Create a Real-time Dashboard using Microsoft Flow

Lab Time: 60 minutes

Lab Folder: C:\Student\Modules\12_FlowAndPowerApps\Lab

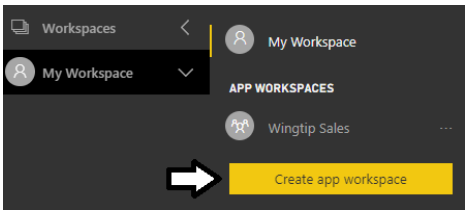
Lab Overview: In this lab you will learn how to create a streaming dataset in Power BI and then populate the streaming dataset using a flow that listens on Twitter for incoming tweets with a specific search term.

Lab Prerequisite: Note that you will need a valid twitter account in order to complete this lab.

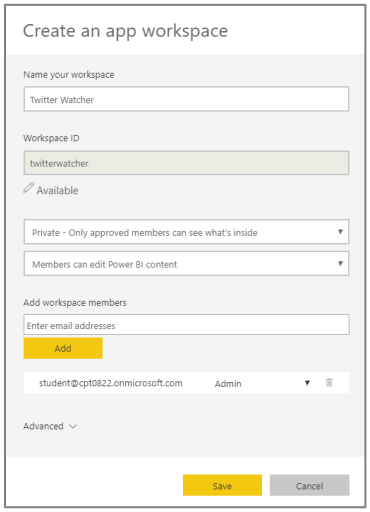
Exercise 1: Creating a Streaming Dataset

In this exercise, you will create a new streaming dataset that will be used in later exercise to build a real-time dashboard.

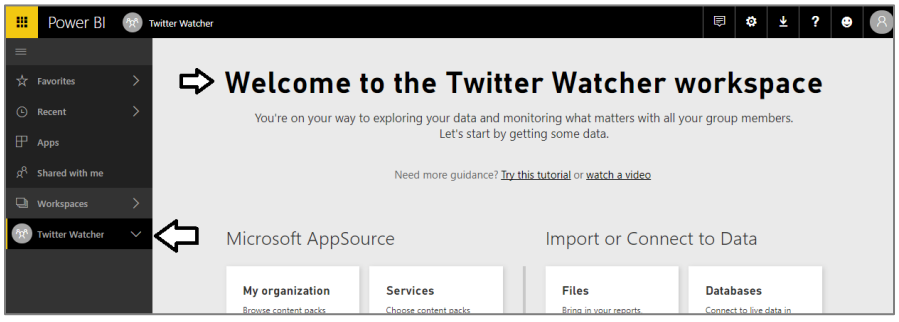
1. Create a new app workspace named Twitter Watcher.
   a) Log into the Power BI service in the browser.
   b) Expand the Workspaces flyout menu and click the **Create app workspace** button.



   c) Create a new app workspace named **Twitter Watcher** and make yourself an **Admin**.

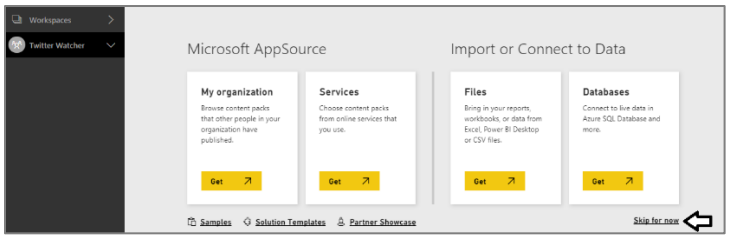


   d) You should now see the welcome page for the new app workspace.

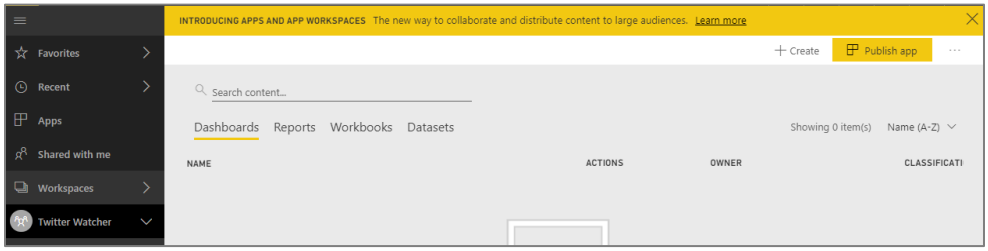


2. Create a Streaming Dataset

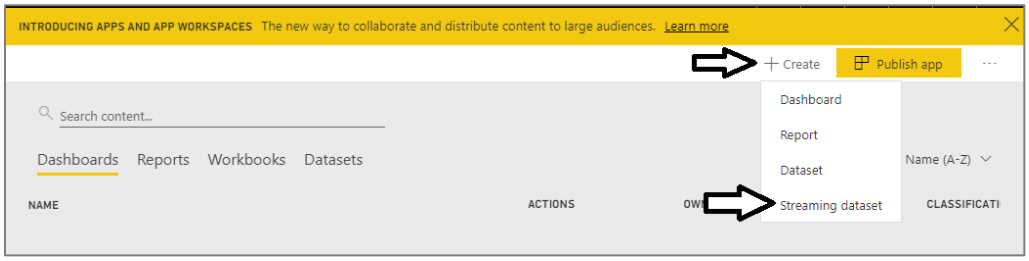
a) On the welcome page for the new app workspace, click the **Skip for now** button on the bottom right.



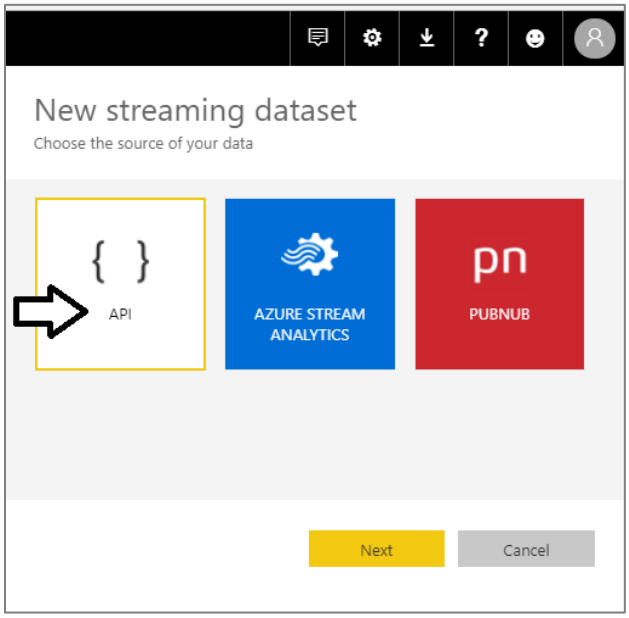
b) You should now see the summary page for the app workspace as shown in the following screenshot.



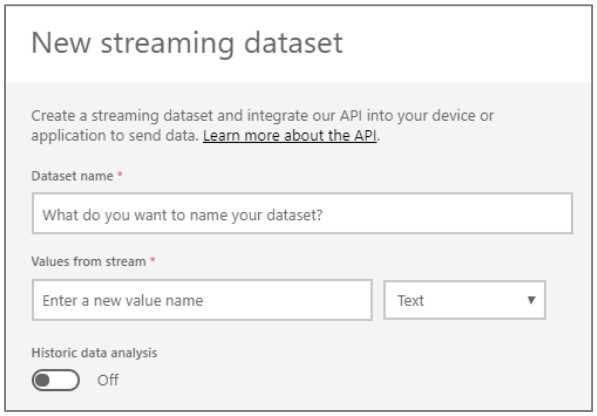
c) Click the **+ Create** dropdown menu and then click **Streaming dataset**.



d) When prompted to **Choose the source of your data**, select **API** and then click **Next**.

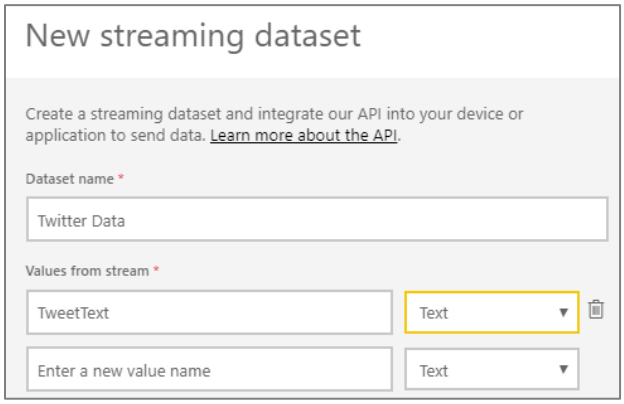


e) Next, you should be prompted with a form to fill in the Dataset name and columns for a table.



f) Enter a Dataset name of **Twitter Data**.

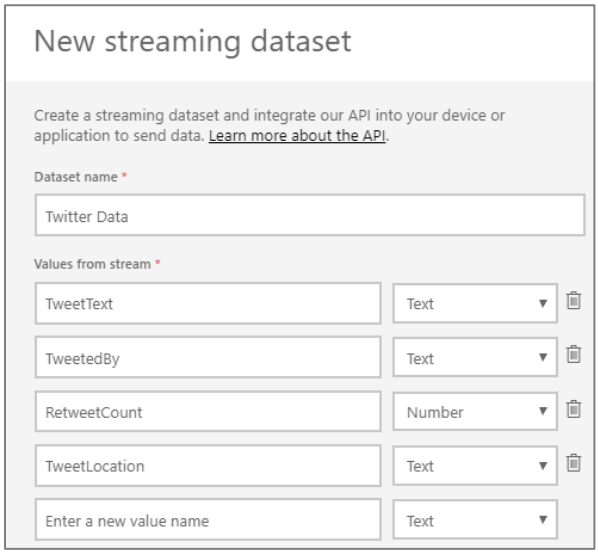
g) In the textbox under **Values from stream**, enter a column name of **TweetText**. and leave the default column type of **Text**.



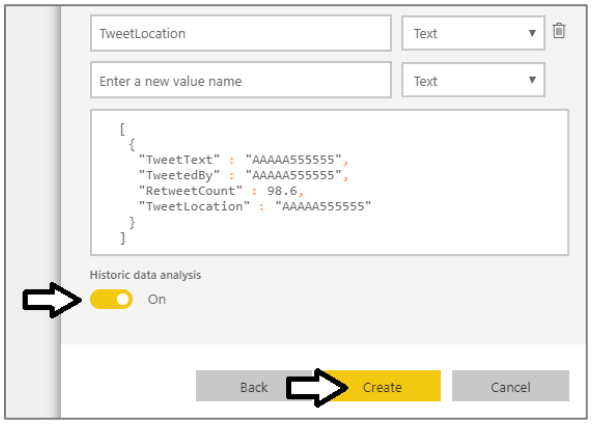
h) Add a second column name **TweetedBy** and leave the default column type of **Text**.

i) Add a second column name **RetweetCount** and change the column type of **Number**.

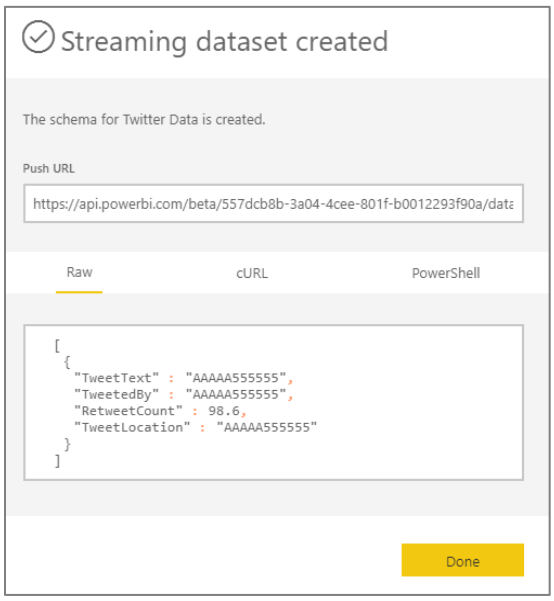
j) Add a second column name **TweetLocation** and leave the default column type of **Text**.



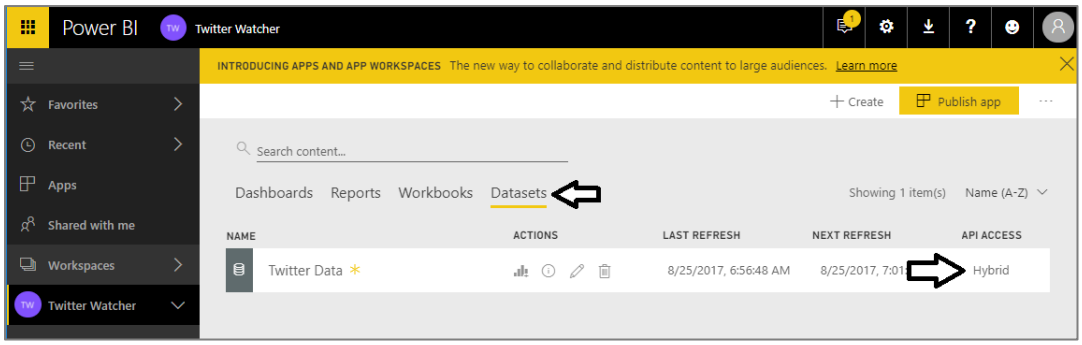
k) Set the **Historic data analysis** option to **On** and then click **Create** to create the new steaming dataset.



l) You should see a page indicating that the streaming dataset has been created. Click **Done** to dismiss this page.



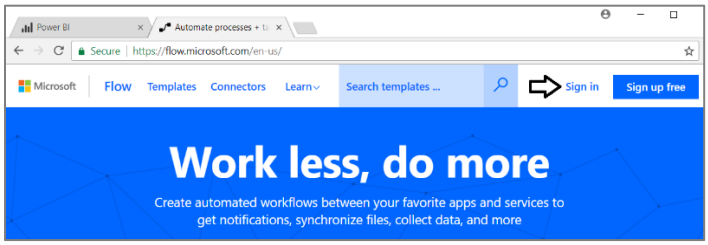
m) Navigate to the summary page for the **Twitter Watcher** app workspace and click the **Datasets** tab. You should be able to see your new streaming dataset. Note that the **API ACCESS** for your dataset is configured as a **Hybrid** dataset.



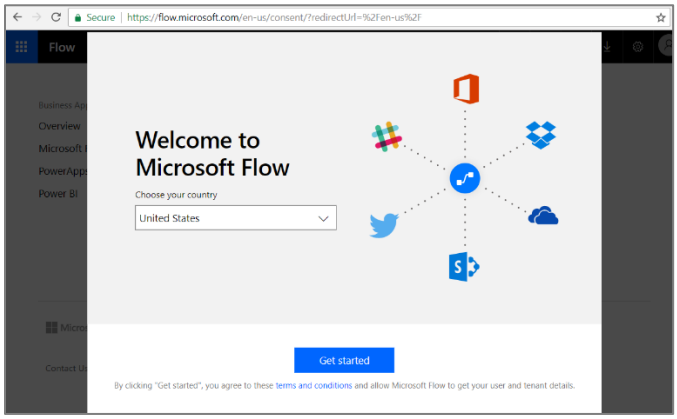
You have created a new streaming dataset named **Twitter Data**. What is not obvious is that Power BI has created a table within this dataset named **RealTimeData** which includes the columns you added in this step.

3. Create the Flow that triggers and collects the Twitter information.

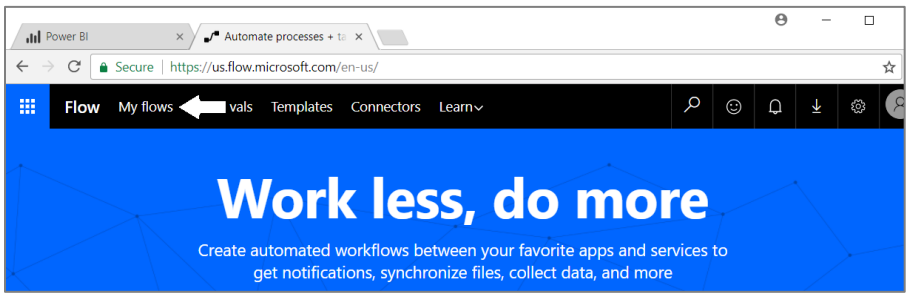
   a) To do this navigate to http://flow.microsoft.com, and click the **Sign in** link.



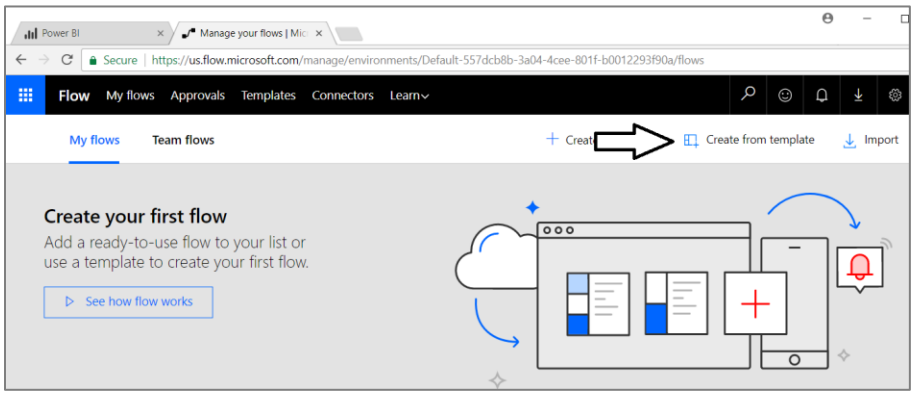
   b) If you are prompted with the **Welcome to Microsoft Flow** page, click the **Get Started** button to continue.



   c) Click the **My flows** link to navigate to the **My flows** page.



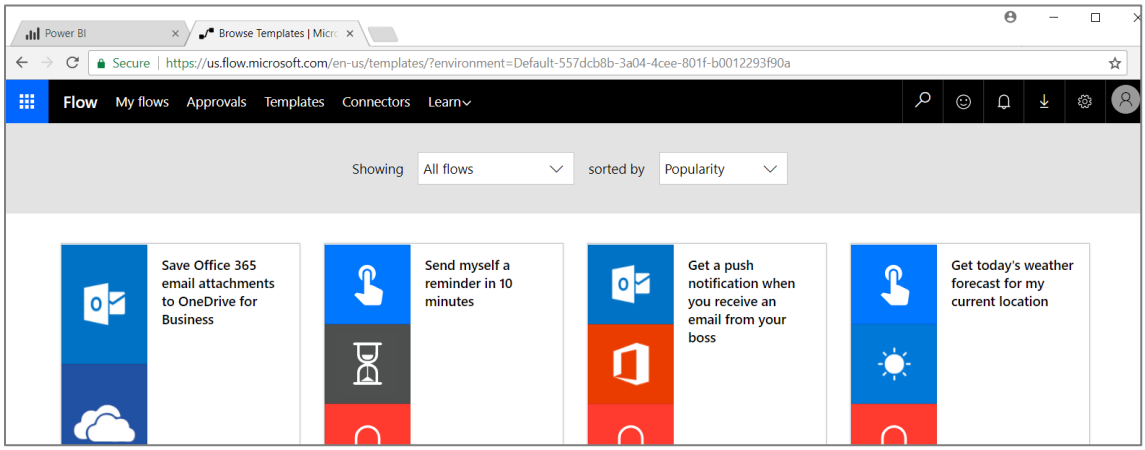
   d) On the **My flows** page, click the **Create from template** link.



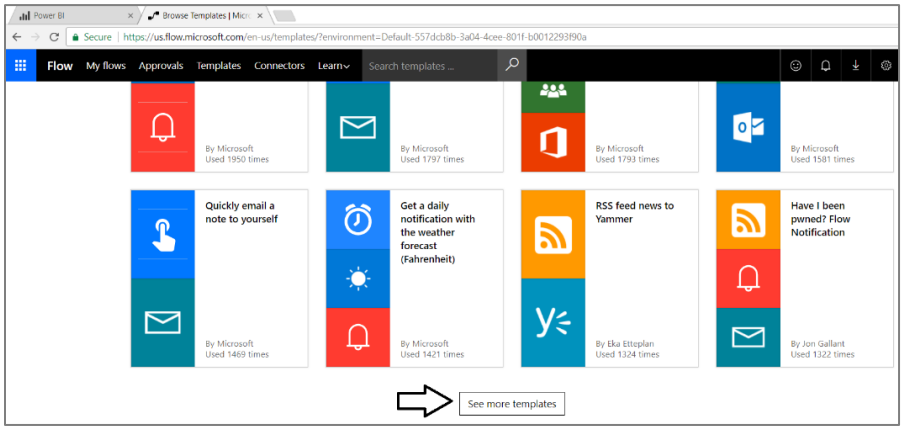
Fortunately, there are a couple of out-of-the-box templates provided by Microsoft Flow that do much of what we want such as the templates named **Save Tweets to Google Sheet**, **Save Tweets to SharePoint List** and **Save Tweets to Excel File**. You will start by using an existing flow template named **Email myself new Tweets about a certain keyword**.

4. Select a flow template.

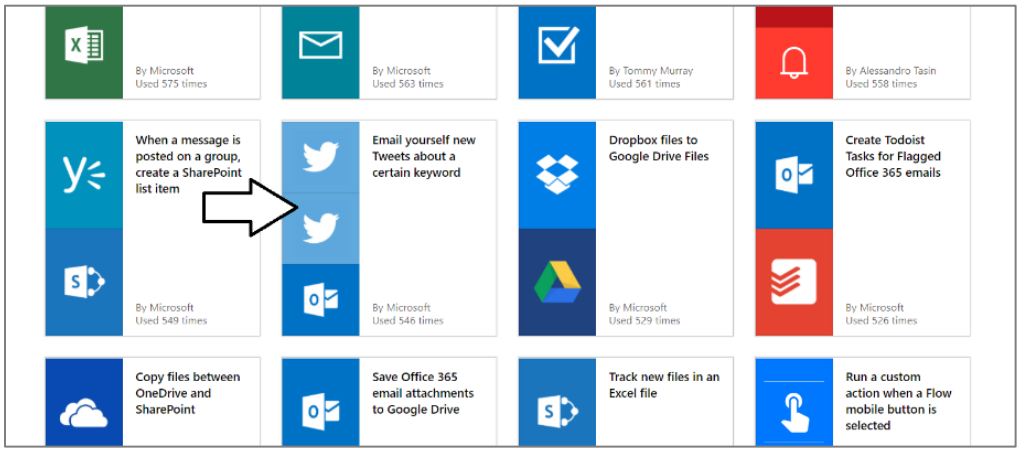
   a) After clicking the **Create from template** link, you are presented with a page of existing templates.



   b) Scroll to the bottom of the page and click the **See more templates** button.

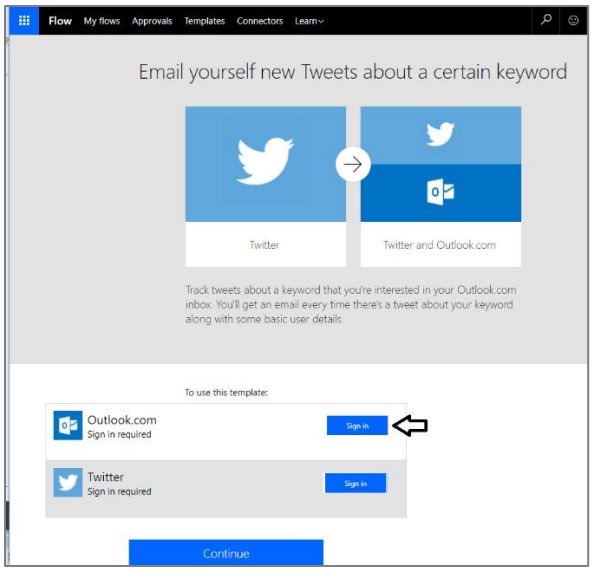


   c) Select the template with the name **Email myself new Tweets about a certain keyword**.

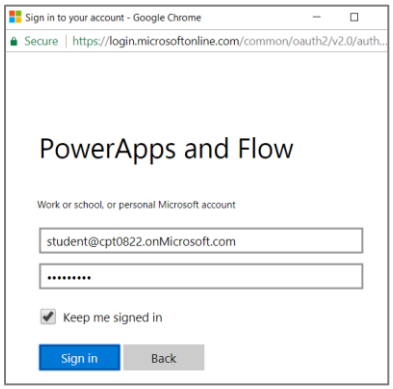


5. Log into both Outlook.com and Twitter.

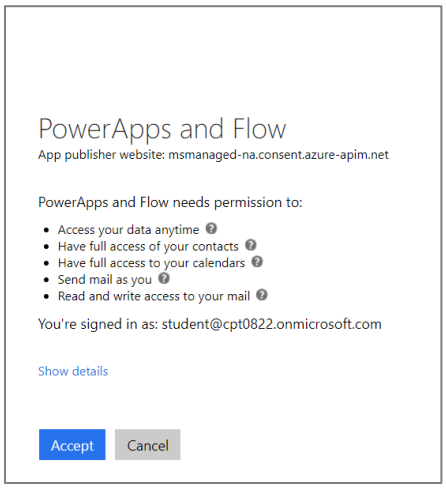
   a) After selecting the template, you will be prompted to sign into Outlook and Twitter. Click the **Sign In** button for Outlook.



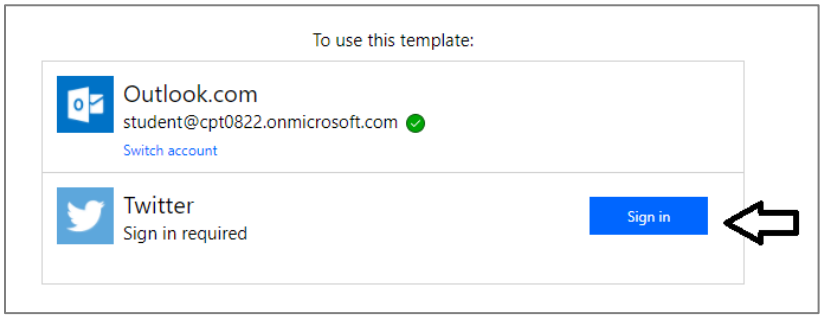
   b) Sign in using your primary Office 365 account.



   c) Click the **Accept** button to give Microsoft Flow permission to your Outlook account.

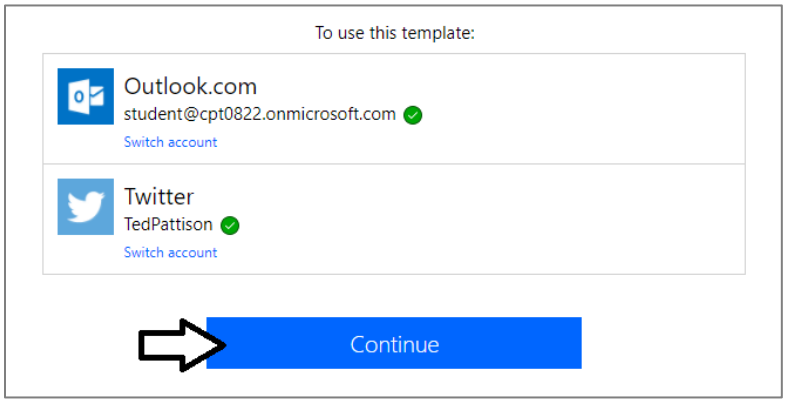


d) Click **Sign in** to sign into Twitter.



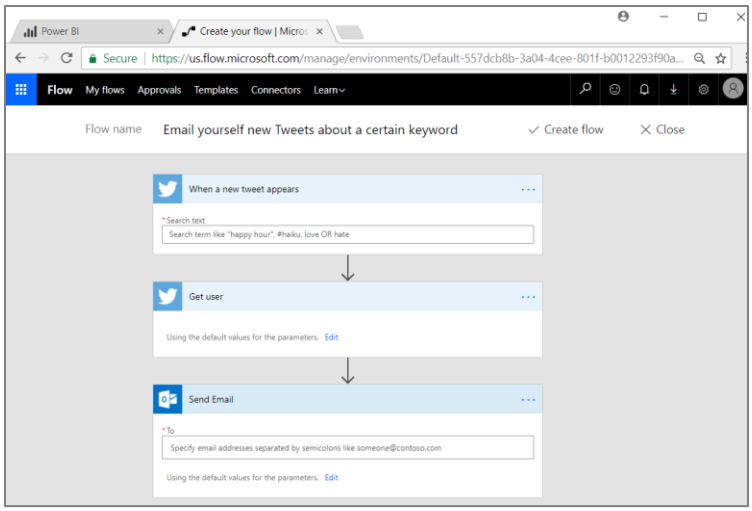
e) Sign in using your Twitter account and click the **Authorize app** button.

f) Once you have logged into both Outlook.com and Twitter, click **Continue**.

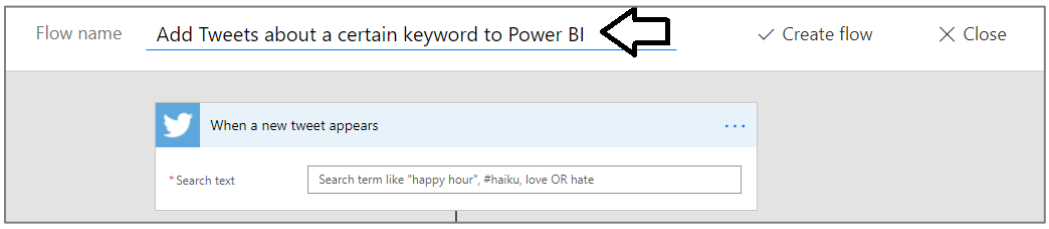


6. Design the new flow using the flow designer.

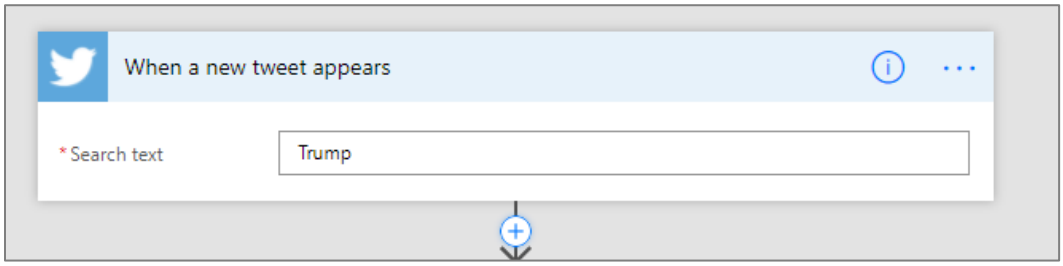
a) At this point, you should see your new flow in the flow designer.



b) Update the Flow name to **Add Tweets about a certain keyword to Power BI**.

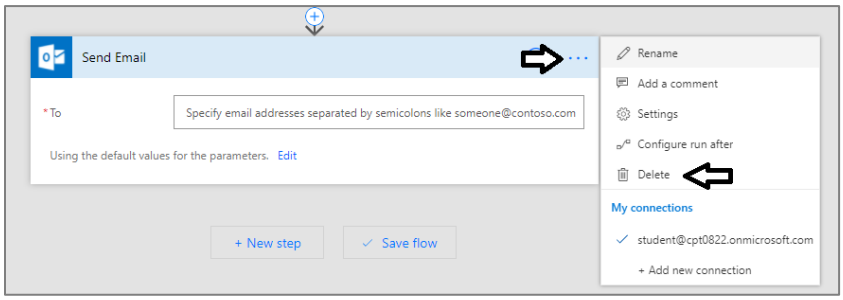


c) In the When a new tweet appears action, add a popular search term such as **#PowerBI** or **Trump**.

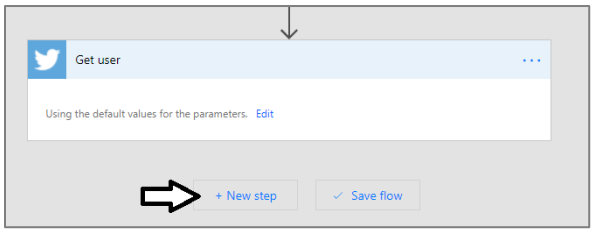


You can add any hashtag or search term you would like. Search terms that find lots of tweets are better.

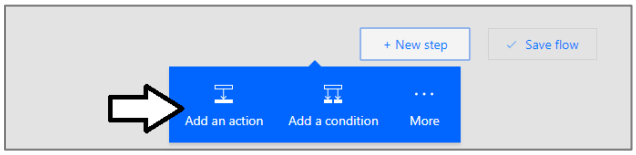
d) Delete the **Send Email** action by using the ellipse (…) menu at the top right to invoke the **Delete** command.



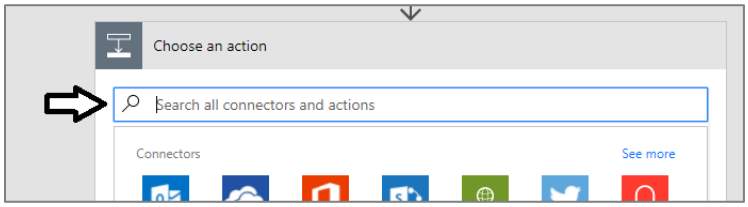
7. Modify the Flow to include the Power BI activity, that inserts the data into the Power BI data set.
   a) Underneath the Get user action, click the **New step** button.



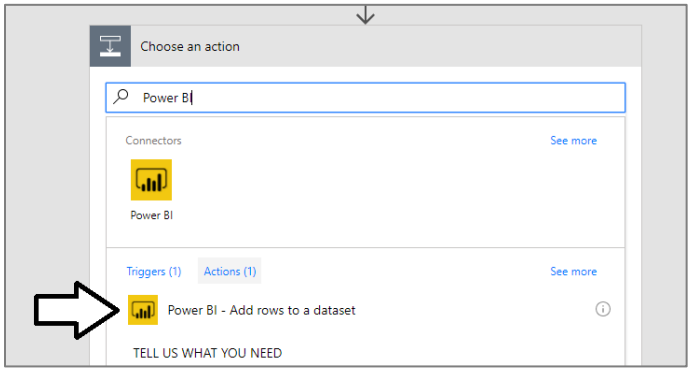
   b) Click **Add an action**.



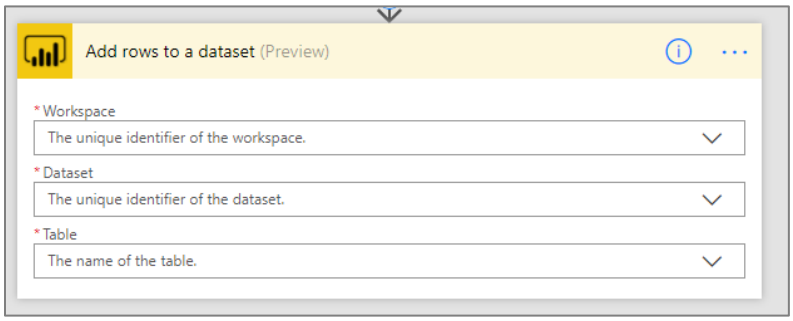
   c) You will be promoted to Choose an action and there is a search box to run a search of available actions.



   d) Type **Power BI** into the search box to find Power BI actions. **Select the Power BI - Add rows to a dataset** action.



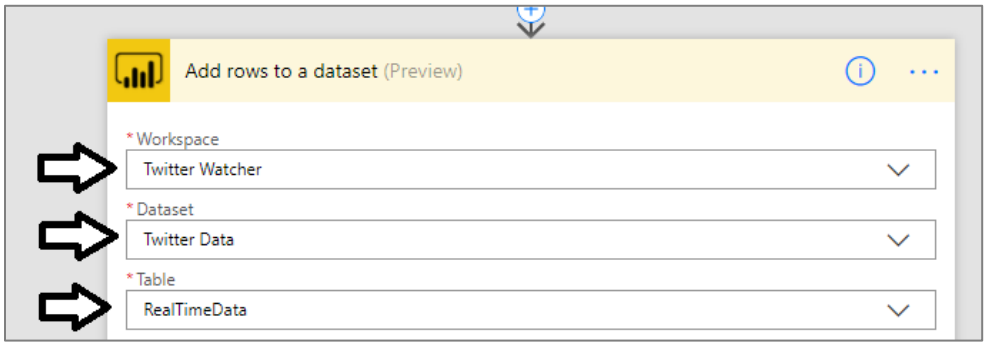
   e) You should now see the **Add rows to a dataset** action.



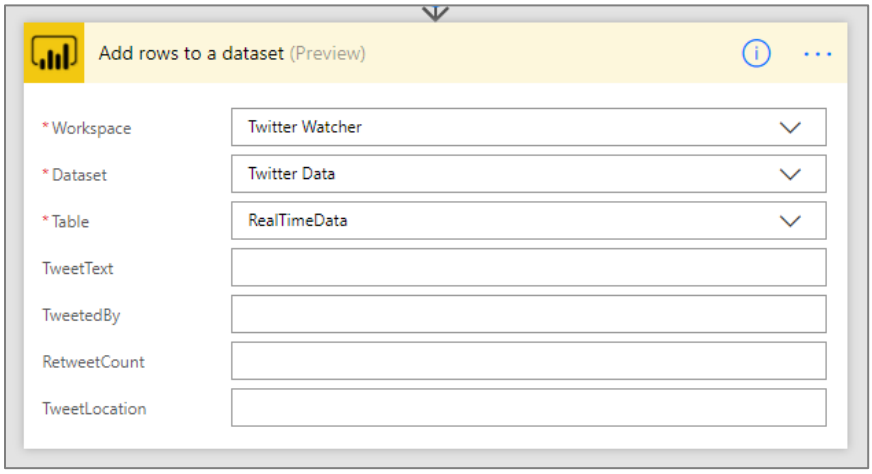
f) Set the **Workspace** to **Twitter Watcher**.

g) Set the **Dataset** to **Twitter Data**.

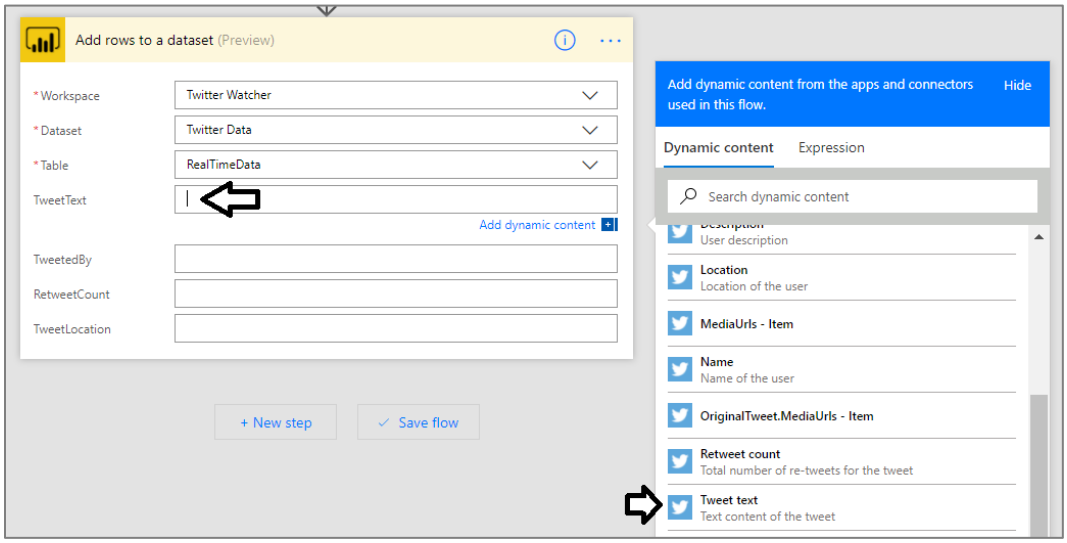
h) Set the **Table** to **RealTimeData**.



i) After you select the **RealTimeData** table, new input controls will appear for each column you added to the streaming dataset.



j) Using the mouse, place your cursor inside the textbox for **TweetText**. When you do this, you can add dynamic content by mapping fields from the data for a tweet. Select Tweet text as shown in the following screenshot.

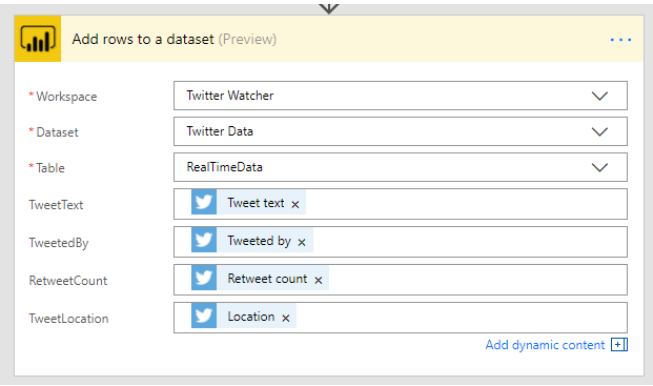


k) Map **TweetedBy** to **Tweeted by**.

l) Map **RetweetCount** to **Retweet count**.

m) Map **TweetLocation** to **Location**.

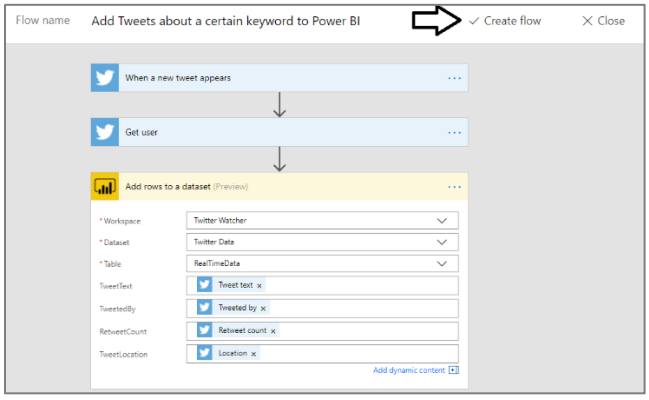
n) Your **Add rows to a dataset** action should now match the following screenshot.



You are now finished designing the flow. It is time to complete your working by creating the new flow.

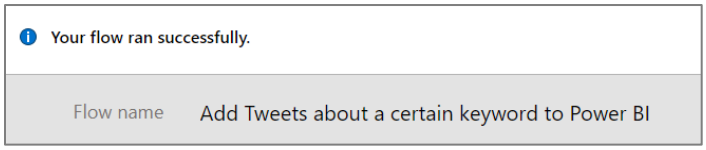
8. Create the flow

a) Click the **Create Flow** button at the top of the page to begin the process of creating the flow.



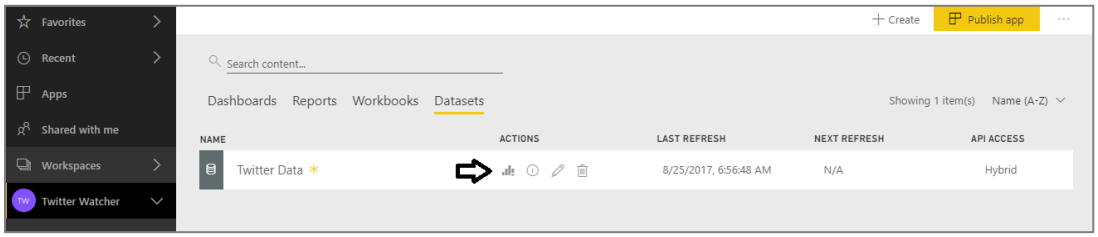
b) After a few seconds, you should see a message indicating that the flow has been created.

c) After a few more seconds, the message should change indicating that the flow has run successfully.



At this point you are done creating the flow. The final step to this lab is to return to Power BI and create a report and dashboard on top of the streaming dataset which is now being populated with the flow you have justed created.

9. Back to Power BI, create a report and dashboard.



a) Create something that looks like this.