

## Lab 8. Document generation with the Word Connector



# Lab 8. Document generation with the Word Connector

**Author:** Serge Luca, aka "Doctor Flow".

**Learning objective:** create a Flow that will generate an invoice (in PDF) based on a Word template and on data stored in an Excel document.

**Duration:** 30 minutes

**Scenario:** Excel files containing invoice data are stored in OneDrive for Business. A Flow will read these data, parse the data, and generate an invoice based on a word document template. The invoice will be transformed into a PDF file.

**Prerequisites:** The Word Connector is a Premium connector. You need to test this lab with a trial premium subscription.

When using the Word Connector, the designer will ask you to start a premium trial or you must have activated the developer license (see lab 0).

The files for the lab can be downloaded from the folder "Resources for the labs", download the labv9.zip file: the files are "**Invoice.xlsx**" and "**Invoice Template start.docx**"

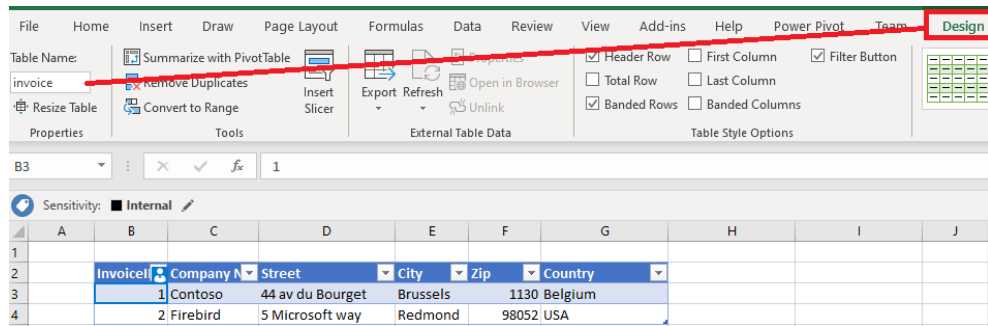
## Tasks:

1. Upload the file **invoice.xlsx** provided by the trainer to the Documents folder of your OneDrive for Business
2. Look at this file: there are two tables:
  - a. The table **invoice** consists of the invoice headers
  - b. The table **invoicelines** consists of the invoice lines

InvoiceID	Company Name	Street	City	Zip	Country
1	Contoso	44 av du Bourget	Brussels	1130	Belgium
2	Firebird	5 Microsoft way	Redmond	98052	USA

Invoice	Product	Amount	Price	Total
1	Internal training PowerAp	5	1400	4200
1	Internal training Flow	4	1400	5600
2	Internal training PowerAp	3	1400	4200
2	Internal training PowerBI	2	1400	2800

3. Each table has a name that we will reference from our Flow; to find out the table name, open the file in Excel desktop, click the table, and select the menu Design as illustrated in the following picture:



- Each invoice can have several lines.
- Upload the file **Invoice Template start.docx** provided by the trainer into the Documents folder of your OneDrive for Business and take a look at this file:

(header)

<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique	<b>INVOICE</b>	
<b>BILL TO</b> Name Company Name Street address City, Postal Code	INVOICE#	

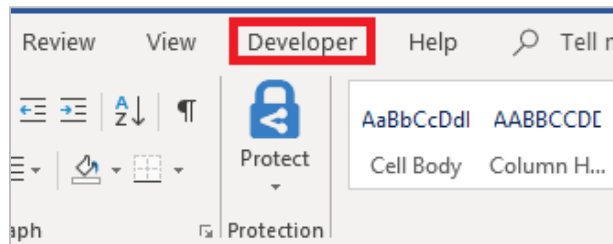
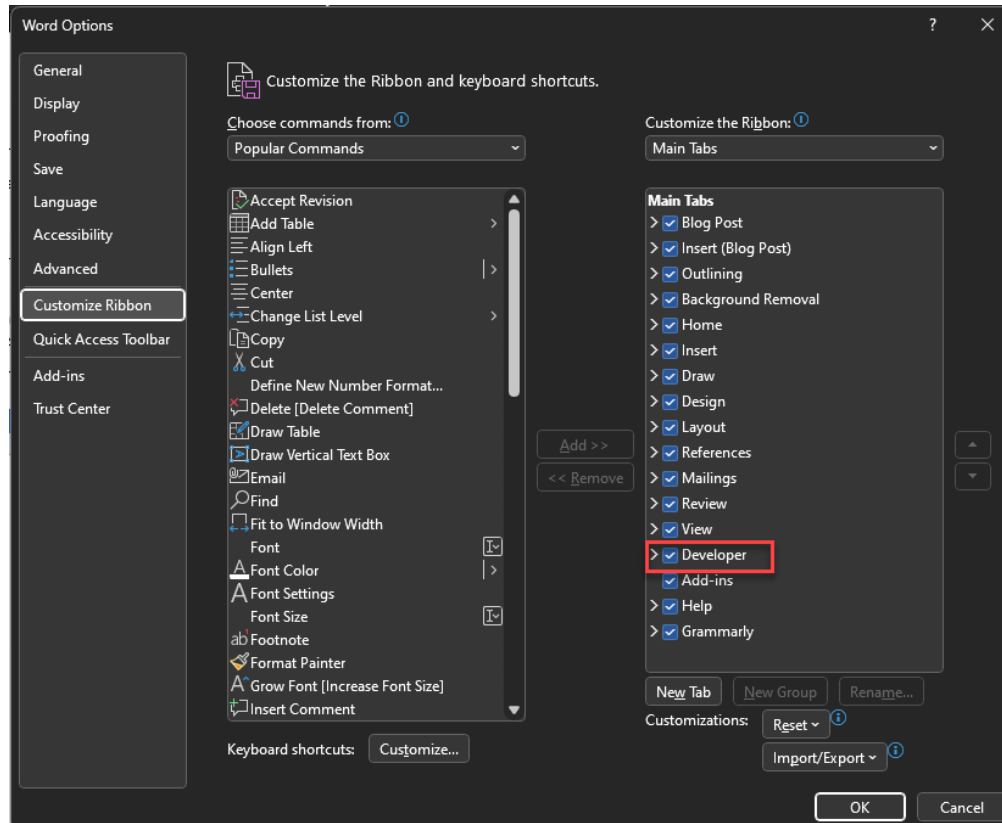
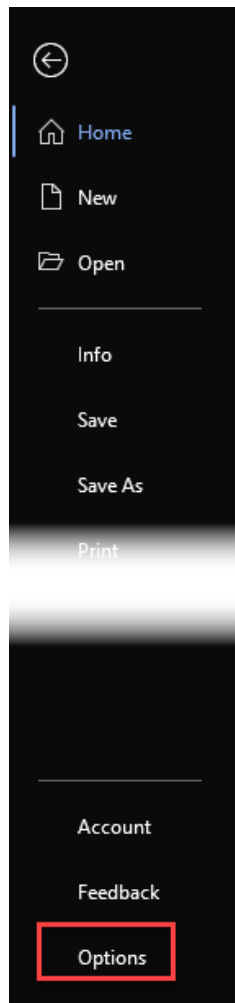
Description	Amount

(lines)

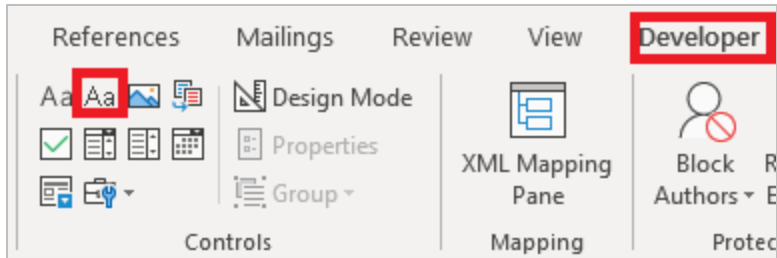
The section "header" and "lines" are two different tables. The lines section is a table with one row for the header and one row for the data.

- Go to the Word **Options**, select Customize Ribbon, select **Developer**, and click OK.

This will display the **Developer** tab in Word:



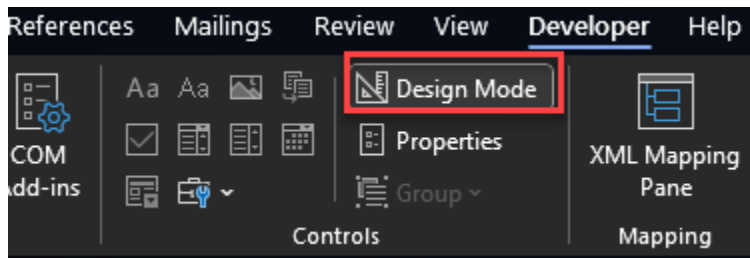
7. You will customize the word template/ next to each field of the template, you will add a **Word plain text content** control, and we will use the properties button to name them accordingly.



8. Add a control next to the following fields: **Company Name**, **Street address**, **City** (add 2 controls here, one for the city, one for the zip code) and one next to **invoice#**;

<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique	<b>INVOICE</b>	
<b>BILL TO</b>  Company Name: Click or tap here to enter text. Street address: Click or tap here to enter text. City: Click or tap here to enter text., Click or tap here to enter text.	<b>INVOICE#</b>	Click or tap here to enter text.

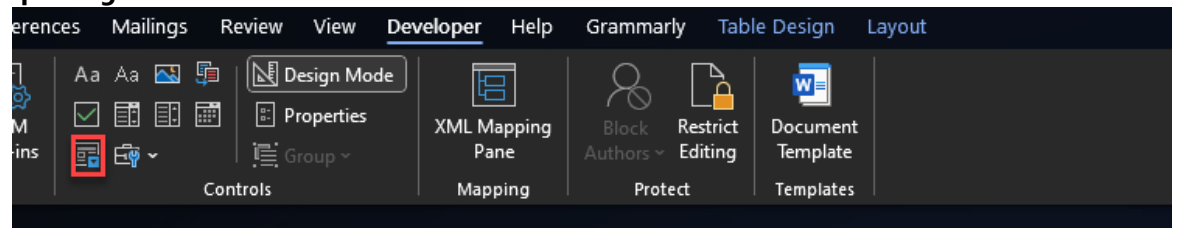
9. Click **Design Mode** to see where each control starts and ends:



10. With the **Properties** button, name (Title of Property) the controls **company**, **street**, **city**, **zip**, **invoiceid** as illustrated below:

<b>Doctor Flow</b> 133 av <u>Dieweg</u> 1180 Uccle <u>Belgique</u>	<b>INVOICE</b>	
<b>BILL TO</b> Company Name: <input type="text" value="company"/> (Click or tap here to enter text.) Street address: <input type="text" value="street"/> (Click or tap here to enter text.) City: <input type="text" value="city"/> (Click or tap here to enter text.) , <input type="text" value="zip"/> (Click or tap here to enter text.)	<b>INVOICE#</b>	<input type="text" value="invoiceid"/> (Click or tap here to enter text.) <input type="text" value="invoiceid"/>

11. You will focus now on the invoice lines; select the second row of the table (the one with the empty data, not the row with the header); select the whole row (including the two columns) and add a **Repeating Section Content Control**:



<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique	<b>INVOICE</b>	
<b>BILL TO</b> Company Name: <input type="text" value="company"/> (Click or tap here to enter text.) Street address: <input type="text" value="street"/> (Click or tap here to enter text.) City: <input type="text" value="city"/> (Click or tap here to enter text.) , <input type="text" value="zip"/> (Click or tap here to enter text.)	<b>INVOICE#</b>	<input type="text" value="invoiceid"/> (Click or tap here to enter text.) <input type="text" value="invoiceid"/>

Description	Amount

12. Rename the repeating section **lineitems**.
13. In this repeating section, content control, add 2 Plain text content controls and name them **Product** and **Amount**:

<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique		<b>INVOICE</b>	
<b>BILL TO</b> Company Name: <input type="text" value="company"/> Click or tap here to enter text.		<b>INVOICE#</b>	
Street address: <input type="text" value="street"/> Click or tap here to enter text.		<input type="text" value="invoiceid"/> Click or tap here to enter text.	
City: <input type="text" value="city"/> Click or tap here to enter text. ,			
<input type="text" value="zip"/> Click or tap here to enter text.			

Description	Amount
<input type="text" value="lineitems"/> <input type="text" value="Product"/> Click or tap here to enter text.	<input type="text" value="Amount"/> Click or tap here to enter text.

14. After the repeating section, adds a **Picture content control** that will display the manager signature. Name this control **managersignature**.
15. Eventually, the template should look like this:

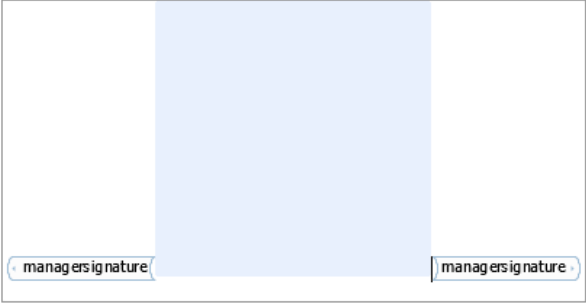


<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique		<b>INVOICE</b>	
<b>BILL TO</b> Company Name: <input type="text" value="company"/> (Click or tap here to enter text.) Street address: <input type="text" value="street"/> (Click or tap here to enter text.) City: <input type="text" value="city"/> (Click or tap here to enter text.) , <input type="text" value="zip"/> (Click or tap here to enter text.)		<b>INVOICE#</b>	<input type="text" value="invoiceid"/> (Click or tap here to enter text.) <input type="text" value="invoiceid"/>

Description	Amount
<input type="text" value="lineitems"/> <input type="text" value="Product"/> (Click or tap here to enter text.) <input type="text" value="Product"/>	<input type="text" value="Amount"/> (Click or tap here to enter text.) <input type="text" value="Amount"/> <input type="text" value="lineitems"/>



16. Rename the file to **invoice template.docx**
17. Let's create a Flow that starts from a button (Instant cloud flow > Manually trigger a flow).
18. Add an action **Excel Online (Business)- List rows present in a table**, and retrieve the **invoice table** of your **invoice.xlsx** documents:

Manually trigger a flow

List rows present in a table - Invoices

\* Location: OneDrive for Business

\* Document Library: OneDrive

\* File: /Power Automate in a day - Labs/Invoice.xlsx

\* Table: invoice

Show advanced options

19. Add an Apply to each action to get each invoice line, and rename it:

Manually trigger a flow

List rows present in a table - Invoices

Apply to each - Invoice

\* Select an output from previous steps: value

Dynamic Value Expression

Search dynamic value

Environment Variables

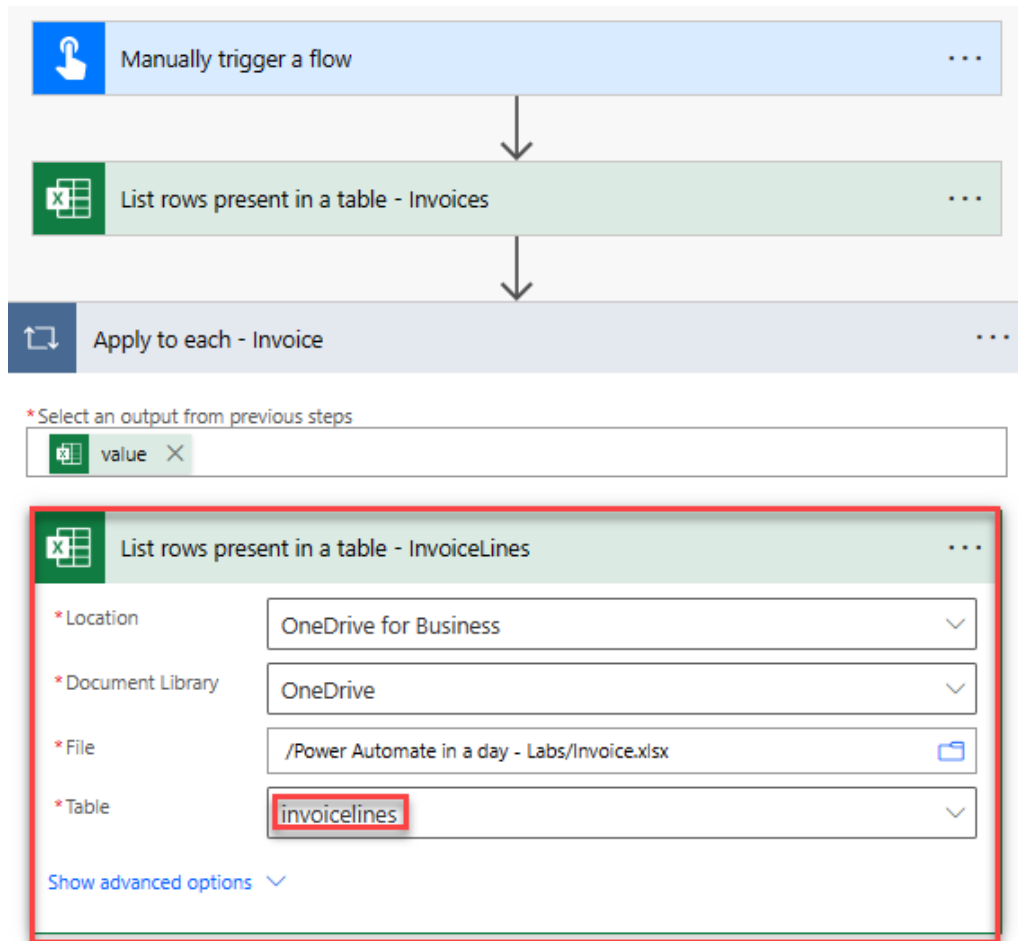
Should only leaf node selection be allowed (msdyn\_AllowSelectLeafOnly)

Should the Peek Button Be Shown (msdyn\_ShouldShowPeekButton)

List rows present in a table - Invoices

value  
List of Items

20. For each invoice, you will fetch the corresponding invoice lines: Add another Excel action that will retrieve the **invoicelines** table List rows present



In the Excel for business action

21. You need to filter the retrieved lines. Click the **Show advanced options**, and in the **Filter Query** field, type **Invoice eq.** The filter query is case-sensitive, be careful here.

↺

Apply to each Invoice

⋮

Select an output from previous steps \*

value

×

Find InvoiceLines

i

⋮

Location \*

OneDrive for Business

▼

Document Library \*

OneDrive

▼

\* File

/Flow Workshop/Invoice.xlsx

Table \*

invoicelines

▼

Filter Query

Invoice eq "

⚙

fx

Order By

An ODATA orderBy query for specifying the order of entries.

Top Count

Total number of entries to retrieve (default = all).

Skip Count

The number of entries to skip (default = 0).

Select Query

Comma-separated list of columns to retrieve (first 500 by default).

Hide advanced options

^

22. Move the cursor between the " and add the field "InvoiceID" under the quotes :

23.

The image shows a Power Automate flow configuration with the following steps:

- Manually trigger a flow**
- List rows present in a table - Invoices**
- Apply to each - Invoice**


Below the 'Apply to each' step, there is a section for selecting an output from previous steps, showing a 'value' output.

The main configuration area for the 'List rows present in a table - InvoiceLines' step is shown, with the following settings:


- Location:** OneDrive for Business
- Document Library:** OneDrive
- File:** /Power Automate in a day - Labs/Invoice.xlsx
- Table:** invoicelines
- Filter Query:** Invoice eq

A dynamic value selection pane is open on the right, showing the 'Dynamic Value' tab. The 'InvoiceID' dynamic value is selected and highlighted with a red box.

An 'Expression' window is open at the bottom, showing the 'Find Invoices' function. The 'InvoiceID' dynamic value is selected from the list of functions, and the expression 'Invoice eq' is entered in the 'Add an expression' field. The 'Expression' window also shows options for 'Order By', 'Top Count', 'Skip Count', and 'Select Query'.




List rows present in a table - InvoiceLines




\* Location

OneDrive for Business




\* Document Library

OneDrive




\* File

/Power Automate in a day - Labs/Invoice.xlsx





\* Table

invoicelines



Filter Query

Invoice eq ' InvoiceID 

24. Add an action **Populate a Microsoft Word template**, and you will notice that the Word content controls show up as fields in this connector; fill in the fields with the corresponding Excel values:

The screenshot shows a Power Automate workflow connector for the action "Populate a Microsoft Word template - Invoice Template". The connector is titled "Apply to each - Invoice" and has a dropdown menu for "Select an output from previous steps" with "value" selected. Below this, there is a step "List rows present in a table - Invoicelines". The connector itself has several fields: "Location" (OneDrive for Business), "Document Library" (OneDrive), "File" (/Power Automate in a day - Labs/Invoice Template.docx), and "invoiceid" (InvoiceID). There is a section for "1242361815 Product - 1" and "1242361815 Amount - 1" with text input fields. Below this is an "Add new item" button. At the bottom, there are fields for "company" (Company N...), "zip" (Zip), "street" (Street), "city" (City), and "managersignature".

Apply to each - Invoice

\*Select an output from previous steps

value

List rows present in a table - Invoicelines

Populate a Microsoft Word template - Invoice Template

\* Location OneDrive for Business

\* Document Library OneDrive

\* File /Power Automate in a day - Labs/Invoice Template.docx

invoiceid InvoiceID

1242361815 Product - 1

Click or tap here to enter text.

1242361815 Amount - 1

Click or tap here to enter text.

+ Add new item

company Company N...

zip Zip

street Street

city City

managersignature

25. You still have to generate a file in OneDrive for Business with the content of the previous action output content: add a **OneDrive for Business Create file** action and rename
26. Fill in the File Content from with the output of the previous action and dynamically generate the file name:

**Create file - Invoice in Word**

\* Folder Path: /Power Automate in a day - Labs

\* File Name: invoice\_ InvoiceID .docx

\* File Content: Microsoft W...

27. Add an action **Convert Word Document to PDF** and grab the path of the generated file
28. Add a **OneDrive for Business Create file** action to create the pdf file and pass the body of the previous action. The next two actions should look like this:

**Convert Word Document to PDF**

\* Location: OneDrive for Business

\* Document Library: OneDrive

\* File: Path

+ New step Save

**Dynamic content**

Search dynamic content

- Name without extension: The name of the file or folder, without the file extension.
- Display name: The display name of the file or folder.
- Path: The path of the file or folder.

**Convert Word Document to PDF**

**Create file - Invoice in PDF**

\* Folder Path: /Power Automate in a day - Labs

\* File Name: invoice\_ InvoiceID .pdf

\* File Content: PDF docum...

29. Run the Flow and check the generated PDF files. The first file should look like this:



<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique <b>BILL TO</b> Company Name: Contoso Street address: 44 av du Bourget City: Brussels , 1130	<b>INVOICE</b>	
	INVOICE#	1

Description	Amount
Click or tap here to enter text.	Click or tap here to enter text.

30. You will now update the Flow to implement the line items. First, edit the Flow and define an array variable called **invoiceLines** and initialize it as an empty array:

Manually trigger a flow
...

Initialize variable - InvoiceLines
...

\*Name

\*Type

Value

31. Add a Set variable action at the start of Apply to each to clean up this variable again:

Apply to each - Invoice
...

\*Select an output from previous steps

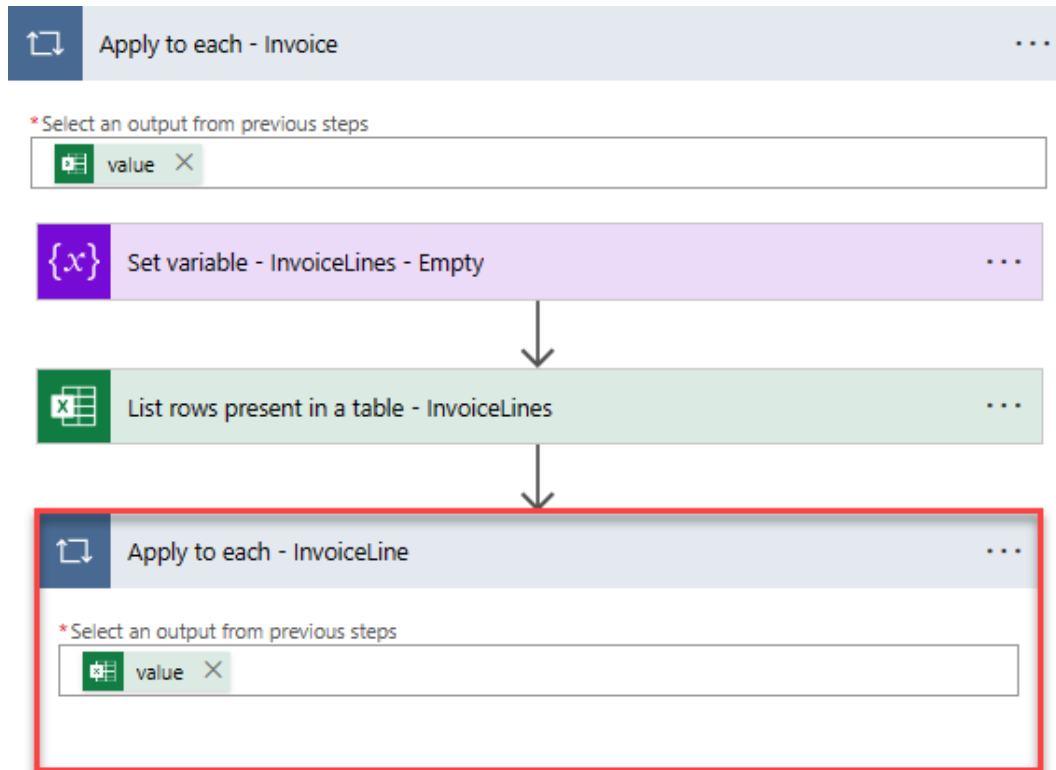
value X

Set variable - InvoiceLines - Empty
...

\*Name

\*Value

32. After the **List rows present in a table - InvoicesLines** action, add an **Apply to each invoice** to go through every invoice lines:



33. In this Apply to each, you will create a JSON array containing the **Invoice Lines** information; add an **Append to array variable** action:

The screenshot shows the configuration for the "Append to array variable - InvoiceLines" action within the "Apply to each - InvoiceLine" step:

- Name:** InvoiceLines
- Value:** A JSON object is entered in the text area:

```
{  
  "Product": Product ,  
  "Amount": Amount  
}
```

34. You will now update the **Populate a Microsoft Word template** action with this array. Select this action and click on the **Switch to input entire array** button:

Populate a Microsoft Word template - Invoice Template

\* Location: OneDrive for Business

\* Document Library: OneDrive

\* File: /Power Automate in a day - Labs/Invoice Template.docx

invoiceid: InvoiceID

lineitems Product - 1: Click or tap here to enter text.

lineitems Amount - 1: Click or tap here to enter text.

+ Add new item

35. Store your array in this area:

Populate a Microsoft Word template - Invoice Template

\* Location: OneDrive for Business

\* Document Library: OneDrive

\* File: /Power Automate in a day - Labs/Invoice Template.docx

invoiceid: InvoiceID

lineitems: {x} InvoiceLines

company: Company N...

zip: Zip

street: Street

city: City

managersignature:

36. Run the Flow and check the generated documents. You should now see the invoice line items:

<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique		<b>INVOICE</b>	
<b>BILL TO</b> Company Name: Contoso Street address: 44 av du Bourget City: Brussels , 1130		<b>INVOICE#</b>	1

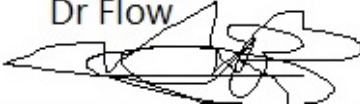
  

Description	Amount
Internal training PowerApps	5
Internal training Flow	4

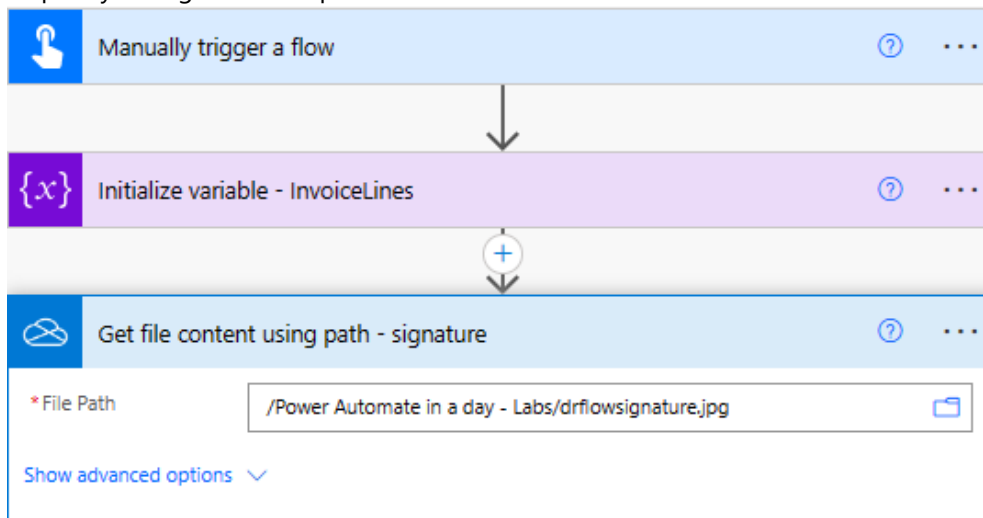
  

37. We will now display the signature portion of the document. Create a jpeg file with your name and signature, and upload it to the Documents folder of your OneDrive for business. For instance, our signature looks like this:

Dr Flow



38. In the beginning section of the Flow, add a **OneDrive for business** action **Get file content using path** and pass your signature file path:



```

graph TD
    A[Manually trigger a flow] --> B[Initialize variable - InvoiceLines]
    B --> C[Get file content using path - signature]
    C --> D[Show advanced options]
  
```

\* File Path:

Show advanced options ▾

39. Edit the existing action **Populate a Microsoft Word template** action and in the **managersignature** field, pass your signature content:


The screenshot displays a Microsoft Flow interface for populating a Word template. The top section, titled "Populate a Microsoft Word template - Invoice Template", contains input fields for "Location" (OneDrive for Business), "Document Library" (OneDrive), and "File" (/Power Automate in a day - Labs/Invoice Template.docx). Below these are fields for "invoiceid" (InvoiceID) and a list of "lineitems" with "Product" and "Amount" fields. The "managersignature" field is highlighted with a red box. The workflow steps are: "Create file - Invoice in Word", "Convert Word Document to PDF", and "Create file - Invoice in PDF". A red arrow points from the "managersignature" field to the "Get file content using path - signature" step in the workflow. The right sidebar shows the "Dynamic Value" pane with a search bar and a list of dynamic values: "Amount", "Price", "Total", and "File content" (The content of the file).

40. Test your Flow and check one of the generated documents; the signature should now be visible:

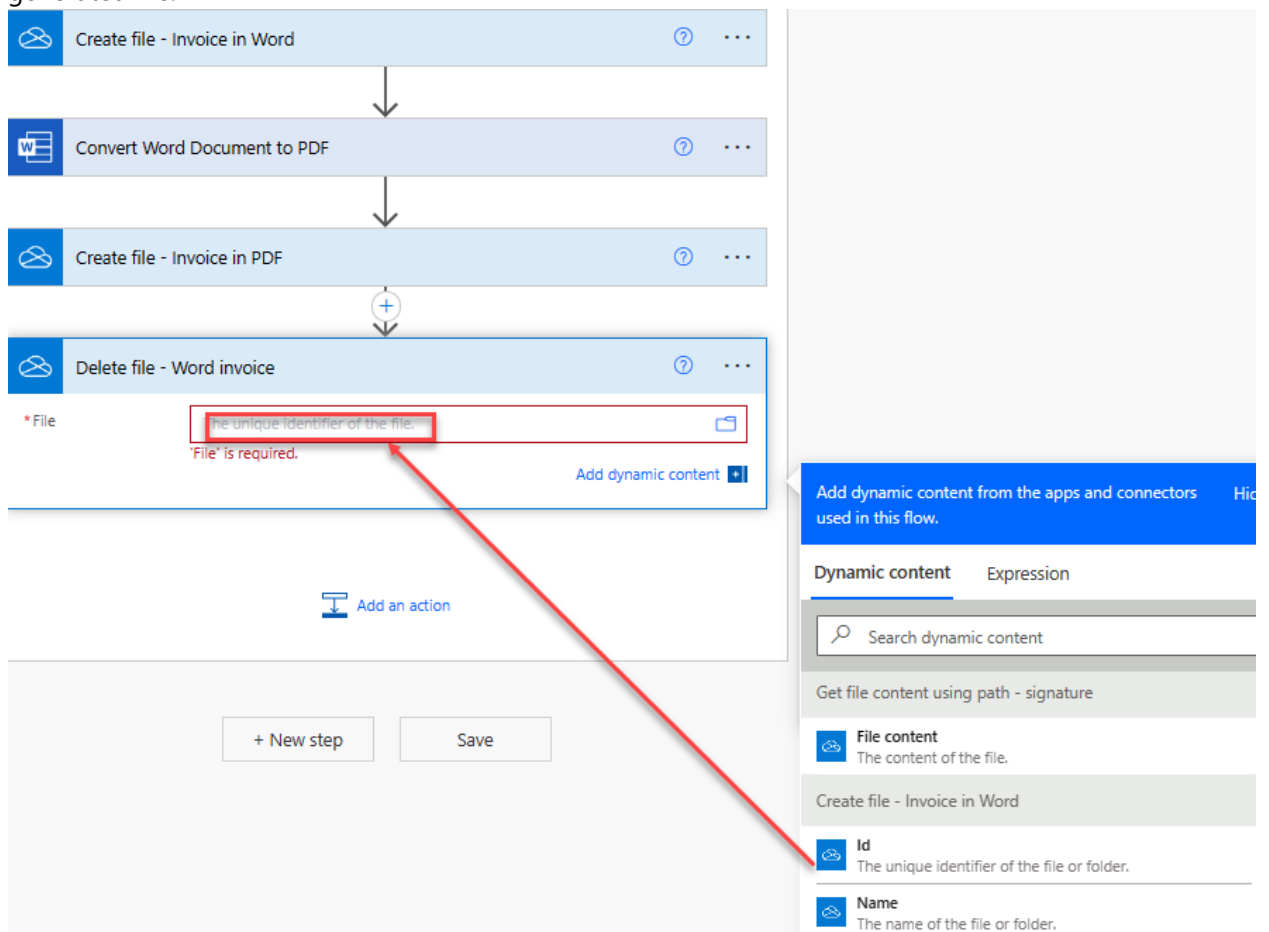
<b>Doctor Flow</b> 133 av Dieweg 1180 Uccle Belgique		<b>INVOICE</b>	
<b>BILL TO</b> Company Name: Contoso Street address: 44 av du Bourget City: Brussels , 1130		<b>INVOICE#</b>	1

Description	Amount
Internal training PowerApps	5
Internal training Flow	4

41. After the **Create file – Invoice in PDF action**, add a Delete file action to remove the Word generated file:



The screenshot shows a Power Automate flow with the following steps:

- Create file - Invoice in Word
- Convert Word Document to PDF
- Create file - Invoice in PDF
- Delete file - Word invoice

In the 'Delete file - Word invoice' step, the 'File' field is highlighted with a red box and contains the text 'The unique identifier of the file.'. Below the field, a red error message states: '\*File\* is required.'. A red arrow points from the 'Id' dynamic content option in the right-hand pane to the 'File' field.

The right-hand pane shows the 'Dynamic content' section with the following options:

- File content: The content of the file.
- Create file - Invoice in Word
- Id: The unique identifier of the file or folder.
- Name: The name of the file or folder.

42.

## We need your feedback

Do you want to report an issue or suggest something? We need your feedback:

<https://github.com/Power-Automate-in-a-day/Training-by-the-community/issues>