

# Lab 7. Document generation with the Word Connector

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

**Updated by:** Dattatray-Patil

**Learning objective:** create a Flow that will generate an invoice (in PDF) based on a Word template and based 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, it will parse the data, and it will 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 Community license (see lab 0).

The files for the lab can be downloaded from the lab GitHub : the file name is

## 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 2 tables:
  - a. The table **invoice** consists of the invoice headers
  - b. The table **invoicelines** consists of the invoice lines
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 next picture:

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

- 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#	

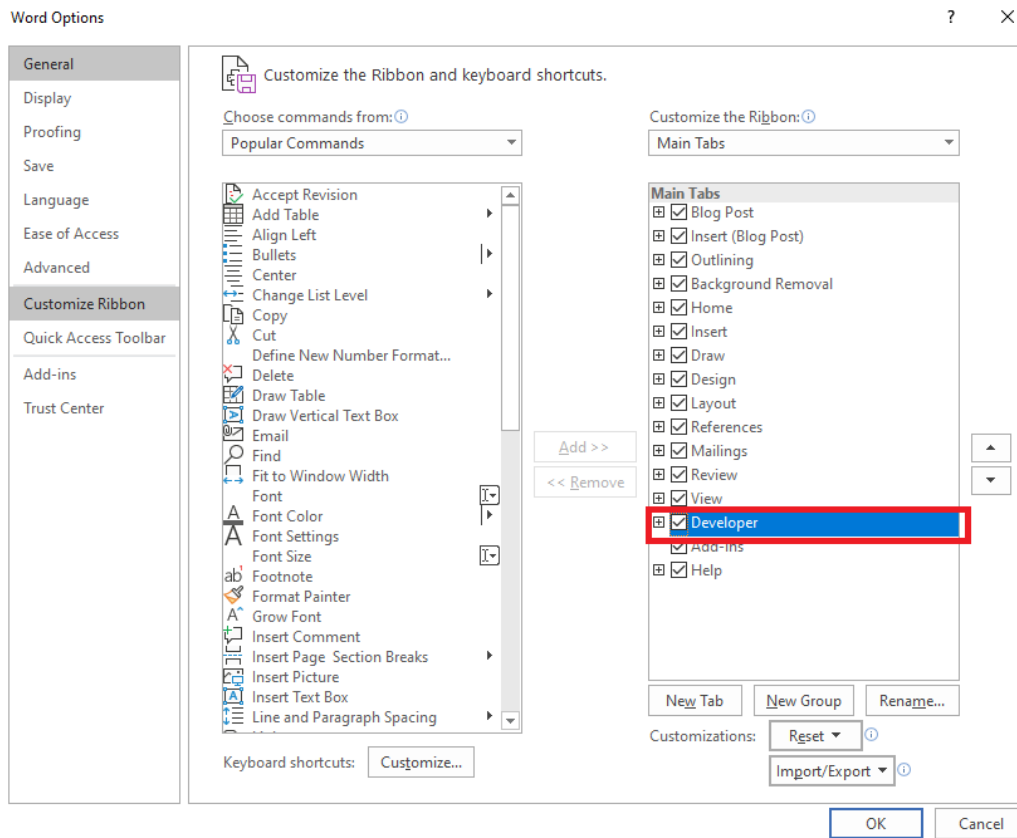
  

(lines)

Description	Amount

The section "header" and "lines" are 2 different tables. The lines section is a table with one row for the header and one row for the data.

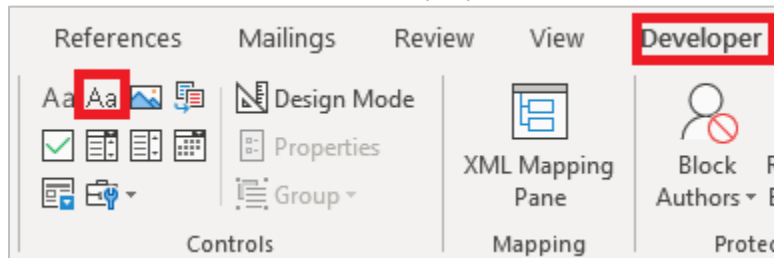
- Go to the Word options, select Customize Ribbon, select **Developer**, and click OK.



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



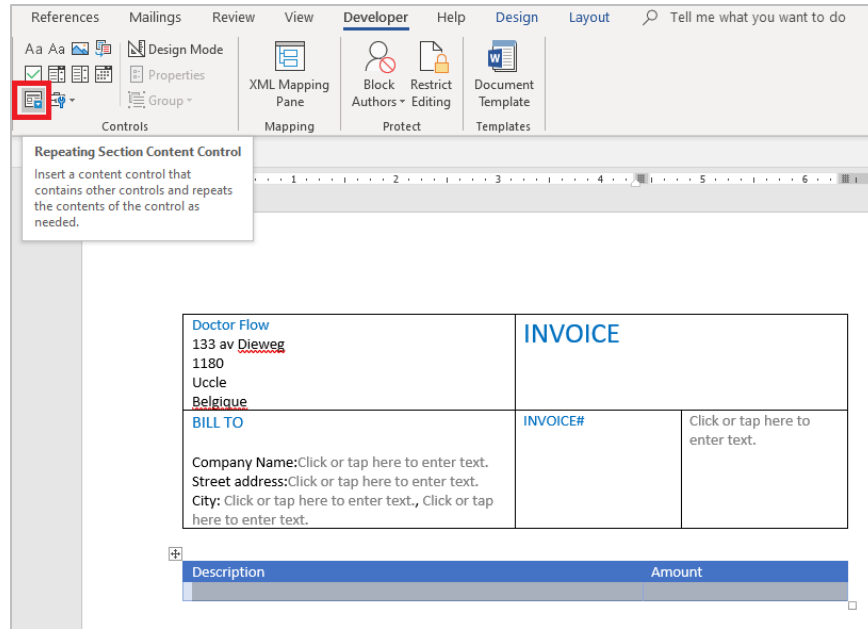
- You will customize the word template, next to each field of the template, we will add a **Word plain text content** control, and we will use the properties button to name them accordingly.



- 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#**; with the properties button, name (Title of Property) the controls **company**, **street**, **City**, **zip**, **invoiceid** as illustrated below:

<p><b>Doctor Flow</b>          133 av <u>Dieweg</u>          1180          Uccle  <u>Belgique</u></p>	<p><b>INVOICE</b></p>	
<p><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. )</p>	<p><b>INVOICE#</b></p>	<p><input type="text" value="invoiceid"/> Click or tap here to enter text. <input type="text" value="invoiceid"/></p>

- 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 2 columns) and add a **Repeating Section Content Control**:



10. In this repeating section, content control, add 2 Plain text content controls and named them **Product** and **Amount**:

<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"/>

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"/>

11. Just after the repeating section add a **Picture content control** that will display the manager signature. Name this control **managersignature**.
12. Eventually, the template should look like this:

<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.		<b>INVOICE#</b>	<input type="text" value="invoiceid"/> Click or tap here to enter text. <input type="text" value="invoiceid"/>
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.			

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"/>

13. Rename the file to **Invoice template.docx**
14. Let's create Flow that starts from a button (Instant cloud flow > Manually trigger a flow).
15. Add an action **Excel Online (Business)- List rows present in a table** , rename it as **Find Invoices** and retrieve the **invoice table** of your **invoice.xlsx** documents:

Manually trigger a flow

**Find Invoices**

**Location\***  
OneDrive for Business

**Document Library\***  
OneDrive

**\* File**  
/Flow Workshop/Invoice.xlsx

**Table\***  
invoice

Show advanced options

16. For each invoice, you will find the corresponding invoice lines: add the **Apply to each** action where you will add another **Excel Online (Business)- List rows present in a table** (rename it **Find InvoiceLines**) that will retrieve the invoicelines table:

Apply to each Invoice

Select an output from previous steps\*

value

**Find InvoiceLines**

**Location\***  
OneDrive for Business

**Document Library\***  
OneDrive

**\* File**  
/Flow Workshop/Invoice.xlsx

**Table\***  
invoicelines

Show advanced options

In the Excel for business action

17. You need to filter the retrieved lines. Click the **Show advanced options** and in the **Filter Query** field, type **Invoice eq.**

↺

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 "

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

^

18. Move the cursor between the " and add the expression **items('Apply\_to\_each')['InvoiceID']** then click ok:

Expression

List of functions X

Search content from previous steps

Get file content using path

File content  
Sample data not available

Find Invoices

InvoiceID  
Sample data not available

Invoice eq

Add an expression

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 ^



Apply to each

Select an output from previous steps

value

List rows present in a invoice table

LocationOneDrive for Business

Document LibraryOneDrive

File/Invoice.xlsx

Tableinvoicelines

Filter QueryInvoiceID eq 'fx items(...)'

Expression

List of functions

items('Apply\_to\_each')['InvoiceID']

Dynamic Value

Search content from previous steps

List rows present in a invoice table

InvoiceID

↶

Apply to each Invoice

⋮

Select an output from previous steps \*

value

×

Find InvoiceLines

ⓘ

⋮

Location \*

OneDrive for Business

▼

Document Library \*

OneDrive

▼

\* File

/Flow Workshop/Invoice.xlsx

Table \*

invoicelines

▼

Filter Query

⚙

fx

Invoice eq 'fx items(...)'

×

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

⤴

19. 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 field with the Excel values:

The screenshot shows the configuration for the 'Populate a Microsoft Word template' action. At the top, a connector bar indicates the action is applied to 'each Invoice'. Below this, a section titled 'Select an output from previous steps\*' contains a field for 'value' with a dropdown arrow. The main configuration area for the 'Populate a Microsoft Word template' action includes the following fields:

- Location\***: A dropdown menu set to 'OneDrive for Business'.
- Document Library\***: A dropdown menu set to 'OneDrive'.
- \* File**: A text field containing '/Flow Workshop/Invoice Template.docx' with a folder icon on the right.
- managersignature**: A text field with a formula icon and a function icon on the right.
- Invoiceid**: A text field with a dropdown arrow and a close button.
- company**: A text field with a dropdown arrow and a close button.
- lineitems**: A text field with a table icon on the right, enclosed in a dashed border.
- street**: A text field with a dropdown arrow and a close button.
- city**: A text field with a dropdown arrow and a close button.
- zip**: A text field with a dropdown arrow and a close button.

20. 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 it Create Word file.
21. Fill in the File Content from with the output of the previous action and dynamically generate the file name:

**Create Word file**

\* Folder Path: /Documents

\* File Name: invoice\_ InvoiceID .docx

\* File Content: Microsoft Word document

22. Add an action Convert Word Document to PDF and grab the path of the generated file
23. Add a **OneDrive for Business Create file action** to create the pdf file and pass the body of the previous action. The next 2 actions should look like this:

**Create Word file**

\* Folder Path: /Flow Workshop

**File Name \***: Invoice\_ InvoiceID .docx

**File Content \***: Microsoft Word document

↓

**Convert Word Document to PDF**

**Location \***: OneDrive for Business

**Document Library \***: OneDrive

\* File: Path

↓

**Create PDF file**

\* Folder Path: /Flow Workshop

**File Name \***: invoice\_ InvoiceID .pdf

**File Content \***: PDF document

24. 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>	
	<b>INVOICE#</b>	1

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

25. You will now update the Flow to implement the line items. 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**

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

Apply to each Invoice

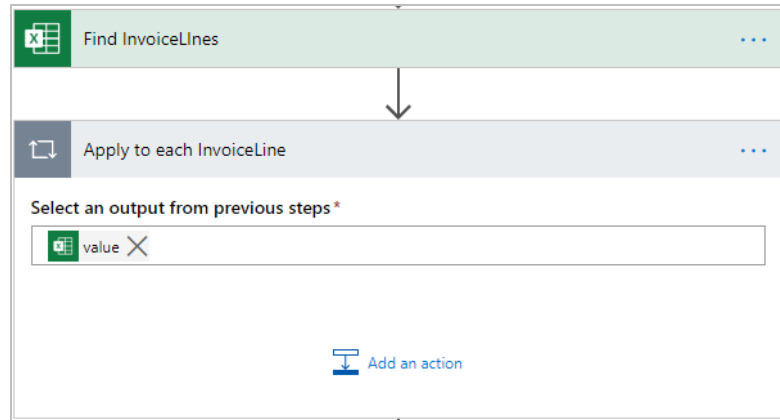
**Select an output from previous steps \***

Set variable invoiceLines to empty

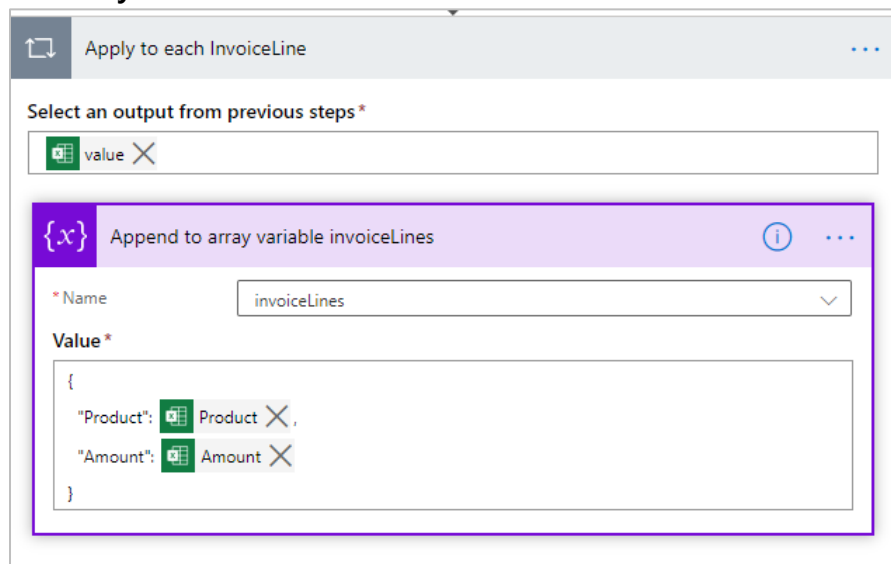
**Name \***

**Value \***

27. After the Find **InvoiceLines** action, **add an Apply to each Invoice** to go through every invoice lines:



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



29. 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**

**Location\***  
OneDrive for Business

**Document Library\***  
OneDrive

\* File: /Flow Workshop/Invoice Template.docx

**managersignature**  
[Empty text box]

**Invoiceid**  
[InvoiceID X]

**company**  
[Company Name X]

**lineitems**  
[Empty text box]

**street**  
[Street X]

**city**  
[City X]

**zip**  
[Zip X]

30. Store your array in this area:

**Populate a Microsoft Word template**

**Location\***  
OneDrive for Business

**Document Library\***  
OneDrive

\* File: /Flow Workshop/Invoice Template.docx

**managersignature**  
[Empty text box]

**Invoiceid**  
[InvoiceID X]

**company**  
[Company Name X]

**lineitems**  
[({x}) invoiceLines x] [Add dynamic content]

**street**  
[Street X]

**city**  
[City X]

**zip**  
[Zip X]

**Dynamic content**  
Variables  
(x) invoiceLines

31. 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

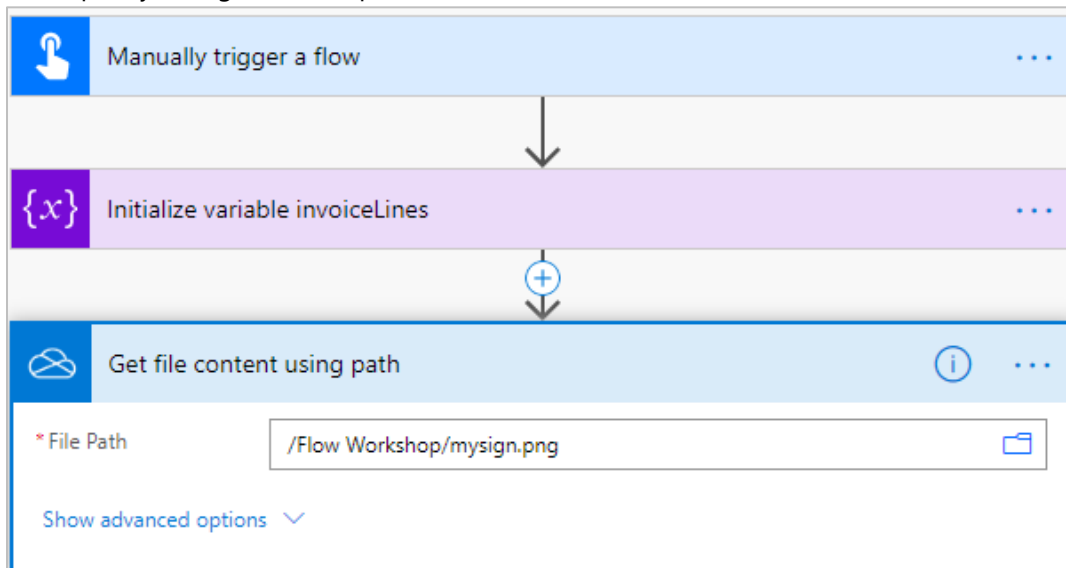
  

32. We will now display the signature portion of the document. Create a jpeg file with your name and signature, and upload it the Documents folder of your OneDrive for business. For instance, our signature looks like this:

Dr Flow



33. 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]
  
```

The flow diagram shows the following steps:

- Manually trigger a flow** (Blue step)
- Initialize variable invoiceLines** (Purple step)
- Get file content using path** (Blue step)

The third step, "Get file content using path", has the following configuration:

- \* File Path:** /Flow Workshop/mysign.png
- Show advanced options:** (dropdown arrow)



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

The screenshot shows the configuration interface for the 'Populate a Microsoft Word template' action. The 'Location' is set to 'OneDrive for Business' and the 'Document Library' is 'OneDrive'. The file path is '/Flow Workshop/Invoice Template.docx'. The 'managersignature' field is being edited, and a dynamic value is being inserted. The dynamic value list shows several options, including 'File content', which is highlighted by a red arrow.

Location \*

OneDrive for Business

Document Library \*

OneDrive

\* File /Flow Workshop/Invoice Template.docx

managersignature

File content X Insert a dynamic value

Dynamic Value Learn more X

Search contents from previous steps


Amount	Sample data not available	i
Price	Sample data not available	i
Total	Sample data not available	i
Get file content using path		v
File content	Sample data not available	i

35. Test your Flow and check one the generated document, the signature should now be visible:

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

Description	Amount
Internal training PowerApps	5
Internal training Flow	4

## We need your feedback

Do you want to report an issue or to suggest something? We need your feedback:  
<https://github.com/Power-Automate-in-a-day/Training-by-the-community/issues>