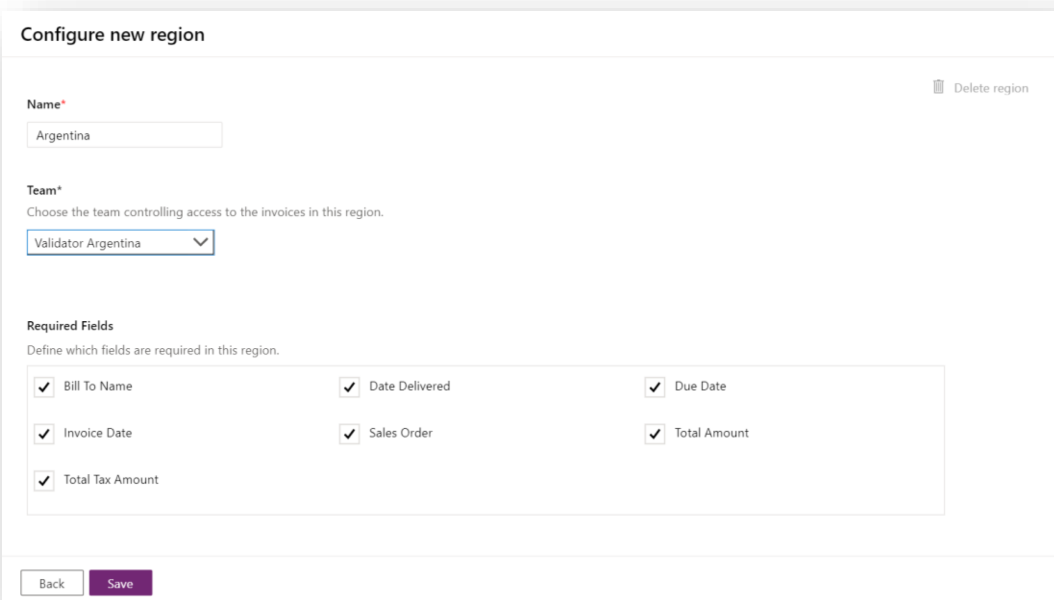
7. The IPA Application should be available (if not get back to previous section), click on it.



8. Go the “Regions” tab and click on “Add region”



9. Enter the region name, controlling team and required fields in this region



You have successfully configured role-based permissions for the Invoice Processing Automation starter kit and you are now ready to configure each of your providers and models.

Configuring Providers

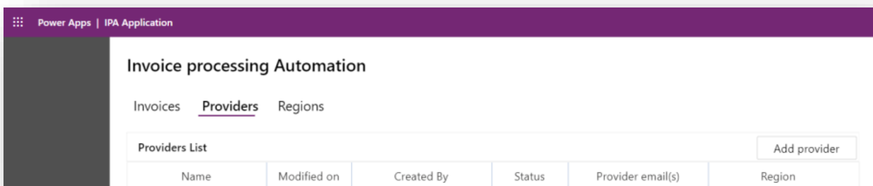
Role

The targeted person for configuring providers should:

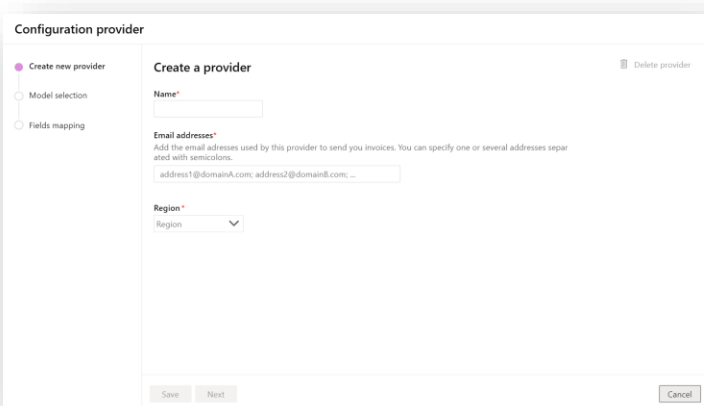
- Have an overview of the various providers the company, how they are sending their invoices and get sample of these invoices
- Have good knowledge of AI Builder including building a Form Processing model

Power users are usually a good fit for this task.

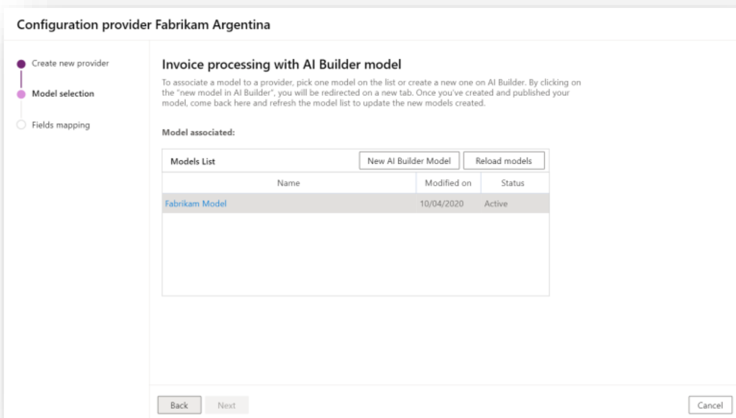
1. Once launched, you should land to the provider list page. This is where you will see the list of all configured providers. Click on "Add Provider" to configure a new provider or click on an existing one to update it.



2. Enter a name for the provider and the address sending invoice to your company then click on "Next".
<u>NOTE:</u> You can extend the starter kit by adding more connectors, Power Automate offers a large catalog of connectors like SharePoint, OneDrive, SAP…
You should copy the "IPA Email" flow, delete the initial action and replace it by the appropriate trigger. You can find supported triggers here https://docs.microsoft.com/fr-fr/power-automate/email-triggers.
You can also extend the "IPA application" and CDS schema to add additional fields on this page, for instance the SharePoint site where invoices should pulled from if you add this connectors in your implementation.

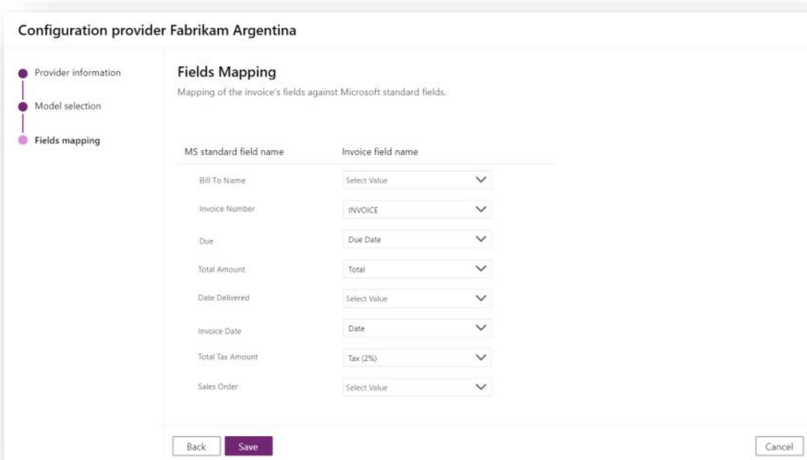


3. The next step is to select the AI Builder model that will extract keys from invoices.
   You must create an AI Builder model and will need get at least 5 samples of invoices for this provider. Invoices should have similar layout and fields.
   If your provider is sending invoices with various layout and fields, you should consider creating one provider and one model per invoice type.
   See https://docs.microsoft.com/en-gb/learn/modules/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.

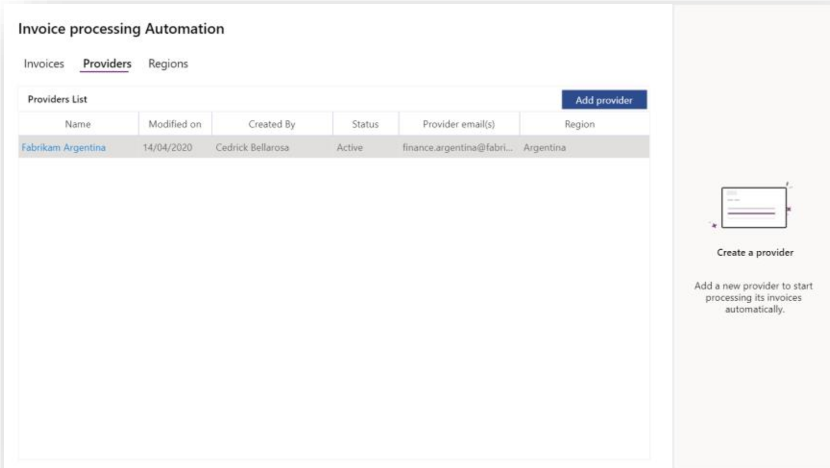


4. Microsoft has defined a list of standard fields expected in an invoice. You need to map the fields available in your invoice to it.

NOTE: You can extend the IPA application and CDS schema to add additional expected fields that are required for your business. You should also change "IPA Processor" flow provided in this solution to add these fields.



5. You have now successfully defined a new provider



Monitoring and reviewing processed invoices

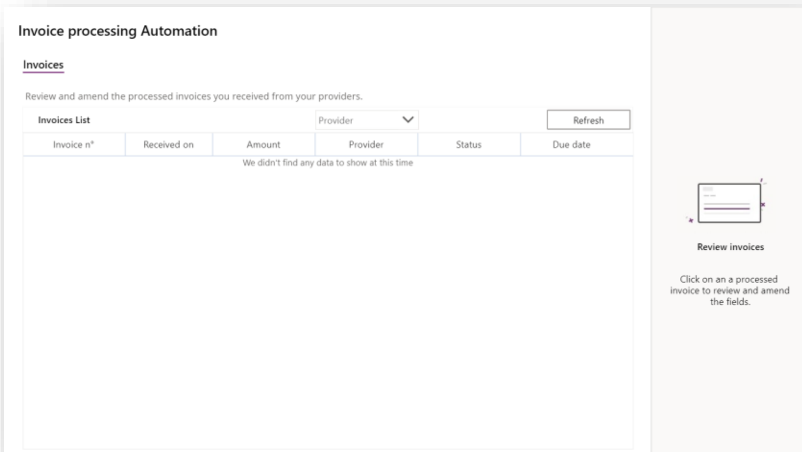
Role

The targeted person for monitoring and reviewing invoices should:

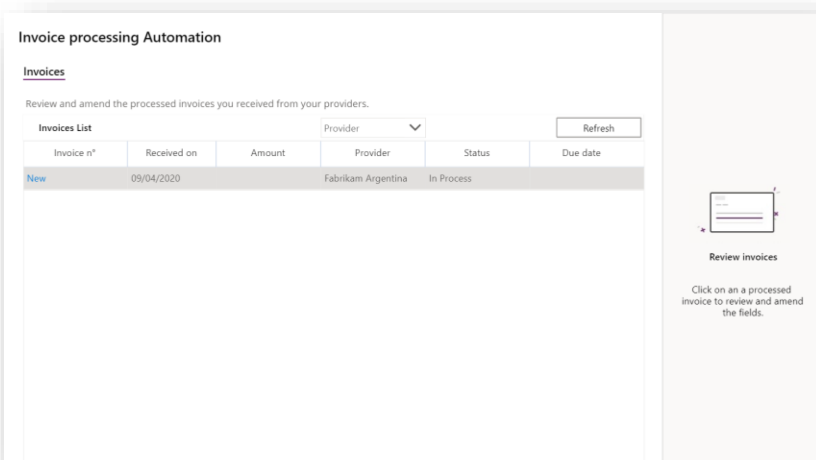
- Get a good business acumen
- Understand in which system and how invoices should eventually be imported

Business users are usually a good fit for this task.

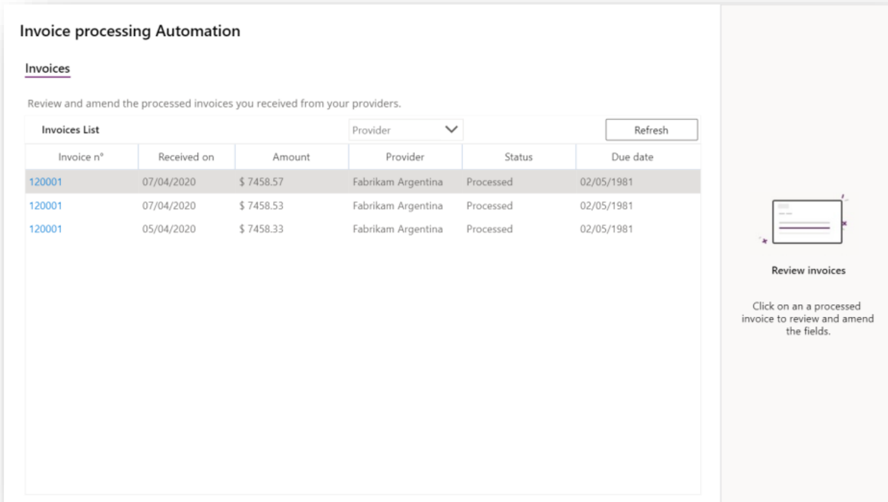
1. Still in the "IPA Application", go to the "Invoice" tab. In the initial state, there will be no invoice to be reviewed. For the validators, the invoices are filtered based on their team and associated providers of this region.



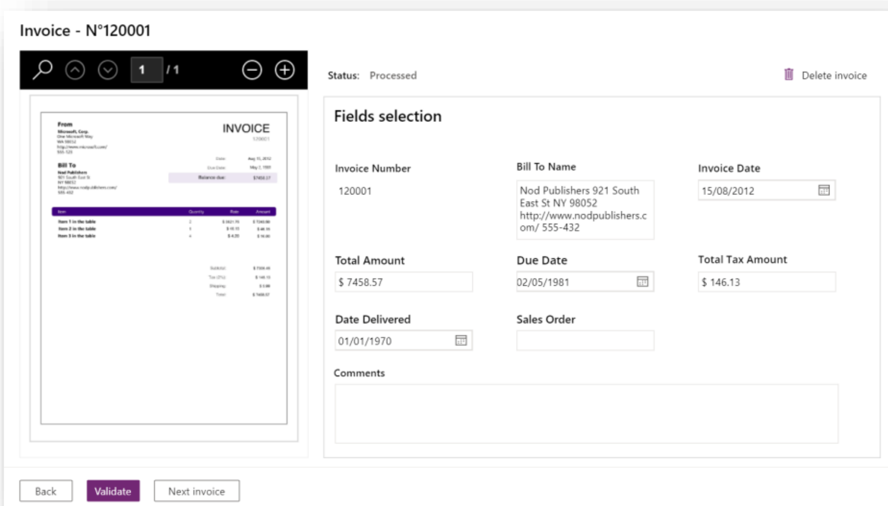
2. As soon as invoices will arrive in the service email box, the "IPA Email" flow will detect the new email, extract the attachment, determine the provider and will save this new invoice as pending to be processed.



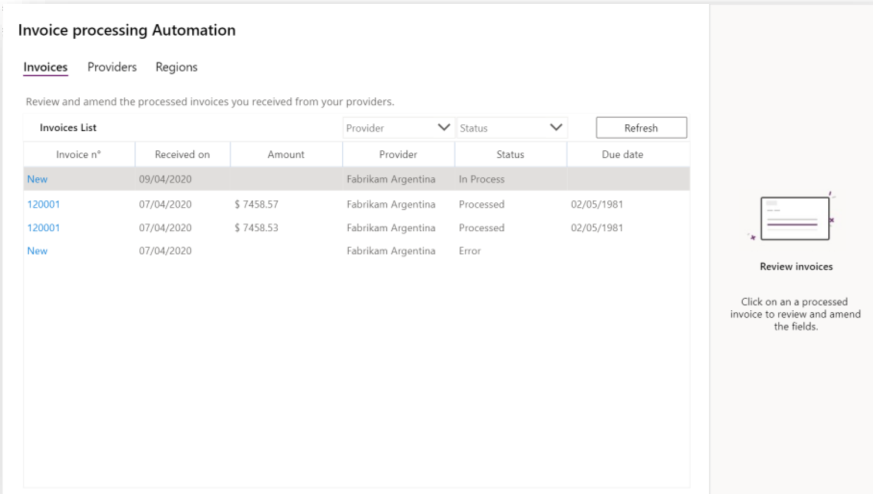
3. Once the invoice is processed by the “IPA Processor” flow, it will be shown like this in the page



4. By clicking on the invoice number, you can access details, review extracted fields and edit incorrectly extracted values. Click on validate to save your changes. You can also skip this invoice and navigate to the next invoice to be reviewed with the “Next invoice” button



5. The Power user has access to all invoices including the ones in error, validated and where Provider has not been found.



Limitations

- “Export to Excel” in the “IPA Application” is not yet implemented. Please go to Power Apps Data\Entity menu and “IPA Invoice” entity, then click on top button “Edit Data in Excel”