Microsoft

Robotic Process Automation in a Day

Lab 9 – Web automation using Power Automate Desktop

90 mins

October 2021

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Lab Overview

You will complete the following tasks in this lab:

- **Exercise 1 – Build a Power Automate Desktop subflow to write notes into Microsoft Excel**
    - Create a process with fixed value variables.
    - Test and run this process.
- **Exercise 2 – Web automation using Power Automate Desktop**
    - Web data scraping and writing to Microsoft Excel.
    - Test and run this process.

Prerequisites

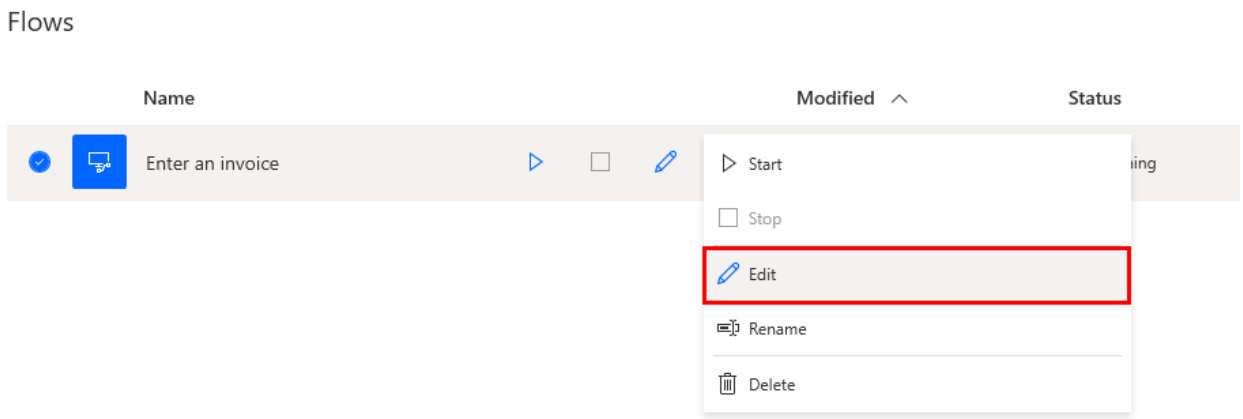
Please complete **lab 1.1, pre-requisite task 3: Start per user plan with attended RPA trial license** and **lab 1.3, installation of Power Automate Desktop**. To use Power Automate Desktop, a user must own either a **trial** or **paid** per user plan with attended RPA.

Before doing the exercises, please complete **Lab 3**.

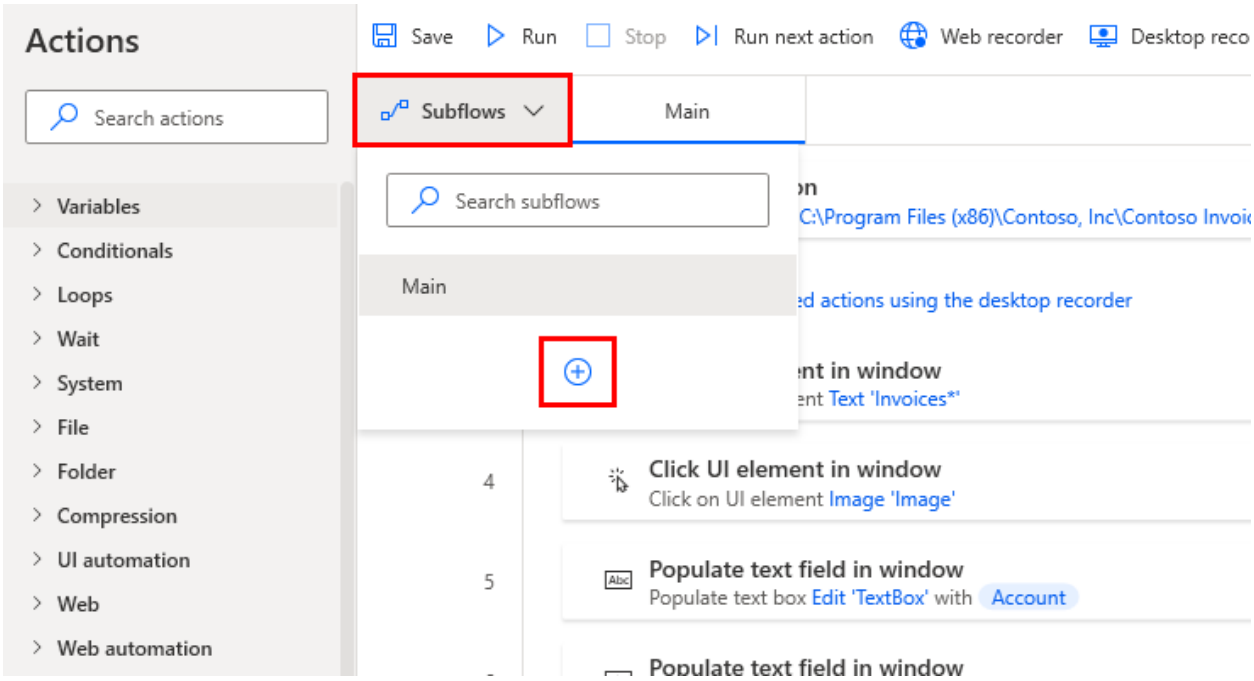
Exercise 1 - Build a Power Automate Desktop subflow to write notes into Microsoft Excel

In this exercise we will create a process in Power Automate Desktop which will write the values of variables that we already created earlier into a Microsoft Excel file.

1. In **Power Automate Desktop**, Edit **Enter an invoice** flow you created by clicking **...** icon and select **Edit**.

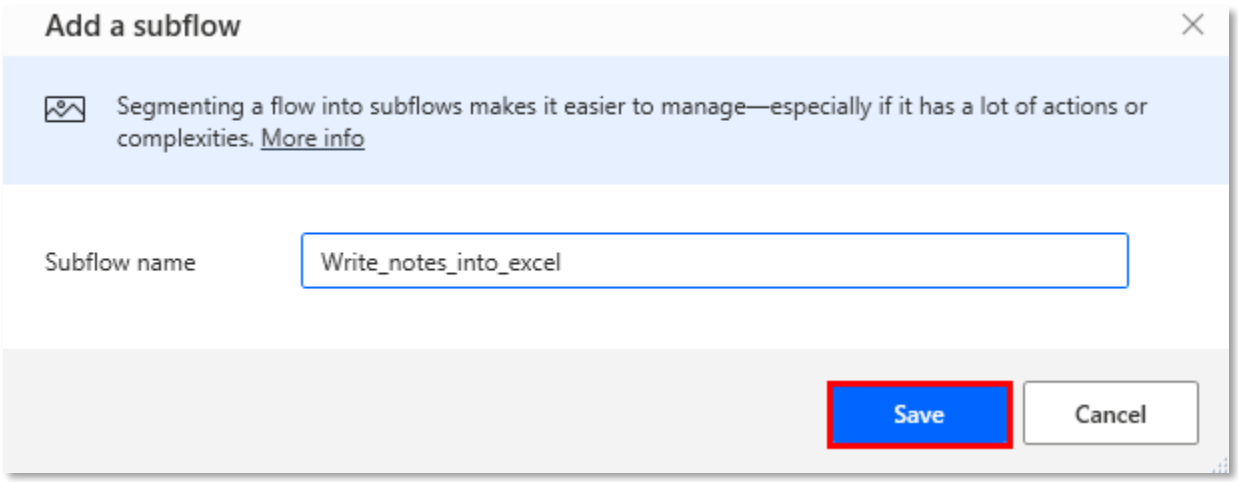


2. Click **Subflows** > to create a subflow for Enter an invoice.

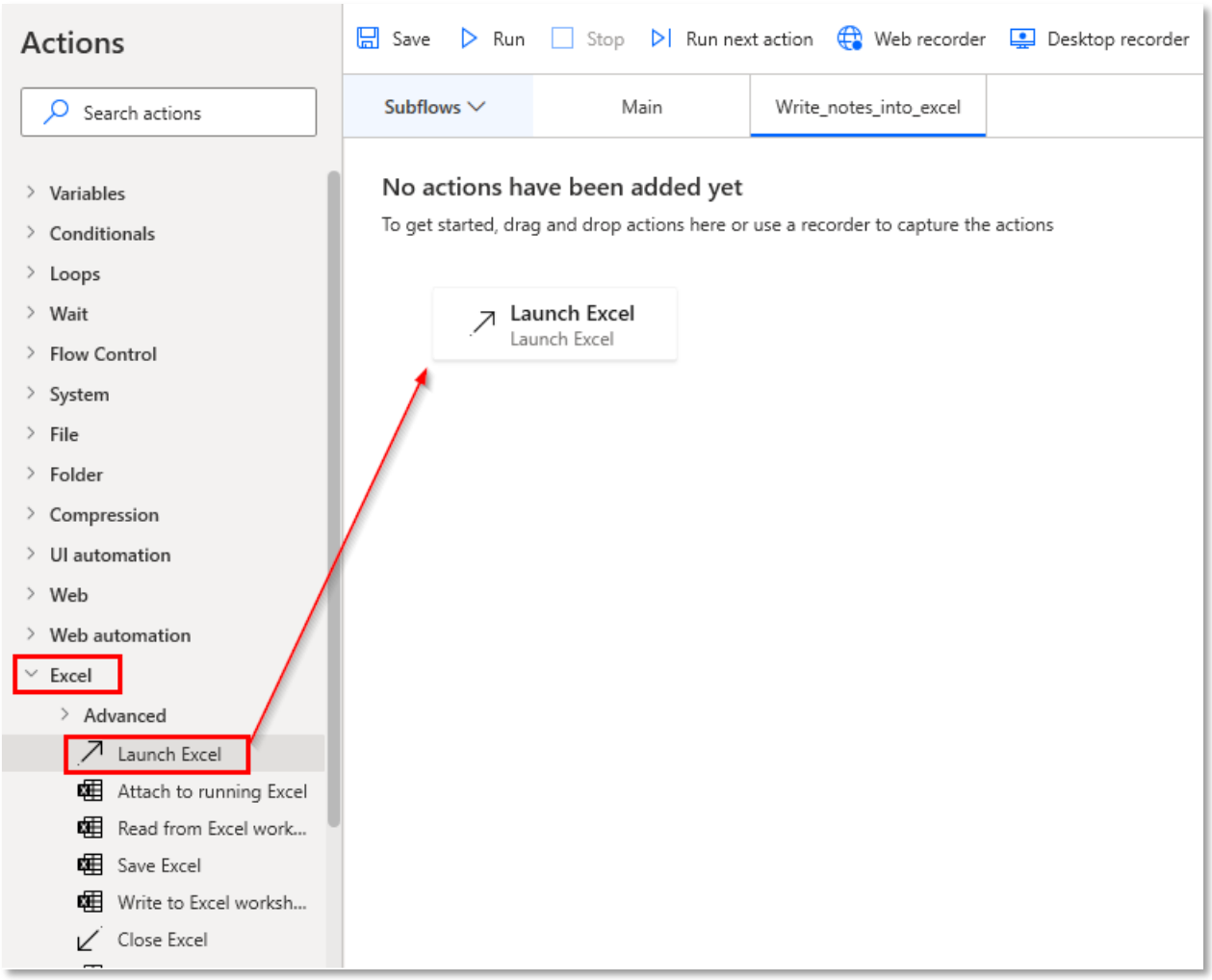


3. Name it **Write_notes_into_excel**. Click **Save**.

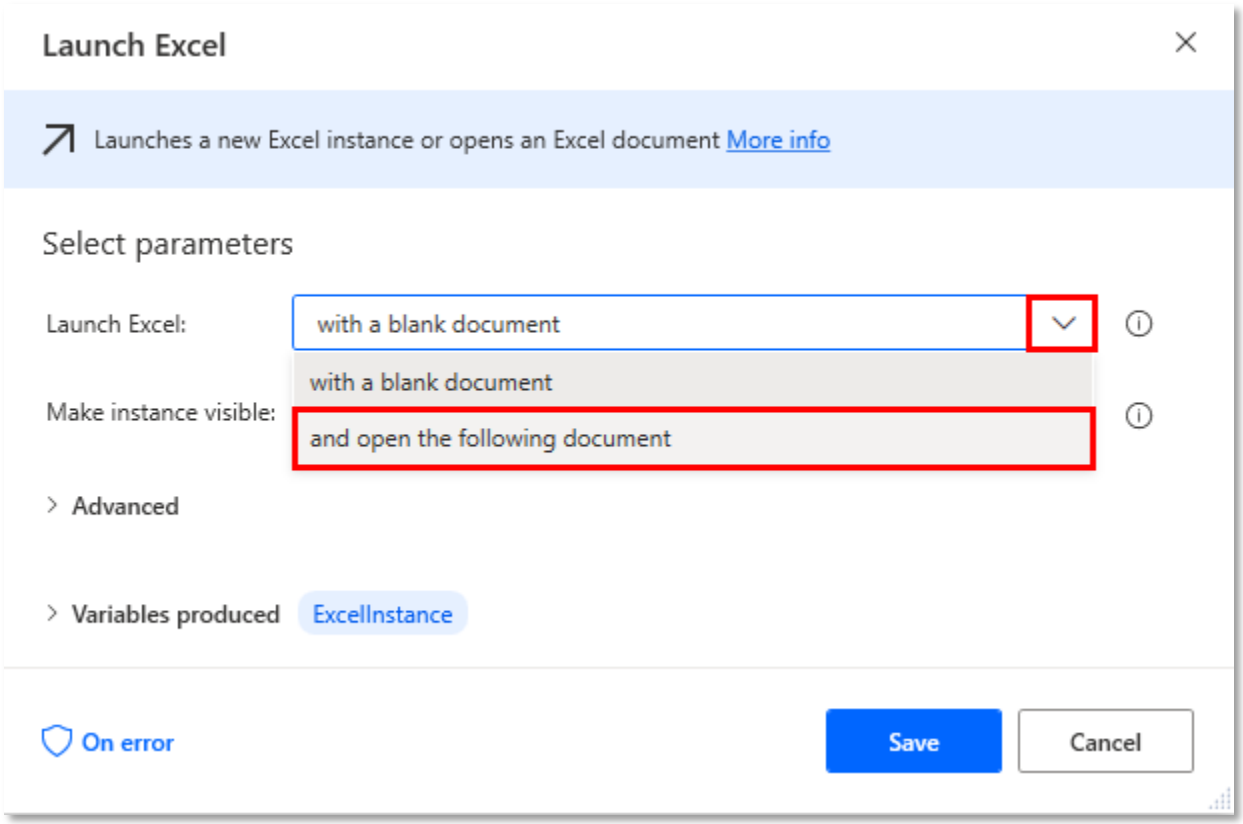
   Note: Subflow name can't have spaces

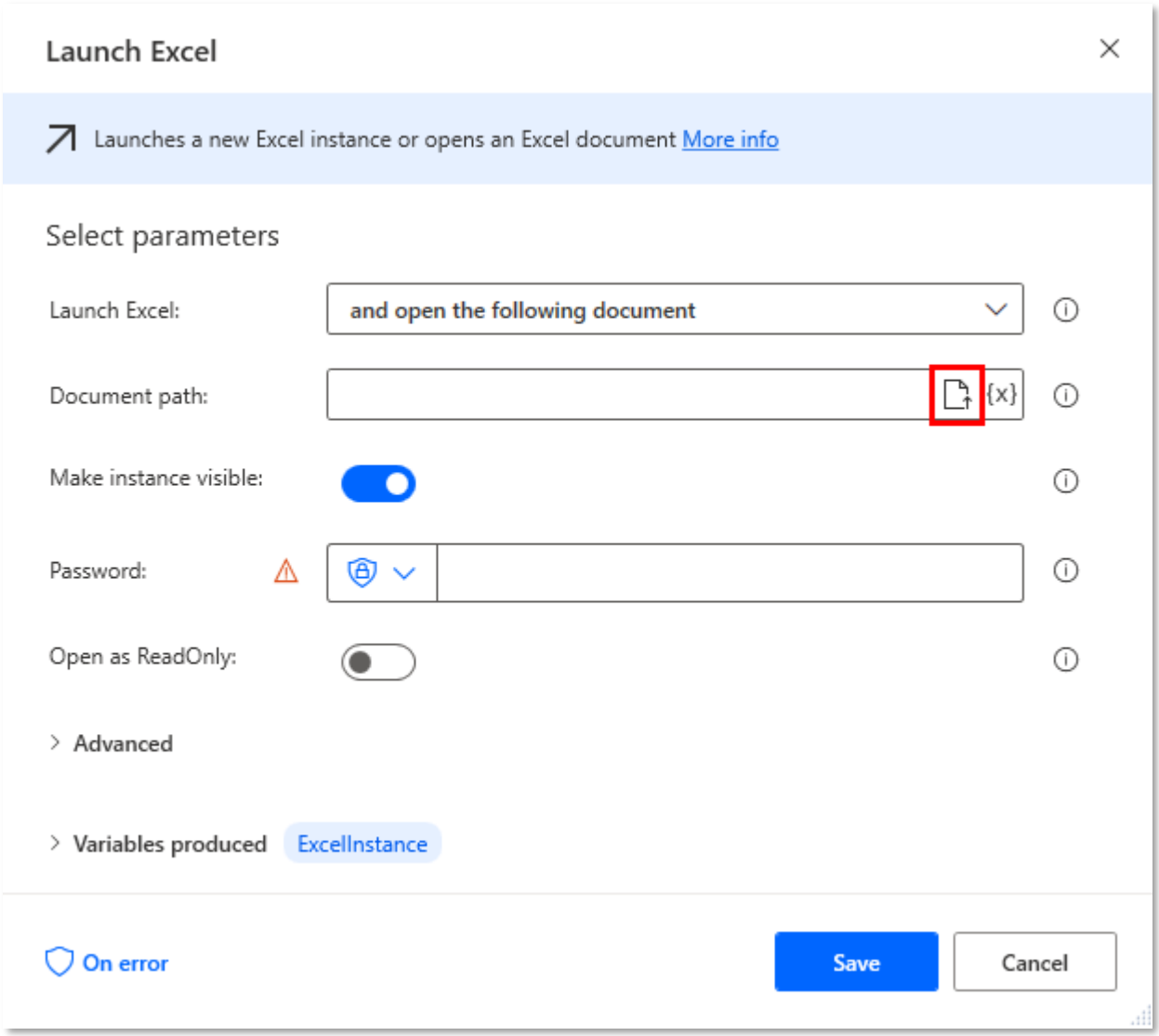


4. Drag and drop the **Launch Excel Action** from the **Excel** folder.

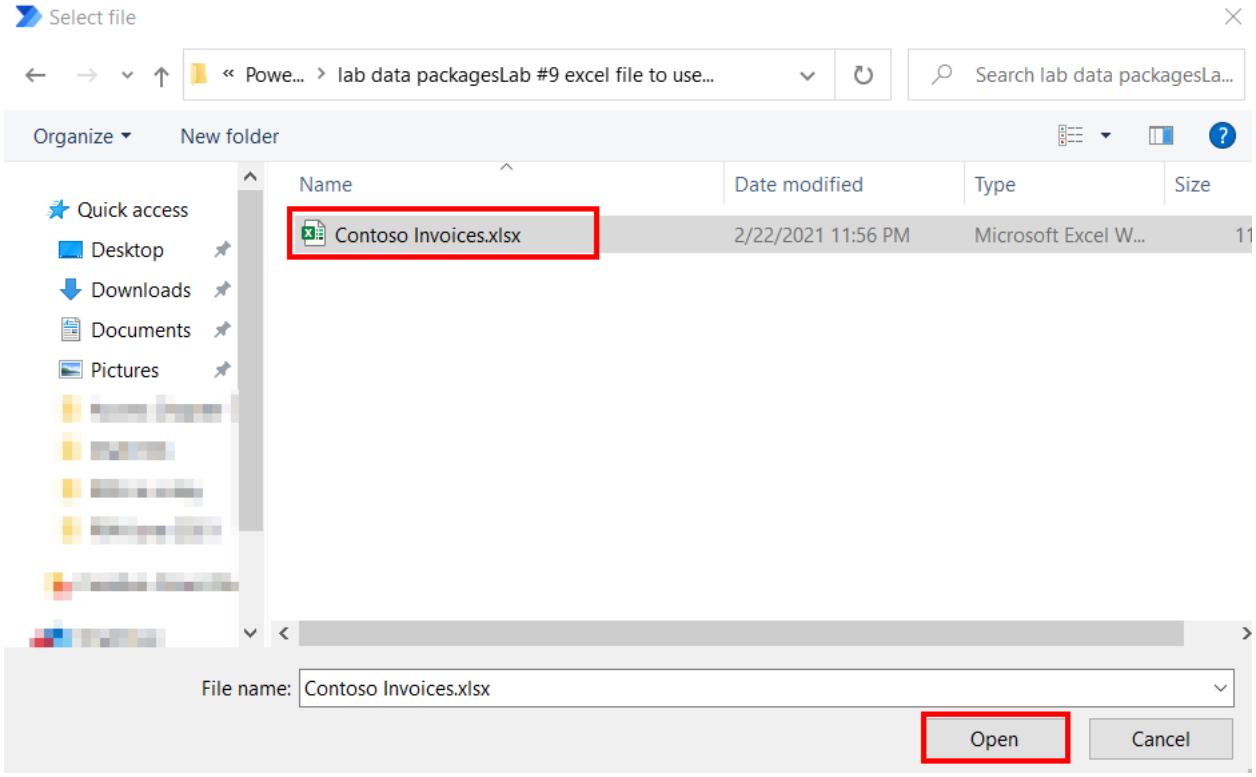


5. Set **Launch Excel** to **and open the following document** and click on the **Select File** icon.

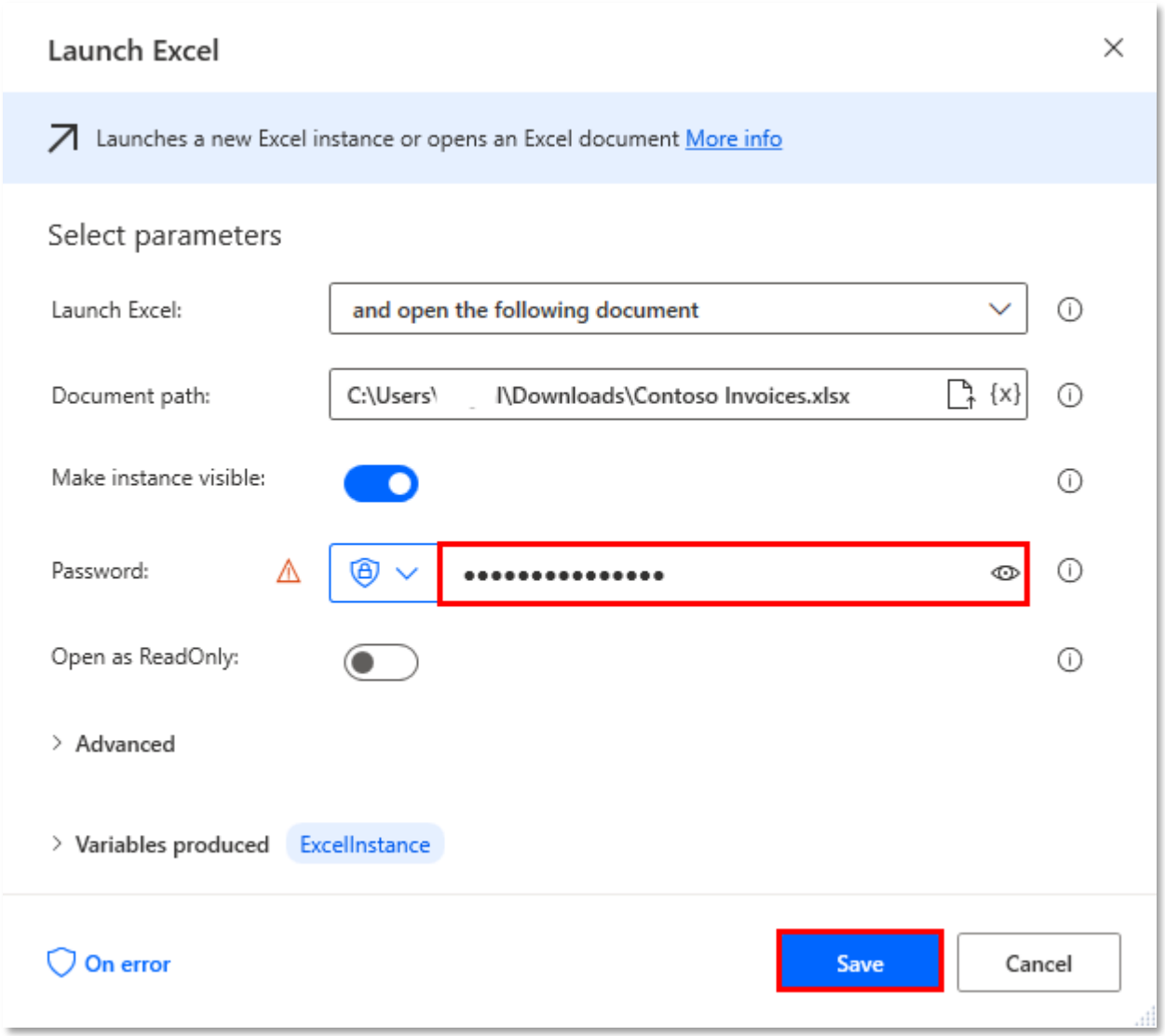



Launch Excel
Launches a new Excel instance or opens an Excel document More info
Select parameters
Launch Excel:
and open the following document
Document path:
{x}
Make instance visible:
Password:
Open as ReadOnly:
Advanced
Variables produced
ExcelInstance
On error
Save
Cancel

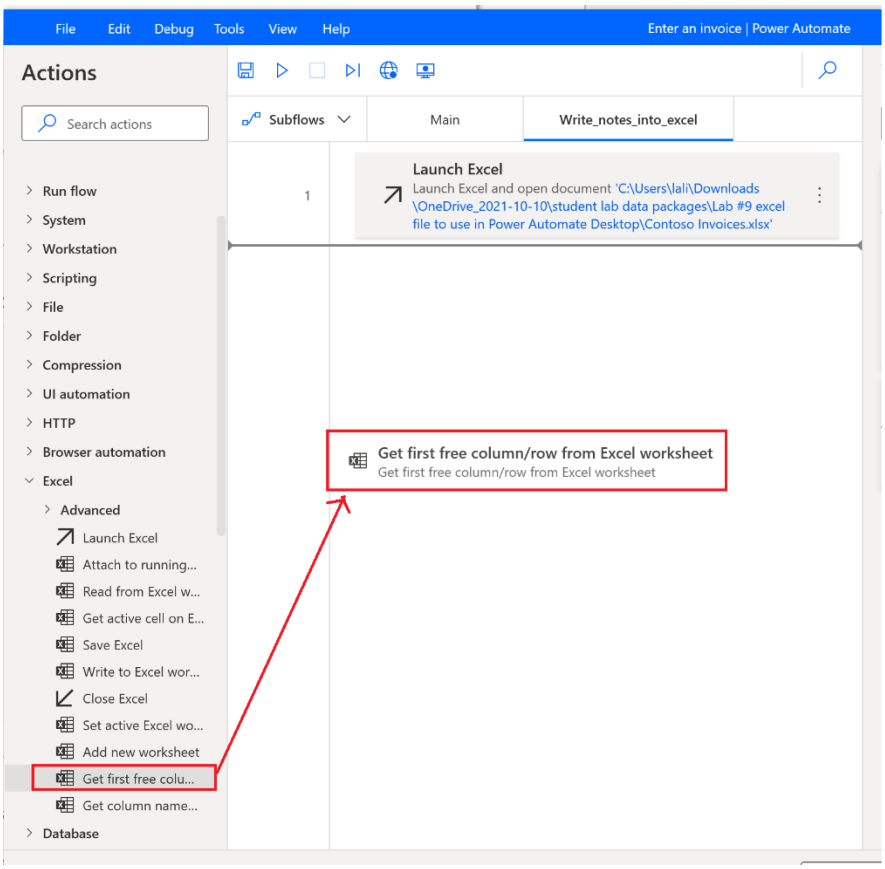
6. Save the file **Contoso Invoices.xlsx** that you can find inside **lab data packages/Lab #9 excel file to use in Power Automate Desktop** folder to the folder of your choice, then browse for it in this dialog, select it and click **Open**.



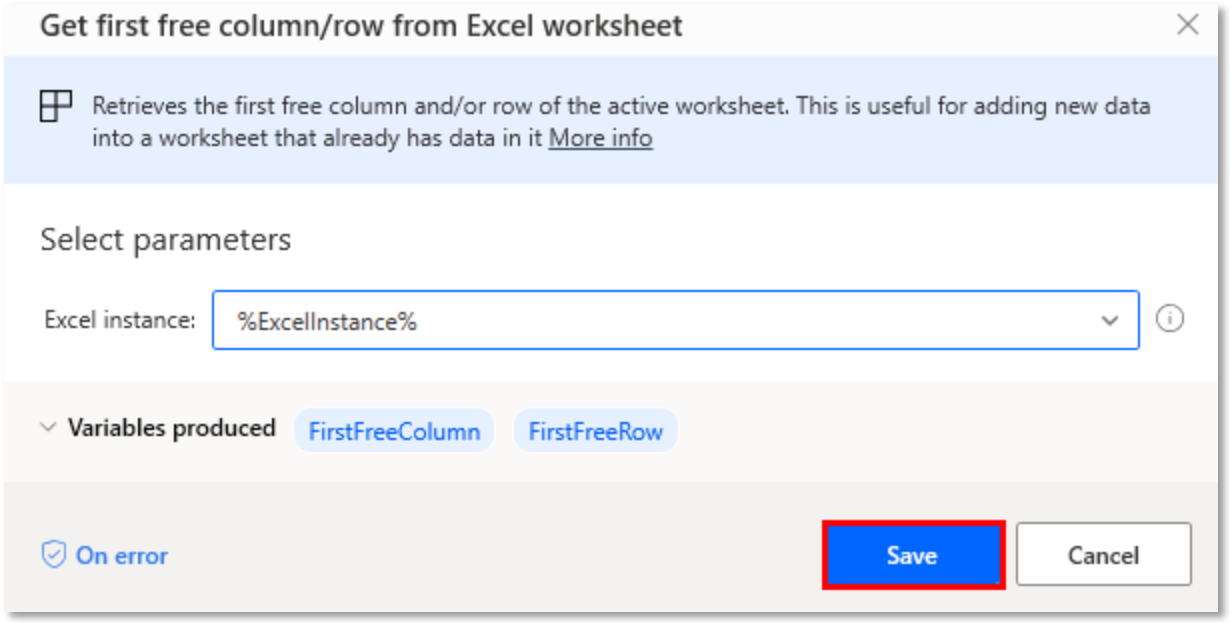
7. **Information Only** – Our spreadsheet does not contain a password. However, if our spreadsheet did, we could provide a **password** in this field. Then click **Save**.



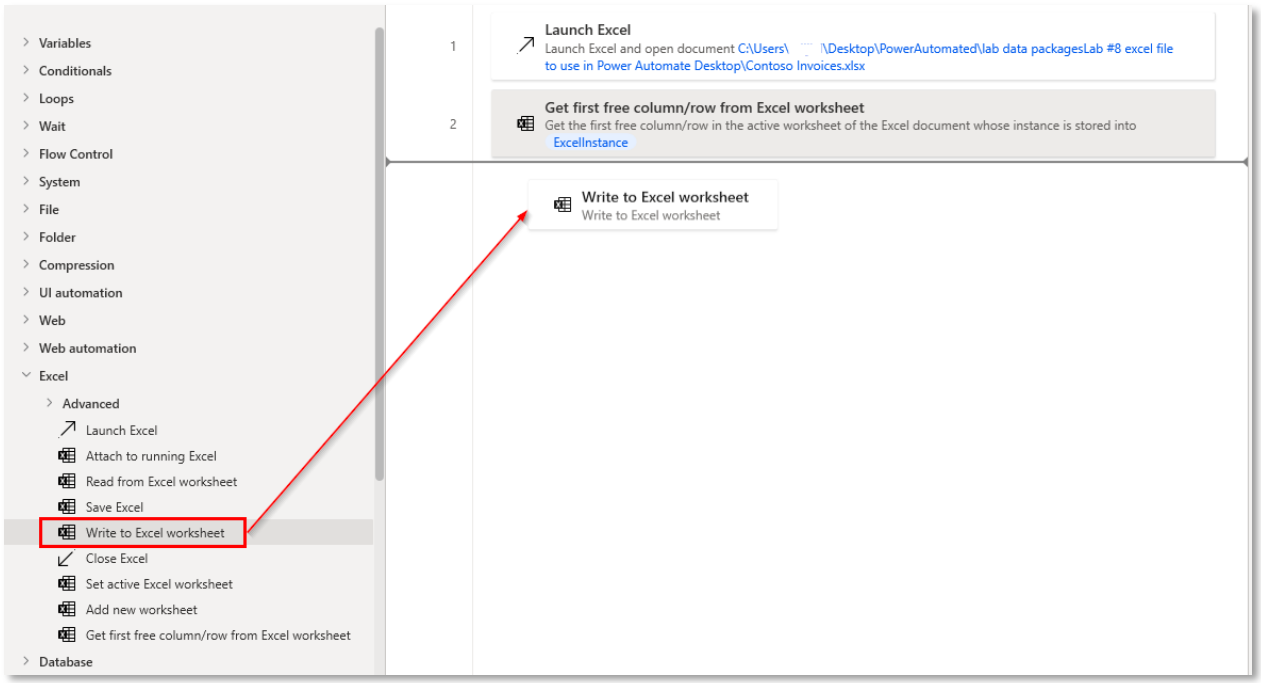
8. Drag and drop the **Get First Free Column/Row from Excel Worksheet** action from the **Excel** folder.



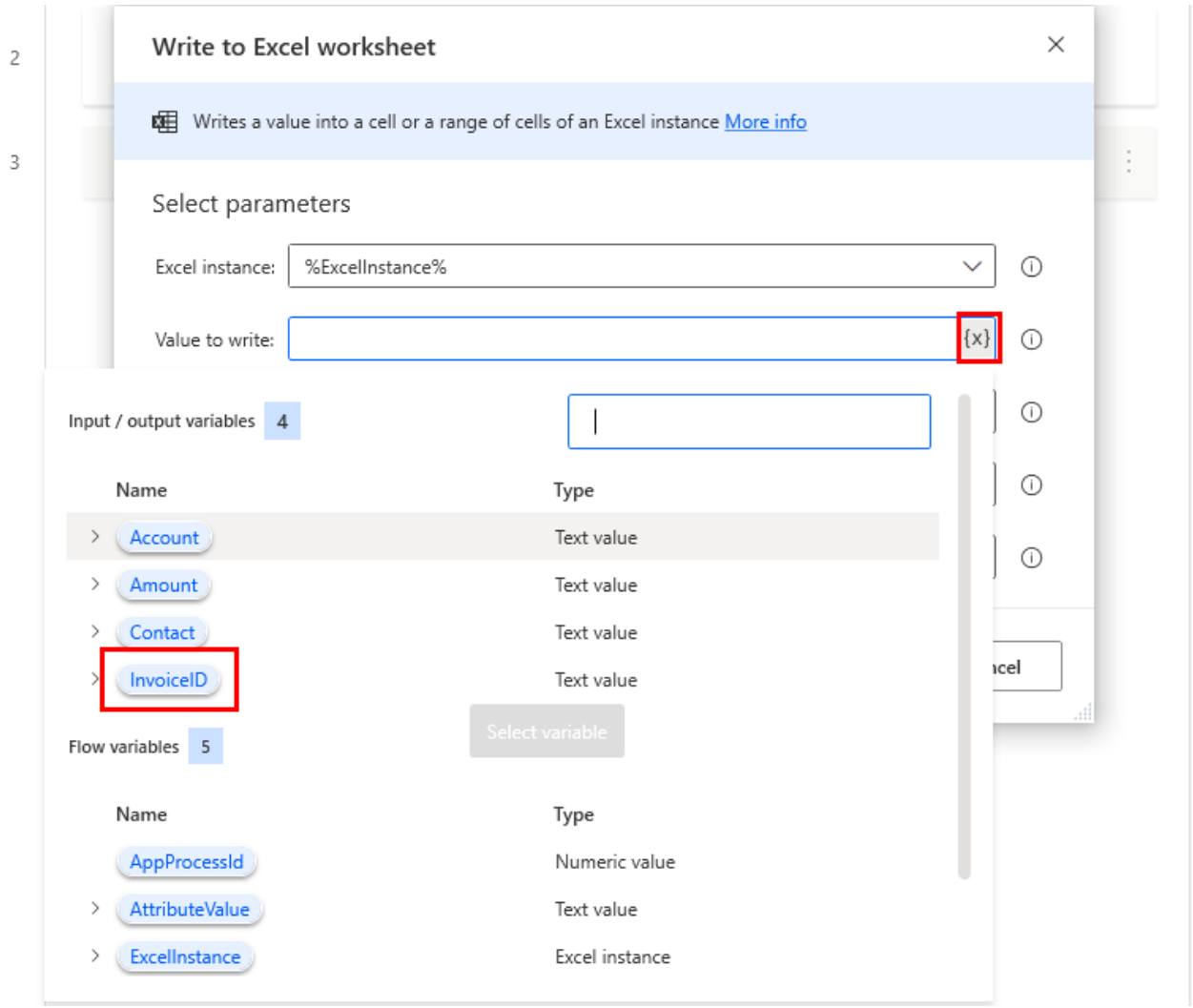
9. In the Action Properties, we will use the default settings for this action. Click **Save** to add it to the design surface. This action will retrieve the number of the first free row and the first free column and store them into variables.



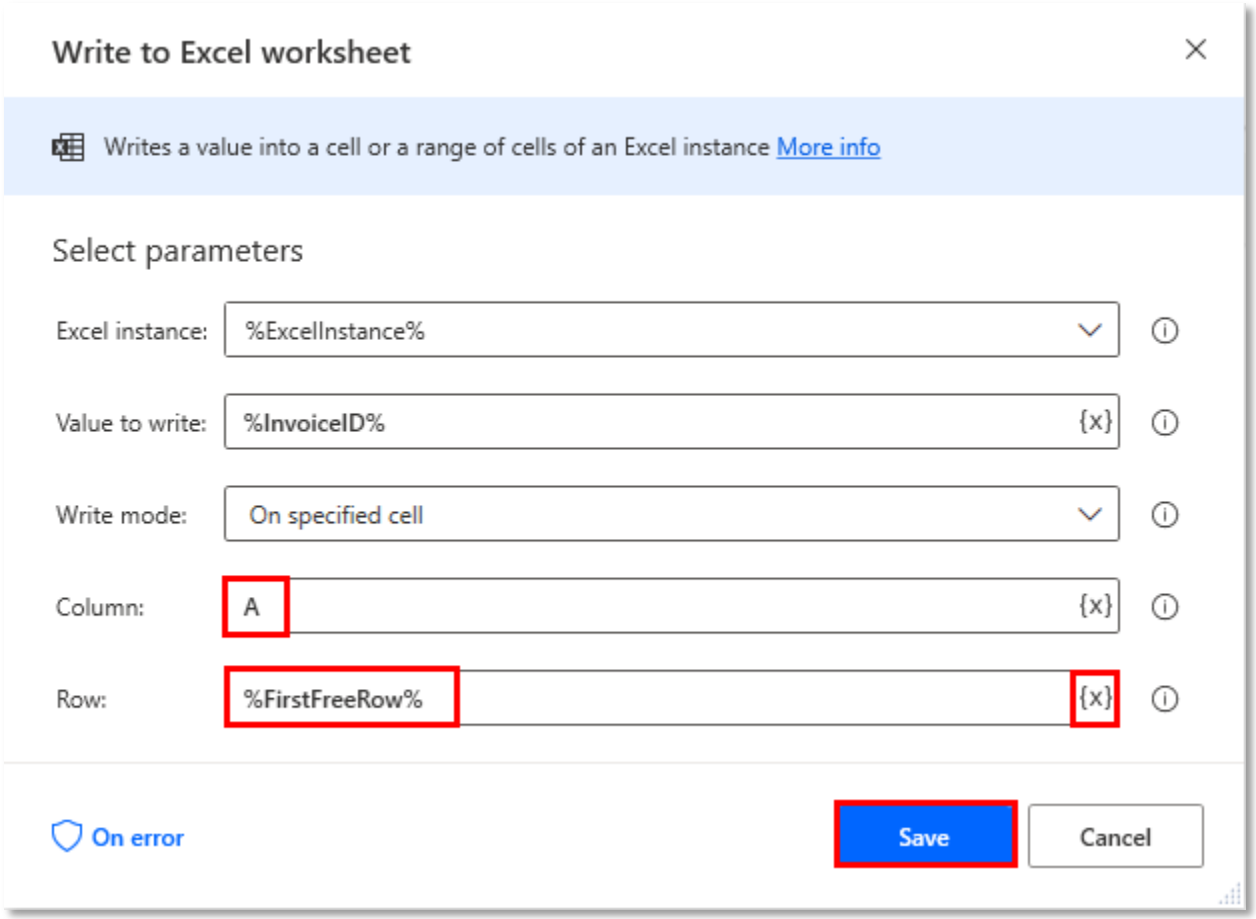
10. Drag and drop the **Write to Excel Worksheet** action from the **Excel** folder.



11. In the Action Properties, in **Value to write**, open the **Available Variables** by clicking on the {x} icon, double click **InvoiceID**.


2
3
Write to Excel worksheet
Writes a value into a cell or a range of cells of an Excel instance More info
Select parameters
Excel instance:
%ExcelInstance%
Value to write:
{x}
Input / output variables 4
Name
Type
Account
Text value
Amount
Text value
Contact
Text value
InvoiceID
Text value
Select variable
Flow variables 5
Name
Type
AppProcessId
Numeric value
AttributeValue
Text value
ExcelInstance
Excel instance

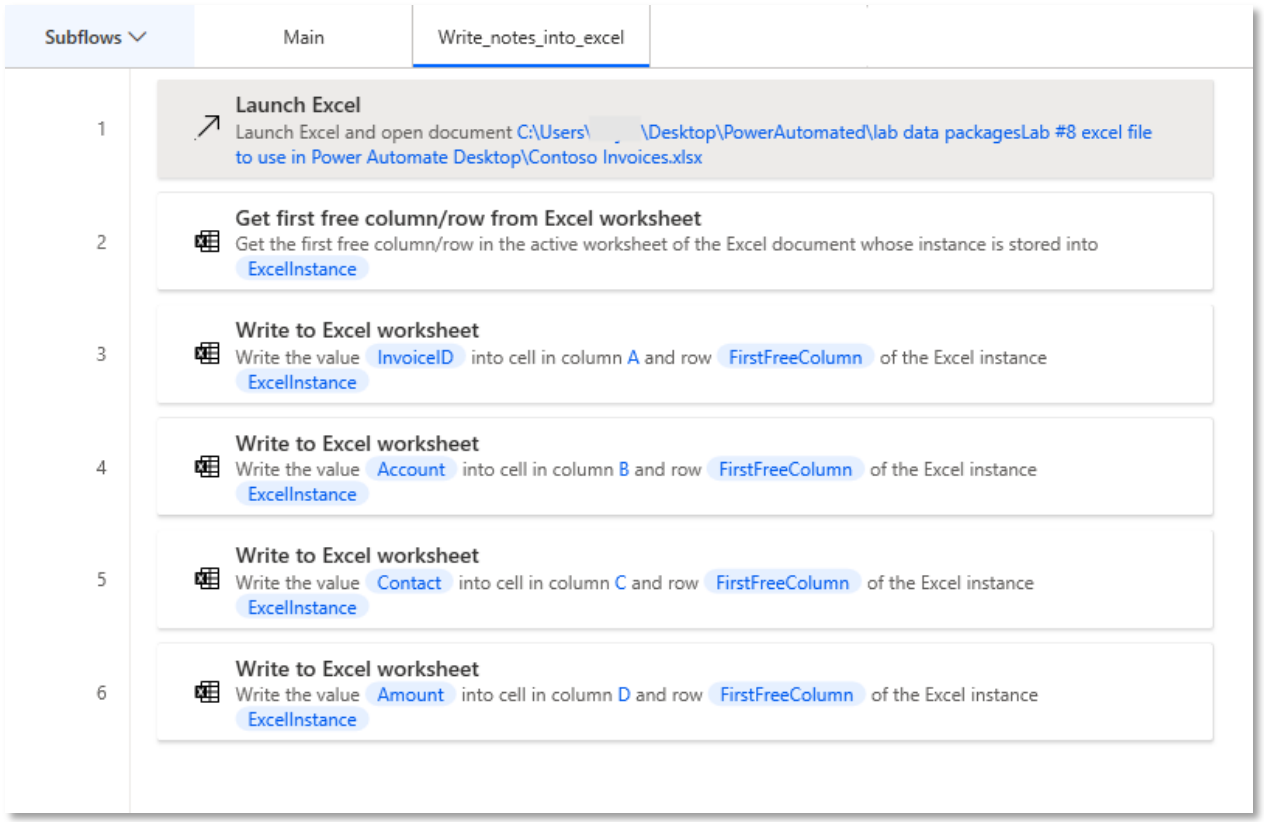
12. Enter **A** and in field **Column**, then in **Row**, click on the corresponding {x} icon, and select **%FirstFreeRow%**. Click **Save**



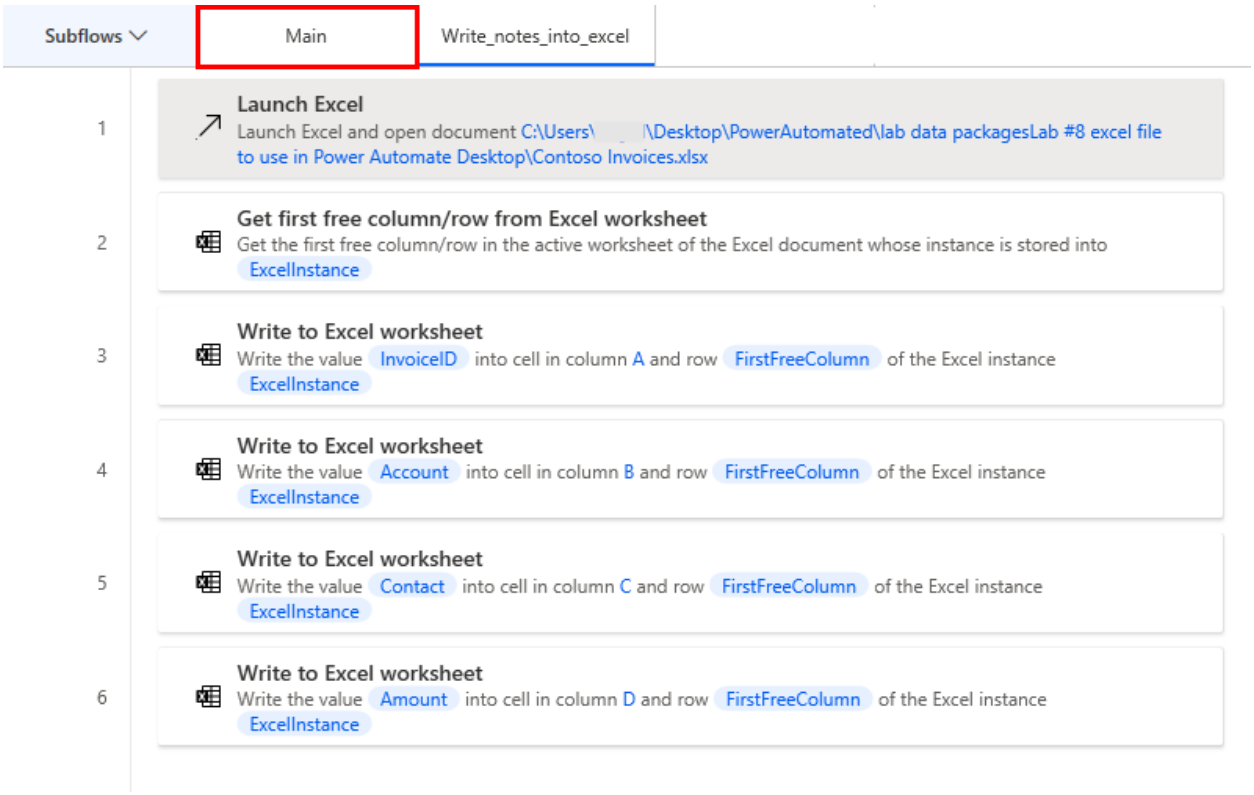
13. Repeat the three previous steps, writing values of variables to cells as the table below. For all Columns, Row must be set to **%FirstFreeRow%**.

Value to Write	Column	Row
%Account%	B	%FirstFreeRow%
%Contact%	C	%FirstFreeRow%
%Amount%	D	%FirstFreeRow%

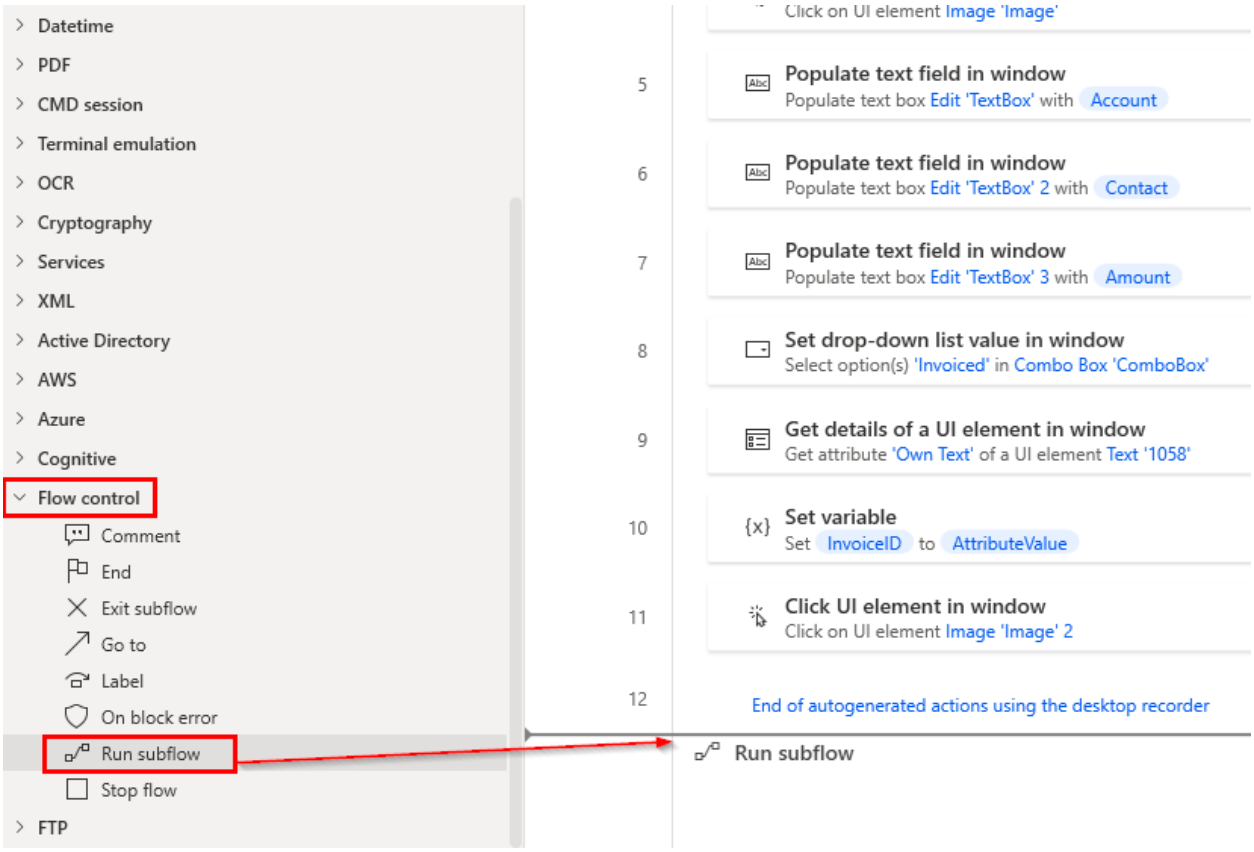
14. When all the steps above have been completed, your subflow for writing notes into Excel should look like this:



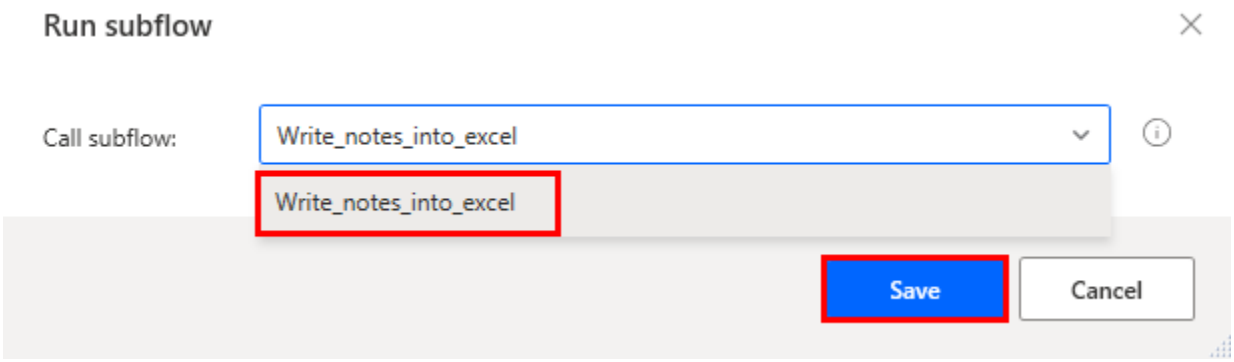
15. Click the **Save** button and then go back to your Main flow by clicking **Main**.



16. Drag and drop the **Run subflow** action from **Flow Control** folder under **Step 12**.



17. Call **Write_notes_into_excel** subflow you just created. Then click **Save**.



18. Click on the **Save** button to save the flow.

19. You can now run your flow by clicking **Run**.
20. After the automation run, check the Excel file and you will see the following entry should have been added:

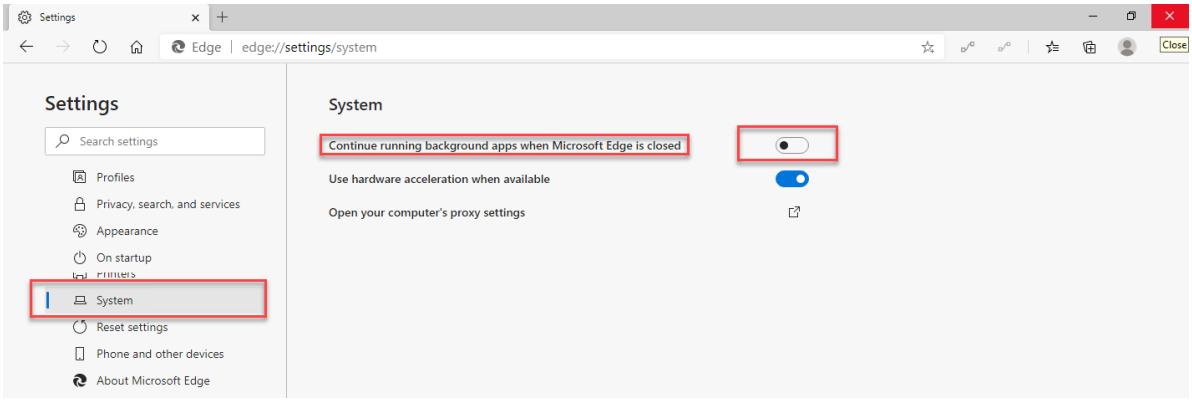
1026	WingTip Toys	b.friday@wingtiptoys.com	$500.00

Note: You may see a different invoice ID here.

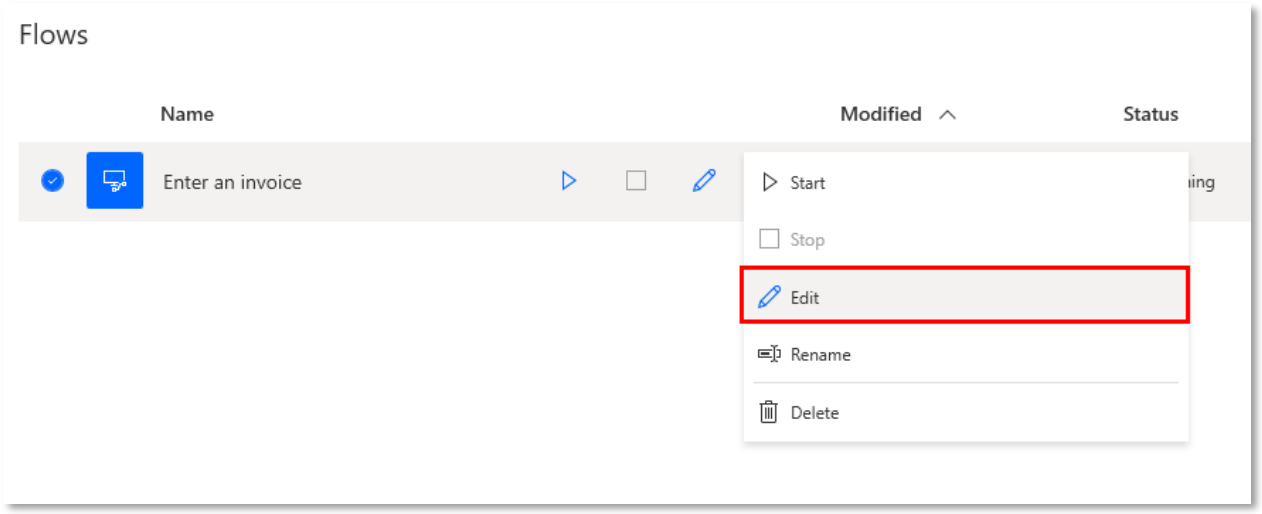
Exercise 2 - Advanced Power Automate Desktop features

In this exercise, we will use the web automation to convert the total amount into another currency and add that converted to the Excel document.

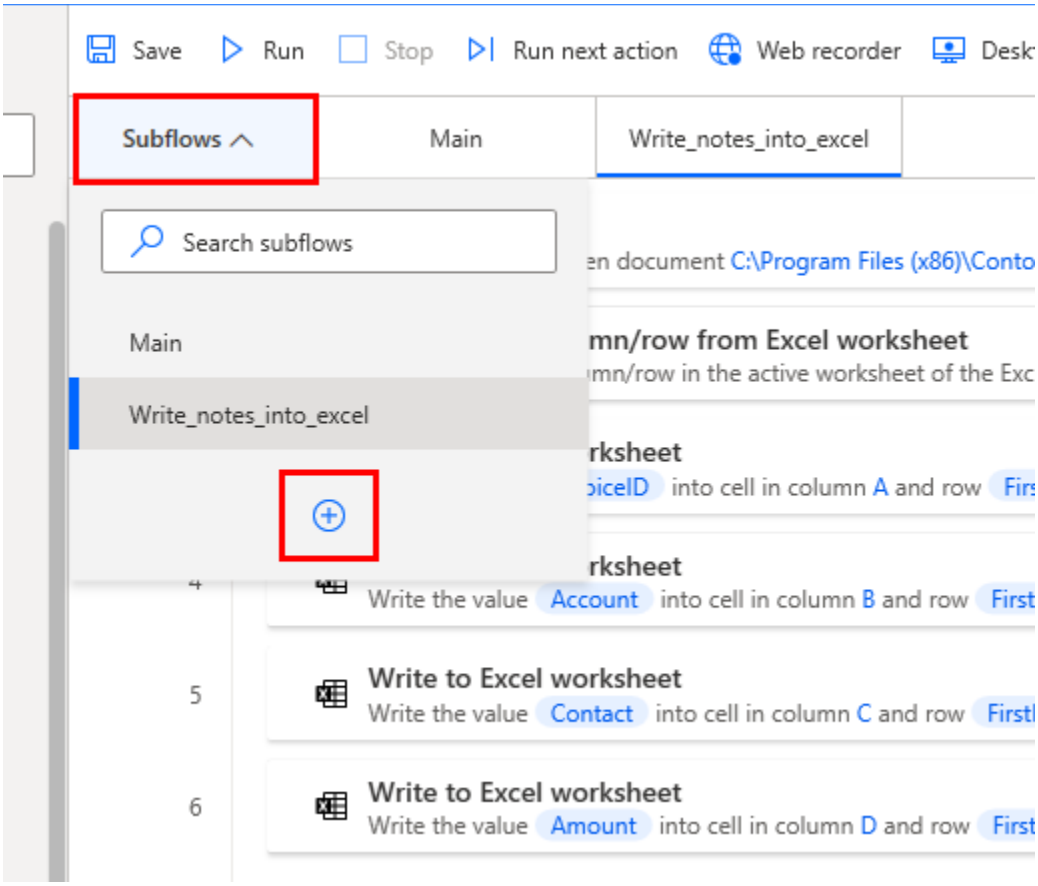
1. Open **Microsoft Edge** (Chromium)**,** enter this in the browser URL address bar: **edge://settings/system.** This will bring you to the **Settings** then **System page.** Uncheck **Continue running background apps when Microsoft Edge is closed.** Close all browser tabs and sessions before you proceed.



2. In **Power Automate Desktop**, Edit **Enter an invoice** flow you created by clicking **…** icon and select **Edit**.

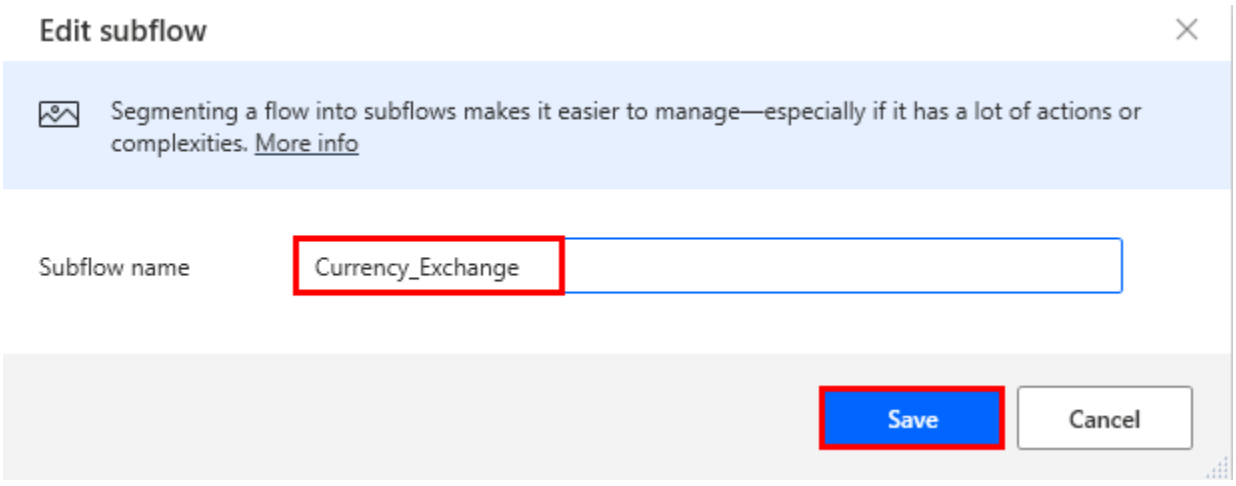


3. Click **Subflow** > to create a the second subflow for Enter an invoice.

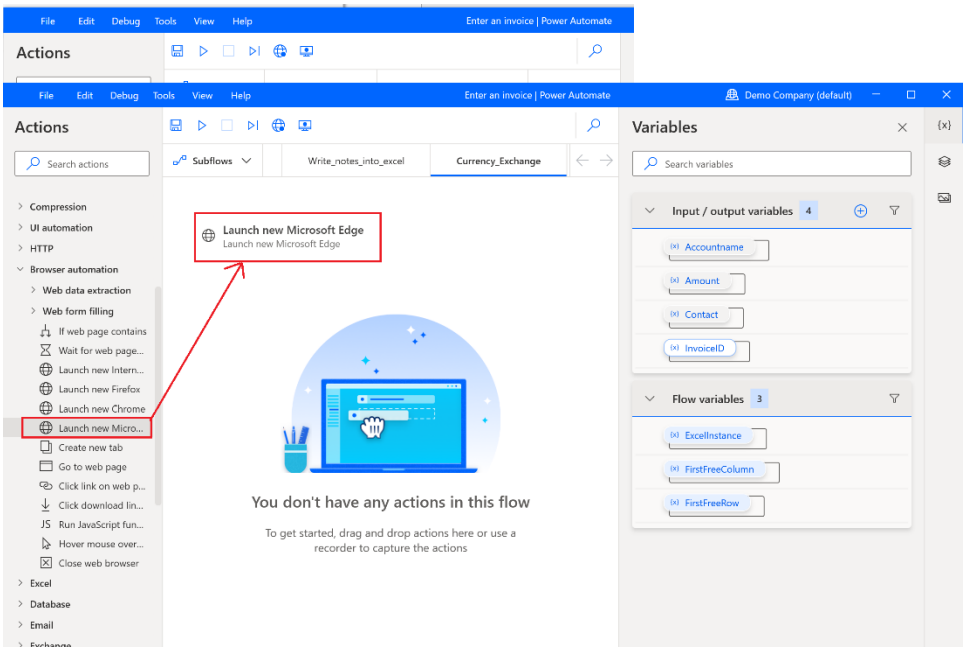


4. Call your Subflow **Currency_Exchange**. Click **Save**.

Note: Subflow name can't have spaces

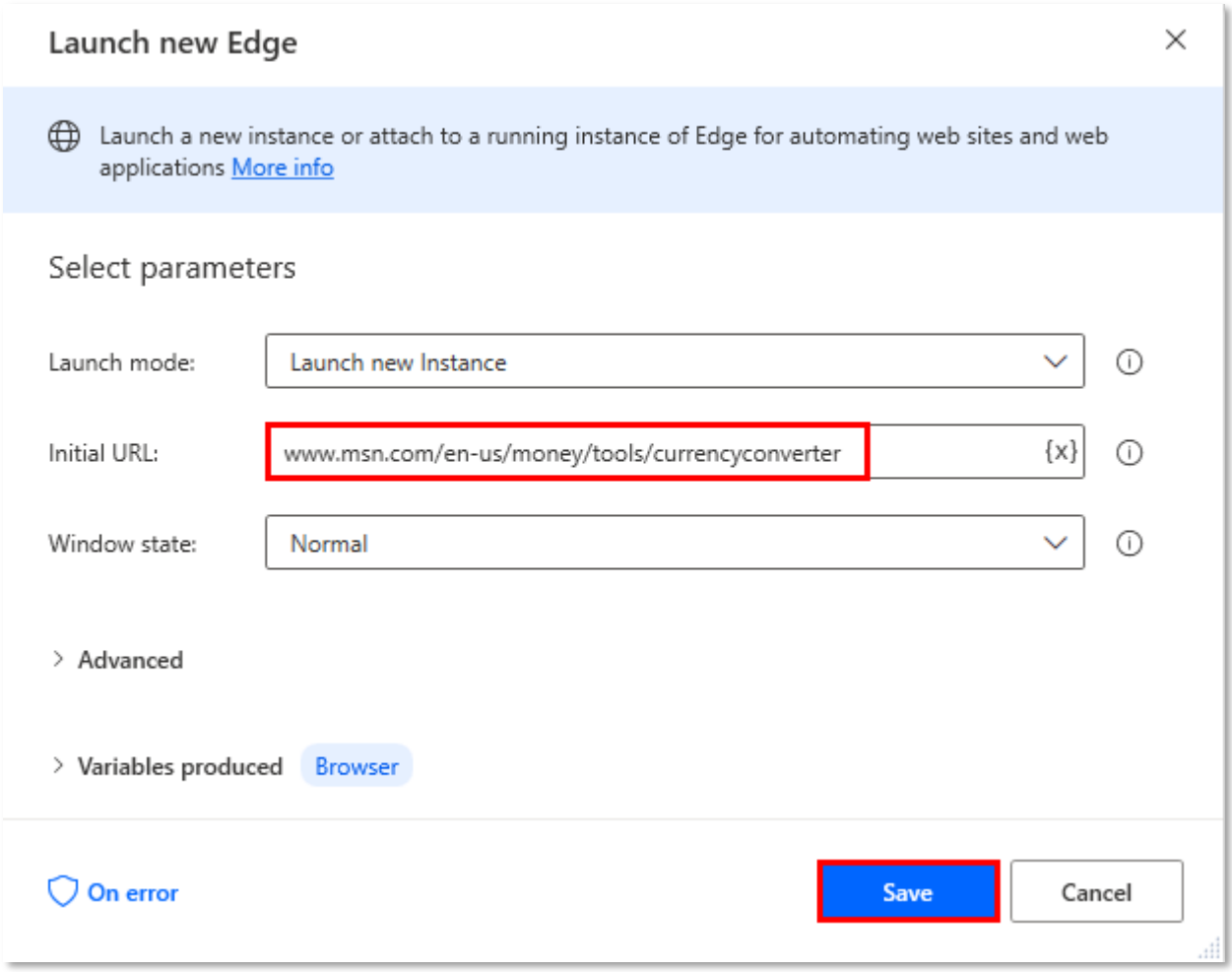


5. Drag and drop the **Launch new Microsoft Edge** Action from the **Browser automation** folder into the workspace.



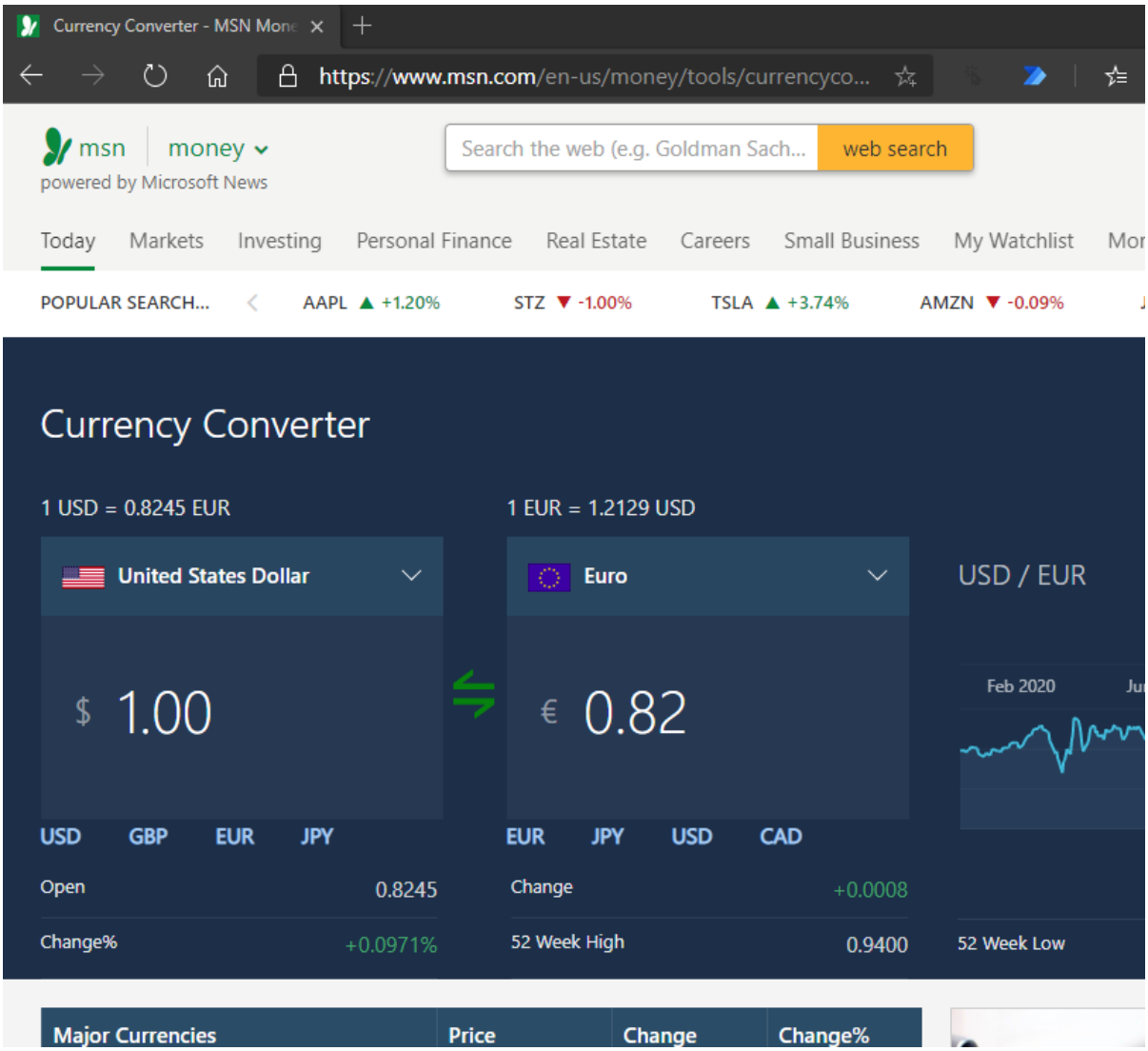
6. In the **Initial URL** field enter: https://www.msn.com/en-us/money/tools/currencyconverter

7. Click **Save**.

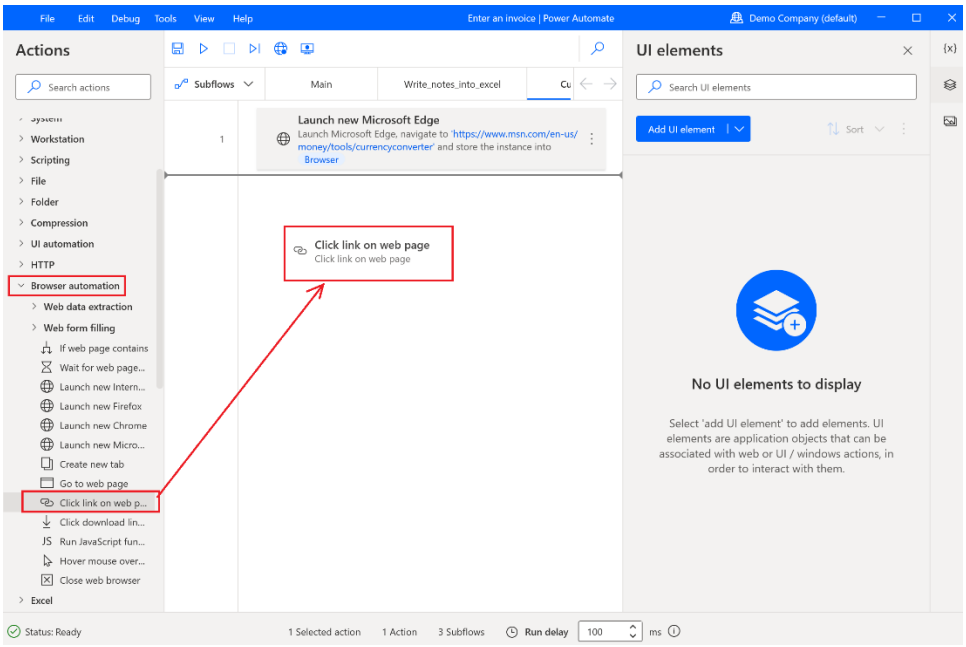

Launch new Edge
Launch a new instance or attach to a running instance of Edge for automating web sites and web applications More info
Select parameters
Launch mode:
Launch new Instance
Initial URL:
www.msn.com/en-us/money/tools/currencyconverter
{x}
Window state:
Normal
Advanced
Variables produced
Browser
On error
Save
Cancel

8. Open an Edge web browser and navigate to **www.msn.com/en-us/money/tools/currencyconverter**

This will be the website we will be using to lookup real time currency conversion rates.

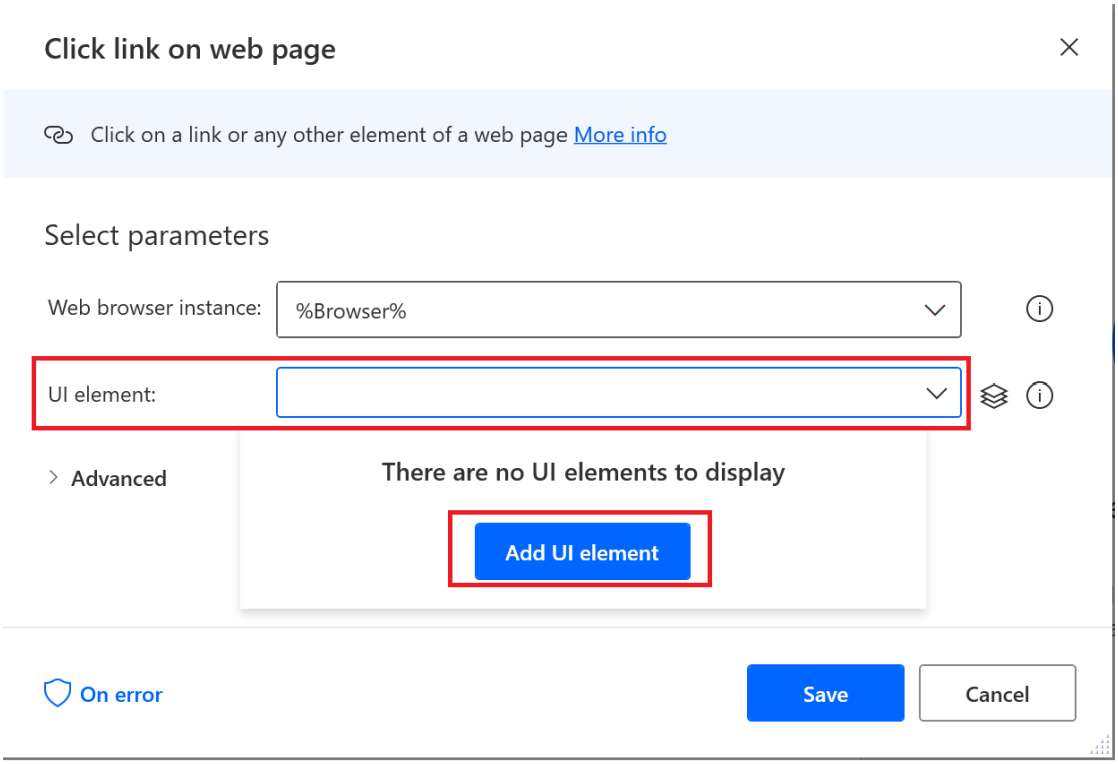


9. Now we will enter the total amount value from AI builder model as the US dollar amount, into the website input textbox to lookup the converted value.
10. First we will locate the UI Element on the webpage. Select **Click link on web page** action from the **Web form filling** subfolder.

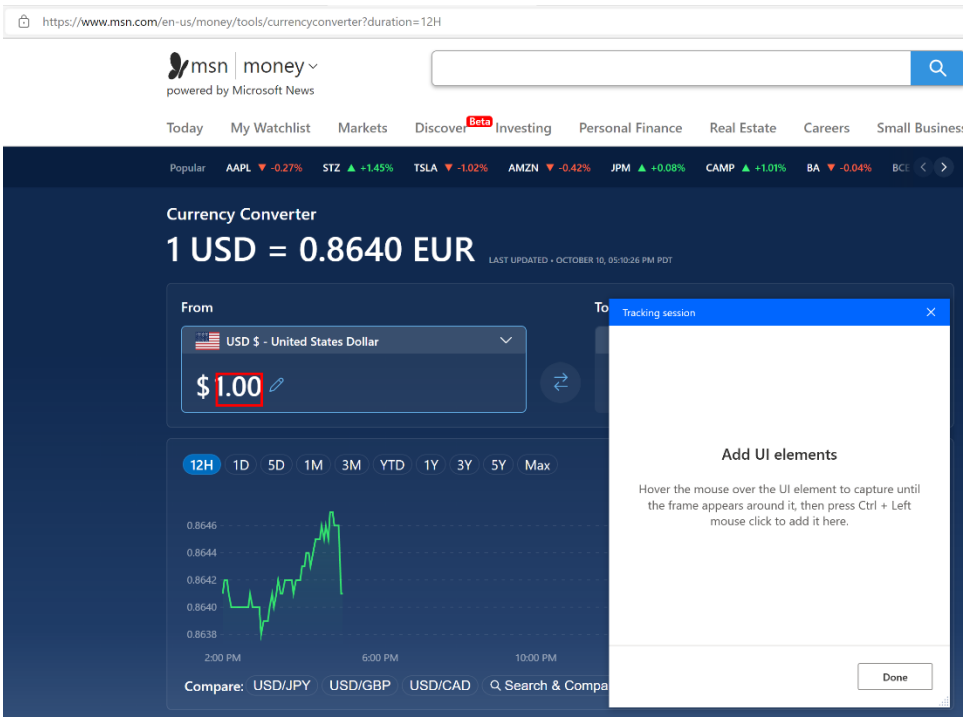


11. The **Web Browser Instance** is already populated with the **%Browser%** instance.

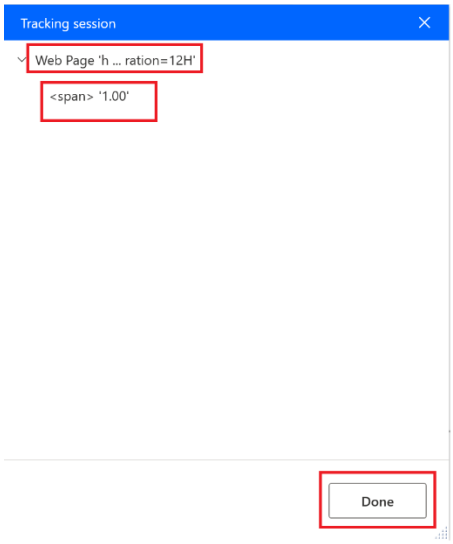
12. We need to identity the textbox UI element on the webpage that takes US dollar as input. To do that, click on the **UI element textbox** and then click on **Add a new UI element** to be able to capture the element.



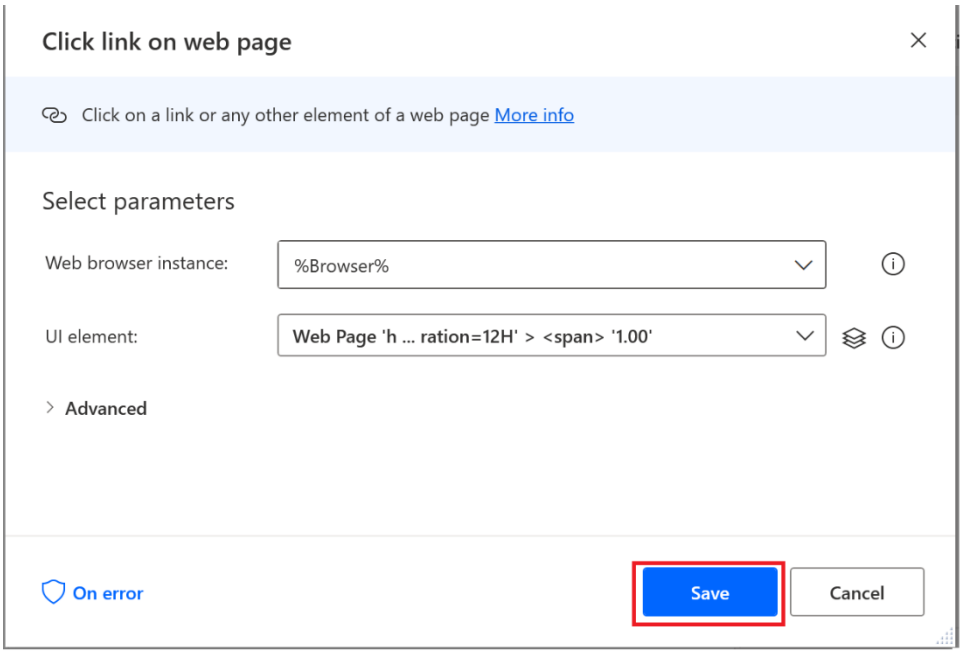
13. Having done this, a small Tracking session window will show up to capture UI element. Open the browser webpage, and you will see a red rectangle appear in the webpage while hovering the mouse over different elements. Move the mouse over the text field containing the US dollar value and hold the **Control** on your keyboard and **Left-Click** using mouse to select the element.


https://www.msn.com/en-us/money/tools/currencyconverter?duration=12H
msn money
powered by Microsoft News
Today
My Watchlist
Markets
Discover
Beta
Investing
Personal Finance
Real Estate
Careers
Small Busines
Popular
AAPL ▼ -0.27%
STZ ▲ +1.45%
TSLA ▼ -1.02%
AMZN ▼ -0.42%
JPM ▲ +0.08%
CAMP ▲ +1.01%
BA ▼ -0.04%
Currency Converter
1 USD = 0.8640 EUR
LAST UPDATED • OCTOBER 10, 05:10:26 PM PDT
From
USD $ - United States Dollar
$ 1.00
12H
1D
5D
1M
3M
YTD
1Y
3Y
5Y
Max
0.8646
0.8644
0.8642
0.8640
0.8638
2:00 PM
6:00 PM
10:00 PM
Compare:
USD/JPY
USD/GBP
USD/CAD
Search & Compa
Tracking session
Add UI elements
Hover the mouse over the UI element to capture until the frame appears around it, then press Ctrl + Left mouse click to add it here.
Done

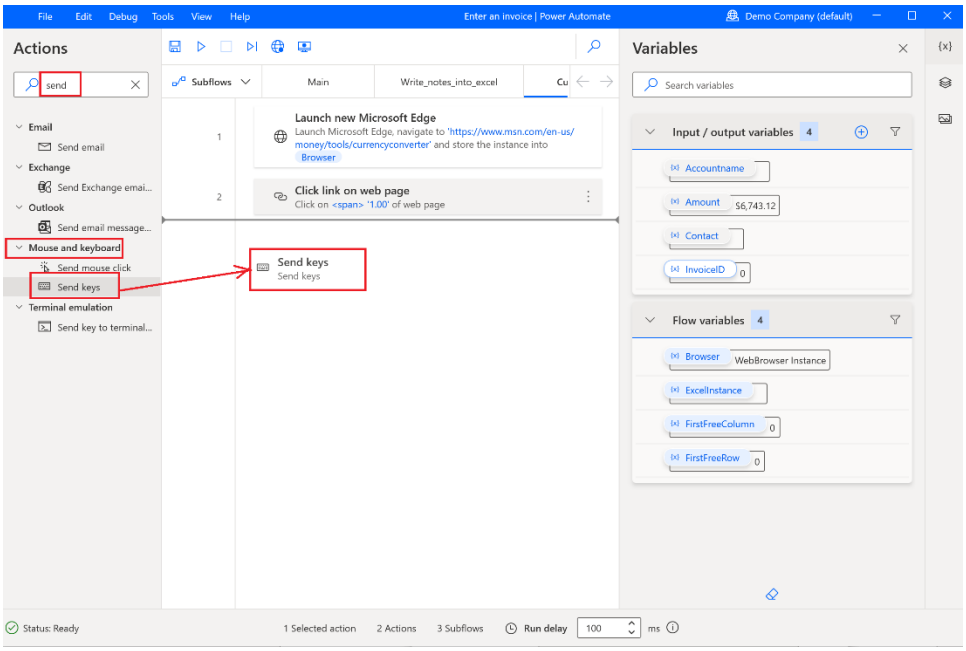
14. Once you selected the element, you will see the value appearing in **Tracking session** window. Click **Done**.



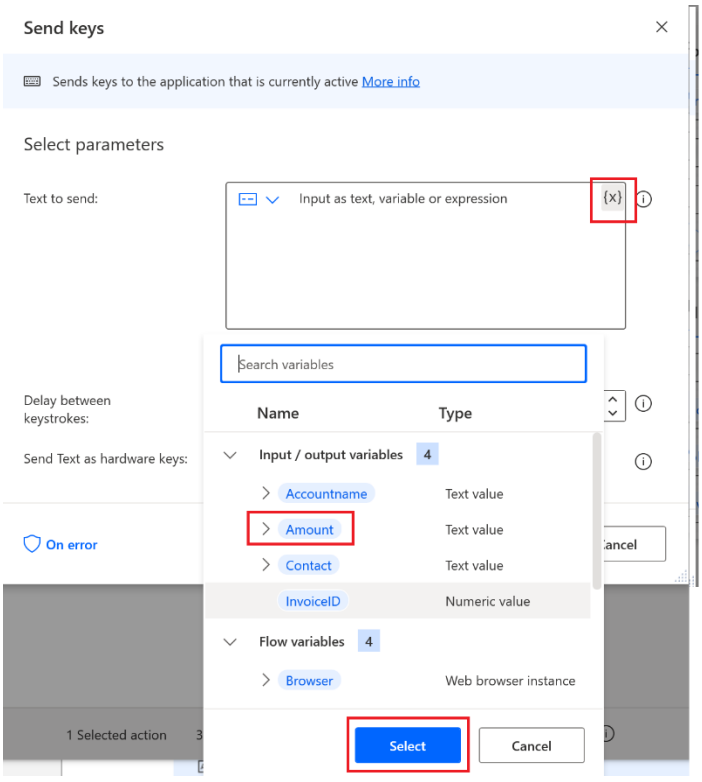
15. Click Save button



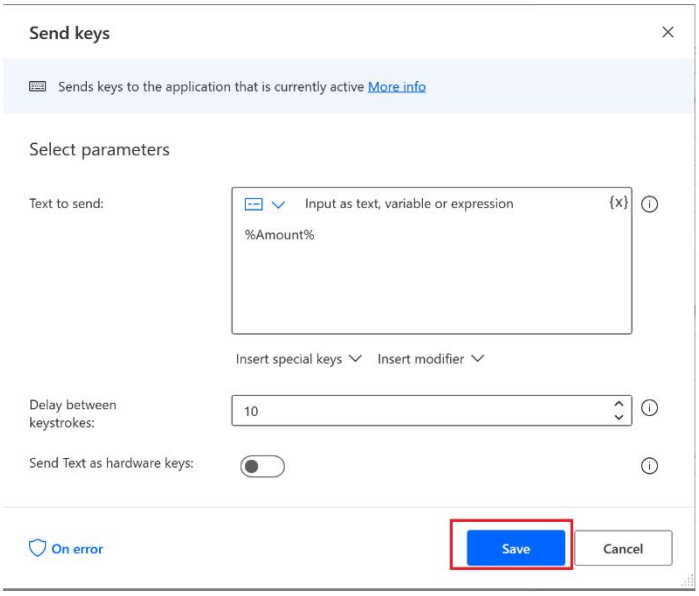
16. Add another action which will send the previous Total amount input value into this UI element field. Search and select **Send keys** action to drag and drop into the flow



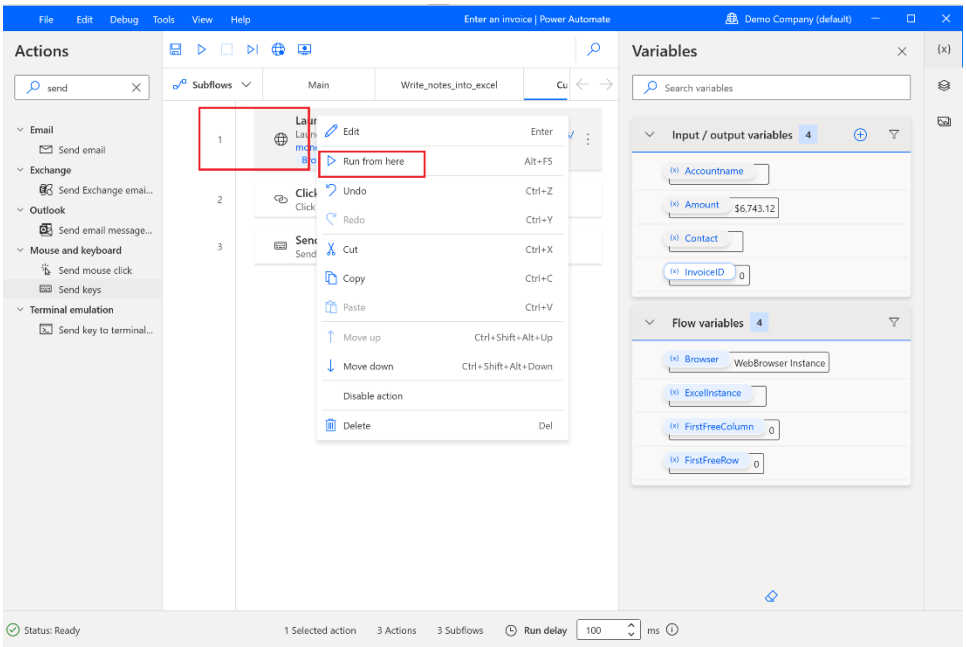
17. In the **Text** field, clicking {x} icon and choose **Amount** from the variables list and click **Select** button. This will send the Amount variable value to be entered in the website UI textbox area that is selected in the previous step.



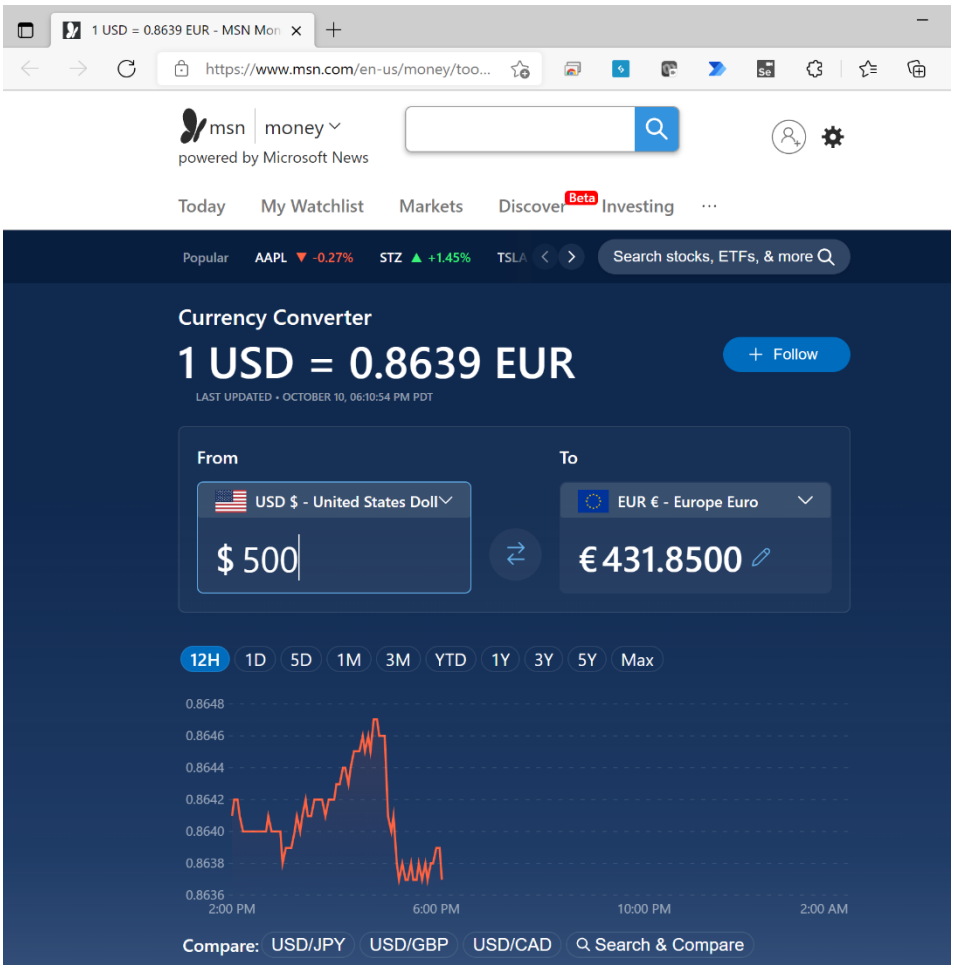
18. Click **Save**.



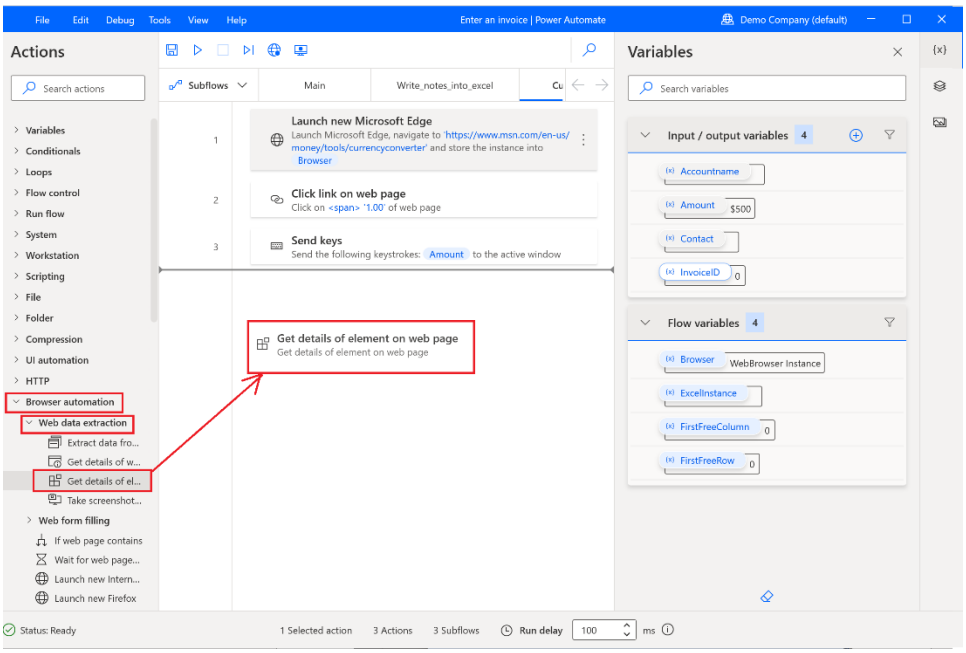
19. Now we can test this subflow by selecting the first action in the subflow, right click and select Run from here.

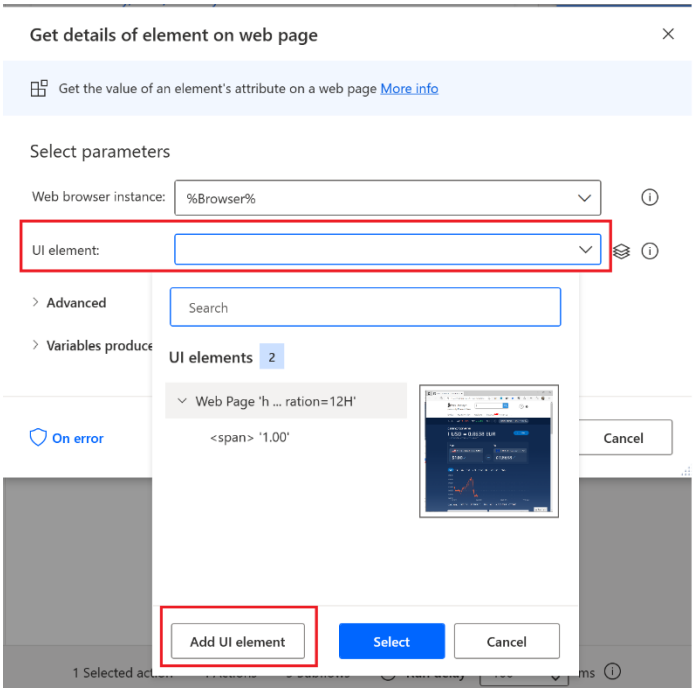


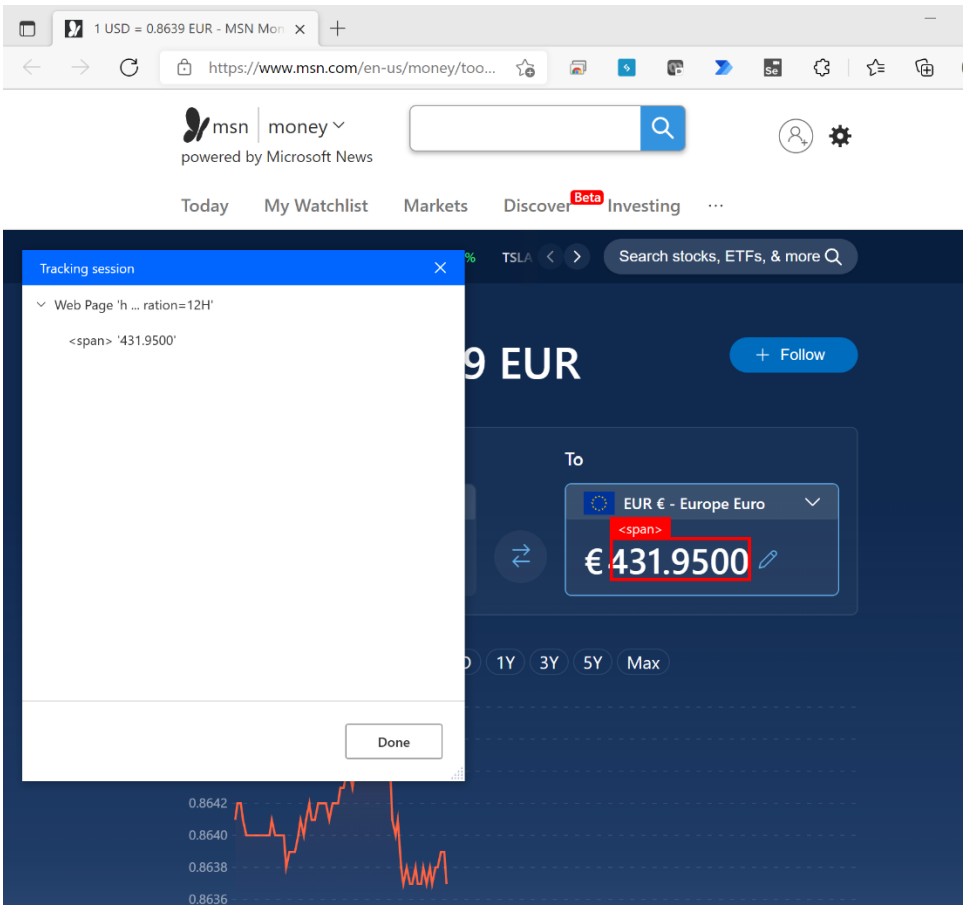
20. You should see the automation run and convert $500 amount (the default amount value) into another currency



21. The next step is we will capture the real time converted value from the website. We will use the **Get details of element on web page** action in the **Web data extraction** subfolder to select the **converted value (Euro)** using the same method described above.


File Edit Debug Tools View Help
Enter an invoice | Power Automate
Demo Company (default)
Actions
Search actions
Variables
Conditionals
Loops
Flow control
Run flow
System
Workstation
Scripting
File
Folder
Compression
UI automation
HTTP
Browser automation
Web data extraction
Extract data fro...
Get details of w...
Get details of el...
Take screenshot...
Web form filling
If web page contains
Wait for web page...
Launch new Intern...
Launch new Firefox
Subflows
Main
Write_notes_into_excel
Launch new Microsoft Edge
Launch Microsoft Edge, navigate to 'https://www.msn.com/en-us/money/tools/currencyconverter' and store the instance into Browser
Click link on web page
Click on '1.00' of web page
Send keys
Send the following keystrokes: Amount to the active window
Get details of element on web page
Get details of element on web page
Variables
Search variables
Input / output variables 4
Accountname
Amount $500
Contact
InvoiceID 0
Flow variables 4
Browser WebBrowser Instance
ExcelInstance
FirstFreeColumn 0
FirstFreeRow 0
Status: Ready
1 Selected action
3 Actions
3 Subflows
Run delay 100 ms


Get details of element on web page
Get the value of an element's attribute on a web page More info
Select parameters
Web browser instance: %Browser%
UI element:
Advanced
Variables produce
Search
UI elements 2
Web Page 'h ... ration=12H'
 '1.00'
On error
Cancel
Add UI element
Select
Cancel


1 USD = 0.8639 EUR - MSN Mon
https://www.msn.com/en-us/money/too...
msn money
powered by Microsoft News
Today
My Watchlist
Markets
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Tracking session
Web Page 'h ... ration=12H'
 '431.9500'
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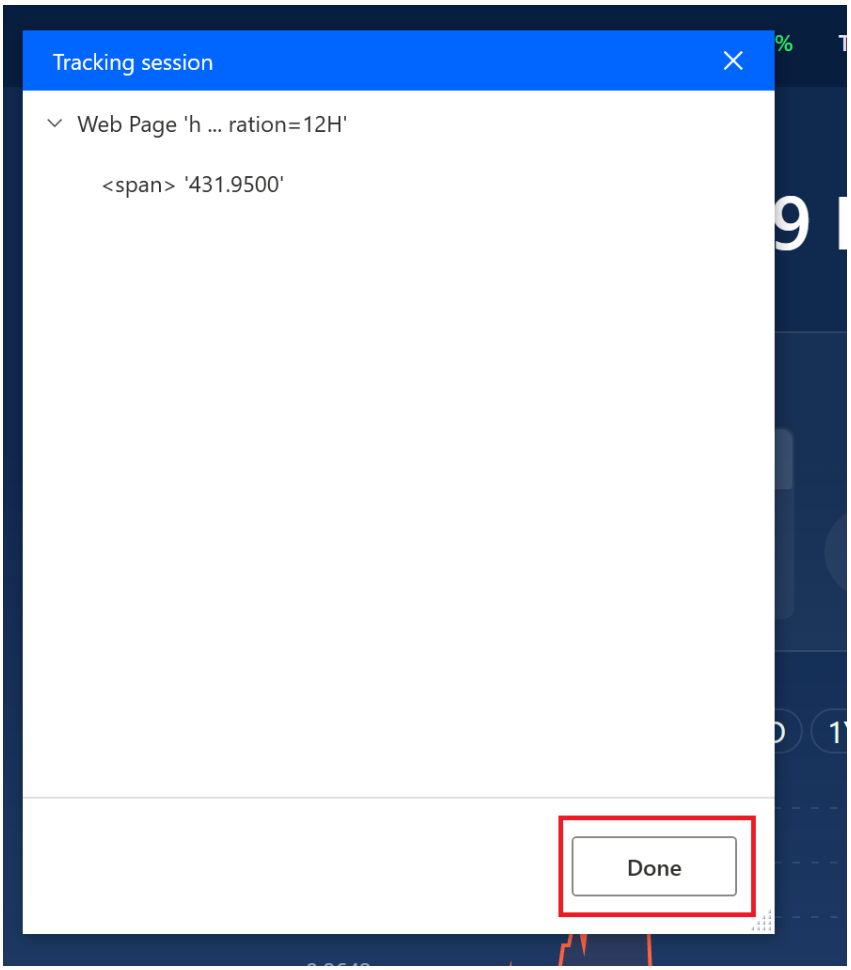
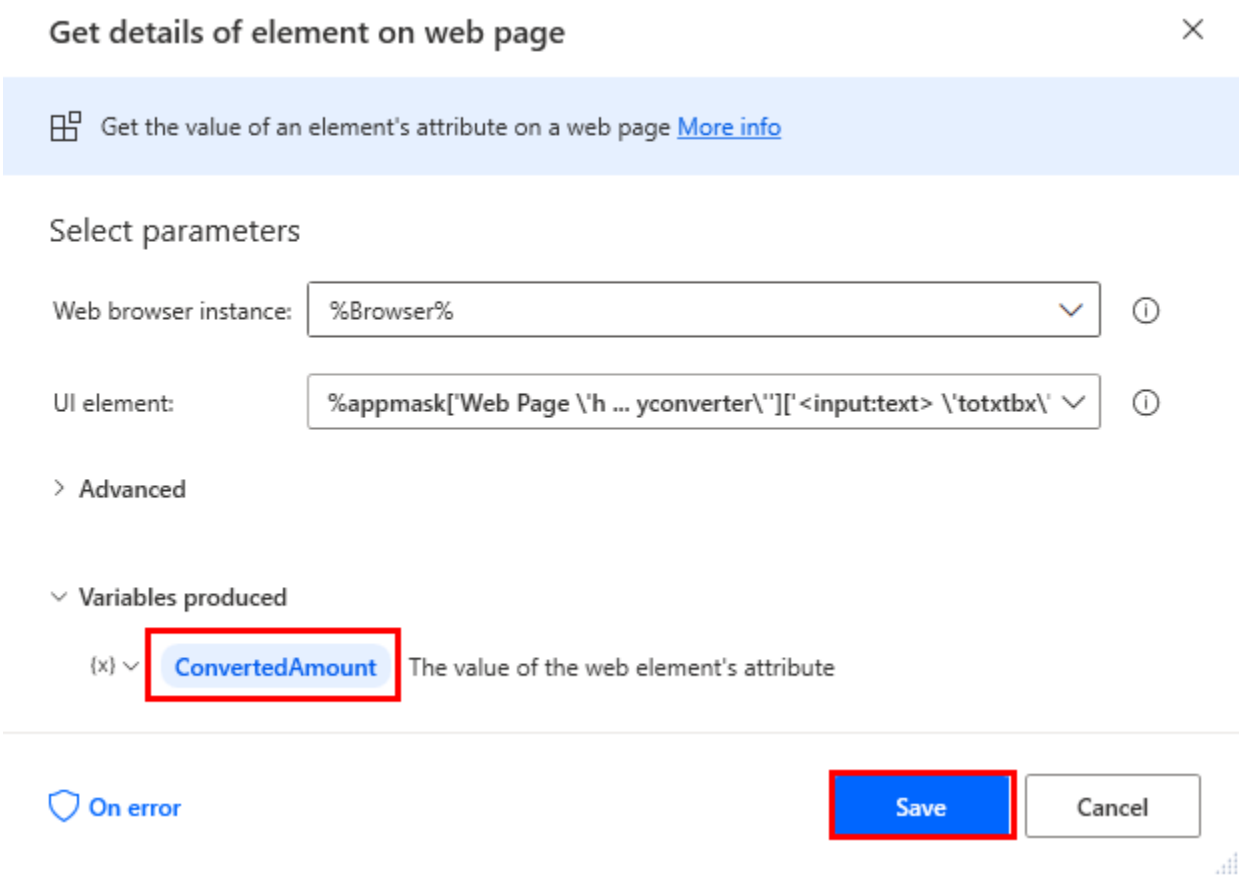
TSLA
Search stocks, ETFs, & more
9 EUR
Follow
To
EUR € - Europe Euro

€ 431.9500
1Y
3Y
5Y
Max
0.8642
0.8640
0.8638
0.8636

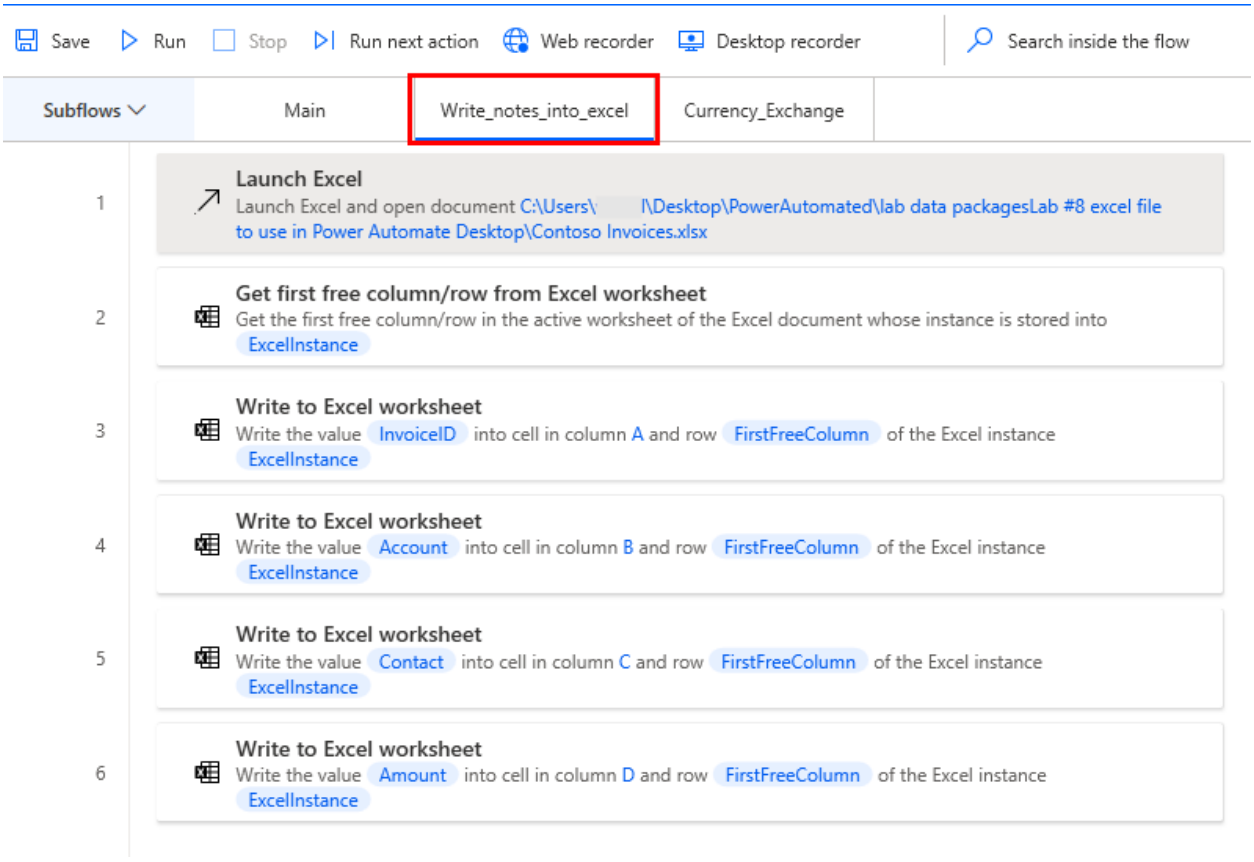
22. Select **Done.**



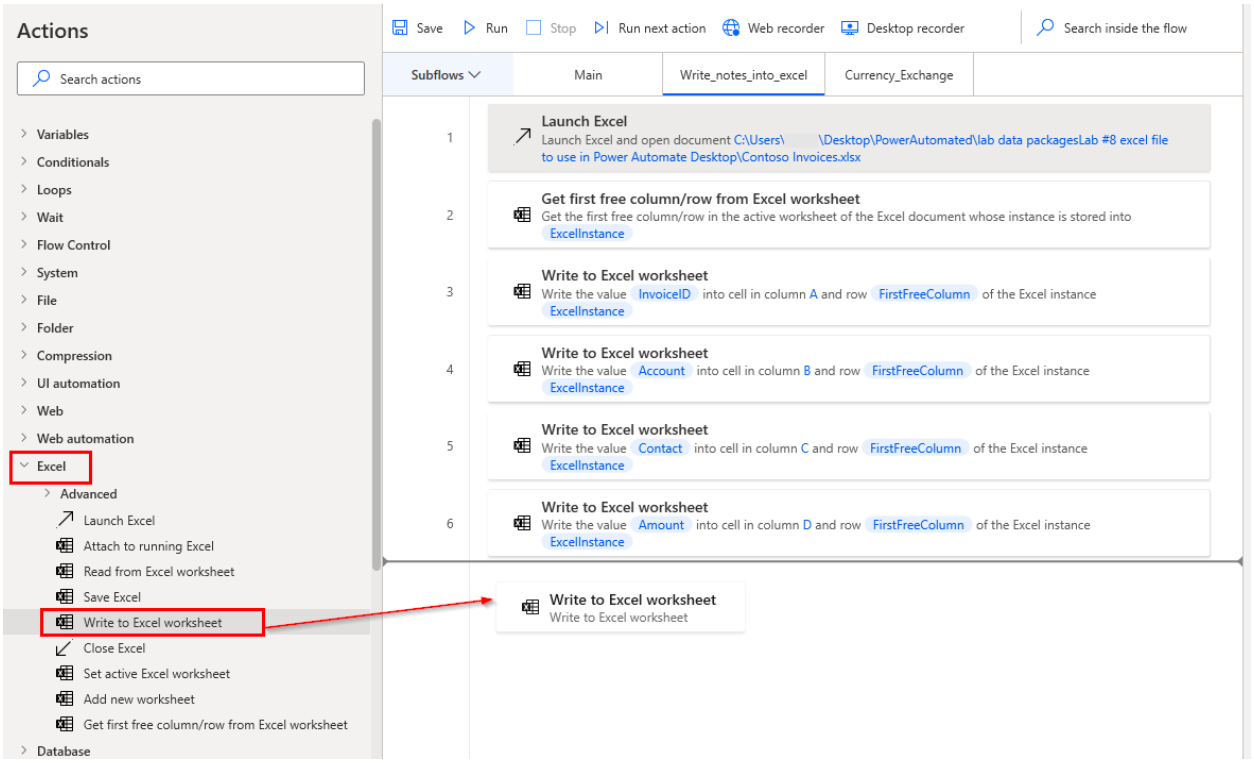
23. Change the **Variables produced** from **%AttributeValue%** to **%ConvertedAmount%** by clicking into **%AttributeValue%**. Once you're done, click **Save**.



24. Go back **Write_notes_into_excel** subflow you created in exercise 1 by clicking **Write_notes_into_excel**.

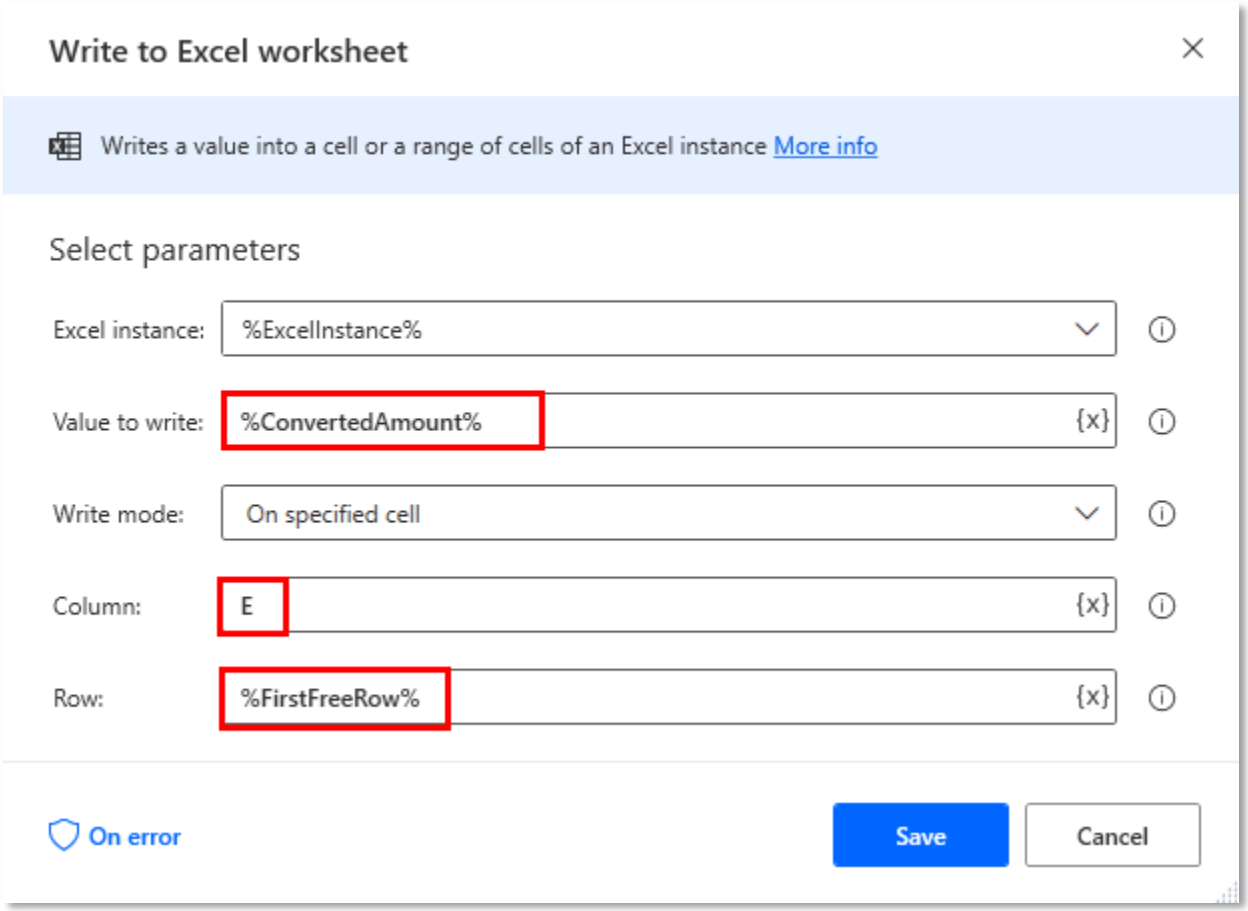


25. Add the **Write to Excel Worksheet** action from the **Excel** folder under **Step 6**.

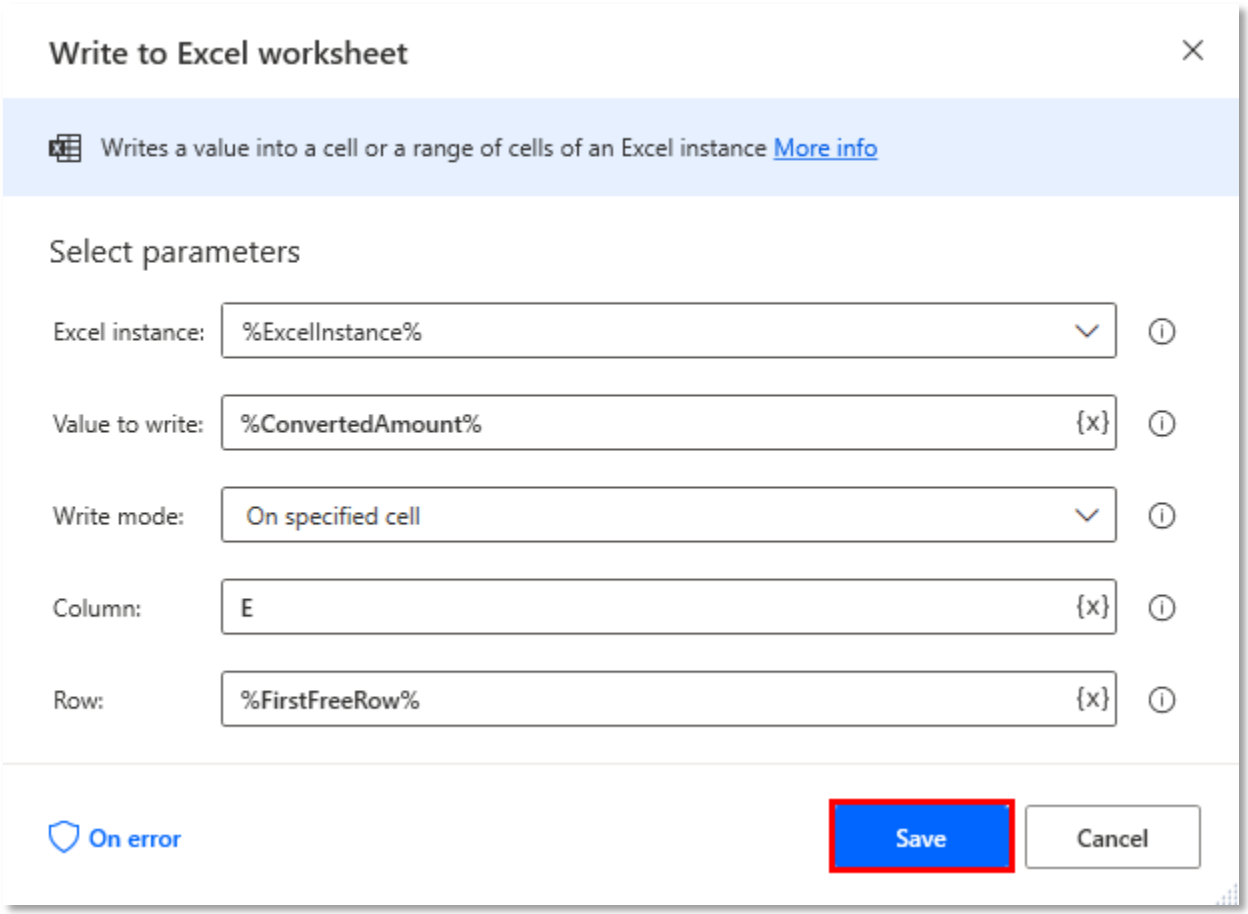


26. Writing values of variables to cells as the information below.

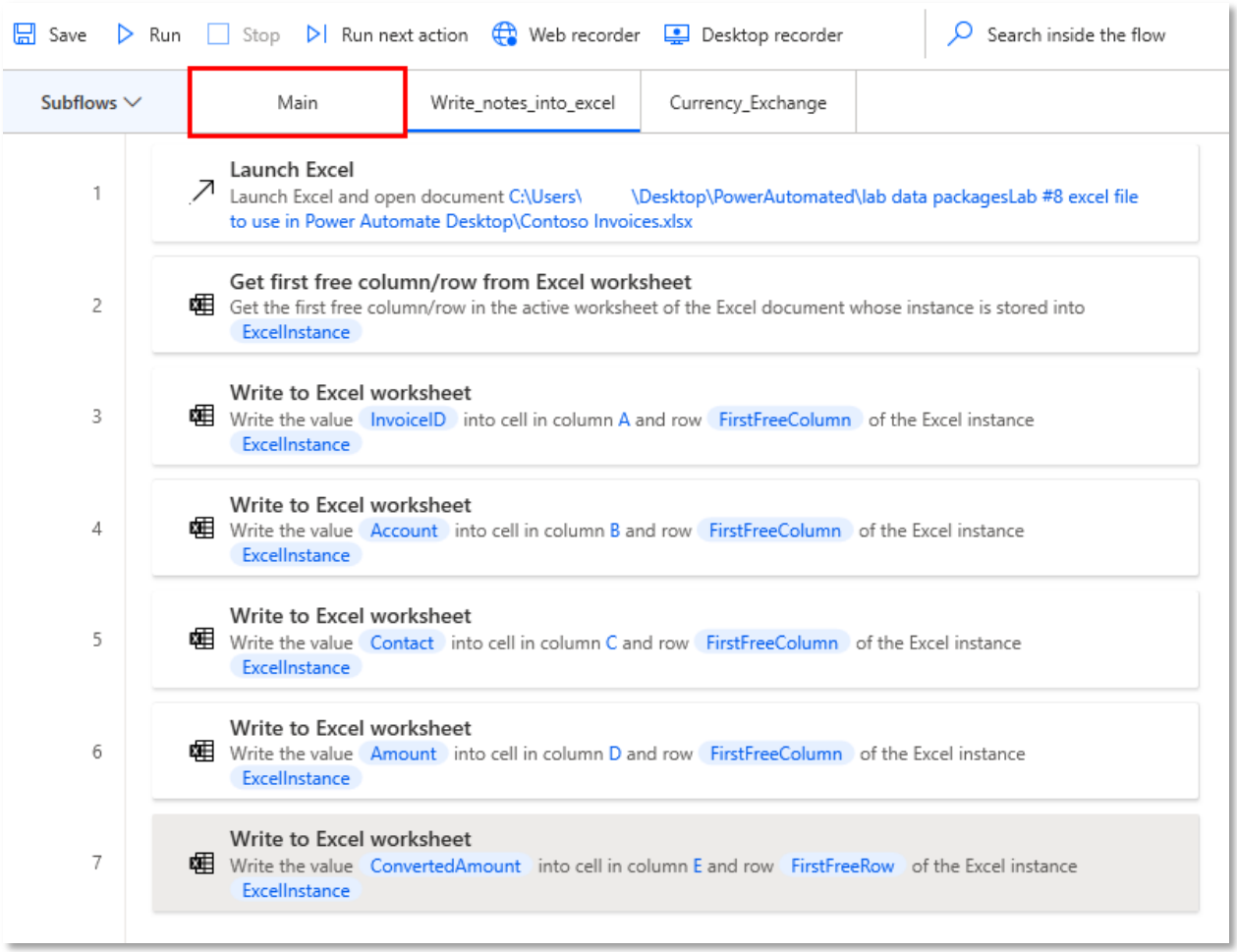
- **Value to write:** %ConvertedAmount%
- **Column:** E
- **Row:** %FirstFreeRow%



27. Click **Save**.

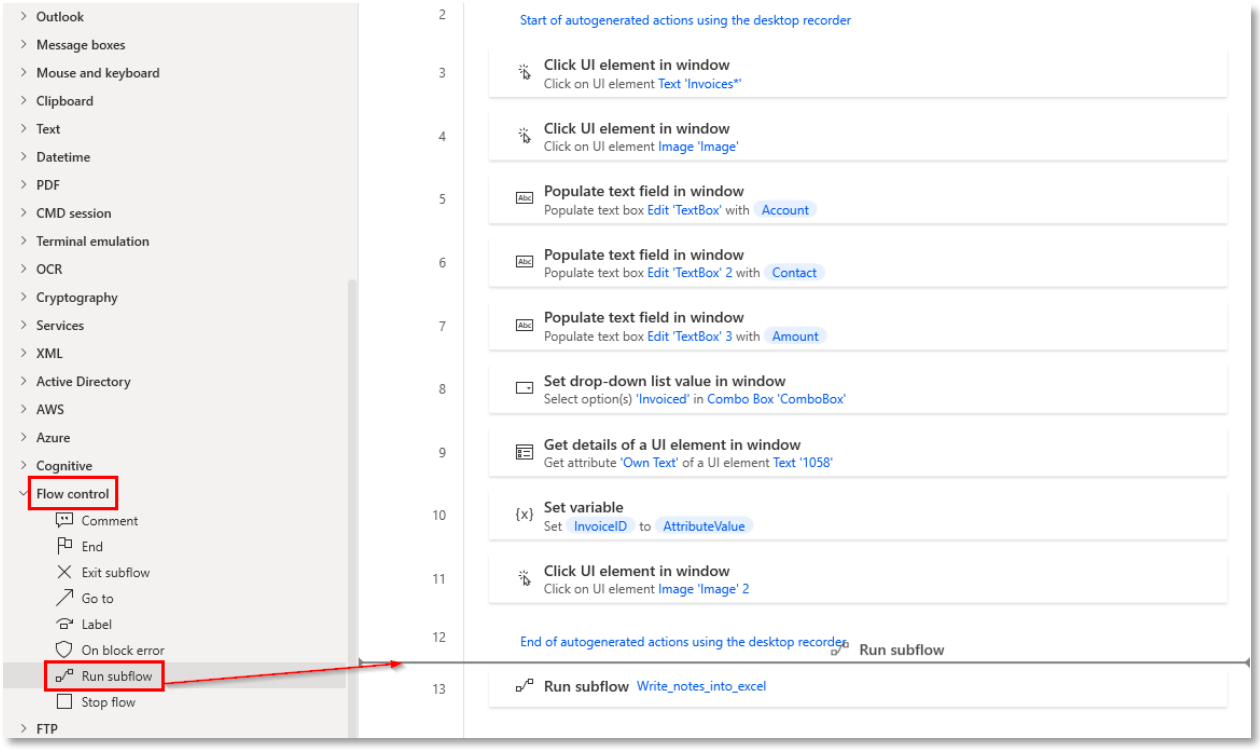


28. Now we will add the Currency_Exchange subflow into the Main flow before Write_notes_to_excel subflow. Go back to your Main flow by clicking **Main**.

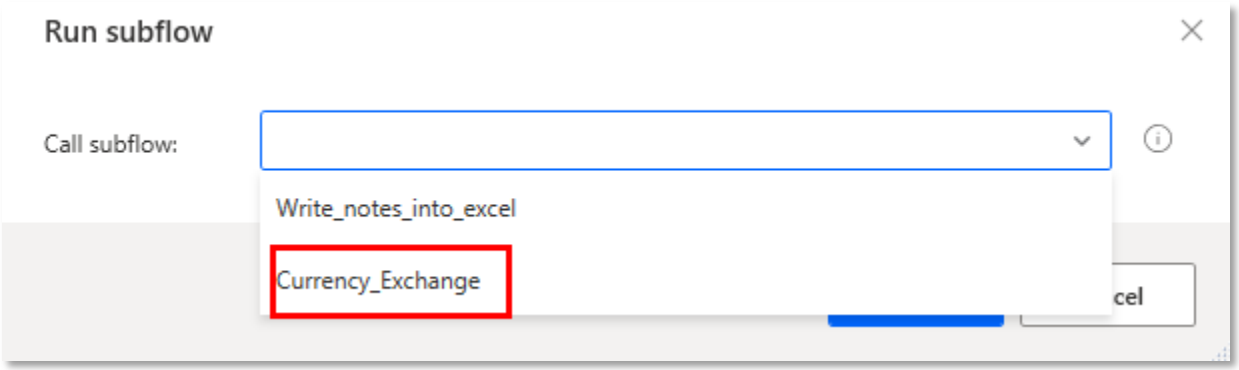


29. Add a **Run subflow** action from **Flow Control** folder as **Step 12 of your process**.

    Note: this subflow should be called prior to the **Write_notes_to_excel** subflow call.

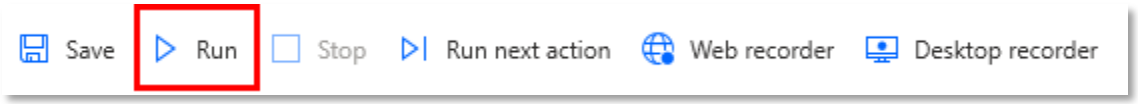


30. Call **Currency_Exchange** subflow you just created. Then click **Save**.



31. Click on the **Save** button to save the flow.

32. You can now run your whole main flow by clicking **Run**.



33. After a while, an entry is added to the Excel file as in the previous exercise, with an additional cell containing the converted value:

1055	Tailspin Toys	p.gupta@tailspintoys.com	$3,500.00	3,118.15

Check your knowledge

Lab 9

5 mins

1. Which of the following can you use as your Subflow name?

   A. Currency exchange
   B. Currency Exchange
   C. Currency_exchange
   D. All of the above

   Answer: C. Currency_exchange. Power Automate Desktop does not allow for spaces to be in the name of a Subflow.

2. When you try to capture a web element from a web page, after selecting the **Click link on web page** action and clicking UI element dropdown, you need to select _____ to be able to capture the element.

   A. Add a new UI element
   B. Save
   C. Browser
   D. None of the above

   Answer: A. Add a new UI element - You need to click this button to start capture elements

3. When you are populating text Field on web page, you need to hold the _____ and _____ to select the element.

   A. CTRL + Left-Click
   B. Tab + Left-Click
   C. CTRL + Right-Click
   D. Tab + Right-Click

   Answer: A. CTRL + Left-Click

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