



# Robotic Process Automation in a Day

Lab 6 – Add AI model to process invoice forms

30 mins

February 2023



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## Lab Overview

In the previous lab, you have created a cloud flow that will be triggered automatically whenever a new invoice email arrives in the inbox that Contoso Coffee shop uses to receive invoice files from different vendors. After the cloud flow is triggered, it will also execute a desktop flow on your machine to enter the invoice detail into the invoice management app on the desktop.

However, in the previous lab, we did not use the real data from the invoice file attached in the incoming email. In this lab we will learn how to use AI Builder of Power Automate (a low code AI technology) to understand and data information from the email attachment invoice file automatically and use those data from the invoice file as inputs for desktop flow to use to enter the management app system.

You will complete the following tasks in this lab:

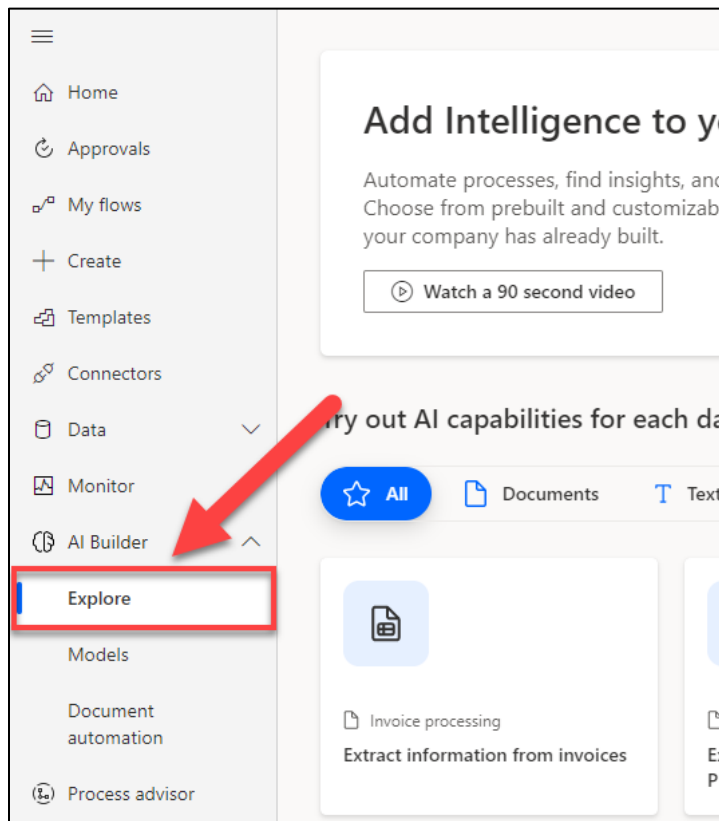
- Build a new AI model for Form Processing
- Train the new AI model to process Contoso Invoice forms
- Integrate the new AI model into the Cloud flow from Lab 5
- Perform a test run of the updated Cloud flow and associated AI Builder-based predictions

## Prerequisites

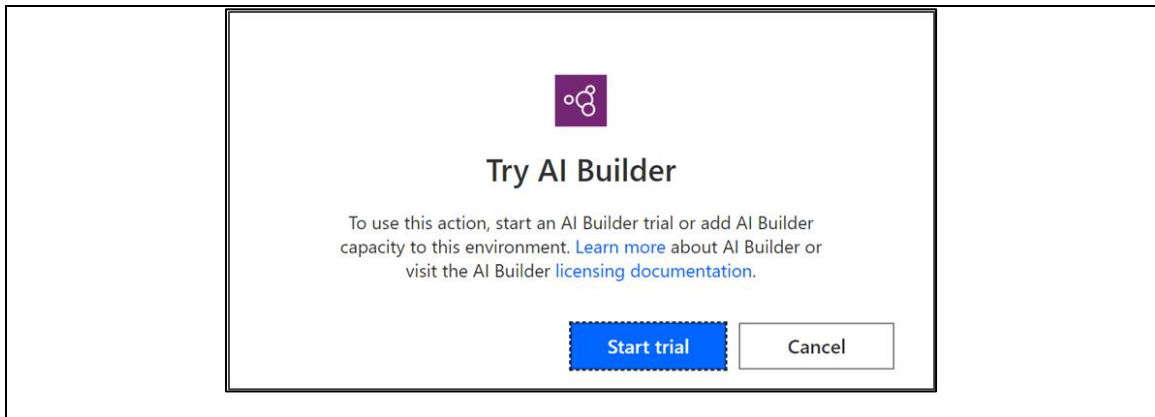
This lab builds on the initial setup lab (lab 1), and labs 2-5 – ensure these labs are complete.

## Build and use AI models to enhance user experience in workflows

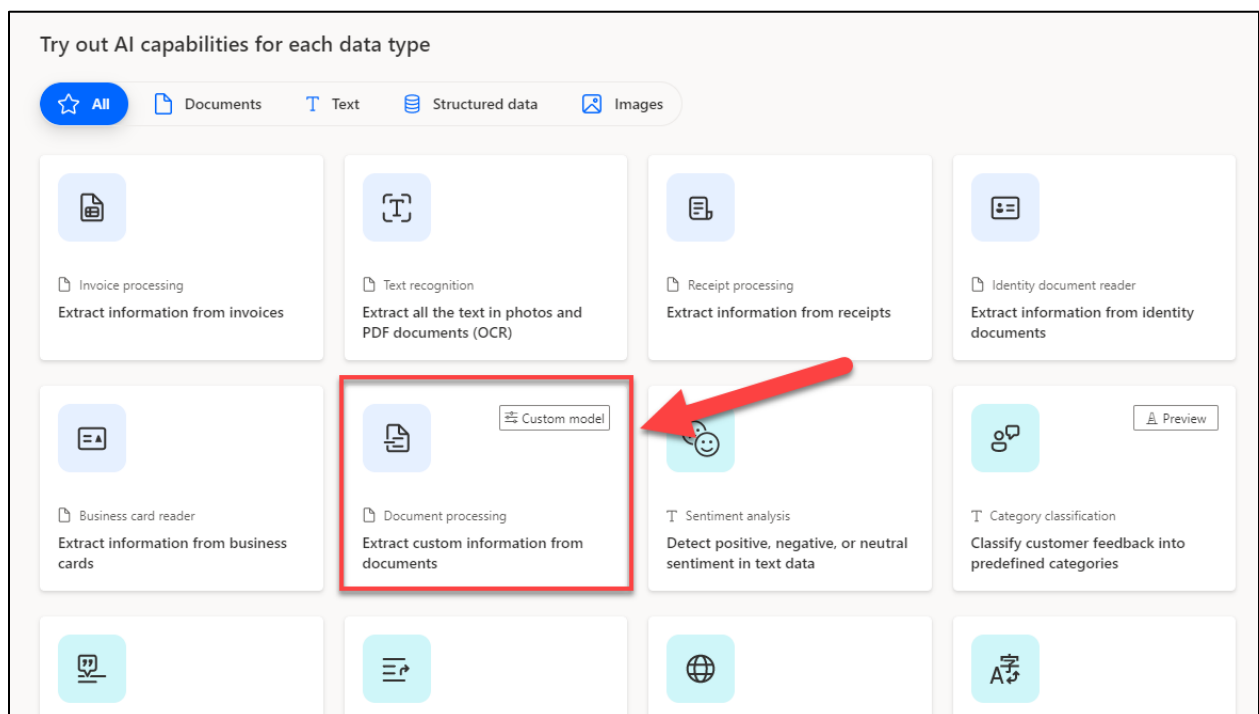
1. Open a new web browser and navigate to <https://make.powerautomate.com>. Sign-in if needed.
2. In the navigation pane to the left of the screen, expand **AI Builder** and select **Explore**.



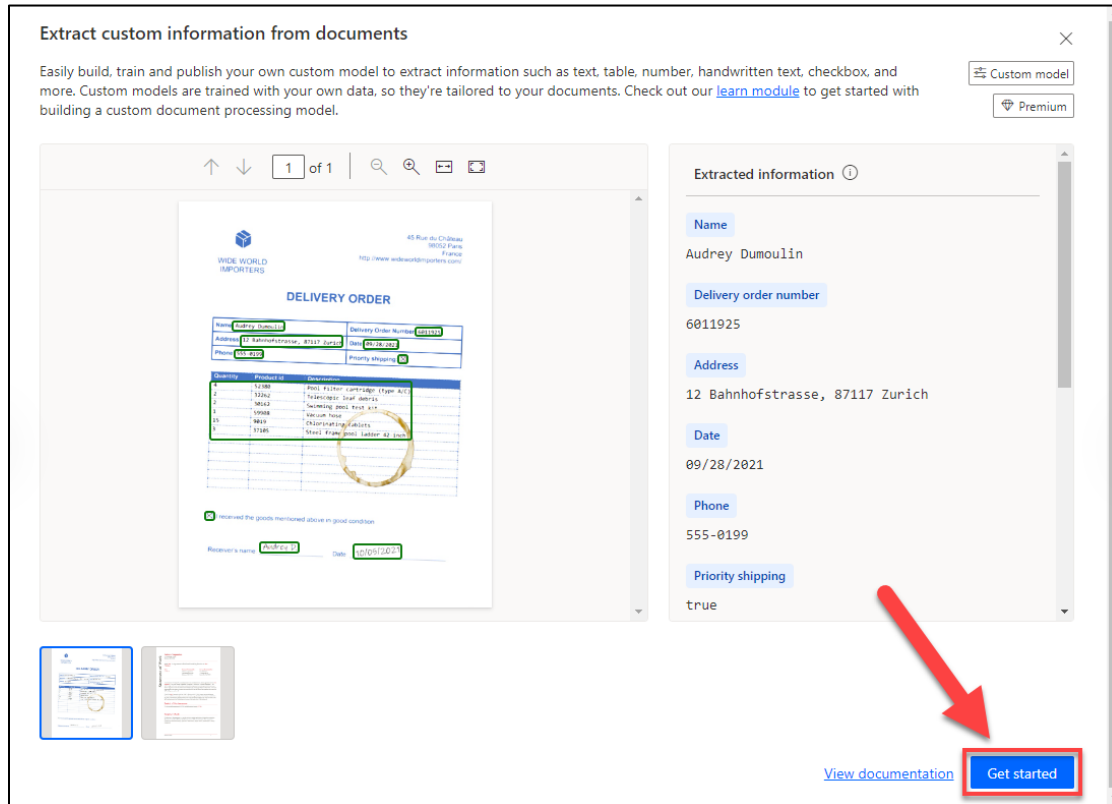
**Note:** You may see a prompt informing you that you need to get **AI Builder**. You can opt-in for a free, 30-day trial. The trial will also start automatically once you follow the steps below. Select the **Start trial** button.



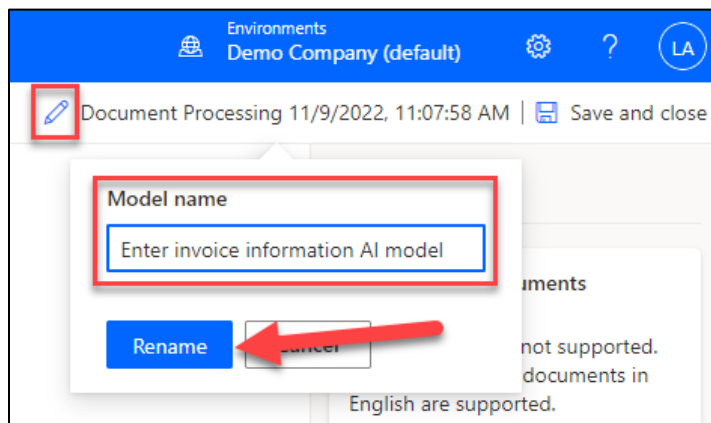
3. There is a pre-build invoice processing model that you can use to process most of the invoices directly. However, for the purpose of this training, you will learn how to build your own custom model. From the **Try out AI capabilities for each data type** section, select the **Document processing model**.



- Then, from the **Extract custom information from documents** dialog, select the **Get started** button located in the bottom right corner.



- Select the **pencil** icon to the left of the model's name at the top of the screen to begin editing. **Rename** the model to be **Enter invoice information AI model**. Then, select the **Rename** button.



6. Choose **Structured documents** and select **Next**.

Choose document type  
Structured and semi-structured documents

Select the type of documents your model will process

Structured documents Unstructured documents

Structured documents are those where for a given layout, the fields, tables, checkboxes, and other items can be found in similar places. You can teach this model to extract data from structured documents that have different layouts. Examples of structured documents are invoices, purchase orders, delivery orders, tax documents, etc.

Here you can see some examples of structured documents:

1 of 1

Next

7. We will now create 4 fields for our AI Model. Select the drop-down arrow next to the + **Add** button and select the **Field** option.

Choose document type  
Structured and semi-structured documents

Choose information to extract

List all pieces of information that you want the AI model to extract from your documents. For example: Name, Address, Total amount, Line items... You'll tag them in the documents.

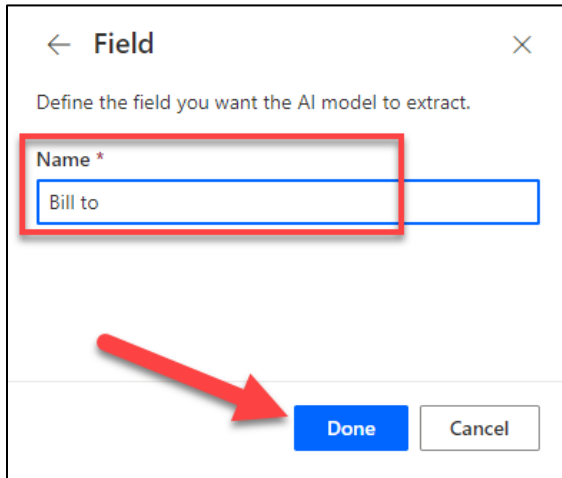
+ Add

Field

Checkbox

Table

8. Within the **Field** dialog box, name the newly added field **Bill to** and then select **Done**.



← **Field** ×

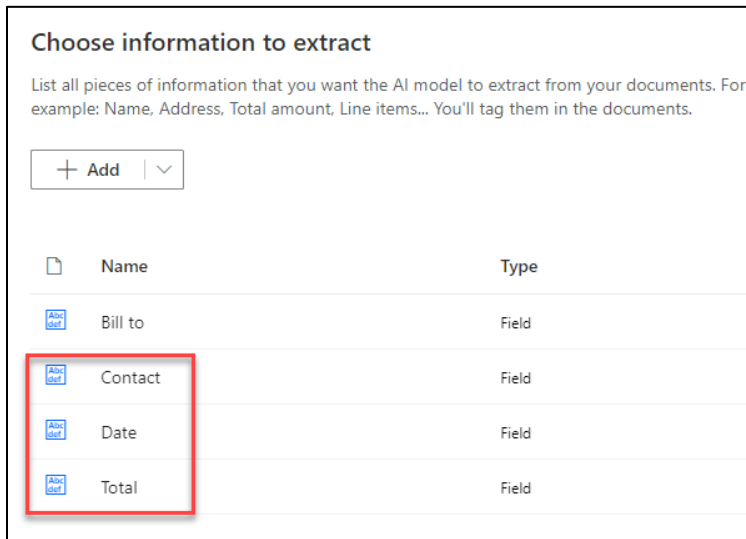
Define the field you want the AI model to extract.

Name \*

Bill to

Done Cancel

9. Repeat steps 7-8, until the 4 fields listed below have been added. Keep in mind that we have already added the **Bill to** field.
- Bill to
  - Contact
  - Date
  - Total



**Choose information to extract**

List all pieces of information that you want the AI model to extract from your documents. For example: Name, Address, Total amount, Line items... You'll tag them in the documents.

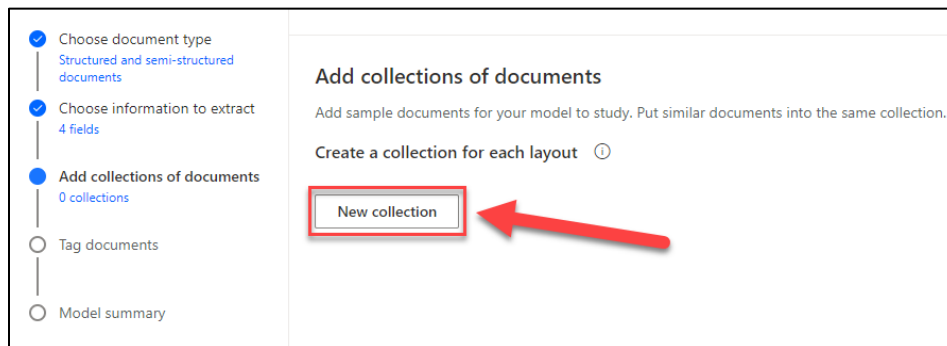
+ Add | v

Name	Type
Bill to	Field
Contact	Field
Date	Field
Total	Field

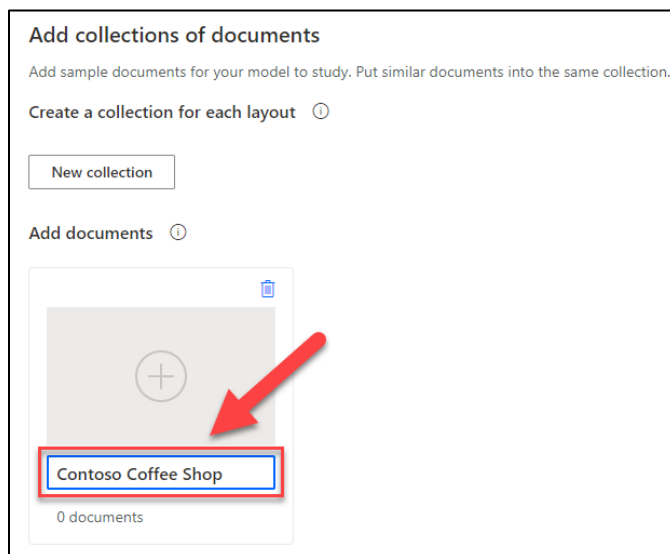
10. Once all of the fields have been added, select the **Next** button at the bottom of the screen.



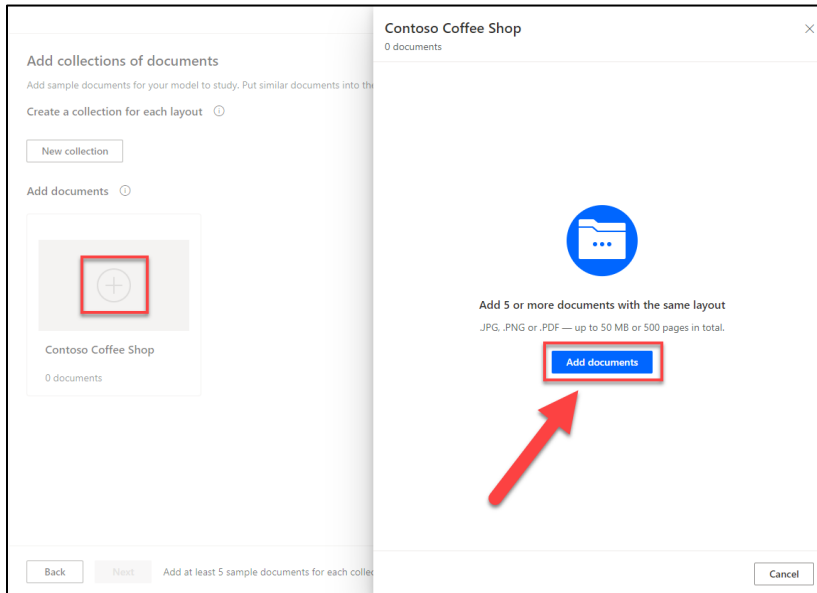
11. Collections allow for the grouping of documents for a particular organizer, customer, or counterparty. We will now create a collection for Contoso by selecting the **New collection** button.



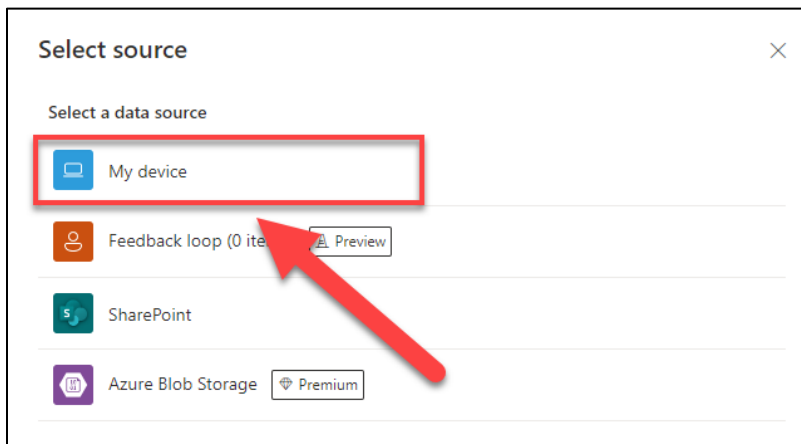
12. Select **Collection 1** and then **rename** it to be called **Contoso Coffee Shop**.



13. Select the **+** sign in the center of the collection and choose the **Add documents** button to upload our sample PDF files from the lab resources folder.



14. We will choose to upload the files from **local storage/source**. (Your local storage may be named something different than the one shown in the figure below. For us, our local storage is called **My device**.)

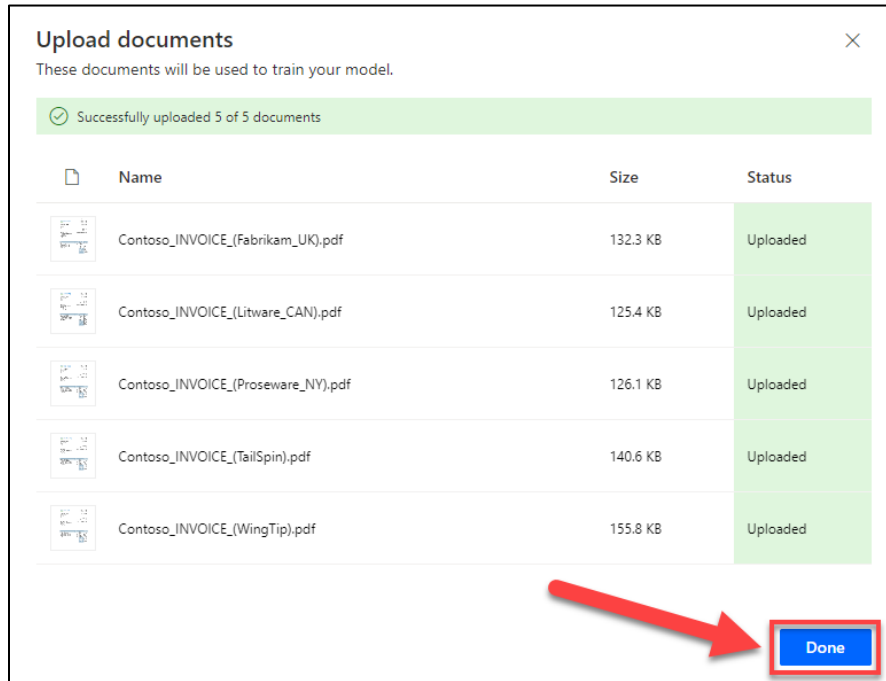


Select the following documents from your local storage. Then, select **Open**. (You can find them under the **student lab data packages** folder)

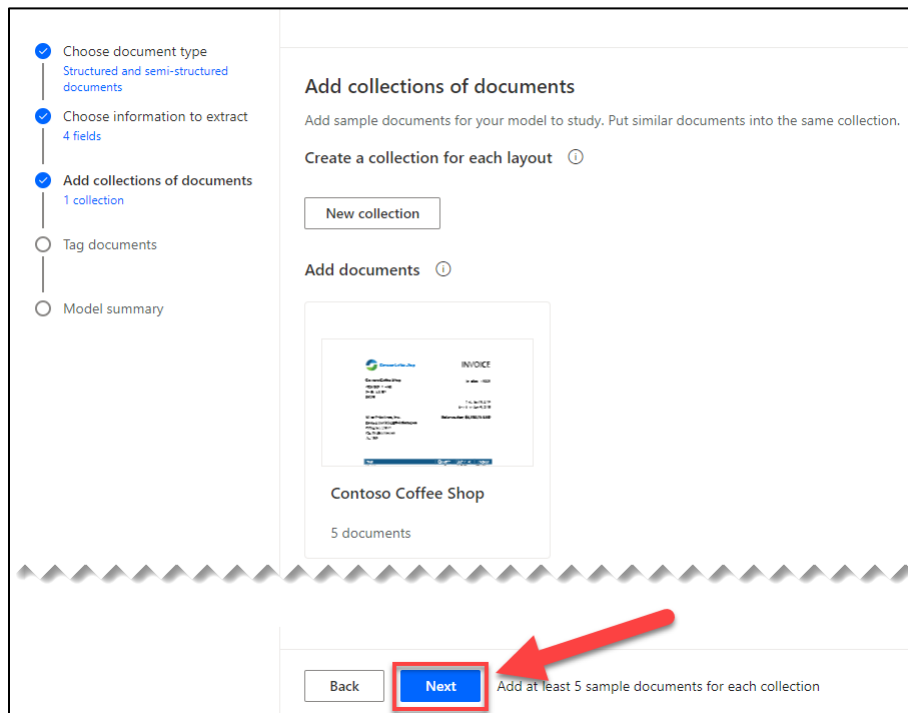
- Contoso\_INVOICE\_(Fabrikam\_UK).pdf
- Contoso\_INVOICE\_(Litware\_CAN).pdf
- Contoso\_INVOICE\_(Proseware\_NY).pdf
- Contoso\_INVOICE\_(TailSpin).pdf
- Contoso\_INVOICE\_(WingTip).pdf



16. Once the documents have been uploaded, we should see a success message like the one in the figure below. Select **Done** to continue.



17. Select the **Next** button located at the bottom of the screen.

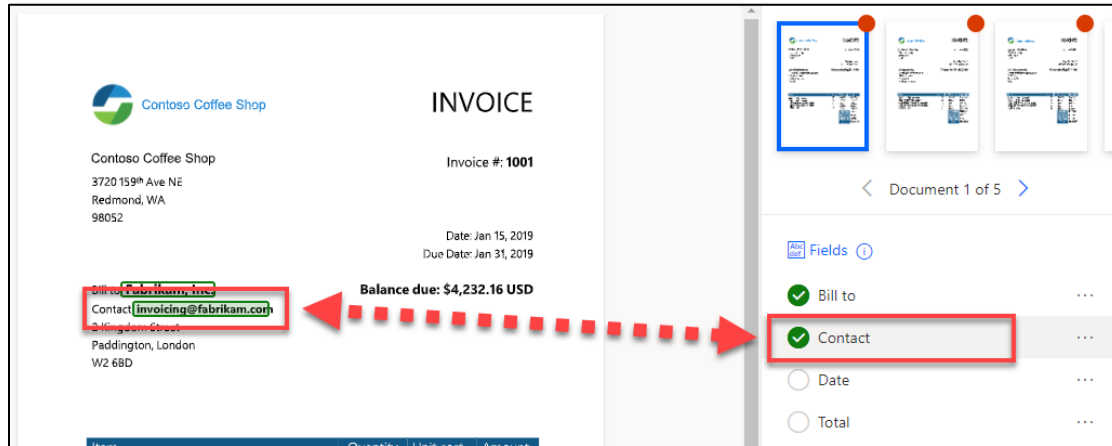


18. After it has completed the loading process, we now need to tag our documents, one by one, to the correct value of the corresponding fields so we can teach AI Builder how to extract values from this form example.
19. Ensure that you are currently viewing the **first** document. By dragging to highlight, **highlight** the **Bill to** contact within the document (do not include "Bill to:" in your highlight; just the contact). After you highlight the **Bill to** contact from the document, a menu with field options will appear.
20. Select the **Bill to** field option from the menu and notice that it tags the document information to the **Bill to** field within the list to the right of the screen. This is confirmed with a **green check mark**.

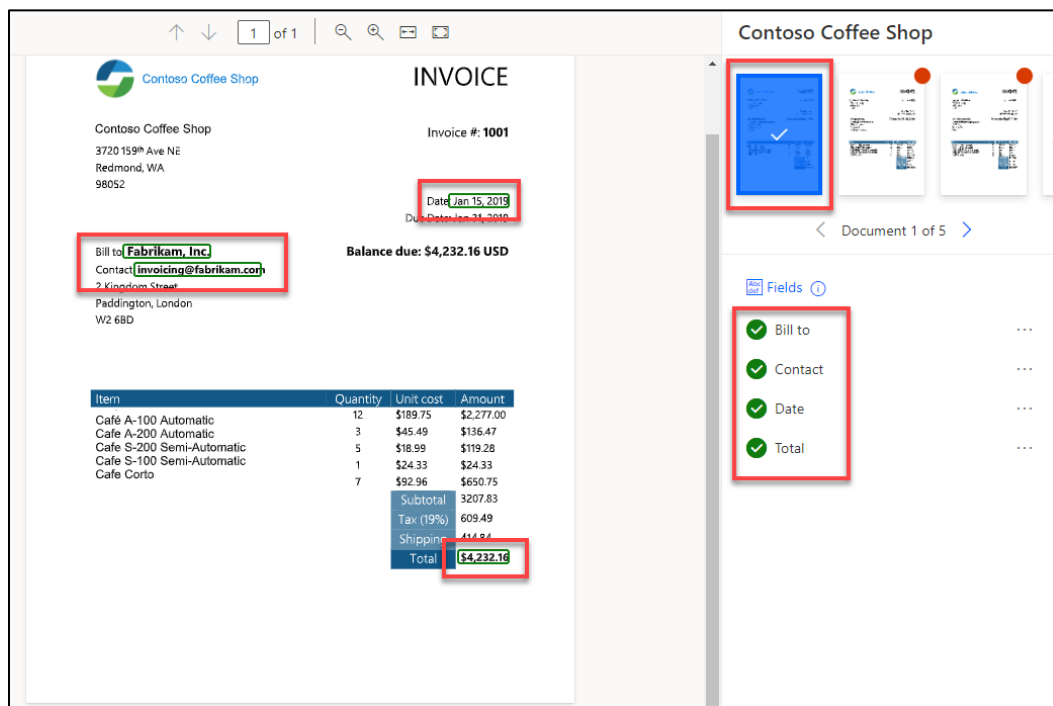
The screenshot shows an invoice from Contoso Coffee Shop. The 'Bill to' field is highlighted with a blue selection box. A context menu is open over this field, showing options: 'Value' (selected), 'Fields', 'Contact', 'Date', and 'Total'. The 'Bill to' option is highlighted with a red box and a red arrow. The invoice details include: Contoso Coffee Shop, 3720 159th Ave NE, Redmond, WA 98052, Invoice #: 1001, Date: Jan 15, 2019, Due Date: Jan 31, 2019, and a total amount of \$650.75.

Item	Amount
Café A-100 Automatic	2,277.00
Café A-200 Automatic	36.47
Café S-200 Semi-Autom	19.28
Café S-100 Semi-Autom	24.33
Café Corto	
<b>Total</b>	<b>\$650.75</b>

21. Using the same process of highlighting the text within the document, **highlight** the **Contact** information within the first document. Then, from the field menu that appears, select the **Contact** field. Notice the **green check mark** that appears in the list to the right of the screen signifying that the tag has been made within this document.



22. **Repeat** the previous steps to tag the **Date** and **Total** information from the first document to the proper field. At the top of the screen, you will notice that the first document fills to a **blue** color; this indicates that all possible tags within this document have been made. Your screen should look similar to the one in the figure below:



23. At the top of your screen, use the **arrows** to switch to the next document. **Repeat** the same process used in **steps 19-21** to tag the correct information within the document to the proper field. **Repeat this for the remaining documents** until **all 5 documents** have become a blue color, indicating all possible tags have been made within each document.

Contoso Coffee Shop

INVOICE

Contoso Coffee Shop  
3720 159th Ave NE  
Redmond, WA  
98052

Invoice #: 1021

Date: Feb 15, 2019  
Due Date: Feb 28, 2019

Bill to: WingTip Cups  
Contact: b.friday@wingtipcups.com  
677 5th Ave.  
New York, NY  
10022

Balance due: \$3,345.87 USD

Item	Quantity	Unit cost	Amount
Café A-100 Automatic	5	\$189.75	\$948.75
Cafe A-200 Automatic	15	\$45.49	\$682.35
Cafe S-200 Semi-Automatic	3	\$18.99	\$56.97
Cafe S-100 Semi-Automatic	20	\$24.33	\$486.33
Cafe Corto	8	\$92.96	\$743.68
Subtotal			\$2918.08
Tax (10%)			\$291.80
Shipping			\$135.99
Total			\$3,345.87

Document 5 of 5

Fields

- ✓ Bill to
- ✓ Contact
- ✓ Date
- ✓ Total

**Note:** Select only the field value, without the field title from the document. For example, select "Jan 15, 2019" and tag it as Date.

**Note:** If you mistakenly tagged a field, you can right click the field from the list to the right of the screen, and select the **Remove tag** option.

24. After you have completed making all possible tags within the 5 documents, select the **Next** button located at the bottom of the screen.

Date: Feb 15, 2019  
Due Date: Feb 28, 2019

Bill to: WingTip Cups  
Contact: b.friday@wingtipcups.com  
677 5th Ave.  
New York, NY  
10022

Balance due: \$3,345.87 USD

Item	Quantity	Unit cost	Amount
Café A-100 Automatic	5	\$189.75	\$948.75
Café A-200 Automatic	15	\$45.49	\$682.35
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Café S-100 Semi-Automatic	20	\$24.33	\$486.33
Café Corto	8	\$92.96	\$743.68
Subtotal			\$2918.08
Tax (10%)			\$291.80
Shipping			\$135.99
<b>Total</b>			<b>\$3,345.87</b>

Fields: Bill to, Contact, Date, Total

Back Next

25. We are now ready to train our AI Builder Model and can do so by selecting the **Train** button located at the bottom of the screen. This may take a couple minutes to complete.

Enter invoice information AI model

### Model summary

Review your model's details below. If everything looks good, select Train. [Learn more about training](#)

**Overview**

Owner	Model type	Document type	Collections
Lab Admin1	Document Processing	Structured and semi-structured documents	1

**Document sources**

Data source	Number of documents
My device	5 documents

**Information to extract**

Type	Details
Fields	Bill to, Contact, Date, Total

Back Train

**Quick tips**

**Missing something?**  
This page shows you what will be used to train your model. If you want to add more collections or more documents, you can go back to the previous steps to do so.

**What is training?**  
Training prepares your model based on the data provided.

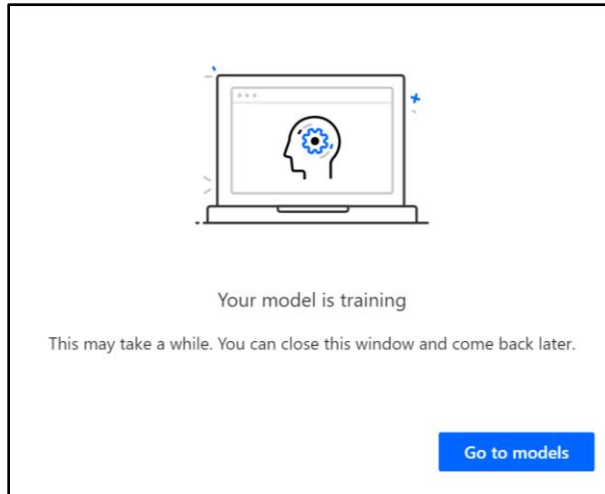
**What's next?**  
Once trained, you can publish your model to use in flows and apps.

**Get help or send feedback**  
Get the answers you need about your experience.

[Get help](#)

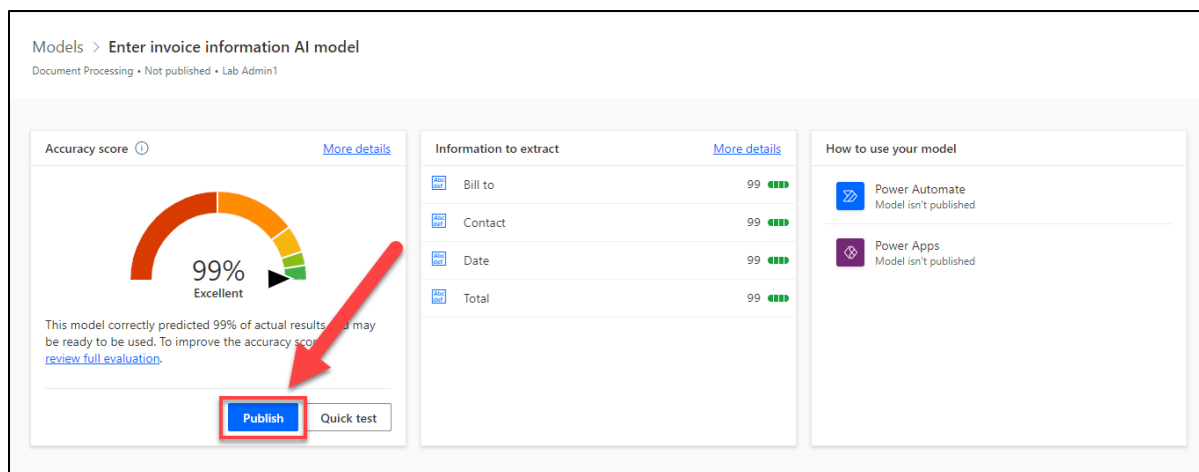
26. You will see the window shown below in the figure while the model is training. Select the **Go to models** button.



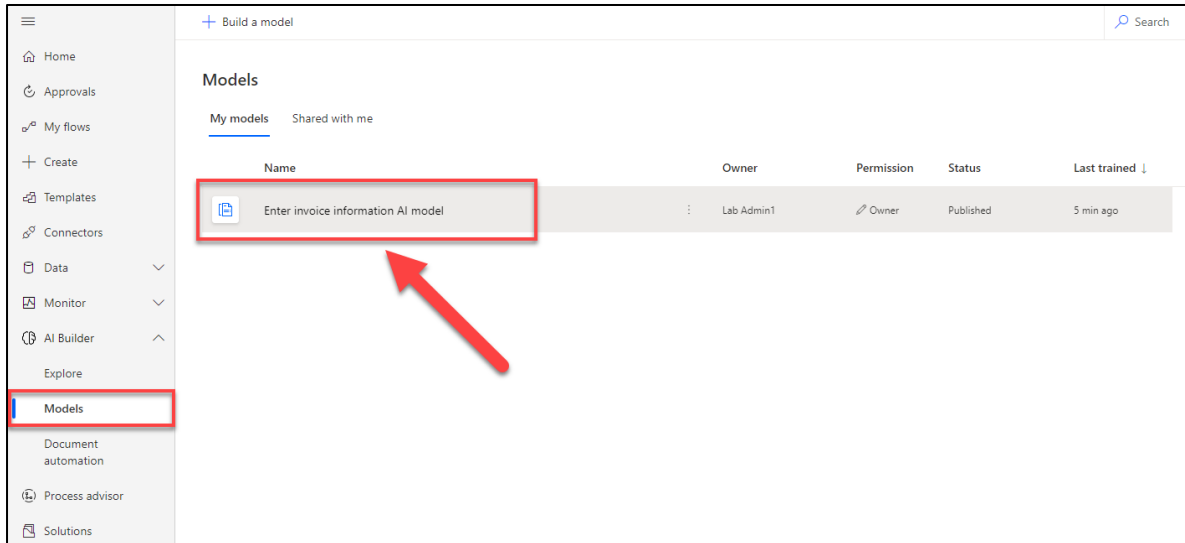


27. After the AI Builder Model training is completed, we can **publish** your AI Builder model by selecting **Publish**.

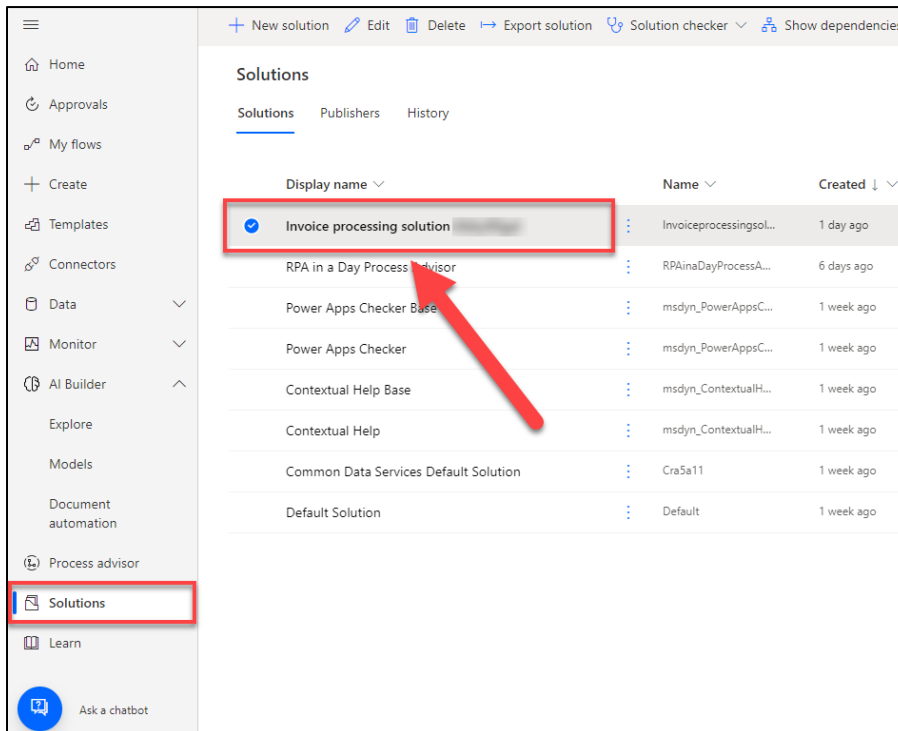
**Note:** Publish your model when you want to make it available to users in your Power Automate environment.



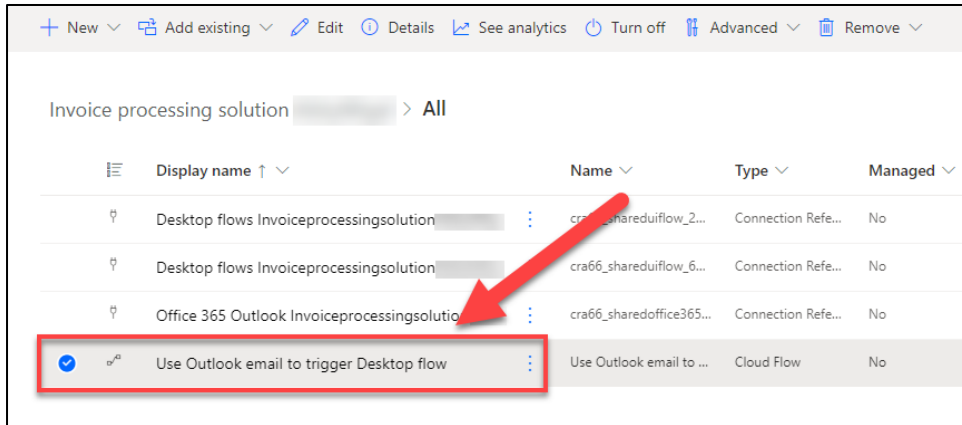
28. Now you can find your AI Builder models from the menu to the left, under **AI builder** and then **Models**.



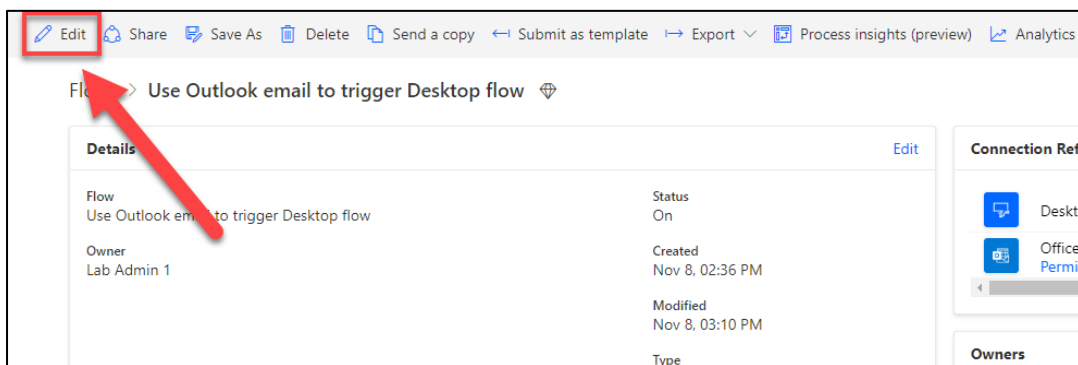
29. Now we have an AI Builder model trained and published. Next, we will learn how to use this AI Builder model that you just trained in your automation. From the menu to the left of the screen, select **Solutions** and open **Invoice processing solution <MyUsername>**.



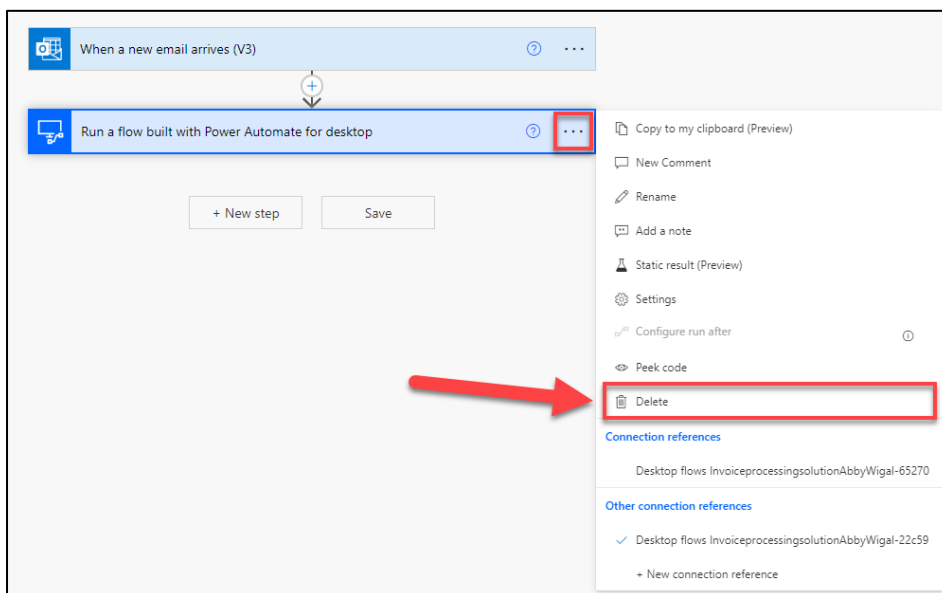
30. Open **Use Outlook email to trigger Desktop flow**.



31. From the tool bar at the top of the screen, select **Edit**.

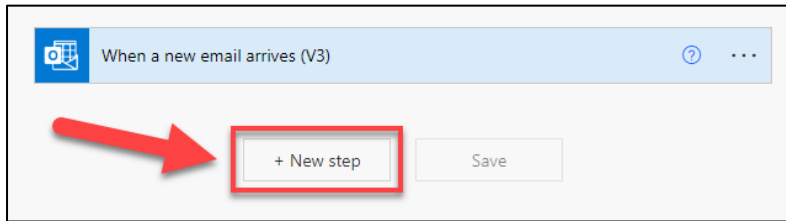


32. By selecting the **ellipses (...)** to the right of the **Run a flow built with Power Automate for Desktop** step, choose the option to **delete** this step.

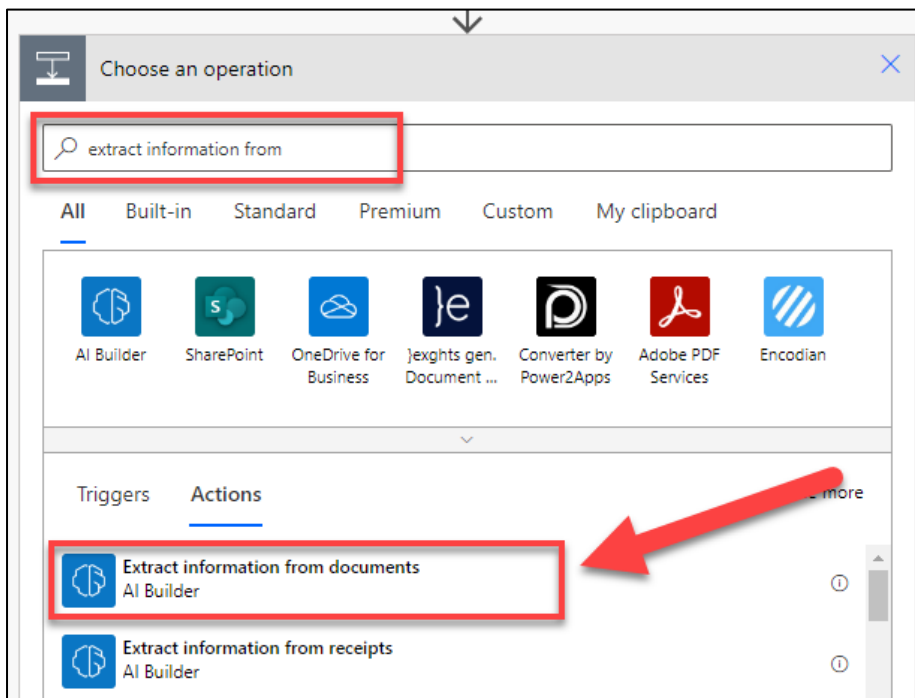


33. Within the **Delete Step** dialog box, select **OK**.

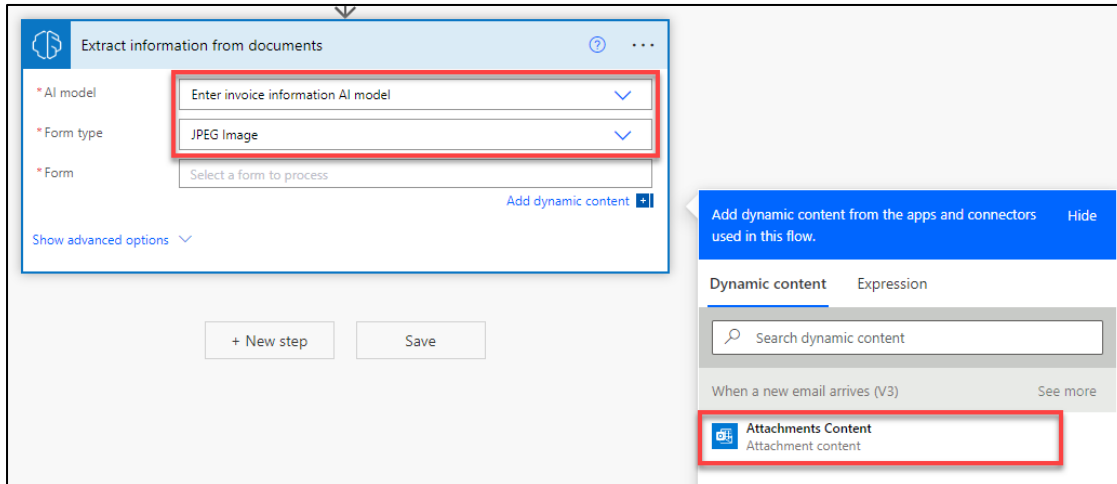
34. Next, select **+ New step**.



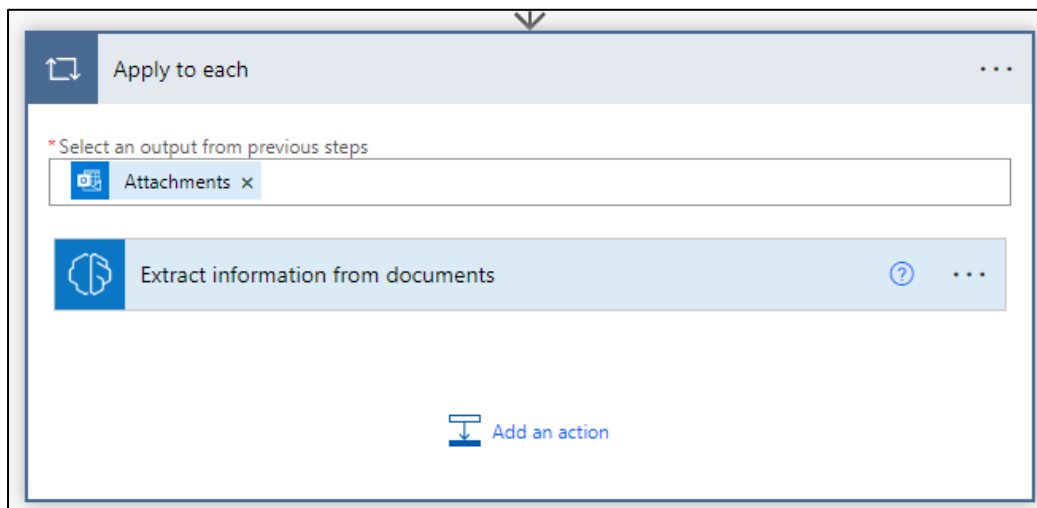
35. Within the search bar, search for **extract information from**, then select **Extract Information from documents - AI Builder** from the list.



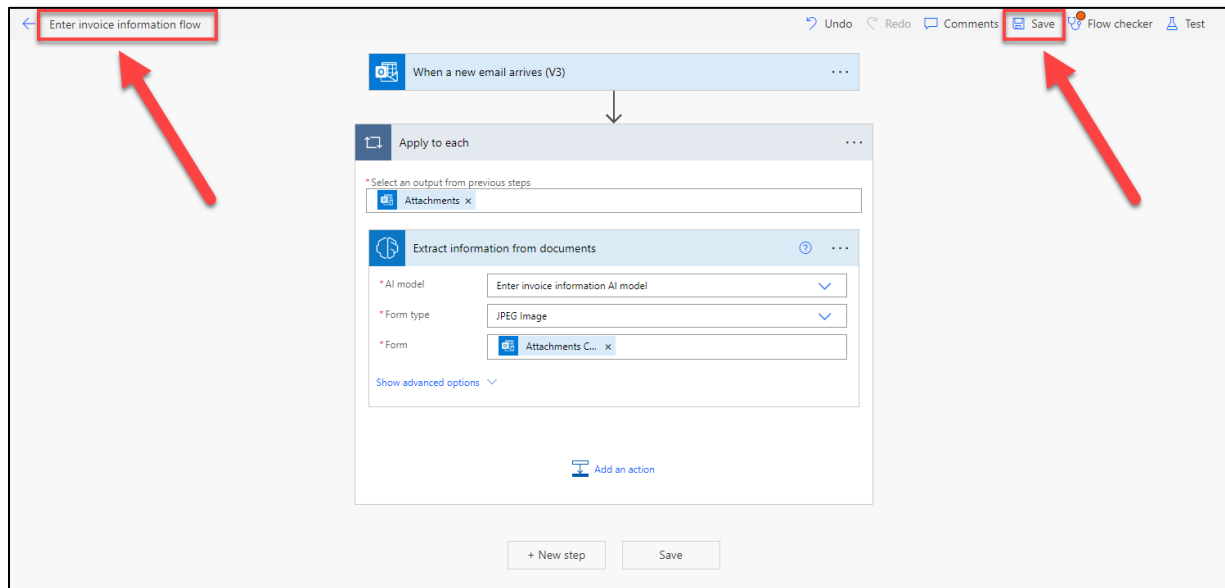
36. From the **AI model** drop-down, select **Enter invoice information AI model**.
37. From the **Form type** drop-down, select **JPEG Image**.
38. Select the **Form** field and, from the Dynamic content pane, select the **Attachments Content**.



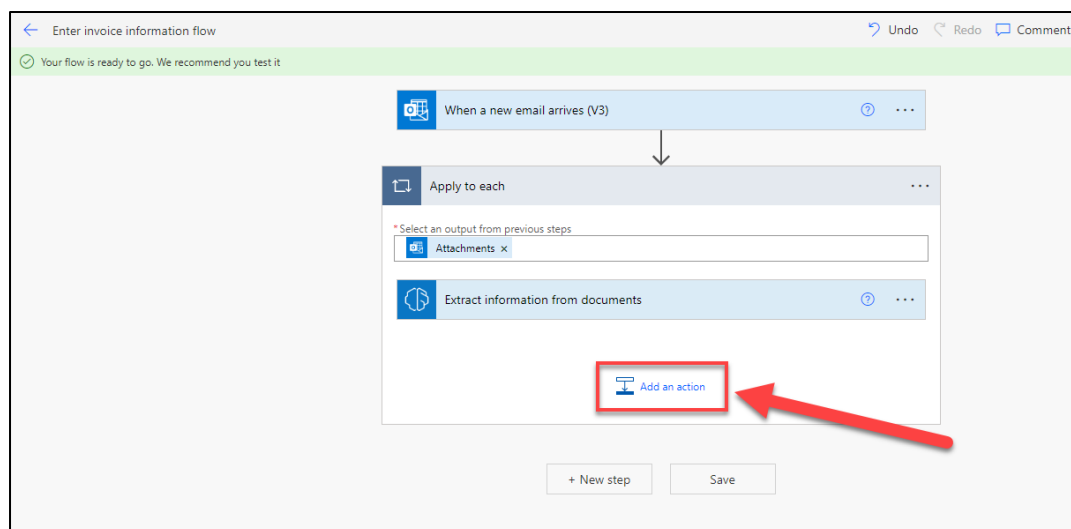
**Note:** After you populated the **Form** action field with the **Attachments Content** array, you will notice that an **Apply to each** loop has automatically been added to the flow designer around the AI Builder action. This occurs since the **Attachments content** array could technically include more than one attachment so the **Apply to each** will make sure each of the attachment files is processed separately by the AI Builder model. To this lab, we will only send in a single attachment.



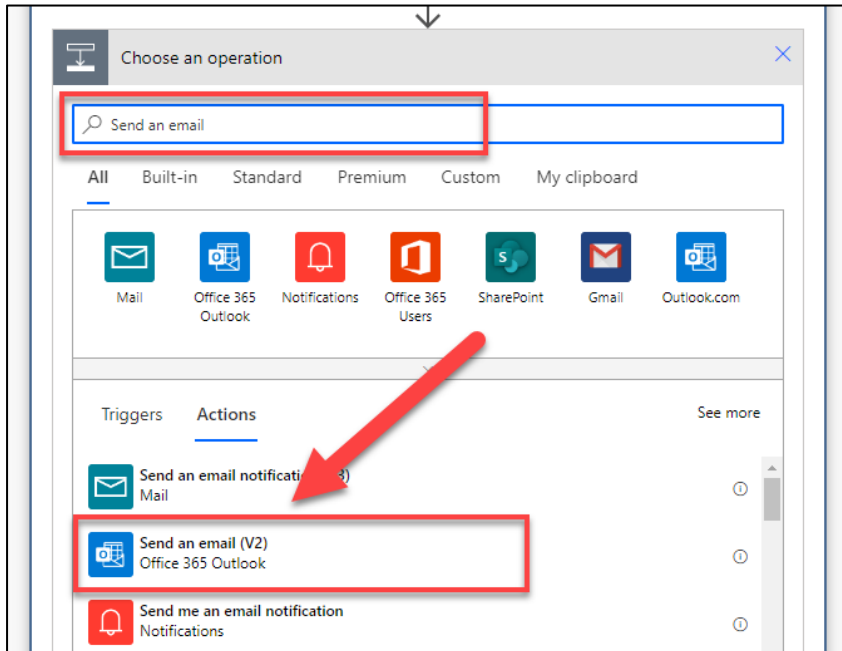
39. Select the AI Builder action title to **expand** the card to see more details. Now change the flow name, by double-clicking on the name at the top of the screen and typing in the new name, to **Enter invoice information flow**. Then, from the top right corner of the screen, select **Save**.



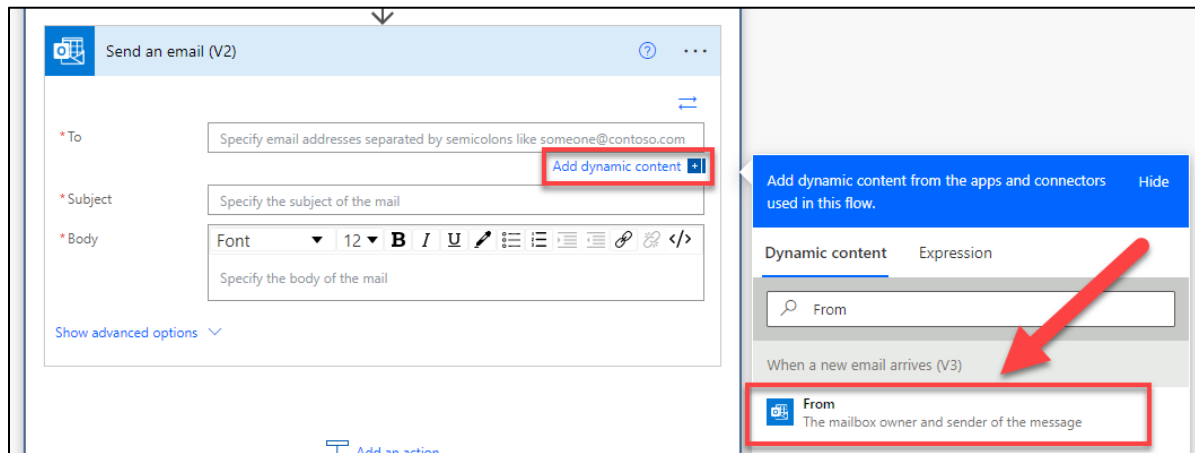
40. To verify the AI Builder model processing result, let's add another action to send ourselves a **verification email** to the sender acknowledging the invoice is received. We will add another action by selecting the **Add an action** button under the AI Builder action.



41. Within the search box, search for **Send an email**. Then, from the list, find and **select Send an email (V2) – Office 365 Outlook**.



42. Under the **To** field, select the **Add dynamic content** button. In the search bar, search for **From** and then select **From – The mailbox owner and sender of the message**.



43. Fill in the rest of the fields for the email step using the values/information below:

- In the **Subject** field, type: **Thanks for sending the invoice**
- In the **Body** field, type:  
**We received an invoice with the details below:**  
**Total:** (enter the **Total value** from the **Dynamics content pane**)  
**Date:** (enter the **Date value** from the **Dynamics content pane**)  
**Contact:** (enter the **Contact value** from the **Dynamics content pane**)  
**Bill to:** (enter the **Bill to value** from the **Dynamics content pane**)

**We will process and get back to you shortly.**

**Thanks,**  
**Contoso Coffee Shop**

**Note:** In order to find the values for the body of the email, search in the **dynamic content pane** for each value. They will appear just as written in the step above.

Send an email (V2)

\*To: [From x]

\*Subject: Thanks for sending the invoice

\*Body:

Font 12 B I U [Rich Text Icons]

We recieved an invoice with the details below:

Total: [Total value x]

Date: [Date value x]

Contact: [Contact value x]

Bill to: [Bill to value x]

We will process and get back to you shortly.

Thanks,

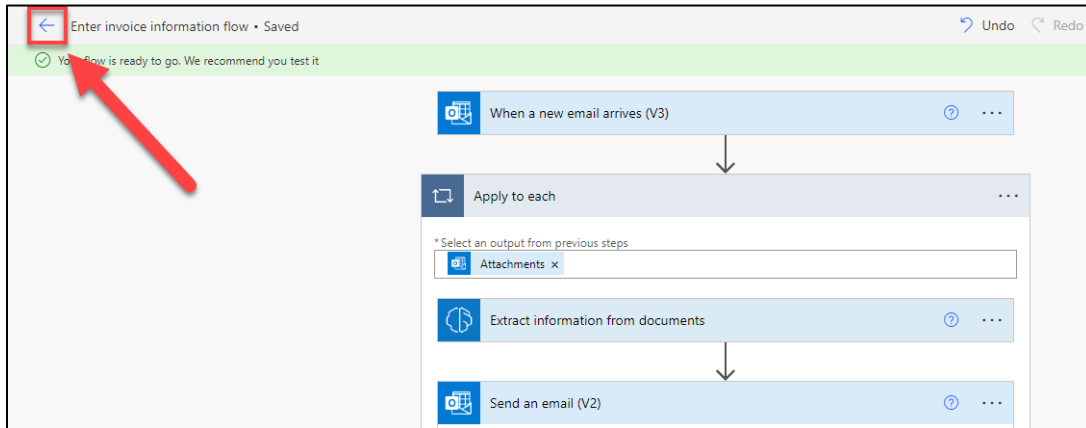
Contoso Coffee Shop

Show advanced options

44. Once you have finished filling in all the needed information, select **Save** located in the top right corner of the screen.



45. Select the **back** button to the top left of the screen, before the flow name, to navigate back to the flow detail page.



46. Next, we will trigger the flow to test by sending an email. In a separate web browser tab, open the **Office 365 Outlook app**. Sign in if needed.

47. Compose a new email with the following settings/information:
- a. To: *(email address of the user identity you are using in this lab)*
  - b. Subject: **New invoice**
  - c. Attachments: **newinvoice.jpg** *(from the lab resource files)*

**Note:** This attachment can be in any of the jpg or pdf format and AI builder model can process both. Here we just use jpg file in this exercise.

**Note:** Your email signature may be viewed as an attachment. That will block this flow logic unless we add more validation. So, we recommend you try to send email without signature.

48. Send the email and notice that the flow should be triggered to run automatically.

49. Navigate back to the flow detail page in the original tab. Notice a new run has been kicked off. Note, you might have to select the refresh button a few times to see the new run history.

Flows > Enter invoice information flow

**Details** [Edit](#)

Flow  
Enter invoice information flow

Status  
On

Owner  
Lab Admin 1

Created  
Nov 8, 02:36 PM

Modified  
Nov 9, 03:47 PM

Type  
Automated

Plan  
This flow runs on owner's plan

**28-day run history** [Edit columns](#) [All runs](#)

Start	Duration	Status
Nov 9, 03:52 PM (11 sec ago)	00:00:11	Running
Nov 8, 03:22 PM (1 d ago)	00:01:48	Succeeded
Nov 8, 03:21 PM (1 d ago)	00:01:20	Failed

50. Select the new run to view its' details. It will show whether your flow ran successfully or not.

← Enter invoice information flow • Ran at 11/9/2022 3:52:50 PM

✓ Your flow ran successfully.

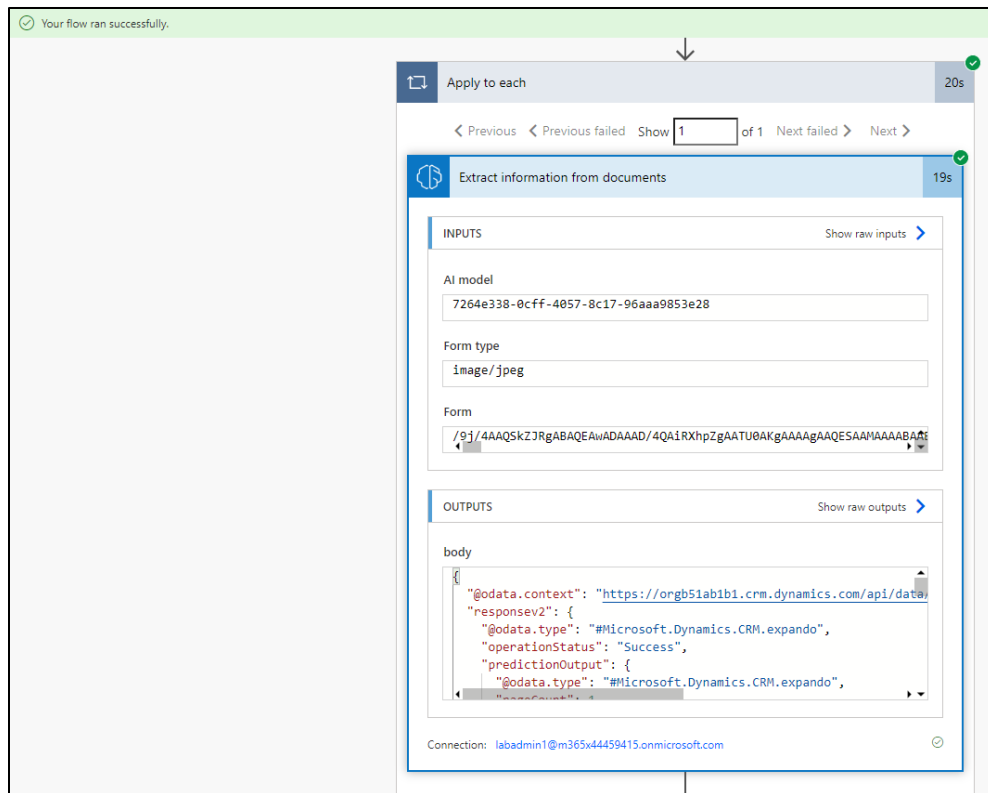
When a new email arrives (V3)

2s

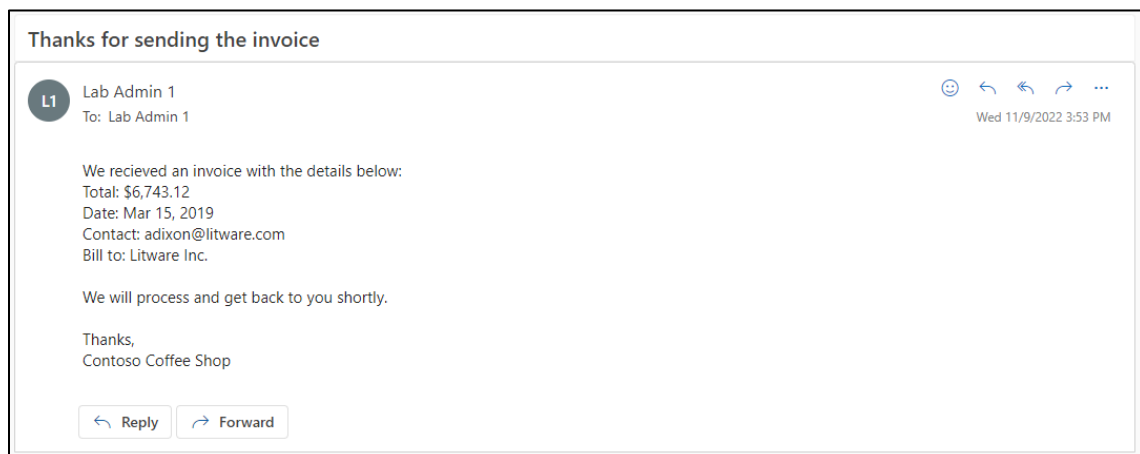
Apply to each

20s

51. You can also select the title to expand the **Apply to each** action and **AI Builder** action to view the output from the **Predict** action. It should contain the real time data parsed from the email attachment file. That output will be able to be consumed by the following actions. We will cover that in lab 7.



52. You should now also have received an acknowledgment email with the AI Builder process results against the jpg invoice file.



# Check your knowledge

Lab 6

5 mins

1. After uploading our sample documents in AI Builder, we can select the \_\_\_\_\_ button to evaluate our documents to look for patterns within the documents.
  - A. Analyze
  - B. Back
  - C. New collection
  - D. None of the above
  
2. How do we tag our document when we finish analyzing it?
  - A. Hover over the respective area and then select that area
  - B. Hold down CTRL and select that area
  - C. Hold down ALT and select that area
  - D. Hold down Shift and select that area
  
3. Do we need to ensure that our fields have been recognized on all our documents by selecting them one by one and ensuring we have green checkmarks beside our fields?
  - A. True
  - B. False

## Answer Key

1. After uploading our sample documents in AI Builder, we can select the \_\_\_\_\_ button to evaluate our documents to look for patterns within the documents.

**A. Analyze**

B. Back

C. New collection

D. None of the above

Answer: **A. Analyze**

2. How do we tag our document when we finish analyzing it?

**A. Hover over the respective area and then select that area**

B. Hold down CTRL and select that area

C. Hold down ALT and select that area

D. Hold down Shift and select that area

Answer: **A. Hover over the respective area and then select that area**

3. Do we need to ensure that our fields have been recognized on all our documents by selecting them one by one and ensuring we have green checkmarks beside our fields?

**A. True**

B. False

Answer: **A. True**, fields need to be recognized across all documents for the document to be trained properly.

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