

Designing Flows



Agenda

- What Is Microsoft Flow?
- Working with the Flow Designer
- Reviewing Flow Run History
- Creating a Flow from Scratch
- Creating Flows on SharePoint Lists



What is Flow?

- Service for automating workflows across other services
 - Designed by Microsoft for business users more than developers
- What can you do with Flow?
 - Get notifications
 - Copy files
 - Collect data
 - Automate approvals



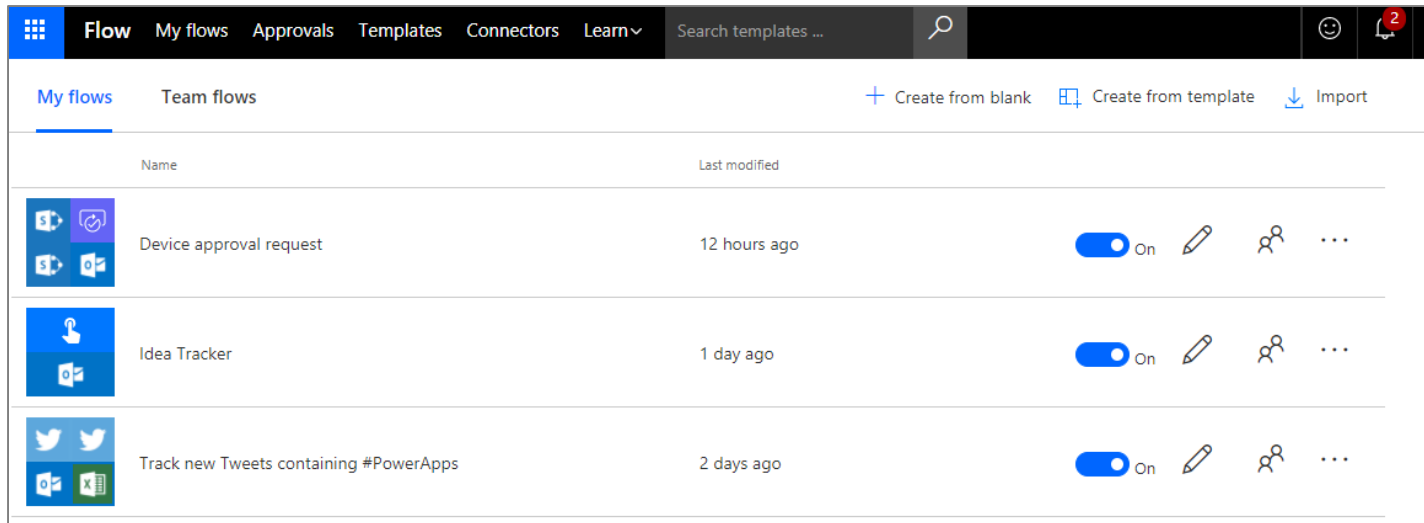
Building Blocks of Flow

- Flows whether created from a template or from scratch:
 - Will contain **building blocks** that work together in certain ways (much like a flowchart)
- Building blocks of Flow:
 - **Services** - sources and destinations of data in a flow
 - **Triggers** - events that start a flow
 - **Actions** - tasks accomplished by the flow
 - **Conditions** - allow for branching if/then logic in a flow
 - **Loops** - for iterating over actions more than once



Creating and Managing Flows

- Each user has a list of flows
 - Flows can be shared with or transferred to other users

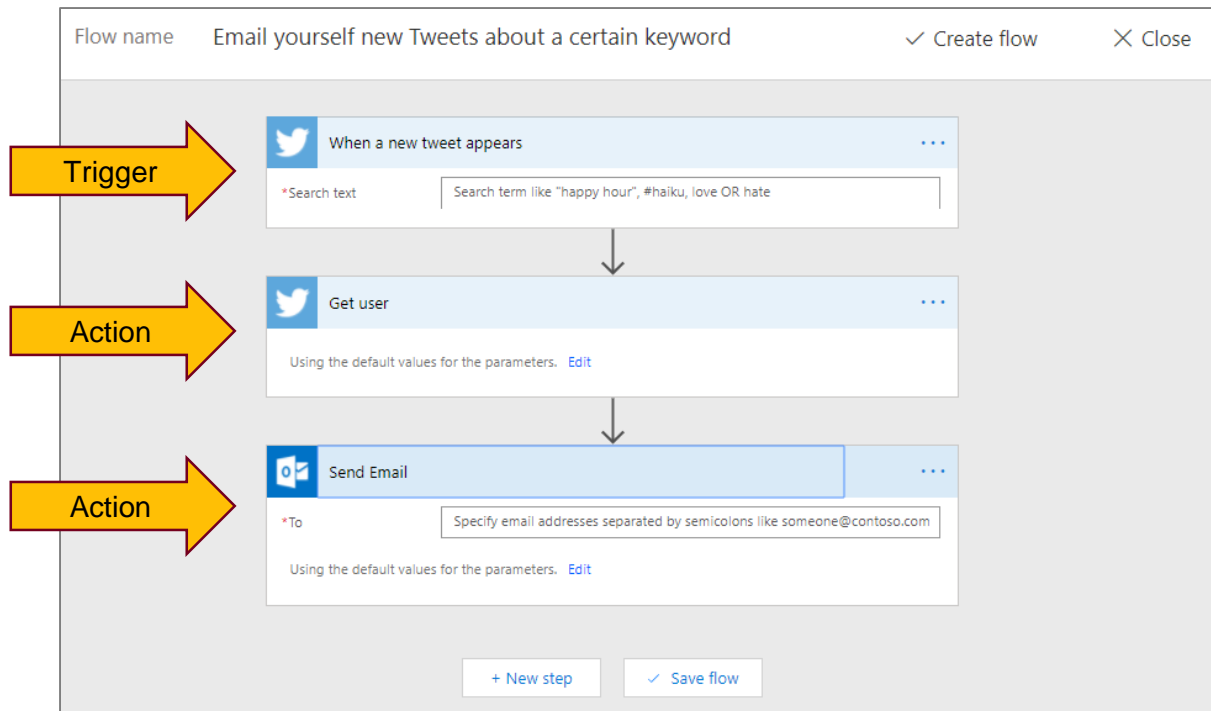


- Two ways to create a new flow
 - Create from template
 - Create from blank



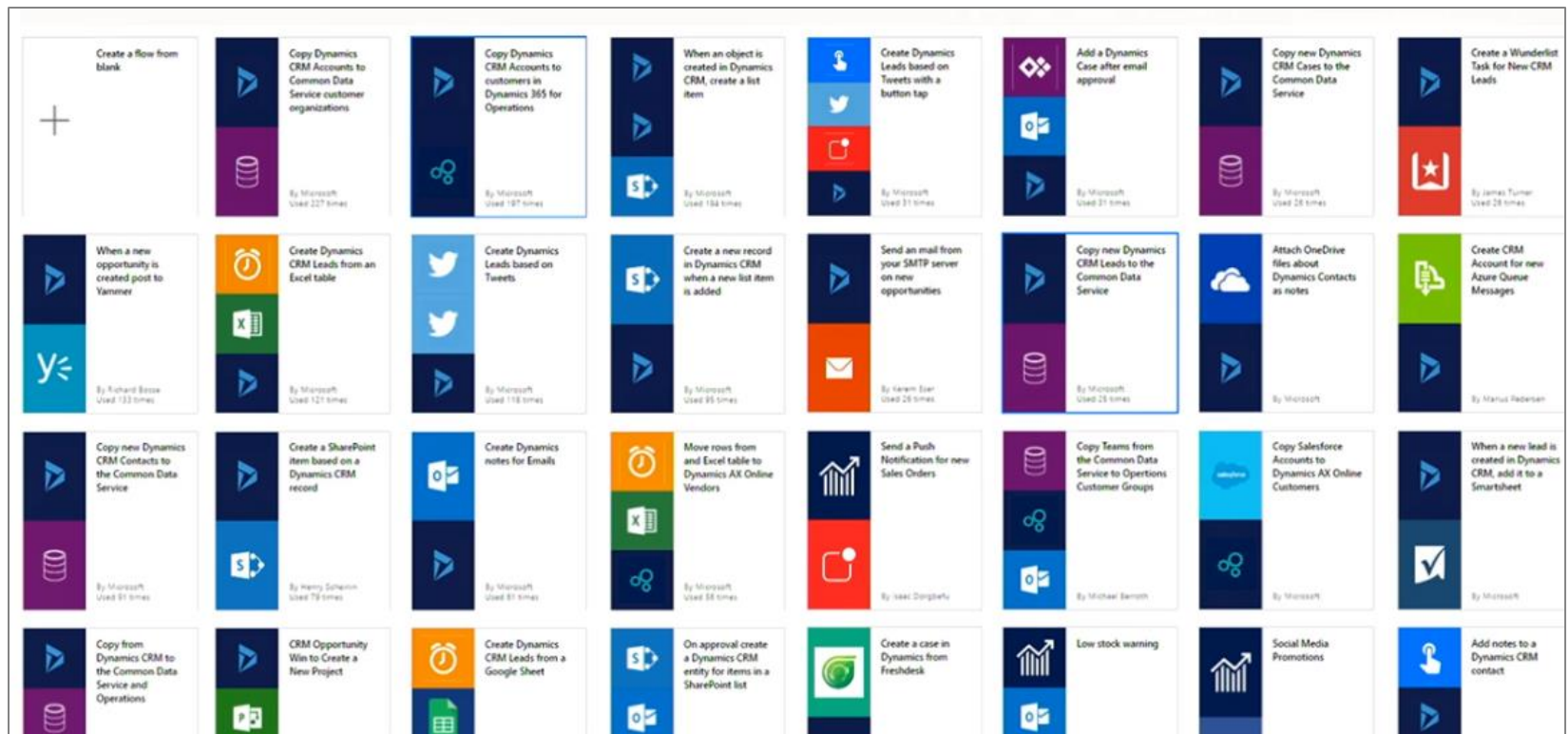
Working with the Flow Designer

- Flow Designer provides UI for building flows
 - Somewhat similar to SharePoint Designer workflow designer
 - You build flows by adding and configuring steps
 - There are 3 types of steps: triggers, actions or conditions



Flow Templates

- There are 100s of templates
 - Flow is built with pre-configured trigger and actions



Build a Flow from Scratch

- Flow created without any trigger or actions
 - You must start by adding a trigger
 - Then you add actions and conditions

Sending an Exchange email when a new file is added in Dropbox

Authenticate to your Dropbox account.
Select folder to monitor

Authenticate to your O365 account.
Build email *Subject* and *Body*

Specify *Send To* email address and additional properties (optional): *From*, *CC*, *BCC* and *Importance*

Choose to include properties from previous step (Dropbox file) to improve relevance



Examples Services to Use with Flow

- SharePoint Online
 - Trigger a flow when a new item is added
 - Trigger a flow when a new document is uploaded
 - Add an action to create or update a list item
- Twitter
 - Trigger a flow when a tweet contains a specific hashtag
 - Track tweet by sending email or write to SharePoint list
 - Add an action to reply to a tweet





DEMO

Creating a Twitter Account for Testing Purposes

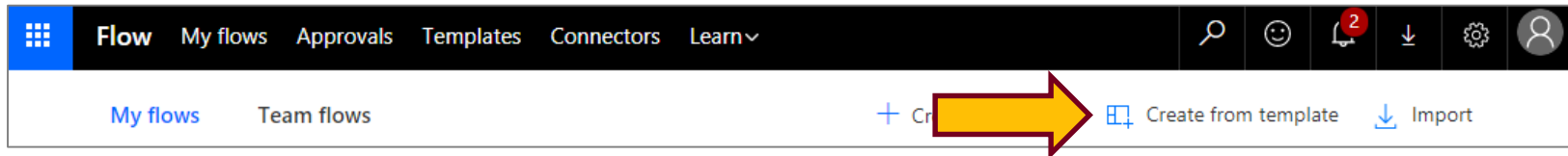
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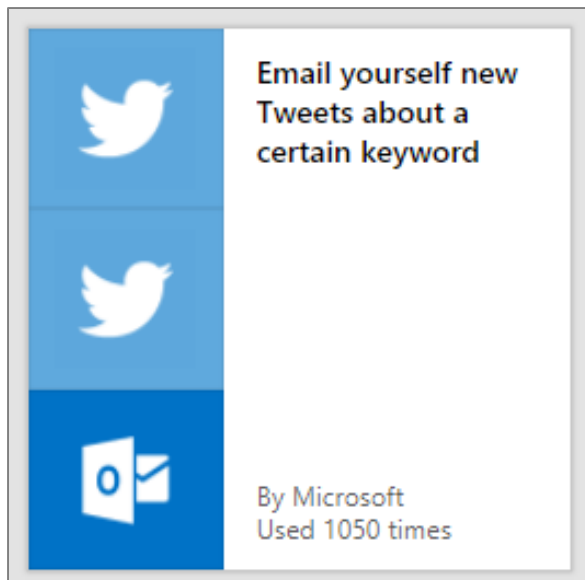


Creating a Flow from a Template

- Use Create from template link

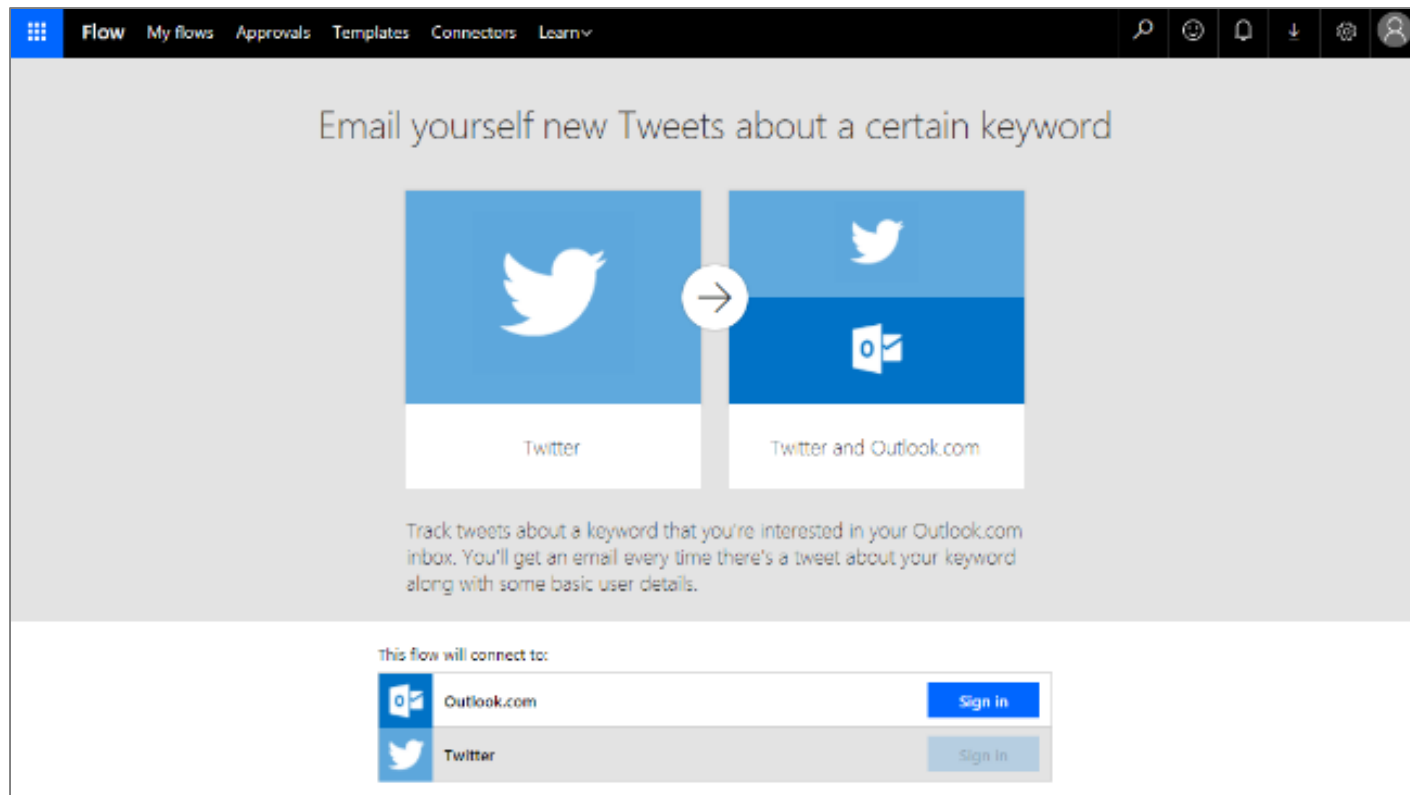


- Select a template




Many Flow Templates Require Connections


- This allows a flow to read and write data
 - Flow often requires user to authorize permissions



Authorizing an App to Connect to a Service

- User must authorize app to use service

 Microsoft

student@ddpaf.onmicrosoft.com 

PowerApps and Flow

Publisher's website: msmanaged-na.consent.azure-apim.net

This app would like to:

- ✓ Read and write access to your mail
- ✓ Send mail as you
- ✓ Have full access to your calendars
- ✓ Have full access of your contacts
- ✓ Access your data anytime

You should only accept if you trust the publisher and if you selected this app from a store or website you trust. Ask your admin if you're not sure.

Cancel Accept

Authorize Microsoft PowerApps and Flow to use your account?



Microsoft PowerApps and Flow
By Microsoft
www.powerapps.com

Microsoft PowerApps is a service for building and using custom business apps that connect to your data and work across the web and mobile - without the time and expense of custom software development.

☒ Remember me · [Forgot password?](#)

Authorize app Cancel

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.




Working with the Flow Designer

Flow name

Email yourself new Tweets about a certain keyword

✓ Create flow


✕ Close

 When a new tweet appears

*Search text


Search term like "happy hour", #haiku, love OR hate

↓

 Get user

Using the default values for the parameters. [Edit](#)

↓

 Send Email

*To

Specify email addresses separated by semicolons like someone@contoso.com


Using the default values for the parameters. [Edit](#)

+ New step

✓ Save flow


Building a Flow

Flow name Track new Tweets containing #PowerApps ✓ Update flow ✕ Close


 When a new tweet appears ...

* Search text


↓

 Get user ...

* User name

 Tweeted by ✕


↓

 Send Email ...


* To

* Subject
 Name ✕"/>

* Body
Tweet:

 Tweet text ✕

Tweeted by:

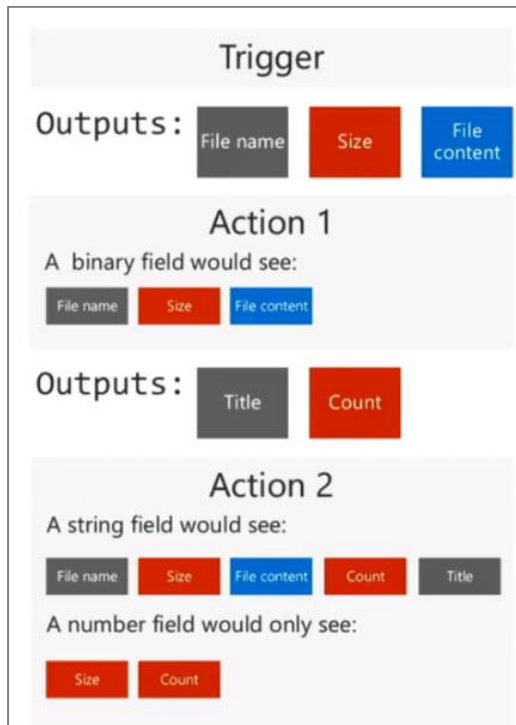
 Tweeted by ✕

Show advanced options ▾



Data Flows from Step to Step

- Data flows from one step to the next
 - Data from a step is available as output in later steps
 - Add Dynamic Content feature used to insert data from earlier steps
 - Certain data shows up based on the types of inputs & outputs



Adding Dynamic Content

The screenshot illustrates the configuration of a 'Send Email' action within a PowerApps canvas. The 'To' field is set to 'Student@DDPAF.onmicrosoft.com;'. The 'Subject' field contains 'New tweet about PowerApps from' followed by a dynamic content placeholder for 'Name'. The 'Body' field is populated with a tweet structure: 'Tweet:' followed by a 'Tweet text' placeholder, a separator '----', and 'Tweeted by:' followed by a 'Tweeted by' placeholder. A yellow arrow points from the 'Add dynamic content' button in the bottom right of the 'Send Email' configuration pane to the 'Dynamic content' pane on the right.

Dynamic content Expression







Search dynamic content

- Original tweet user name
Screen name of the user
- Original tweet user profile image url
Url of the profile image
- OriginalTweet.MediaUrls - Item
- Profile image url
Url of the profile image
- Tweet id
Id of the tweet
- Tweet language
Language code of the tweet
- Tweet text
Text content of the tweet
- Tweeted by
Name of the user who has posted the tweet



Using Expressions

Many reasons to use expressions:

-  Convert types
-  Perform simple, inline calculations like string manipulation or arithmetic, or date/time manipulation
-  Generate data like the current time, a GUID or a random number
-  Handling optional values
-  "If" conditional statements
-  Working with lists



How to Create Expressions

1  Add Dynamic Content

2

Dynamic content

Expression

fx replace(body('Get_record'))?

OK

3

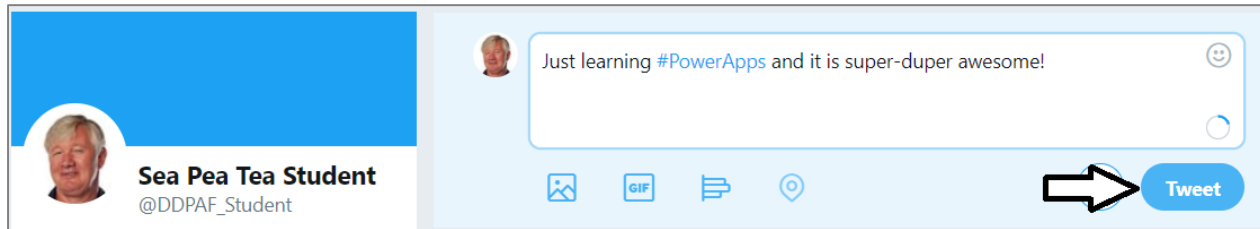
Action name

Inputs *fx* replace(...) x

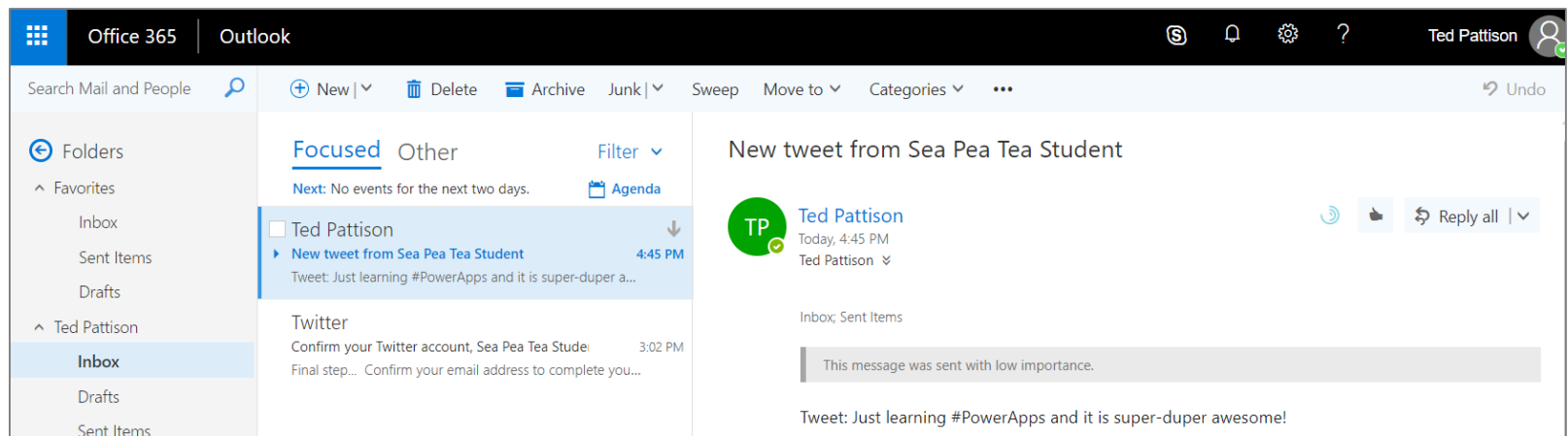


Testing the Flow

- The Trigger

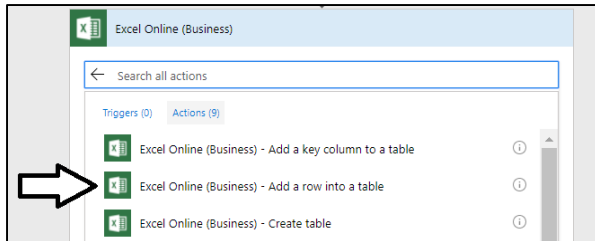


- The Action *(you can also think about it as the "Reaction")*

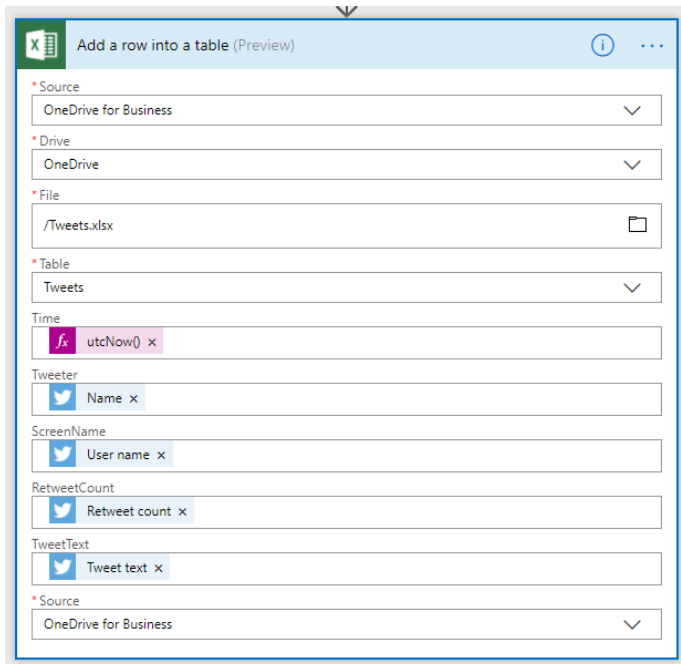


Adding a Second Action

- Add a second action



- Configure the action to insert new row in Excel table

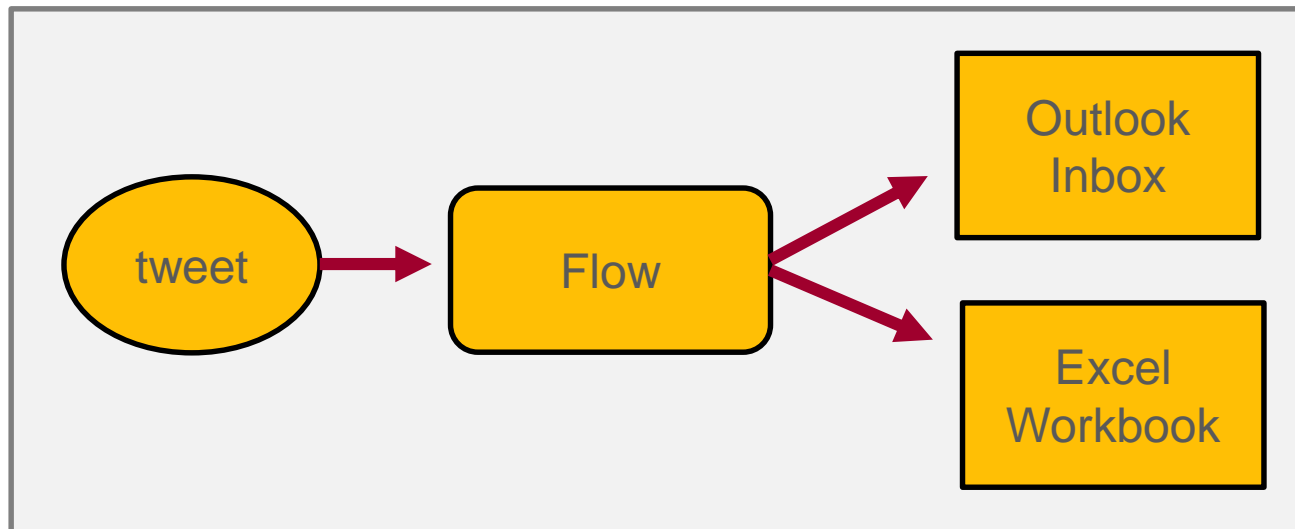


Updating a Table in an Excel Workbook

- Flow now writes tweets to Excel workbook as well as sending email

Excel Online					
Ted Pattison ▸ Documents			Tweets		
	A	B	C	D	
1	Time	Tweeter	ScreenName	RetweetCount	TweetText
2	2018-03-25T23:38:	Sea Pea Tea Student	DDPAF_Student	0	#PowerApps gets even better with Microsoft Flow
3					

- Observation: It's easy to design a flow to write data to multiple services



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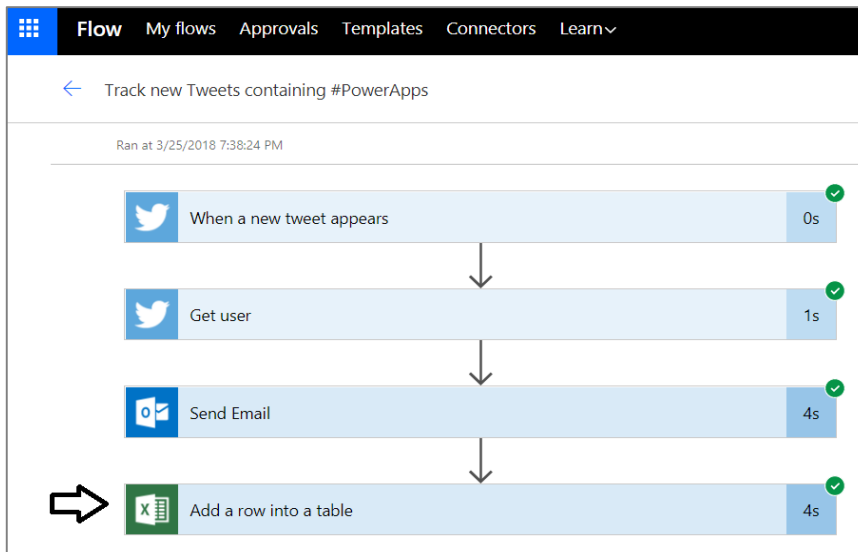


Run History



- Flow provides history flows that have run

RUN HISTORY			
➡	✓ Succeeded	9 minutes ago	8 seconds
	✓ Succeeded	2 hours ago	0 seconds
	✓ Succeeded	3 hours ago	0 seconds

- Provides read-only view of data for auditing & monitoring



Run History Details

 Add a row into a table 4s 

INPUTS

Source

OneDrive for Business

Drive

OneDrive

File

/Tweets.xlsx

Table

Tweets

item

```
{  
  "Time": "2018-03-25T23:38:28.5422853Z",  
  "Tweeter": "Sea Pea Tea Student",  
  "ScreenName": "DDPAF_Student",  
  "RetweetCount": "0",  
  "TweetText": "#PowerApps gets even better with Microsoft Flow"  
}
```

Time

2018-03-25T23:38:28.5422853Z



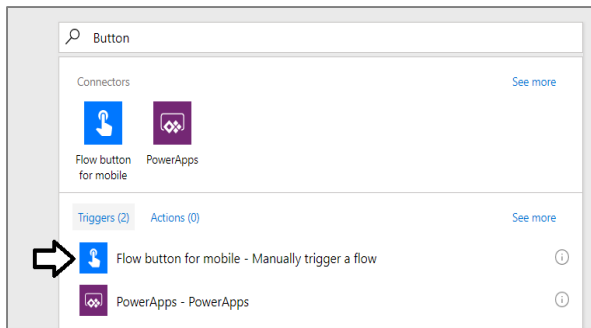
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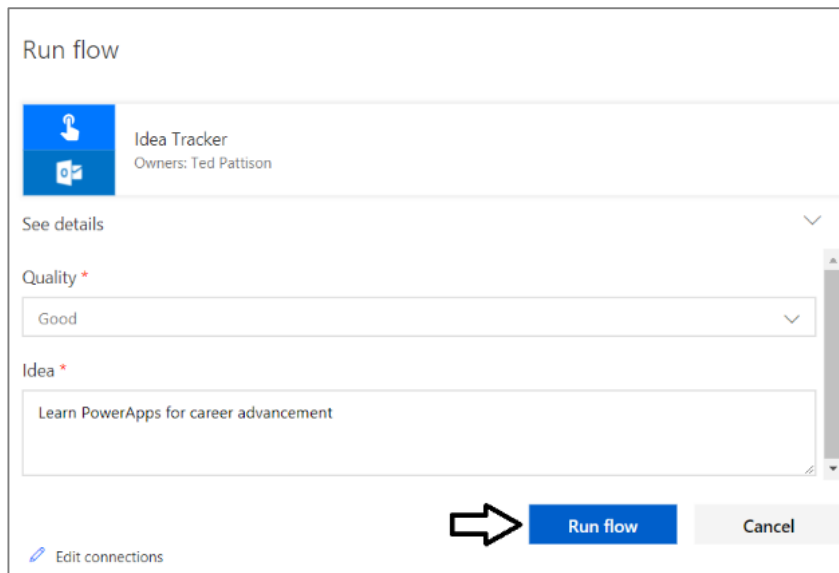


Creating a Flow Trigger by Manual Button

- Use Run button for Mobile as flow trigger



- Trigger can be extended with one or more input fields



This screenshot shows the 'Run flow' dialog box for the 'Idea Tracker' flow. The dialog box has a title bar that says 'Run flow'. Below the title bar, there is a section for the flow details, which includes the flow name 'Idea Tracker' and the owner 'Owners: Ted Pattison'. Below this, there is a 'See details' link. The dialog box also contains two input fields: 'Quality *' with a dropdown menu set to 'Good', and 'Idea *' with a text box containing 'Learn PowerApps for career advancement'. At the bottom of the dialog box, there is a blue 'Run flow' button and a grey 'Cancel' button. An arrow points to the 'Run flow' button.




Building Out The Idea Tracker Flow


Flow name

Idea Tracker

✓ Update flow

✕ Close

 Manually trigger a flow

 Quality

Please enter your input

...

List Options


Lame


Good


Great


Brilliant


Enter another option










 Idea

Please enter your input

...

+


 Add an input

 Send an email

* To


Student@DDPAF.onmicrosoft.com;

* Subject

 Quality ✕

Idea for consideration

* Body

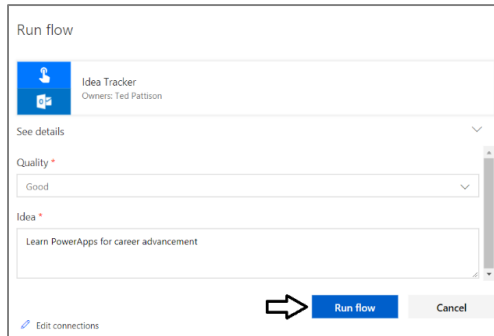
 Idea ✕

Show advanced options ▾

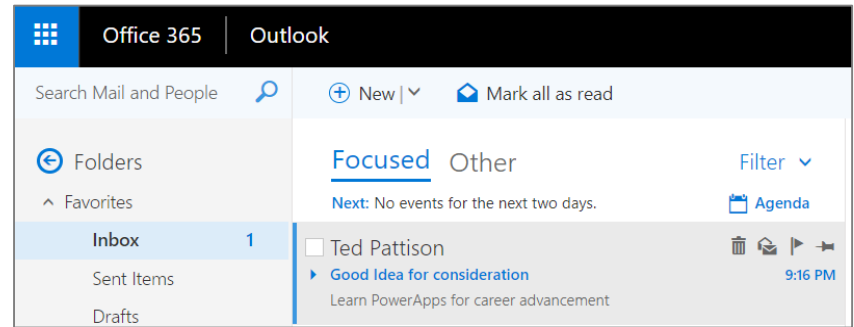
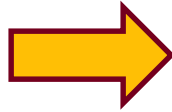


Where Should You Write the Idea?

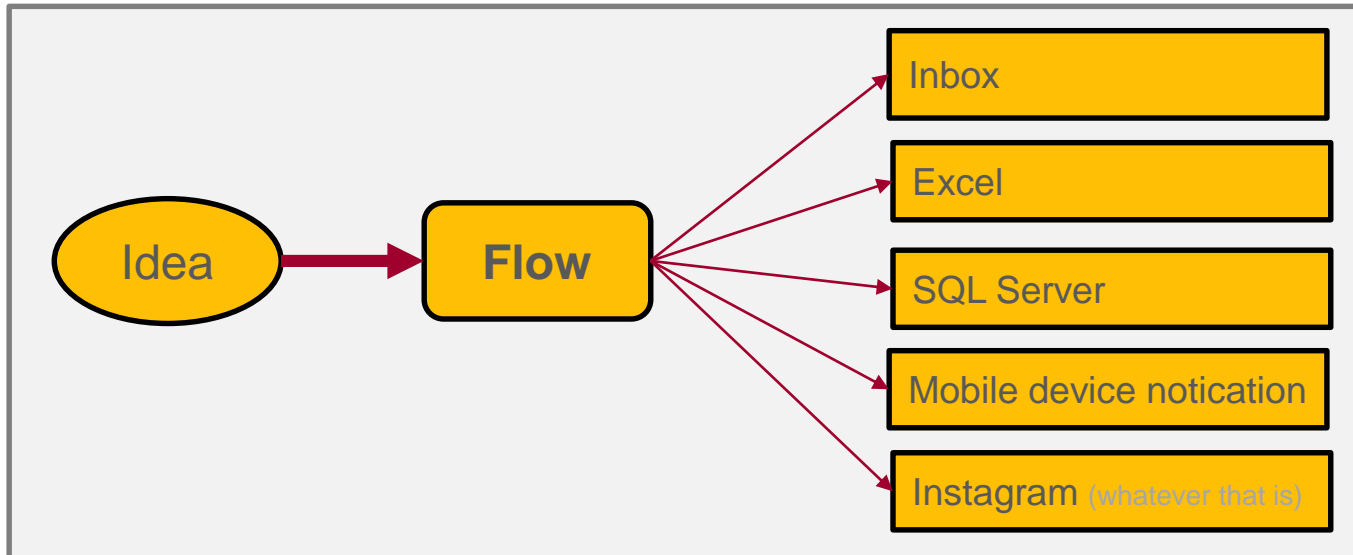
- You can track the idea by sending an email



The 'Run flow' dialog box for the 'Idea Tracker' flow (owned by Ted Pattison) is shown. It includes a 'See details' section with a 'Quality' dropdown set to 'Good' and an 'Idea' text box containing 'Learn PowerApps for career advancement'. At the bottom, there is a 'Run flow' button and a 'Cancel' button.



- Or get even more extravagant









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Creating a Flow for a SharePoint List

 Critical Path Labs Team Site

 New  Quick edit  Export to Excel  Flow  PowerApps ...


Expenses



Create a flow



See your flows

Expense ▾	Category ▾	Date ▾	Amount ▾
Verizon - Telephone and Internet	Operations	1/1/2018	\$923.00
Electricity Bill	Operations	2/5/2018	\$338.00





Create a flow



Start with a template and create automated tasks between your SharePoint data and other apps. Choosing a template will open the Microsoft Flow site where you'll finish creating your flow.



Send a customized email when a new SharePoint list item is added



Start approval when a new item is added

When a message is posted on a group, create a SharePoint list item

Request manager approval for a selected item

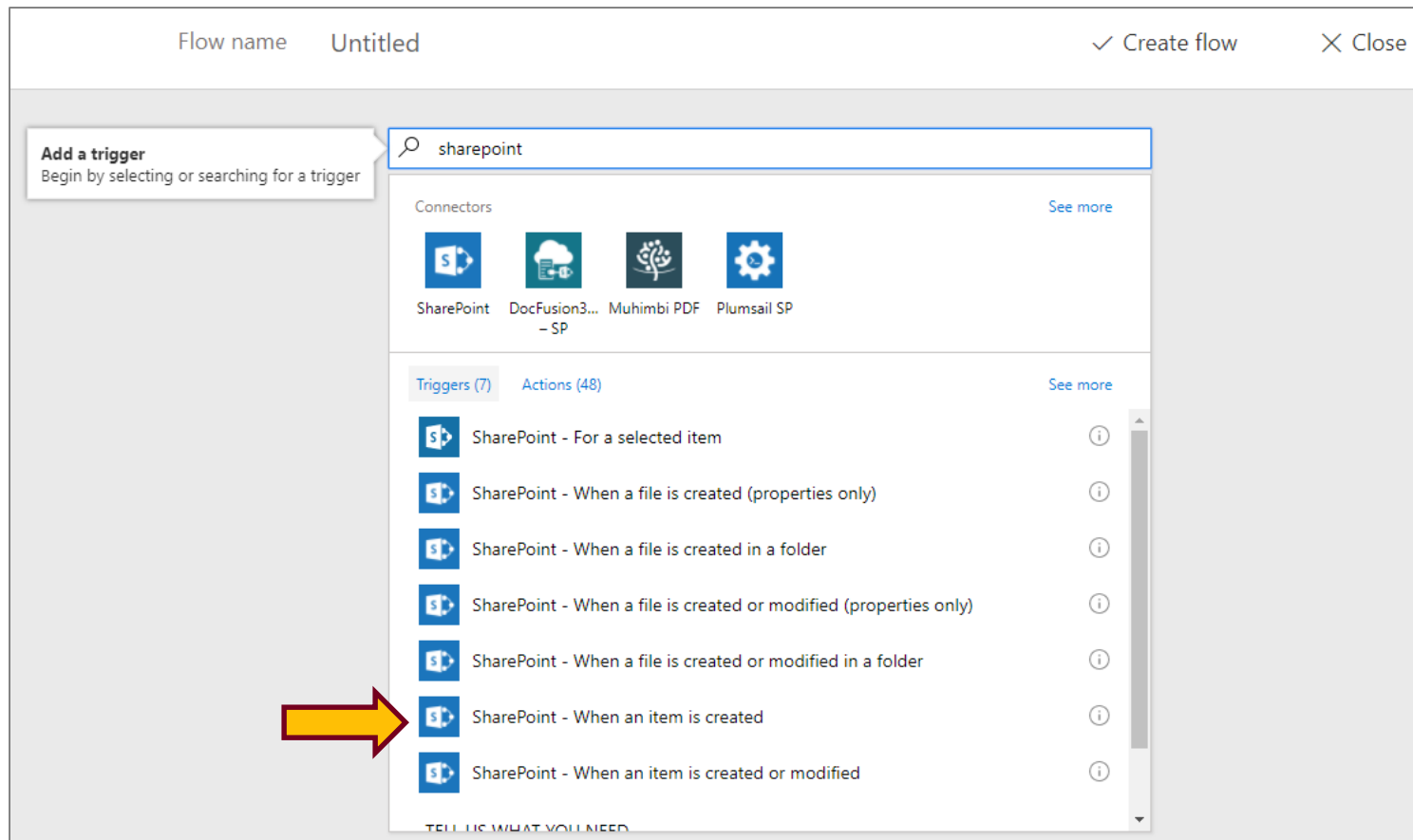
When an object is created in Dynamics 365, create a list item

Show more ▾



Another Way to Create Flows for SharePoint

- Create the flow from blank using the Flow Designer
 - Then add trigger based on SharePoint item event



Using a Condition

- Send alert email if expense amount greater than \$500
 - Condition runs test which returns true or false
 - Condition provide **If yes** branch and **If no** branch

Flow name Large Expense Alert ✓ Create flow ✕ Close

When an item is created

* Site Address

* List Name

Condition

is greater than or equal to

[Add dynamic content](#) [Edit in advanced mode](#) [Collapse condition](#)

✓ If yes ✕ If no



Build Out Branches using Actions

Flow name Large Expense Alert ✓ Create flow ✕ Close

When an item is created

Condition

Amount x is greater than or equal to 500

[Add dynamic content](#) [Edit in advanced mode](#) [Collapse condition](#)

If yes

Send an email

*To: Ted Pattison x ;

*Subject: Large Expense Alert!

*Body:

Expense: Expense x

Category: Category Value x

Amount: Amount x

Link to item x

[Add dynamic content](#)

If no

[Add an action](#) [More](#)



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