# **Getting Started with Microsoft Flow**

Lab Time: 60 minutes

Lab Folder: C:\Student\Modules\04\_DesigningFlows\Lab

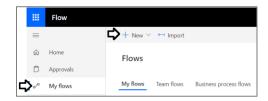
Lab Overview: In this lab, you will begin to work with Microsoft Flow. You will start by creating a new Twitter account for testing

purposes. After that, you will build a flow that monitors Twitter for incoming tweets containing a specific hashtag.

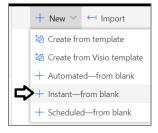
# Exercise 1: Create and Test a Flow with Flow Button Trigger

In this exercise, you will create a new flow from blank without using a template. This will give you a chance to see how to build a flow from the ground up. In this specific case, you will create a new flow that uses the Flow button for mobile trigger which allows a user to easily kick off a flow from a mobile device.

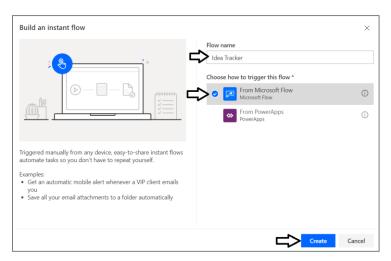
- 1. Create a new flow from blank.
  - a) Navigate to Microsoft Flow at <a href="https://flow.microsoft.com">https://flow.microsoft.com</a>.
  - b) Click the My flows link.
  - c) Click the + New button to create a new flow.



d) Select Instant-from blank.



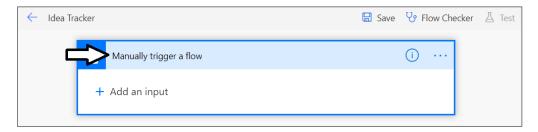
- e) On the Build an instant flow dialog, enter a Flow name of Idea Tracker.
- f) For the Choose how to trigger this flow option, select from Microsoft Flow.
- g) Click the Create button to create the new flow.



h) You should now see a new flow in the flow designer with flow name of Idea Tracker in the upper left corner.

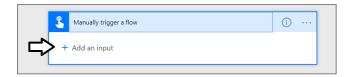


- 2. Add input parameters to the flow button trigger
  - a) Click on the flow button trigger on top of the text that reads Manually trigger a flow to display the trigger body.



The Flow button trigger allows you to add input parameters. This makes it possible to prompt the user who is manually running the flow for input data that will be passed to the flow. In this flow, you will prompt the user for an idea and a value that indicates the idea quality.

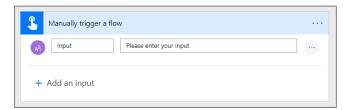
b) Click the Add an input link.



c) When prompted to Choose the type of user input, click Text.



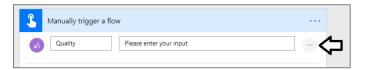
d) You should now see an input that by default is named Input.



e) Change the name of the input to Quality as shown in the following screenshot.



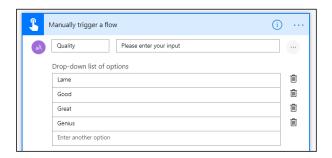
f) Click the ellipse (...) drop menu on the right-hand side of the Quality input.



g) Select the option for Add a list of options from the dropdown menu.



h) Under List Options, add four choices which include Lame, Good, Great and Genius as shown in the following screenshot.



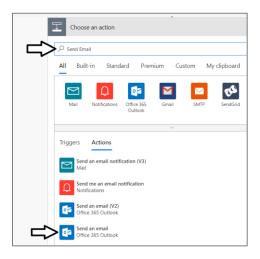
i) Click Add an input to add a second input field.



- j) When prompted to Choose the type of user input, click Text.
- k) Change the name of the second input field to Idea.

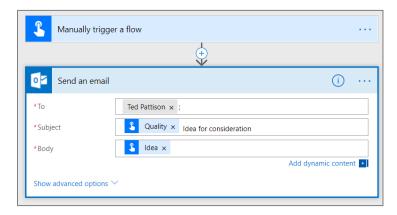


- 3. Add an action to send an email message every time the flow is triggered.
  - a) Click **New Step** at the bottom of the Flow Designer to add a new action.
  - b) Type "Send Email" into the search box to search for the Send an email action.
  - c) Select the Send an email Office 365 Outlook action.

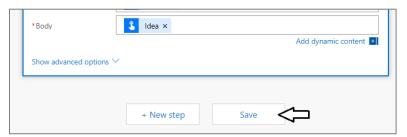


Note that in addition to the **Send an email** action, there is a several similar action named **Send an email (V2)** which provides a better HTML editor for the email body. In this lab exercise, the simple **Send an email** action will provide all that you need.

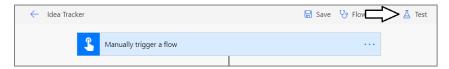
- d) In the **Send an email** action, add your Office 365 trial account email address to the **To** field.
- e) In the Subject field, add the Quality field from flow data followed by the text "Idea for consideration".
- f) In the **Body** field, add the **Idea** field from flow data.
- g) When you are done, the Send an email action should match the following screenshot.



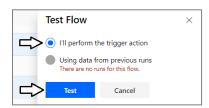
h) Click the **Save** button at the bottom of the Flow Designer to save your flow.



- 4. Test the **Idea Tracker** flow by running it from the browser.
  - a) Click the **Test** button at the top right to manually trigger the flow.



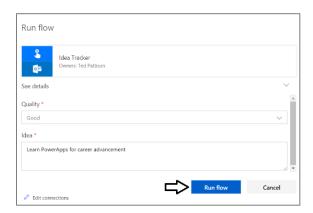
b) Select the option I'll perform the trigger action and then click the Test button.



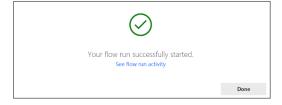
- c) If prompted, sign in with your Office 365 trial account and grant permissions to the Office 365 Outlook connector.
- d) Click the Continue button.



- e) You should now be prompted with a page that allows you to enter values for the two input fields named Quality and Idea.
- f) Enter some sample test values for the input fields named Quantity and Idea and then click Run flow.



g) You should see a message indicating that the flow ran successfully.



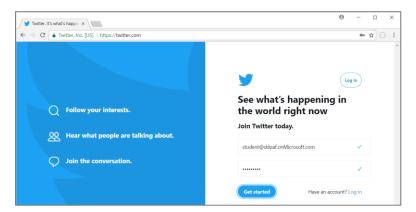
- 5. Check your inbox to see the message created by the **Idea Tracker** flow.
  - a) Return to your inbox in Outlook.
  - b) Verify that you received the message with your idea.



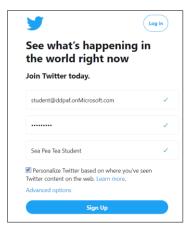
# **Exercise 2: Create a New Twitter Account for Testing Purposes**

In this lab and in later labs, you will require a Twitter account to create Flows that are triggered by tweets of a specific keyword. While you might already have your own personal Twitter account, you likely want to create a new Twitter account so you can sound out test tweets without having them come from your personal account. In this exercise, you will create a new Twitter account using the email address of your trial Office 365 account.

- 6. Navigate to <a href="https://twitter.com">https://twitter.com</a>.
- 7. Sign up for a new twitter account using the email address of your Office 365 trial account.
  - a) Under the Join Twitter today message, enter your Office 365 trial account email address
  - b) Enter a password you will remember.
  - c) Click the Get started button to begin the process of creating a new Twitter account.



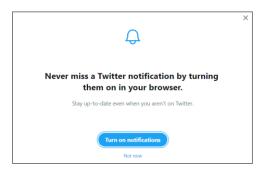
d) Enter a name (you can make up something fun) and click the **Sign up** button.



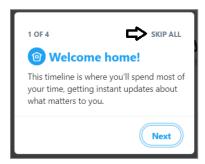
- e) On the page that prompts you for a phone number, click **Skip** to continue.
- f) On the **Choose a username** page, enter a user name that is unique.



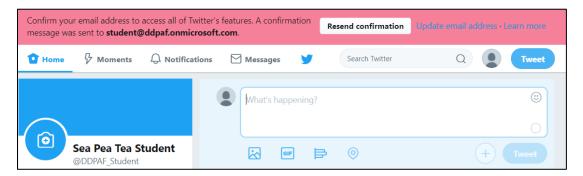
- g) On the page with the caption What are you interested in?, click Continue.
- h) On the page with the caption Want to find friends and see who they follow?, click No Thanks.
- i) On the page which prompts you about Twitter notifications, click the Not now link at the bottom.



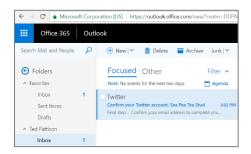
j) On the Welcome home! page, click SKIP ALL.



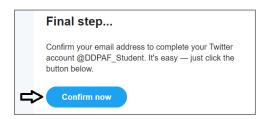
k) You have now created the new Twitter account. However, you will notice that your new Twitter account is not yet ready for use because you must first respond to the confirmation email that has been sent to your Office 365 trial account.



- 8. Respond to the confirmation email sent by Twitter to activate your new Twitter account.
  - a) Navigate to the Outlook inbox for your Office 365 trial account at <a href="https://outlook.office.com">https://outlook.office.com</a>.
  - b) Sign in using your Office 365 trial account.
  - c) Locate and open the confirmation email message sent to you by Twitter.



d) Inside the body of the confirmation email, locate and click on the Confirm now button.



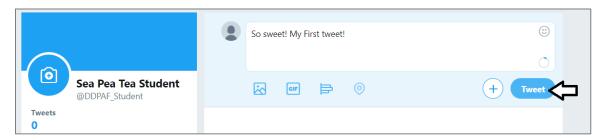
e) You should be redirected to Twitter and you should also see a message indicating your account has been confirmed.



- 9. Send out your first tweet.
  - a) Locate the What's happening text input control.



- b) Place your cursor inside the **What's happening** text input control and type a simple message.
- c) Click the **Tweet** button to send out a new tweet with your message.



d) You should be able to verify that your tweet has been sent.



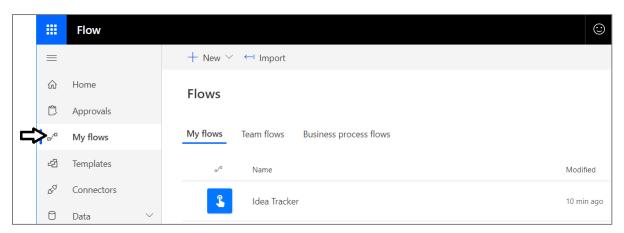
e) This step is optional but it might be more fun if you upload your photo (or some other photo) for your new Twitter account.



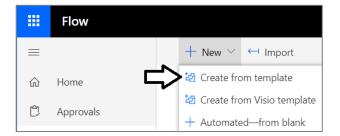
### **Exercise 3: Create a Flow to Track Twitter Data in an Excel Workbook**

In this exercise, you will use one of the out-of-the-box templates to create a new flow that will send you an email whenever someone sends a tweet containing the hashtag **#PowerApps**.

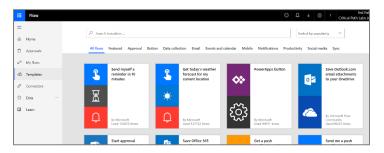
- Return to the Microsoft Flow portal.
  - a) Navigate to <a href="http://flow.microsoft.com">http://flow.microsoft.com</a>.
  - b) If required, sign in using your Office 365 trial account.
- 2. Create a new flow using a template.
  - a) Click on the My flows link.



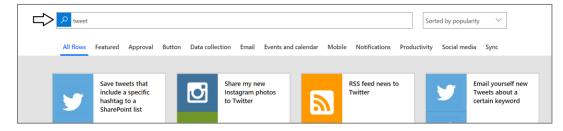
b) Click the **Create from template** link to begin the process of creating a new flow.



c) You should now see a page containing templates.



d) Enter the word "tweet" into the search box and then click the button with the search icon.



e) Locate and click the Email yourself new Tweets about a certain keyword template.



f) You should now see a page that allows you to log into each of the connectors your flow will be using.



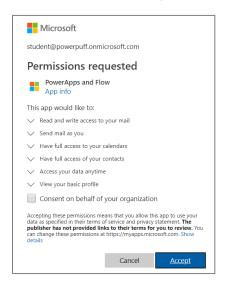
g) Click the Sign in button for Outlook.com.



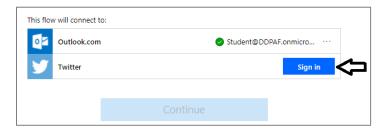
h) Sign in with your Office 365 trial account.



i) You should be prompted to grant permissions to the new flow. Click the Accept button to grant these permissions.



j) Click the Sign in button for Twitter.



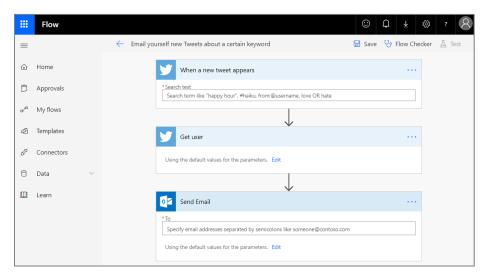
k) On the Authorize page, enter your Twitter user account screen name and password. Then click the Authorize app button.



I) Once you have configured permissions, click the **Continue** button.



m) You should now see your new flow in the Flow Designer.



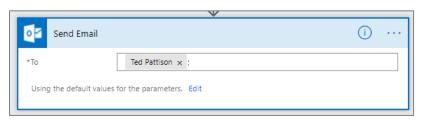
n) In the When a new tweet appears trigger, enter a text value of #PowerApps in the Search text input control.



o) In the Send email action, enter the email address for your Office 365 trial account.



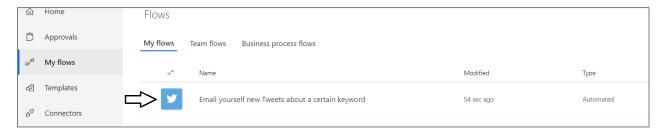
p) Once you add your email address, the Flow Designer should resolve it to the display name of your Office 365 user account.



q) Click the **Save Flow** button to save your work.



- r) Click on the My flows link.
- s) You should see your new flow in the list of your flows.

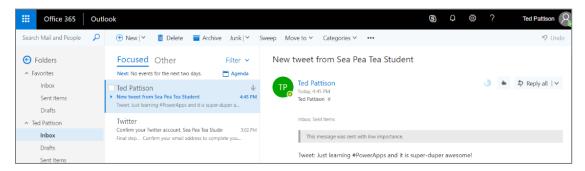


- 3. Send a tweet with the #PowerApps hashtag.
  - a) Return to Twitter.com inside the browser.
  - b) Enter a new message containing the hashtag #PowerApps and click the Tweet button to send it.



It often takes 5 minutes or so before this flow will start and email you messages with your hashtag. It some cases it could take as many as 15-20 minutes before it starts working correctly.

- 4. Check your email.
  - a) Return to the Outlook inbox for your Office 365 user account.
  - b) Confirm that your received an email about the new tweet containing the #PowerApps hashtag.



Note that your Office 365 trial user account is the sender of the message.

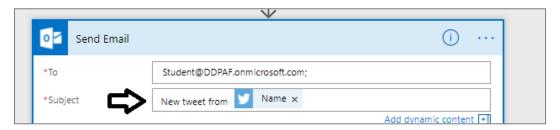
- 5. Make an edit to the flow that you just created.
  - a) Return to the My flows list and select the flow named Email yourself new Tweets about a certain keyword.
  - b) Click the **Edit** button in the ribbon to open the flow in edit mode.



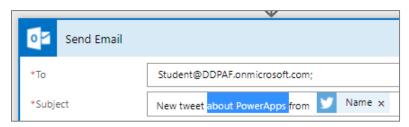
c) Click on the header for the **Send Email** action to open it up for editing.



d) Locate the text input control with the email **Subject**.



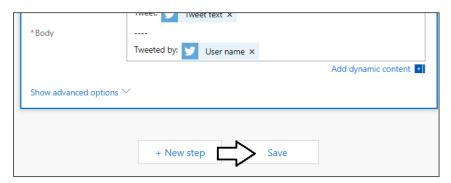
e) Update the Subject value by adding the text about PowerApps as shown in the following screenshot.



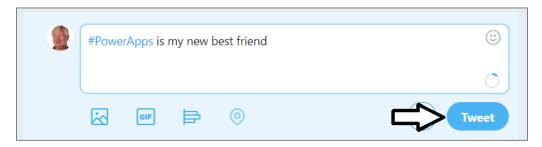
f) Update the email Body by simplifying it as shown in the following screenshot.



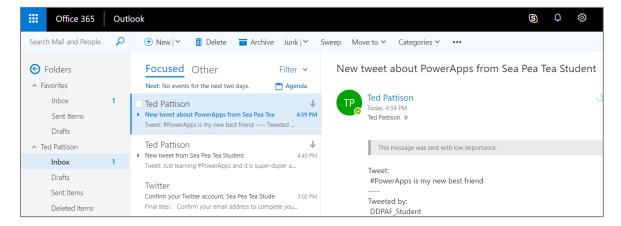
g) Click the **Save** button to save your changes to the flow.



- 6. Send out a new tweet with the **#PowerApps** hashtag.
  - a) Return to Twitter.com inside the browser.
  - b) Enter a new message containing the hashtag #PowerApps and click the Tweet button to send it.



- 7. Check your email.
  - a) Return to the Outlook inbox for your Office 365 user account.
  - b) Confirm that you received an email about the new tweet containing the **#PowerApps** hashtag.
  - c) Make sure the new email contains "about PowerApps" in the subject and contains your changes to the email body.



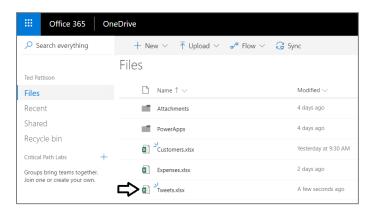
Over the next few steps, you will extend the flow you created in the previous exercise by adding tweets into an Excel workbook.

- 8. Upload the Excel workbook named Tweets.xslx to OneDrive for Business.
  - a) Using Windows Explorer, verify that there is an Excel book named Tweets.xslx located at the following path.

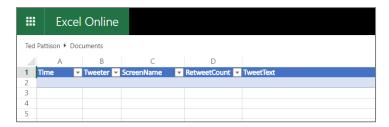
#### C:\Student\Modules\03\_DesigningFlows\Lab\Tweets.xslx

b) Drop down the Office 365 app launcher menu and select OneDrive to navigate to your Files collection.

c) Click the Upload button and then select Tweets.xslx to upload this file to OneDrive for Business.



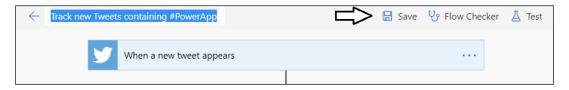
- a) Click on Tweets.xlsx to inspect the contents of this workbook.
- b) You should see that this workbook contains a single worksheet with a table for tracking tweets.



- 9. Update the title of your flow.
  - a) Return to the My flows list in Microsoft Flow and find the Email yourself new Tweets about a certain keyword flow.
  - b) Click the button with the pen icon to open the flow in edit mode.



c) Update the flow name to **Track new Tweets containing #PowerApp** and click the **Save** button.



d) Once the flow has been updated with the new name, click the **Edit flow** button.



- 10. Modify your flow to write tweets into this workbook.
  - a) Click the **New step** button to add a new step at the end of the flow.



b) Type "Excel" into the action search box and then click Excel Online (Business) to further filter the available actions..



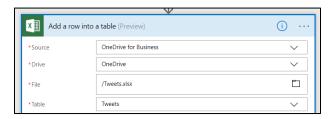
c) Select the Excel Online (Business) – Add a row into a table action.



d) You should now see a new action that requires you to configure its Source, Drive, File and Table properties.



- e) Set the Source property to OneDrive for Business.
- f) Set the **Drive** property to **OneDrive**.
- g) Set the File property to /Tweets.xlsx.
- h) Set the Table property to Tweets.

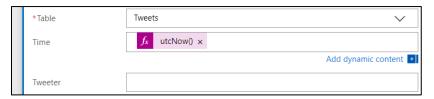


Once you set the **Table** property, you should see that action now has properties for each column in the **Tweets** table.

i) Place your cursor in the Time input box and then add an expressions of utcNow() as shown in the following screenshot.

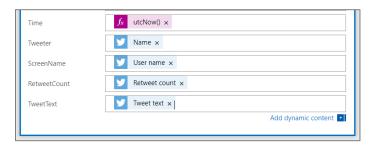


j) Once you have added the expression for Time property, it should match the following screenshot.



You can set the remaining properties by placing the cursor inside the input control you want to update and then by selecting the value you want from the flow data properties view on the right-hand side.

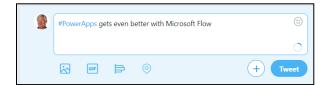
- k) Set the Tweeter property to Name.
- I) Set the **ScreenName** property to **User name**.
- m) Set the RetweetCount property to Retweet Count.
- n) Set the TweetText property to Tweet text.



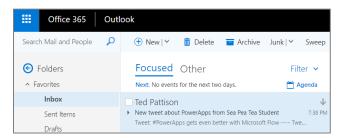
o) Click the **Save** button at the bottom of the Flow Designer to save your work.



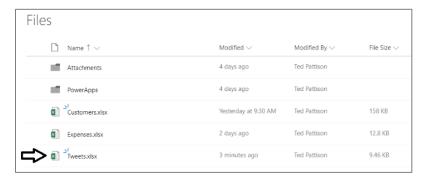
- 11. Send out a new tweet with the **#PowerApps** hashtag.
  - a) Return to Twitter.com inside the browser.
  - b) Enter a new message containing the hashtag **#PowerApps** and click the **Tweet** button to send it.



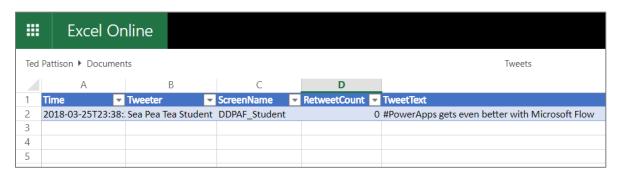
- 12. Check your email.
  - a) Return to the Outlook inbox for your Office 365 user account.
  - b) Confirm that you received an email about the new tweet containing the #PowerApps hashtag.



- 13. Inspect the Excel workbook named Tweets.xlsx.
  - a) Return to OneDrive for Business and click on Tweets.xlsx to open it.



b) Verify that the table in the workbook contains a new row for the tweet you just sent.



- 14. Inspect the run history for your flow.
  - a) Return to Microsoft Flow and click the My flows link.
  - b) Click on your flow named Track new Tweets containing #PowerApps.

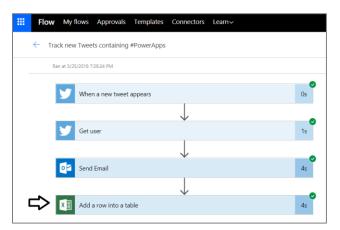


- c) You should now see a list of the flow's RUN HISTORY.
- d) Click the top row in the RUN HISTORY list.

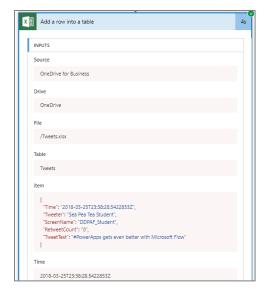


You should now see a view that looks like the Flow Designer. However, the run history view is different because it is read-only.

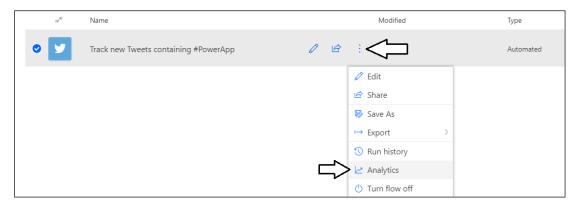
e) Click on the Add a row into a table action.



f) Inspect the view for the run history for this action.



- 15. Inspect the analytics for your flow.
  - a) Return to the My flows list.
  - b) Use the ellipse (...) dropdown menu on the right of your flow to select the Analytics menu command.



c) Take a moment to see what data is available in the analytics view.

Note that the Analytics view for your flow doesn't have any data behind it yet because you have just created it If you let this flow run for a few days, it will begin to look like the analytics view shown in the following screenshot.

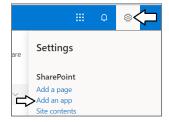


As you can see, analytics view is more valuable when a flow has analytics data from continually running in production environment.

### Exercise 4: Create a Flow to Generate a Word Document from a SharePoint List Item

In this exercise, you will create a new flow that is triggered by selecting a customer item from the SharePoint **Customers** list. You will build the flow to generate a new Word document and populate its content from data in the SharePoint list item that triggered the flow.

- 1. Create a SharePoint document library to store letters that are generated by the flow you will create in this exercise.
  - a) Navigate to your SharePoint site.
  - b) Click the Add an app menu command from the Site Actions menu.



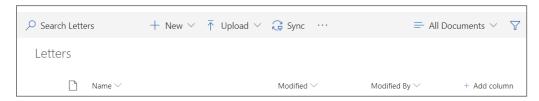
c) Select a list type of **Document Library**.



d) Enter a Name of Letters for the document library and click Create.



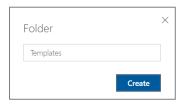
- 2. Create a folder inside the **Letters** document library to store a letter template.
  - a) Once the Letters document library has been created, navigate to its default view.



b) Click the **New > Folder** command to create new folder.



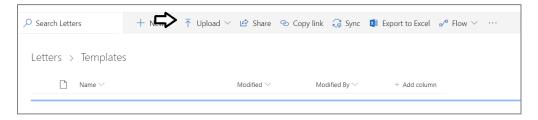
c) Give the new folder a name of **Templates** and click **Create** to create the new document library.



d) Once the Templates folder has been created, click on the Templates link to navigate inside the folder.



e) Once you have navigated inside the **Templates** folder, click the **Upload** button to upload a Word template file into that folder.



f) Upload the file named CustomerLetterTemplate.docx which is located in the Student folder at the following path.

### C:\Student\Modules\04\_DesigningFlows\Lab\CustomerLetterTemplate.docx

g) Verify that CustomerLetterTemplate.docx has been uploaded to the Templates folder.



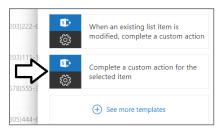
- 3. Create a new flow on the SharePoint Customers list using the For a selected item trigger.
  - a) Navigate to the Customers list in your SharePoint site.
  - b) Drop down the Flow menu in the ribbon and select the Create a flow command.



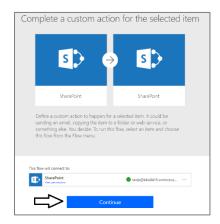
c) When you see the Create a flow pane on the right, click the Show more link at the bottom.



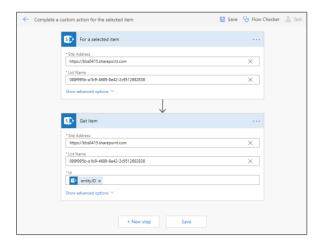
d) Scroll to the bottom of the templates list and select the template named Complete a custom action for the selected item.



e) When prompted to grant permissions for a new SharePoint connection, click Continue.



f) You should now see a new flow with a For a selected item trigger at the top and a Get item action below.



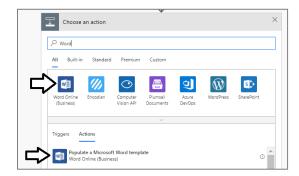
g) At the top left, locate the flow Name which has a default value of Complete a custom action for the selected item.



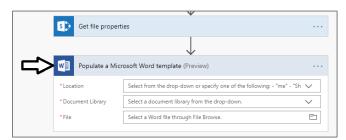
h) Update the Name of the flow to Generate Customer Letter.



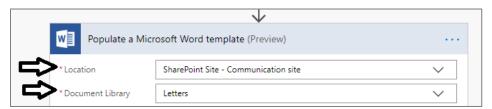
- 4. Add a new step to generate a new Microsoft Word document using customer data from the selected customer item.
  - a) Underneath the Get item action, click New step button to add a new step to the bottom of the flow.
  - b) Type Word into the action search box.
  - c) Locate and select the action named **Populate a Microsoft Word template**.



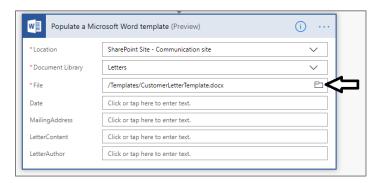
d) The **Populate a Microsoft Word template** action should appear in the flow designer.



- e) Configure the **Location** parameter to reference your SharePoint site.
- f) Configure the **Document Library** parameter to reference the **Letters** document library.

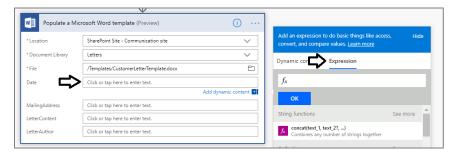


g) Configure the File parameter to reference the template file named CustomerLetterTemplate.docx in the Templates folder.



Once you configure the **File** property to reference the template file named **CustomerLetterTemplate.docx**, the flow designer discovers the input fields in the Word template named **Date**, **MailingAddress**, **LetterContent** and **LetterAuthor** and provides an opportunity for you to initialize these input field values using content generated from the selected customer item.

- 5. Initialize the **Date** input field for the Word document template.
  - a) Place your cursor in the textbox for the **Date** parameter and then click the **Expressions** tab on the right.



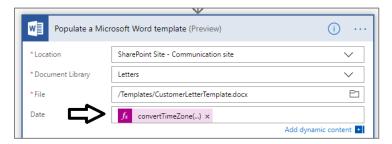
b) Copy the following WDL expression into the clipboard and then paste it into the **Expressions** textbox.

### convertTimeZone(utcnow(),'UTC','Eastern Standard Time','MMM d, yyyy')

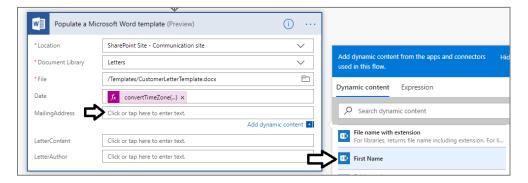
c) Once you have pasted the expression into the Expression textbox, click the OK button to save your changes.



d) You should be able to verify that the expression with the **convertTimeZone** function has been entered correctly.



- 6. Initialize the **MailingAddress** input field for the Word document template.
  - a) Place your cursor inside the textbox for the MailingAddress parameter.
  - b) Click the First Name output parameter from the For a selected item trigger.



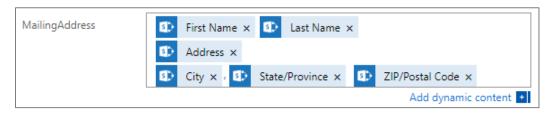
c) Place the cursor after First Name and add a space.



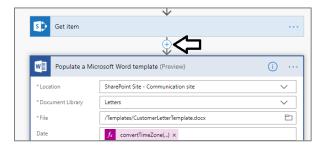
d) After the space, add the Last Name parameter from the For a selected item trigger.



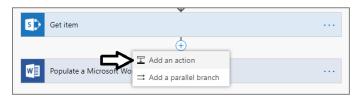
- e) Next, add a line break
- f) Add Address.
- g) Add another line break.
- h) Add City followed by a comma (,) and then a space.
- i) Add State/Province followed by two spaces and then ZIP/Postal Code.



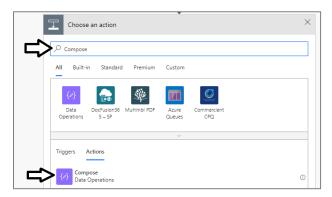
- 7. Add a new Compose step to build the content for the LetterContent input field.
  - a) Click the + button in between the Get item action and the Populate a Microsoft Word template.



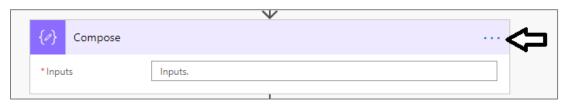
b) Select the Add an action command.



- c) Type Compose into the action search textbox.
- d) Locate and select the **Compose** action.



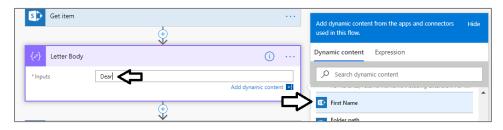
- e) You can see that the **Compose** action has one input parameter named **Inputs**.
- f) Click the ellipse context menu on the right of the **Compose** action and select the **Rename** command.



g) Rename the action to Letter Body.



- h) Place your cursor inside the **Inputs** textbox and type "**Dear**" followed by a space.
- i) Next, add the First Name output parameter from the For a selected item trigger.



j) Enter a comma (,) followed by a line break.



k) Enter content for the letter body by copying and pasting the following text.

Lorem ipsum dolor sit amet, id omnis viderer blandit pri, duo in vide nominati consequuntur, duo ne admodum tractatos. An velit iudico phaedrum vim, no saepe altera duo, sea duis assum id. Cu mel facilisi rationibus, in eros albucius per, cum id movet graecis. Ex vel tollit civibus repudiare, quidam audire vituperatoribus pri an. An eros utinam has.

Dicat veniam reprehendunt usu eu, id pri stet qualisque. Vis tale quaeque incorrupte ea, mea quaestio imperdiet ei, per eu perfecto lobortis argumentum. Ad his viris appetere gloriatur. Ei eos elit appareat complectitur. Quo novum aperiri accusamus ei, duis nostrud cum no, at vel dolorum recusabo patrioque.

Vim no eius verterem urbanitas, error veniam vim an. Ut possit aperiam sed, veniam oporteat sapientem has eu, pro civibus evertitur ne. Saepe impetus id vis, vel iudico tantas epicurei te. Pri praesent instructior eu, vix quod lorem commune ei, mea facilisi tacimates antiopam eu.

Erant animal te nam, ius praesent imperdiet abhorreant an. Mea unum dicam gloriatur eu, quem molestie accusamus vel te. Dicam nonumes at mei, omnis veritus adipisci ne eos. Everti mnesarchum in eam, no ius aeque vulputate. An debet referrentur vim, duo ne amet melius.

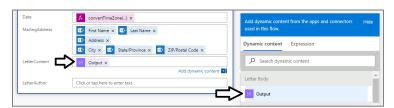
Duo magna mediocrem ocurreret et. Mollis voluptatum ei eam. Placerat scripserit an has, vitae tempor vim no. Oblique admodum iudicabit est in. Ut suavitate disputationi eum, et modo error commune quo.

Augue fabulas id vel. Nec dico legimus an, diceret qualisque his eu. Molestiae laboramus ex eam, in sumo essent dignissim his, eu delicata liberavisse mea. Vis ut iudico graeco iriure. Per veniam eleifend ad, eu sit novum tempor menandri.

I) The Inputs parameter of the Letter Body action should now contain content for the letter body.



- m) Place your cursor inside the LetterContent parameter of the Populate a Microsoft Word template action.
- n) Configure the LetterContent parameter by assigning the Output property of the Compose action named Letter Body.



- 8. Initialize the **LetterAuthor** input field for the Word document template.
  - a) In the Populate a Microsoft Word template action, place your cursor inside the textbox for the LetterAuthor parameter.
  - b) Configure the LetterAuthor parameter by assigning the User name parameter of the For a selected item trigger.



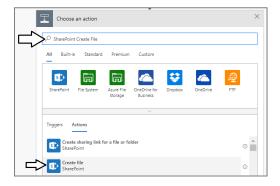
c) Verify that the User name parameter has been assigned to the LetterAuthor input field



- 9. Add a new SharePoint Create File action to save the new Word document into the Letters document library.
  - a) Click the **New step** button at the bottom of the flow to add a new **Create File** action.



- b) Type in **SharePoint Create File** into the action search box.
- c) Locate and select the SharePoint Create File action.



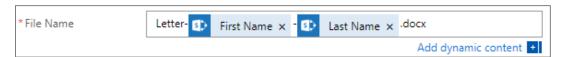
- d) Configure the Site Address parameter with the URL to your SharePoint site.
- e) Configure the Folder Path to reference the /Letters document library.



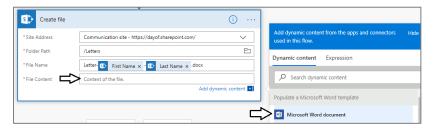
- f) Place your cursor into the textbox for the **File Name** parameter.
- g) Type in an initial text value of "Letter" followed by a hyphen (-).
- h) Next click on the FirstName output parameter of the For a selected item trigger.



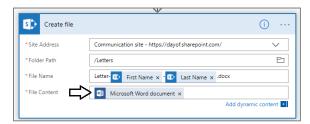
i) After adding the First Name parameter, add another hyphen followed by the Last Name parameter and then ".docx".



j) Place your cursor inside the textbox for the **File Contents** parameter and then add the **Microsoft Word document** parameter of the **Populate a Microsoft Word template** action as shown in the following screenshot.



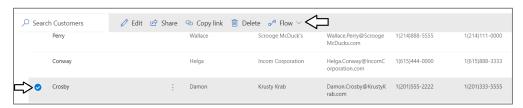
k) The **File Contents** parameter should now be configured with the **Microsoft Word document** output parameter.



I) Click the **Save** button at the bottom of the flow designer to save your work.



- 10. Test your work by select an item in the SharePoint Customers list and running the Generate Customer Letter flow.
  - a) Navigate back to the **Customers** list in your SharePoint site.
  - b) Select one of the custom items is in the Customers list.
  - c) Drop down the Flow menu in the ribbon.



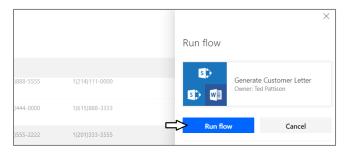
d) From the **Flow** menu, select the flow named **Generate Customer Letter**.



e) When the Run Flow pane appears, click Continue.



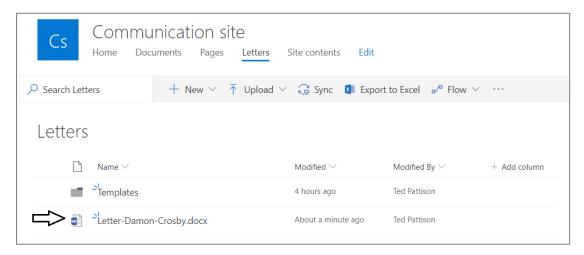
f) Next, click Run flow to run the flow on the currently selected customer item.



g) You should see a notification telling you that the flow has started.



- h) After a few seconds, navigate to the Letters document library.
- i) Your should see that a new Word document has been created as a result of the flow running.
- j) Click on the link to the new Word document to open it on Word Online.



k) You should see that the new Word document has been generated with data from the selected customer item.

