



Robotic Process Automation in a Day

Lab 3 – Use Input and Output variables

30 mins

February 2023



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Lab Overview

In the previous lab you created your first desktop flow that can automate entering a new invoice with fixed parameter values for Contoso Coffee shop. However, in reality your automation should be using real input variables instead of fixed values and it is likely that you will need to capture real time output from the automation running result as well.

In this lab, you will complete the following tasks:

- Create a new Power Automate desktop flow with predefined inputs
- Record actions performed in the desktop-based Contoso Invoicing application using these inputs, and capturing application data for output
- Perform a test run of the new desktop flow with a new set of inputs

Prerequisites

This lab builds on the initial setup lab (Lab 1) – ensure all tasks are complete.

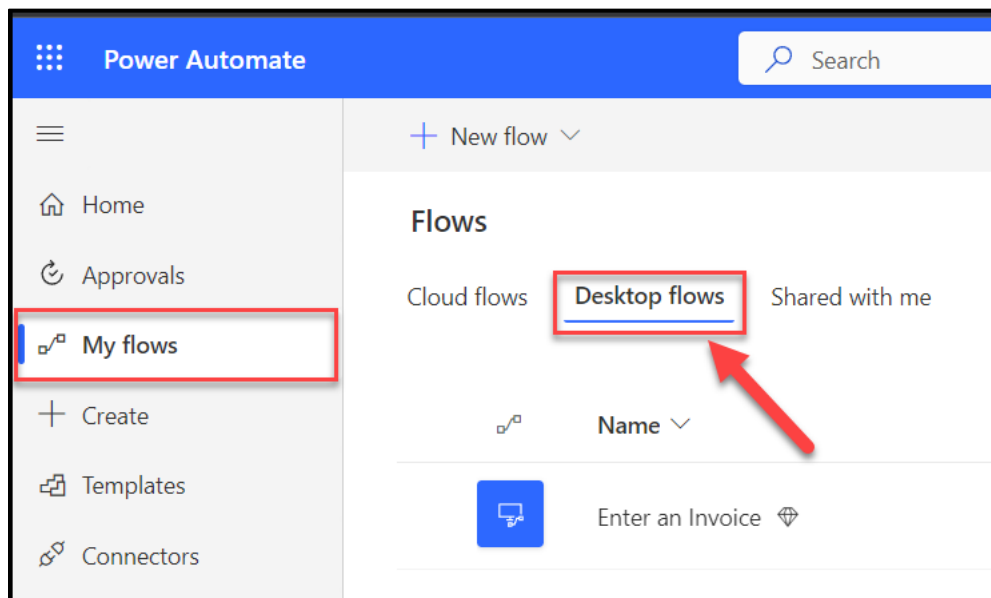
Important Additional Prerequisite: As you will be recording actions performed in your UI in this lab, **you will have the best experience if you view the lab instructions on a separate device or in a printout.** You can still complete the lab while pursuing the instructions during UI action recording, however, you will have to perform extra work to cut the recorded actions of viewing the instructions from your flow.

Use input and output parameters

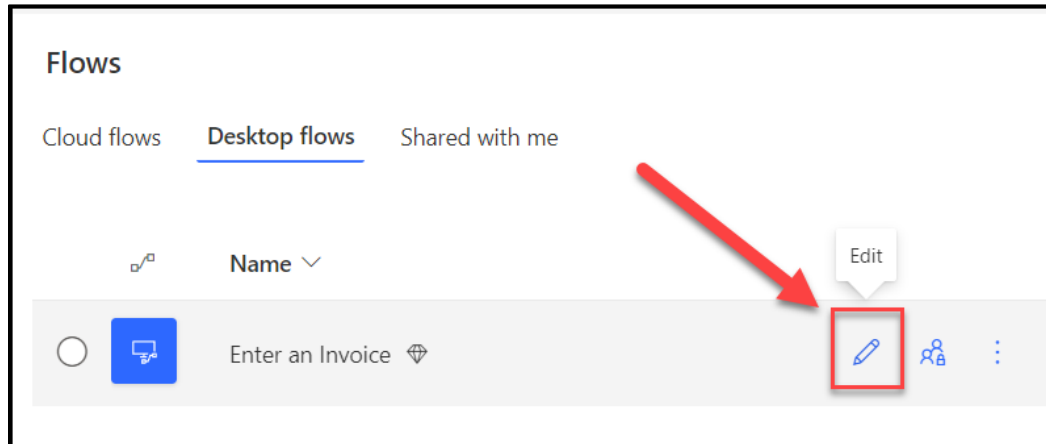
1. First let's open the desktop flow that you have created in the previous lab. You can open it from the **Power Automate for desktop** app directly, or you can open it from the browser from the **Power Automate** website. Here we will show you the steps of opening from the browser. Open the browser and navigate to <https://powerautomate.microsoft.com>
2. **Sign-in** to **Power Automate** if needed. Ensure that you are in the correct environment.



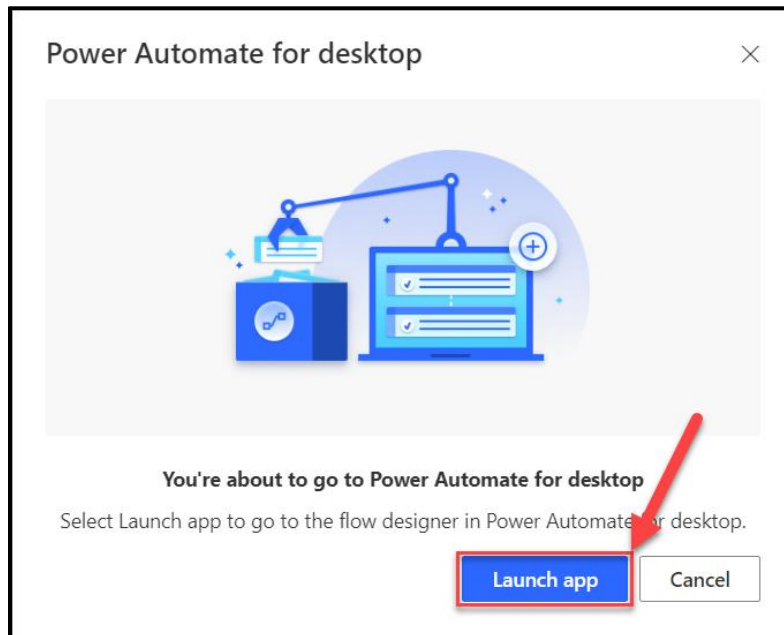
3. Open the **Contoso Invoicing app** and **minimize** it. We will come back to the app later in the lab.
4. Within **Power Automate**, select **My flows** from the menu to the left of the screen and then select **Desktop flows** from the tabs at the top of the screen.



5. **Hover over** the **Enter an invoice** flow, and to the right, select the **Edit** icon.

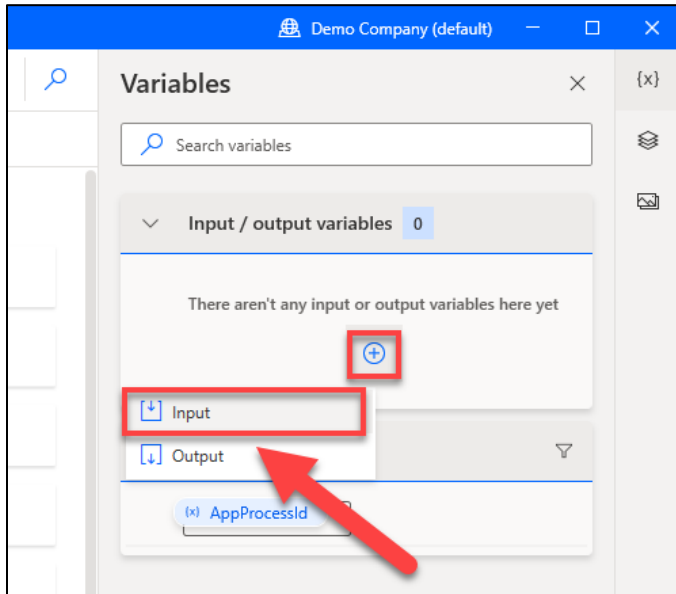


6. Within the **Power Automate for Desktop** dialog window, select **Launch app**.



7. Power Automate for desktop provides the ability to receive input values from Cloud flows and return values using output values.

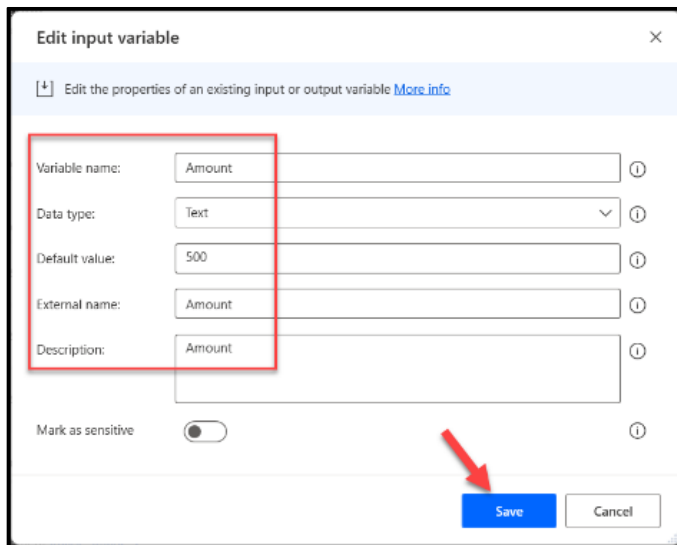
We will now create a series of input values. Within the **Input/output variables** section to the right of the screen, in the **Variables** pane, select the **plus sign** icon and choose **Input** from the options list to add your first input.



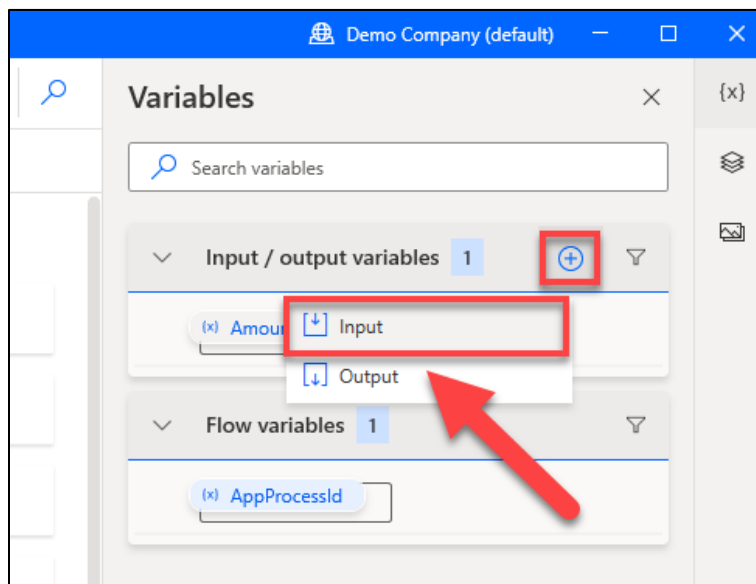
8. In the **New input variable** dialog window, use the values below to set up the first input variable:

- Variable Name: Amount
- Data type: Text
- Default value: 500
- External Name: Amount
- Description: Amount

9. Then, select the **Save** button at the bottom of the dialog window.



Repeat step 8 to add a second Input variable.



10. Use the following values below to set up the second Input.

- Variable Name: Contact
- Data type: Text
- Default value: b.friday@wingtipcups.com
- External Name: Contact
- Description: Contact email

New input variable

⌵ Add a new variable to be used as input or output [More info](#)

Variable name: ⓘ

Data type: ⓘ

Default value: ⓘ

External name: ⓘ

Description: ⓘ

Mark as sensitive ☐

Save Cancel

11. Repeat step 8 again to create a **third Input variable**. Use the information and values below to fill out the variables within the new, third input and then select **Save**.

- Variable Name: Account
- Data type: Text
- Default value: WingTip Cups
- External Name: Account Name
- Description: Account Name

New input variable

⌵ Add a new variable to be used as input or output [More info](#)

Variable name: ⓘ

Data type: ⓘ

Default value: ⓘ

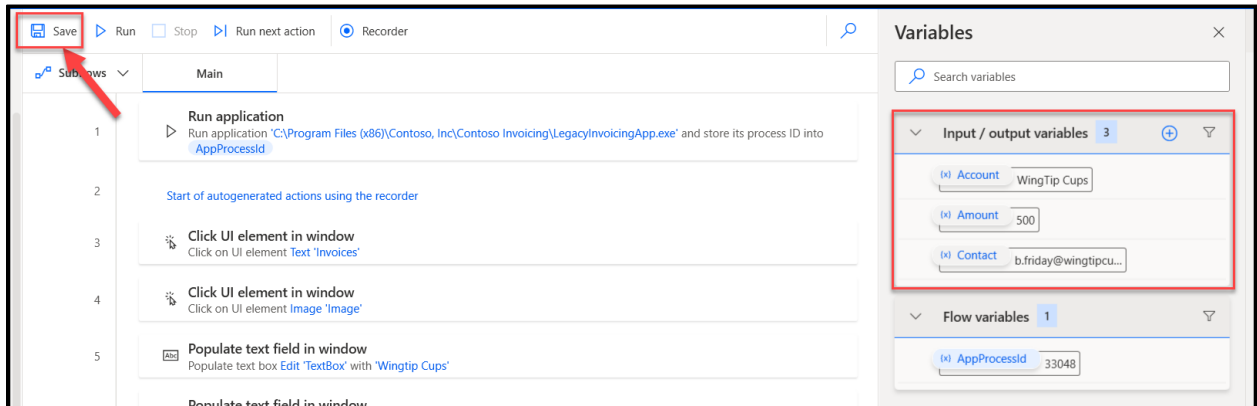
External name: ⓘ

Description: ⓘ

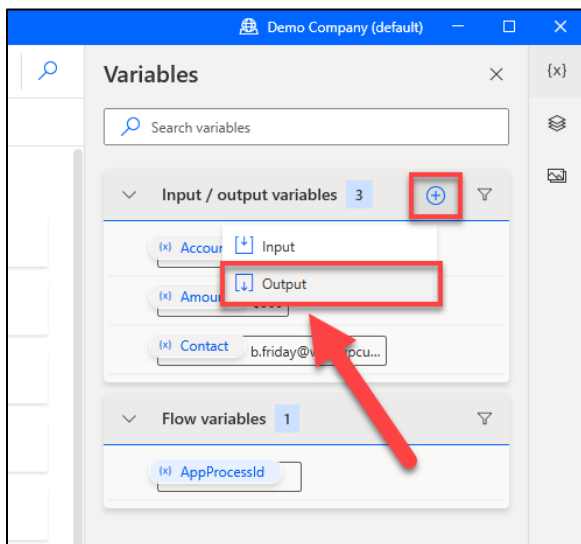
Mark as sensitive ☐

Save Cancel

12. Once all three input variables have been added and saved, select the **Save** button at the top of the screen, to the left, to save any changes you have made within the lab so far.



13. To the right of the screen, in the **Variable** pane, in the **Input/output variables** section, select the **plus sign** icon and select the **Output** option to add your first output variable.



14. Use the values below to set up the first **output variable**:

- Variable Name: InvoiceID
- Data type: Text
- External Name: InvoiceID
- Description: InvoiceID

15. After entering the values in for the Output variable, select the **Save** button at the bottom of the dialog window.

New output variable

↓ Add a new variable to be used as input or output [More info](#)

Variable name: InvoiceID

Data type: Text

External name: InvoiceID

Description: InvoiceID

Mark as sensitive

Save Cancel

16. Within our process, we now need to add an action to set this output. Please ensure the **Contoso Invoicing application** is still running. Drag the **Get details of a UI element's attribute in a window** action from the Actions menu pane under **UI automation > Data extraction** folder after/below **Step 10** in your actions under the **Main** tab.

Actions

Search actions

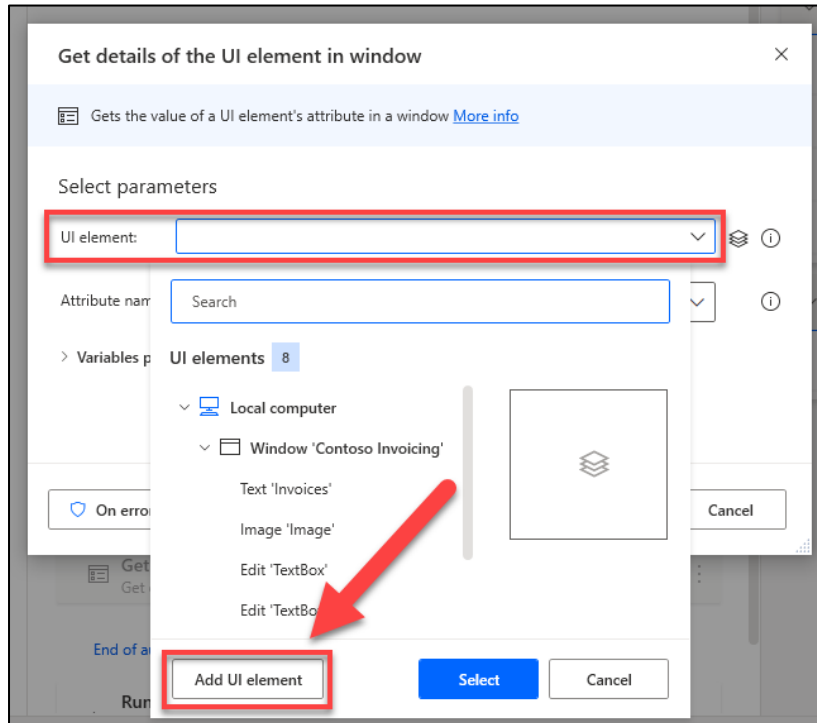
- Run flow
- System
- Workstation
- Scripting
- File
- Folder
- Compression
- UI automation
 - Data extraction
 - Get details of window
 - Get details of the UI element in window
 - Get selected checkboxes in window
 - Get selected radio button in window
 - Extract data from window
 - Take screenshot of UI element
 - Form filling
 - Windows
 - If window contains
 - Wait for window content
 - If image
 - Use desktop
 - Select tab in window
 - Wait for image
 - Hover mouse over UI element in window
 - Click UI element in window

Main

- Run application
 - Run application "C:\Program Files (x86)\Contoso, Inc\Contoso Invoicing\LegacyInvoicingApp.exe" and store its process ID into AppProcessId
- Start of autogenerated actions using the recorder
- Click UI element in window
 - Click on UI element Text 'Invoices'
- Click UI element in window
 - Click on UI element Image 'Image'
- Populate text field in window
 - Populate text box Edit 'TextBox' with 'Wingtip Cups'
- Populate text field in window
 - Populate text box Edit 'TextBox' 2 with 'b.friday@wingtipcups.com'
- Populate text field in window
 - Populate text box Edit 'TextBox' 3 with '500'
- Set drop-down list value in window
 - Select option(s) 'Invoiced' in Combo Box 'ComboBox'
- Click UI element in window
 - Click on UI element Image 'Image' 2
- End of autogenerated actions using the recorder
- Get details of the UI element in window
 - Get details of the UI element in window

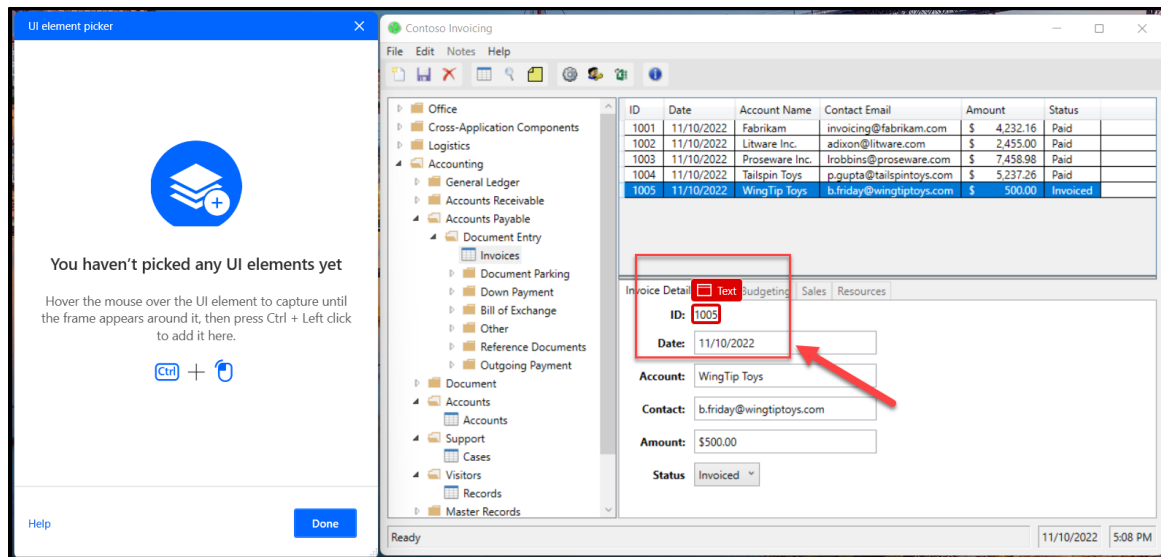
Status: Ready 0 Selected actions 10 Actions 1 Subflow Run delay 100 ms

17. In the dialog window, select the **UI element drop-down** and then select **Add UI element**.

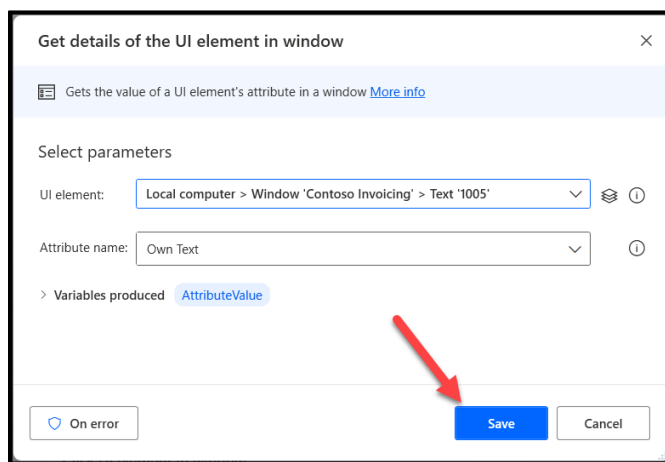


Note: After you select **Add UI element**, you will see a red rectangle appear on the screen while you are hovering the mouse over the different elements.

18. Navigate to **Contoso Invoicing app**, move the mouse over the Invoice detail that belongs to the **ID number**. Hold the **CTRL key** on your keyboard and then select the **ID number**. (**Note:** you may see a different ID number than the number displayed here).



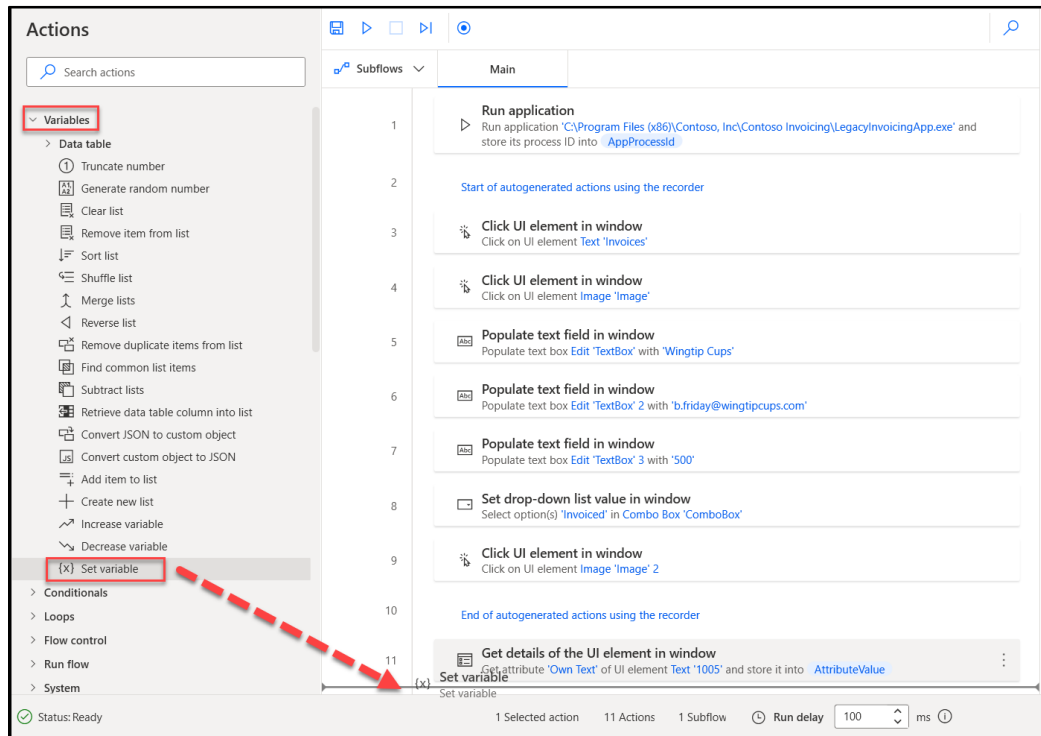
19. Navigate back to the dialog window and select **Save**. (Note: Your UI element may appear different than the one within the figure below.)



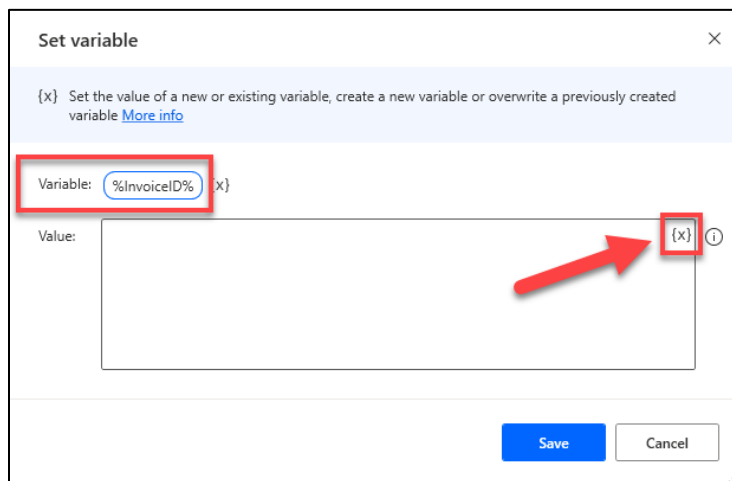
Note: This action will automatically produce a variable called **AttributeValue** that we can refer to in subsequent actions within Power Automate for desktop. You can see it from the pop-up window. You can also select it to rename the variable if you want to.

20. We will now set the **InvoiceID** output variable. This allows us to use the **Invoice ID** in downstream processes or from our cloud flow in a future lab.

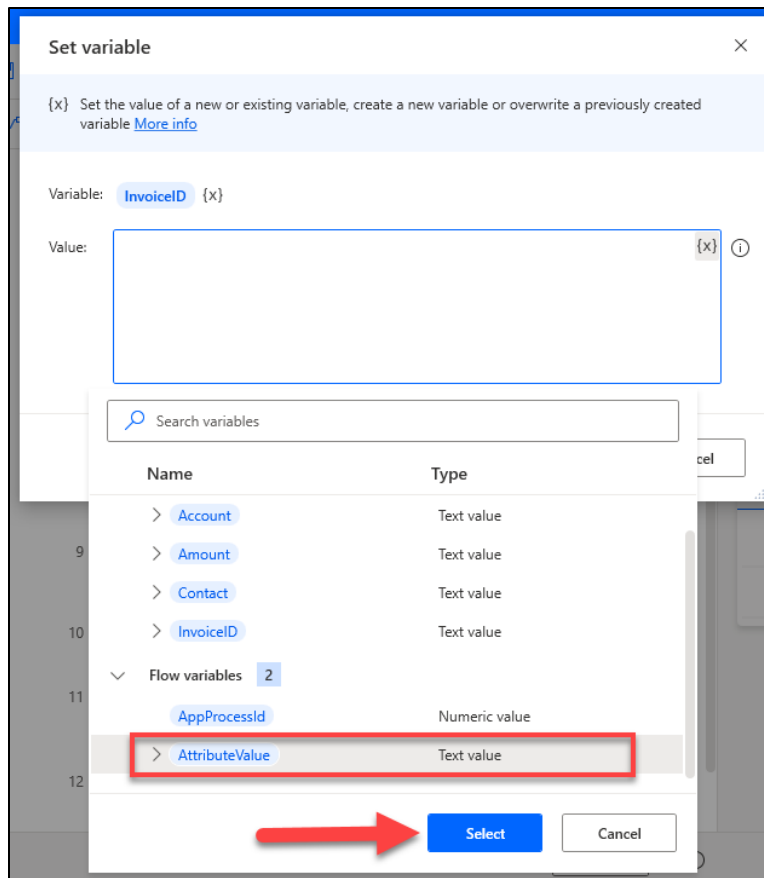
Drag and drop a **Set variable** action from the **Actions** menu pane within the **Variables** folder to below **Step 11** (which is the **Get details of a UI element in window** that we just created).



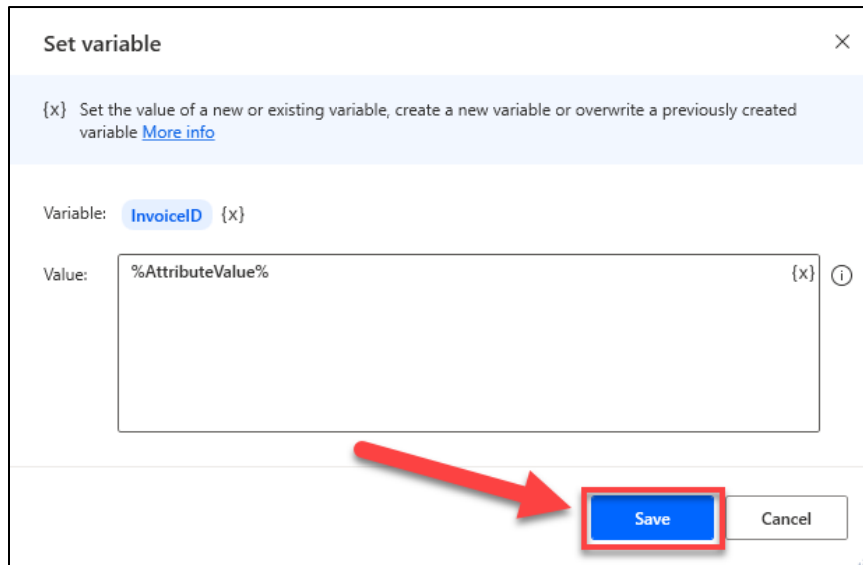
21. Change the **Variable** to **%InvoiceID%** and select the **{x}** button from the **Value** section.



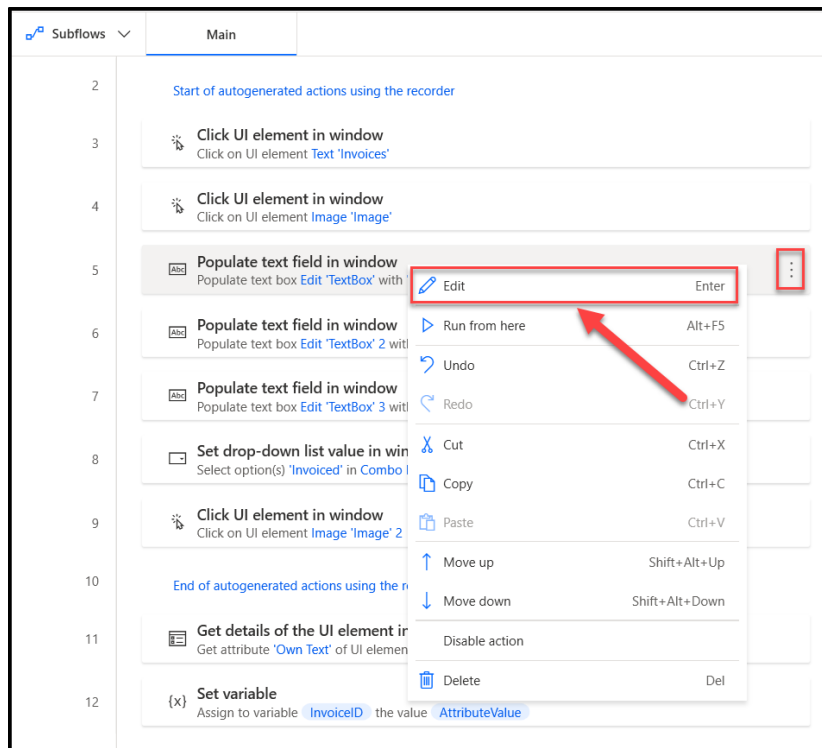
22. Select **AttributeValue** from the list and then select the **Select** button.



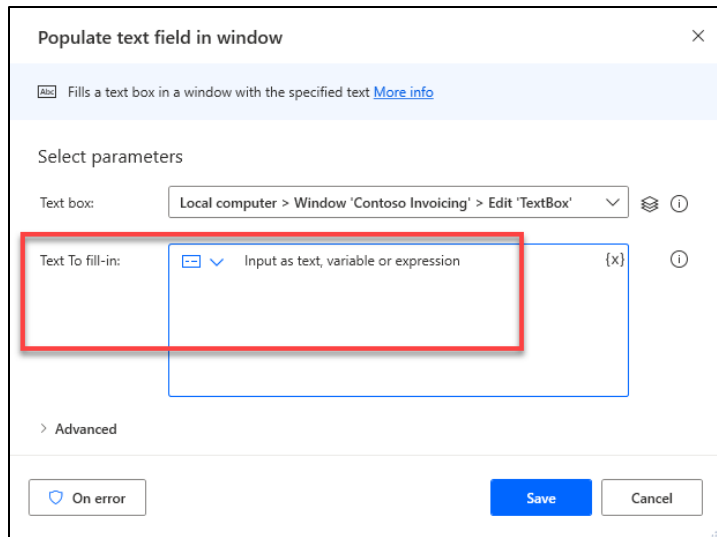
23. Then, select the **Save** button at the bottom of the **Set variable** dialog window to complete this step.



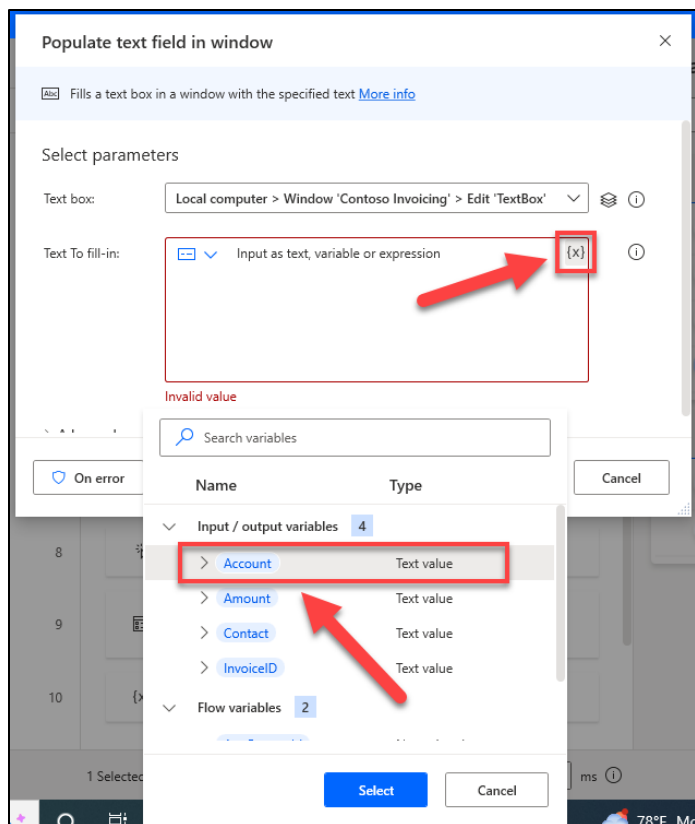
24. Now we will configure the steps to use input variable values when running the automation. Select **Step 5 (Edit 'TextBox' with 'WingTip Cups')**, and to the right, select the **ellipses (...)**. From the options menu, select **Edit**.



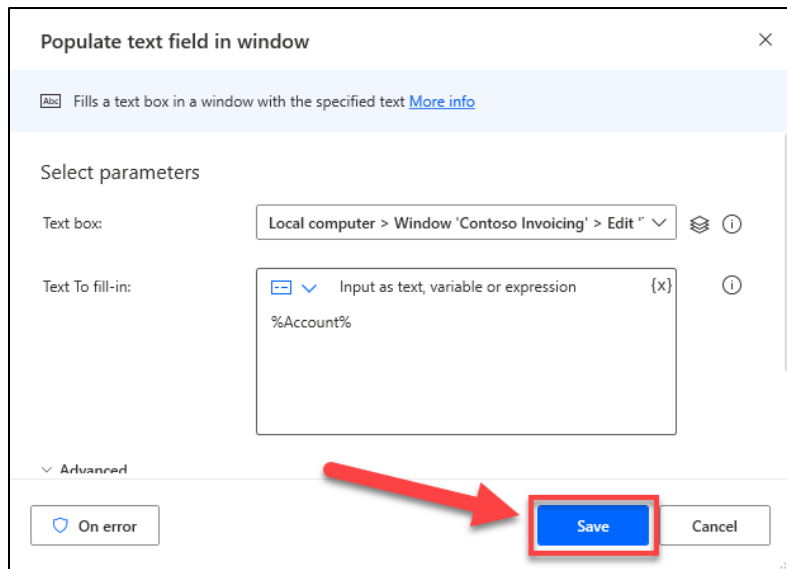
25. In the **Populate text field in window** dialog window, delete the value in **Text to fill-in** field.



26. Now, select the **Account** (one of the input variables that we created earlier) by selecting the **{x}** icon, and then double-clicking to select **Account**.

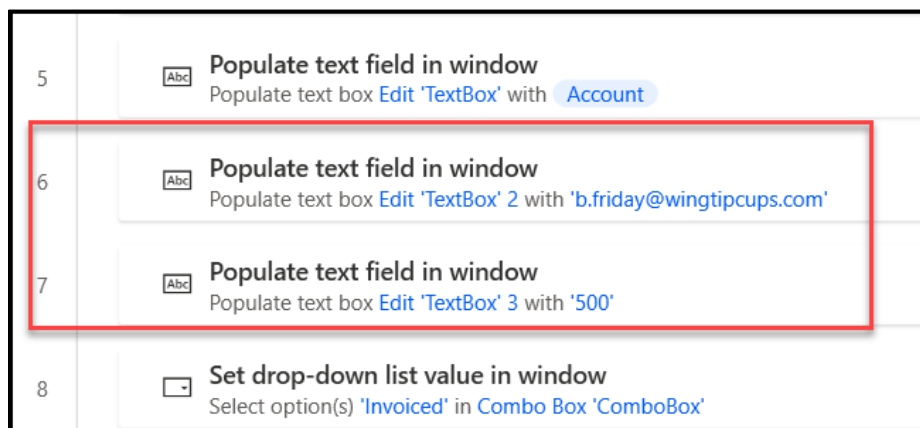


27. Then, select **Save**.

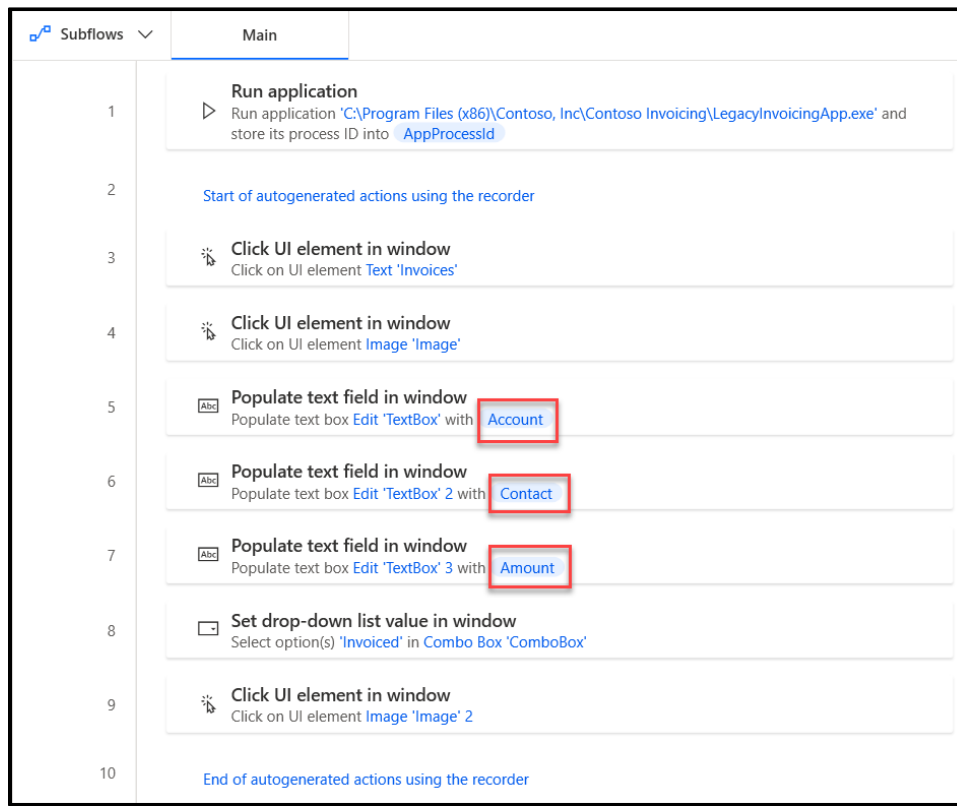


28. **Repeat** the same steps from above (steps 25 through 27) to change the value of **Text to fill-in** in **Step 6** and **Step 7** in the desktop flow.

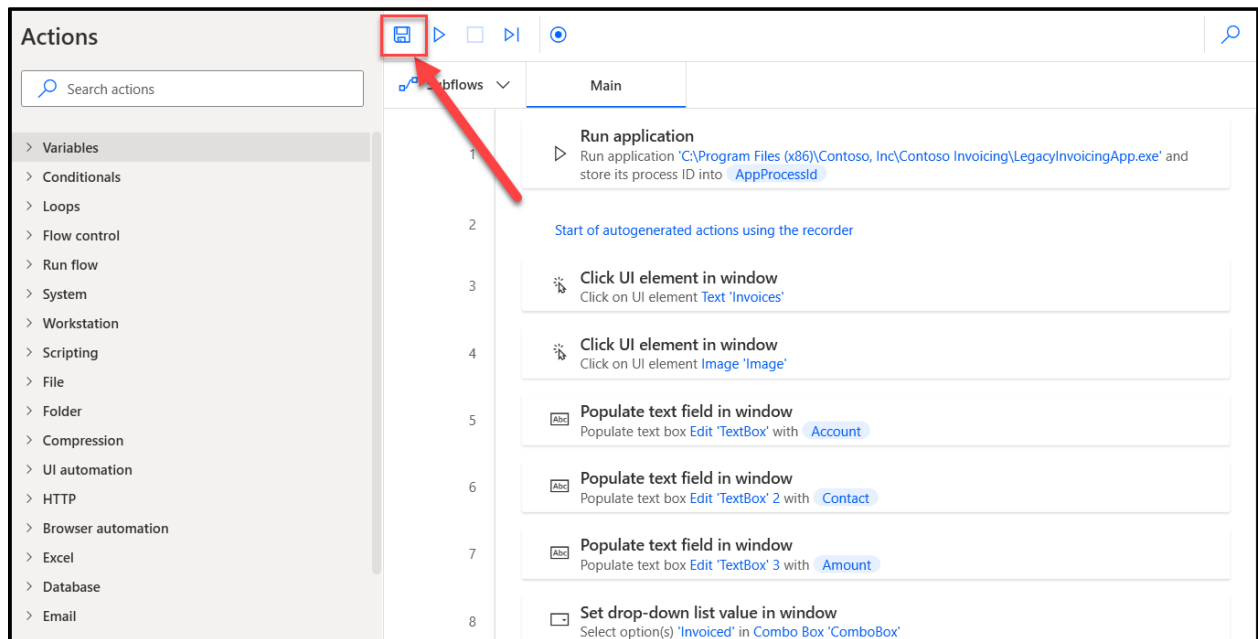
- Use the Input variable **Contact** for **Step 6**
- Use the Input variable **Amount** for **Step 7**



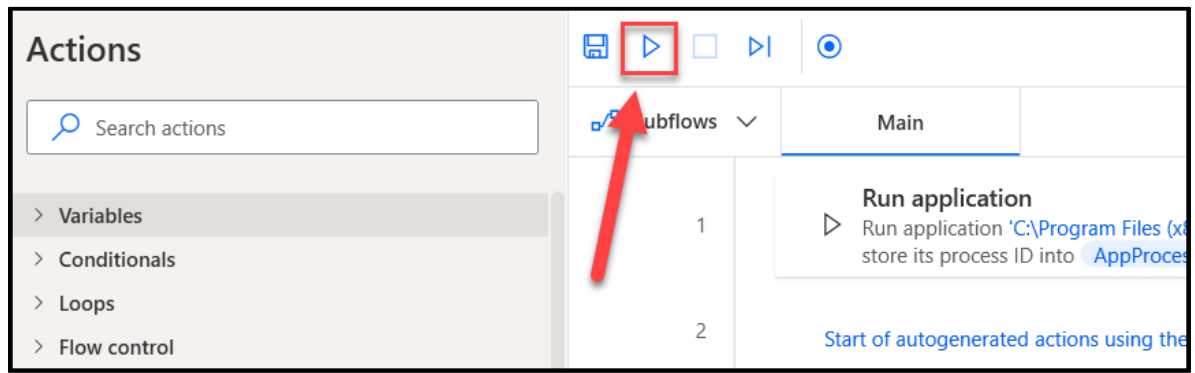
29. Once you are finished, your actions should look like the figure below:



30. Located at the top of your screen, select the **Save** icon to save all of your changes.



31. Now you have completed configuring, using inputs and outputs, in your desktop flow. In the next labs, we will use those inputs and outputs to pass data values between cloud flows and desktop flows. Now you can test your flow by selecting the **Run** icon at the top of your screen and watch the automation running using the input variables values (default values).



32. **Close** the **Power Automate for Desktop** application.

Check your knowledge

Lab 3

5 minutes

1. If you need to pass parameters from a cloud flow into a desktop flow, where do you define these values?
 - A. Run
 - B. Run next action
 - C. Input/output variables
 - D. None of the above

2. We need to hold the _____ key on keyboard and then _____ to select the UI element in Power Automate for desktop.
 - A. Shift + Right-Click
 - B. Shift + Left-Click
 - C. CTRL + Left-Click
 - D. CTRL + Right-Click

3. Which of the following actions allows us to use Invoice ID in downstream desktop flow actions or is required to return the value to a cloud flow?
 - A. Create a new list
 - B. Set variable
 - C. Add item to list
 - D. Increase variable

Answer Key

1. If you need to pass parameters from a cloud flow into a desktop flow, where do you define these values?
 - A. Run
 - B. Run next action
 - C. Input/output variables**
 - D. None of the above

Answer: **C.** Input/output variables allow the maker to establish parameters that can be sent from a Cloud flow. In addition, output variables can be used to send data back to Cloud flows.

2. We need to hold the _____ key on keyboard and then _____ to select the UI element in Power Automate for desktop.
 - A. Shift + Right-Click
 - B. Shift + Left-Click
 - C. CTRL + Left-Click**
 - D. CTRL + Right-Click

Answer: **C.** CTRL + Left-Click

3. Which of the following actions allows us to use Invoice ID in downstream desktop flow actions or is required to return the value to a cloud flow?
 - A. Create a new list
 - B. Set variable**
 - C. Add item to list
 - D. Increase variable

Answer: **B.** Set variable – We can set an output type of variable which will capture the Invoice ID. It will allow us to use the Invoice ID in downstream processes or send back to our cloud flow that will be created in a future lab.

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