

# **Managing your SharePoint data with Power Automate**

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# Goals



Explore SharePoint  
Data Management  
Features



Understand working  
with Power Automate



Build Workflows  
involving SharePoint &  
Power Automate



Help Identify ways to  
leverage Power  
Automate in Research

# Common Issues



Do you lose track of your files in your SharePoint library and wish there was a way to **organize** them?



Do you collaborate with your teammates and need to **routinely** notify them of any updates or changes?



Does your workflow involve putting together **scheduled** reports with newly updated data?



Do you work with sensitive data and want to **delegate** work without worrying about access?

# SharePoint Document Library

# Document Tagging

The screenshot shows a SharePoint document library interface. At the top, there is a navigation bar with options: '+ New', 'Upload', 'Edit in grid view', 'Sync', 'Add shortcut to OneDrive', 'Pin to Quick access', '...', and 'All Documents'. Below the navigation bar is a title 'PowerAutomate Documents' with a dropdown arrow. The main area displays a grid of four items:

Name	Created	Modified	Created By
Data Collection	2 minutes ago	2 minutes ago	Llewellyn Fernandes
Grant Proposals	3 minutes ago	3 minutes ago	Llewellyn Fernandes
NIH Correspondence	2 minutes ago	2 minutes ago	Llewellyn Fernandes
Results and Findings	About a minute ago	About a minute ago	Llewellyn Fernandes

## Standard SharePoint Document Library

- Row-Column Layout similar to a file explorer
- Access Settings
- Menu Items
- Metadata Tags
  - Relevant Dates
  - File/Folder Creator Info

# Built-in SharePoint Management Features

# Rules based on Tags

The screenshot shows a SharePoint Document Library titled "Documents". The library contains four items: "Data Collection", "Grant Proposals", "NIH Correspondence", and "Results and Findings". Each item has columns for Name, File Size, Created, Created By, Modified, Owner, Data Level, Team, and Status. The "Data Level" column uses color-coded tags: "Level 1" (blue), "Level 3" (orange), "Level 2" (green), and "New" (light blue). The "Team" column uses colored tags: "Data Science" (blue), "Grants and Compliance" (red), "Project Management" (green), and "Community Engagement" (orange). The "Status" column also includes a "New" tag. A tooltip for the "Rules" button in the top right corner is visible, showing options like "Automate" and "Integrate".

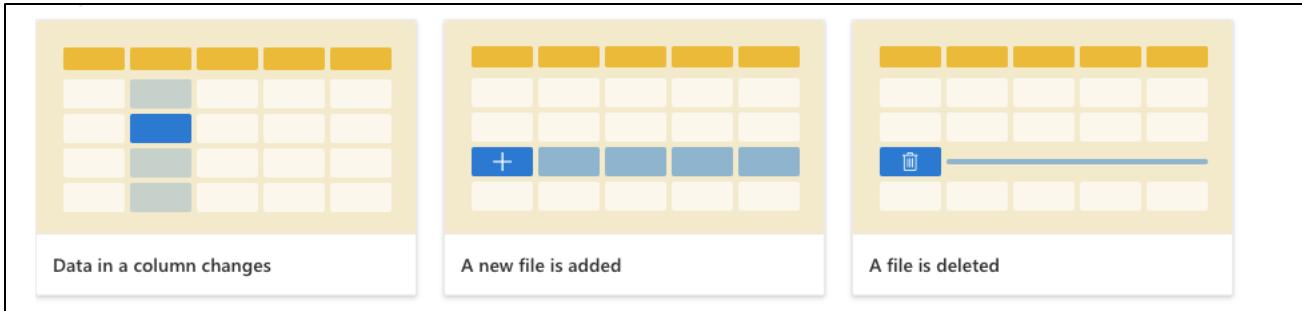
Name	File Size	Created	Created By	Modified	Owner	Data Level	Team	Status
Data Collection	2 items	October 2, 2023	Kevin Luu	Tuesday at 3:53 PM	Llewellyn Fernandes Tobin Magle	Level 1 Level 3	Data Science	New
Grant Proposals	5 items	September 28, 2023	Kevin Luu	Tuesday at 3:53 PM	Kristin Anne McLean	Level 1	Grants and Compliance Project Management	New
NIH Correspondence	2 items	October 3, 2023	Kevin Luu	Tuesday at 3:53 PM	Brian Jeffery Roland	Level 2	Grants and Compliance Project Management Data Science Community Engagement	New
Results and Findings	4 items	Monday at 3:21 PM	Llewellyn Fernandes	Tuesday at 3:53 PM	Kevin Luu	Level 2	Project Management Data Science	New

- Modified SharePoint Document Library
- Custom Metadata Tags
- Team/Document Owners
- Status updates
- Data Levels
- **Design Rules** based on these Tags

# Limitations

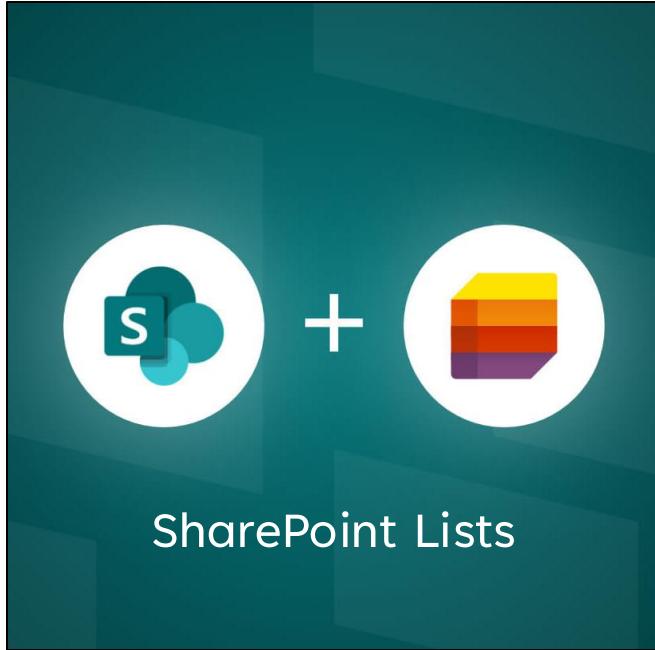
Documents						
Name	File Size	Created	Created By	Modified	Owner	Data Level
Data Collection	2 items	October 2, 2023	Kevin Luu	Tuesday at 3:53 PM	Llewellyn Fernandes Tobin Magie	Level 1 Level 3 Data Science New
Grant Proposals	5 items	September 28, 2023	Kevin Luu	Tuesday at 3:53 PM	Kristin Anne McLean	Level 1 Grants and Compliance Project Management New
NIH Correspondence	2 items	October 3, 2023	Kevin Luu	Tuesday at 3:53 PM	Brian Jeffery Roland	Level 2 Grants and Compliance Project Management Data Science Community Engagement New
Results and Findings	4 items	Monday at 3:21 PM	Llewellyn Fernandes	Tuesday at 3:53 PM	Kevin Luu	Level 2 Project Management Data Science New

- Modifying tags can modify important metadata



- Limited Functionality with Rules

# Solution?



# SharePoint List

The screenshot shows the SharePoint navigation bar with 'Home' selected. Below it is a 'New' dropdown menu with several options: 'List' (highlighted with a red box), 'Document library', 'Page', 'Space', 'News post', 'News link', and 'App'. To the right, the 'Create a list' screen is displayed, featuring four creation methods: 'Blank list', 'From existing list', 'From Excel', and 'From CSV'. A 'Templates' section follows, divided into 'From Microsoft' and 'From your organization'. Under 'From Microsoft', there are six cards: 'Issue tracker' (track issues), 'Employee onboarding' (manage new employee onboarding), 'Event itinerary' (organize events), 'Travel requests' (manage travel), 'Travel requests with ap...' (travel requests with approvals), and 'Work progress tr...' (work progress tracking).

- A **list** is a user-friendly **collection of data** similar to Excel spreadsheets.
- You'll find several ready-to-use list **templates** to provide a good starting point.
- SharePoint lists can be linked to Power BI reports and many other connectors.

# Working with Lists

Document Library Structure										
	Title	File Name	File Extension	Parent Folder	File Size (KB)	Last Modified	File Location	Status	File Link	Folder Link
8	Document	docx	docx	Brian's Shared	0.024529	5-20-2024	Shared Documents/Brian's Shared/Document.docx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared/d%2f67ff730fb64">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared/d%2f67ff730fb64</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared</a>
14	Htejhh[ojho[ej]	docx	docx	Shared Documents	0.024527	5-20-2024	Shared Documents/Htejhh[ojho[ej].d...	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2fe4c1d57a8ca94">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2fe4c1d57a8ca94</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents</a>
24	Library_Struct	xlsx	xlsx	Kevir's Shared folder	0.022384	5-21-2024	Shared Documents/Kevin's Shared folder/Library_Struct.xlsx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f36007re789cc">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f36007re789cc</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Kevin%20Shared%20folder">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Kevin%20Shared%20folder</a>
25	FolderStructure	docx	docx	test	0.000424	5-17-2024	Shared Documents/Tobin's Shared/test/FolderStructure.docx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f987b2b97b39">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Tobin%20Shared/test</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Tobin%20Shared">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Tobin%20Shared</a>
27	Document1	docx	docx	Brian's Shared	0.019879	5-20-2024	Shared Documents/Brian's Shared/Document1.docx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f987b2b97b39">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents</a>
28	Document2	docx	docx	Brian's Shared	0.019649	5-20-2024	Shared Documents/Brian's Shared/Document2.docx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f7eef5f335384">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents</a>
29	Document3	docx	docx	Brian's Shared	0.019649	5-20-2024	Shared Documents/Brian's Shared/Document3.docx	Updated	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/d%2f7eaf5f335384">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents/Brian%20Shared</a>	<a href="https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents">https://nwildcat.sharepoint.com/:b/g/RCDS-TEST/Shared%20Documents</a>

Similar Layout to a Document Library

Data can be edited, shared with others, and exported as csv/excel

Lists can be connected to Microsoft Forms

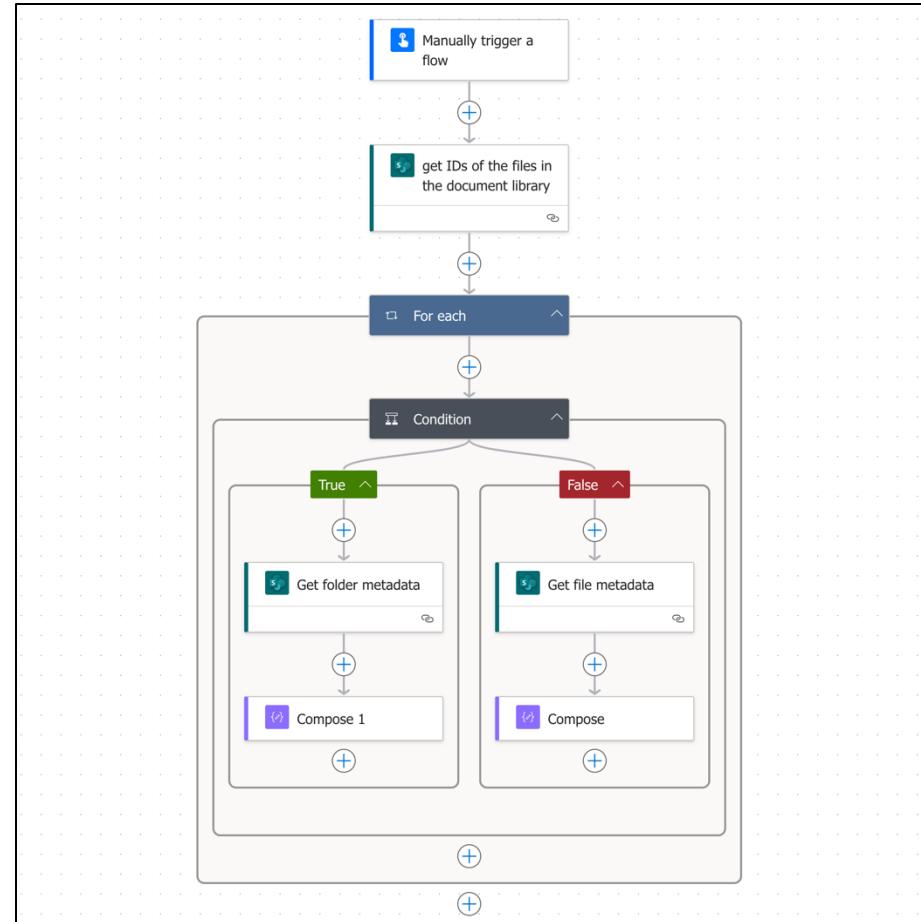
There are multiple column types to work with

Custom access permissions can be set to each list

# What is Power Automate?

Microsoft Power Automate is a low-code web-based automation and workflow platform enabling users to:

- Automate repetitive and time-consuming tasks that typically require some form of Human Interaction
- Integrate with other third-party applications and services
- Streamline research processes



# Getting Started

The screenshot shows the Microsoft Power Automate home screen. On the left is a sidebar with navigation links: Home, Create (highlighted), Templates, Learn, My flows, Approvals, Solutions, Process mining, AI hub, Automation center (preview), Desktop flow activity, More, and Power Platform. At the bottom is a blue footer bar with the URL <https://make.powerautomate.com/environments/Default-7d76d361-8277-4708-a477-64e8366cd1bc/create>.

**Three ways to make a flow**

- Start from blank**:
  - Automated cloud flow (Triggered by a designated event)
  - Instant cloud flow (Triggered manually as needed)
  - Scheduled cloud flow (You choose when and how often it runs)
  - Describe it to design it (Describe the flow you want and AI builds it for you)
  - Desktop flow (Automates processes on your desktop environment)
  - Process mining (Evaluate and optimize your existing processes and tasks)
- Start from a template**:
  - Top picks:
    - Forward emails to a channel (By Microsoft, Automated, 157729)
    - Create a Planner task when a channel post starts with TODO (By Microsoft, Automated, 138825)
    - Notify a team when Planner tasks change status (By Microsoft, Automated, 67888)
    - Analyze emails sentiment with AI Builder and send results to Teams (By Microsoft, Automated, 54543)
  - 
  - Schedule a recurring message in a chat (By Microsoft Power Automate Community, Scheduled, 30341)
    - Forward emails to a chat (By Microsoft, Automated, 20803)
    - Schedule a recurring message in a channel (By Microsoft Power Automate Community, Scheduled, 14932)
    - Summarize emails using GPT (By Microsoft, Automated, 4120)

Go to:

<https://make.powerautomate.com/>

Log in using your Northwestern Credentials

Once on the home screen, Select the **Create** option

You will then be presented with **templates** and **blank flows**

# CONNECTORS

## Built-In

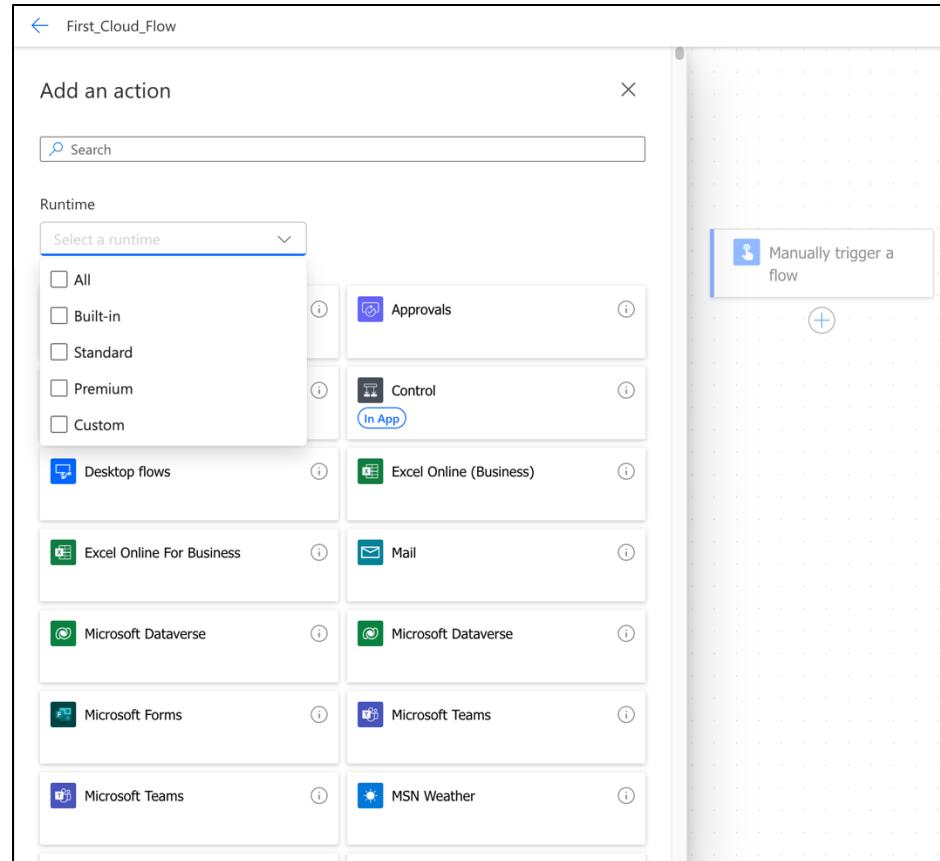
- Built-in actions are natively available within Power Automate and don't require any additional connectors or services.

## Standard

- Standard actions are available through Power Automate's included connectors that do not require a premium license.

## Premium

- Premium actions require a premium license or subscription to access additional connectors and services.



# SharePoint



## SharePoint

SharePoint helps organizations share and collaborate with colleagues, partners, and customers. You can connect to SharePoint Online or to an on-premises SharePoint server.

- Add attachment
- Approve hub site join request
- Cancel hub site join request
- Check in file
- Check out file
- Copy file
- Copy folder
- Create file
- Create item
- Create new document set
- Create new folder
- Create sharing link for a file or folder
- Discard check out

# One Drive



## OneDrive for Business

- When a file is created Trigger
- When a file is modified Trigger
- Create file
- For a selected file Trigger
- List files in folder
- When a file is created (properties only) Trigger
- When a file is modified (properties only) Trigger
- Convert file Preview
- Convert file using path Preview
- Copy file
- Copy file using path
- Create share link
- Create share link by path

# Smartsheet



## Smartsheet

Smartsheet is a powerful work management and collaboration tool that lets you easily track and manage your work so you and your team can be mor... [Read more](#)

Insert row

(i)

Add a comment to a discussion

(i)

Add a discussion to a row

(i)

Add a discussion to a sheet

(i)

Get a discussion

(i)

Get a sheet

(i)

Get a sheet data (dynamic schema)

(i)

Get discussions for a sheet

(i)

Get subfolders of a folder

(i)

Get the columns of a sheet

(i)

Get the columns of a sheet (dynamic schema)

(i)

List the sheets

(i)

# Teams



## Microsoft Teams

Microsoft Teams enables you to get all your content, tools and conversations in the Team workspace with Microsoft 365.

Add a member to a team

(i)

Create a Teams meeting

(i)

Create a chat

(i)

Create a team

(i)

Get message details

(i)

Get messages

(i)

List members

(i)

Post a choice of options as the Flow bot to a user

(i)

Post adaptive card and wait for a response

(i)

Post card in a chat or channel

(i)

Post message in a chat or channel

(i)

Reply with a message in a channel

(i)

Reply with an adaptive card in a channel

(i)

# Slack



## Slack

Slack is a team communication tool, that brings together all of your team communications in one place, instantly searchable and available wherever you go.

- Create a channel (i)
- Join a public channel (i)
- List public channels (i)
- List public channels (Pagination support) Preview (i)
- Post message (V2) (i)
- Set do not disturb (i)

# Outlook



## Office 365 Outlook

Microsoft Office 365 is a cloud-based service that is designed to help meet your organization's needs for robust security, reliability, and user productivity.

- Create contact (V2) (i)
- Create event (V4) (i)
- Send an HTTP request (i)
- Send an email (V2) (i)
- Delete contact (V2) (i)
- Delete email (V2) (i)
- Delete event (V2) (i)
- Export email (V2) (i)
- Find meeting times (V2) (i)
- Flag email (V2) (i)
- Forward an email (V2) (i)
- Get Attachment (V2) (i)
- Get calendar view of events (V3) (i)

# Amazon AWS

The screenshot shows the Zapier integration catalog for Amazon AWS. It lists several integrations:

- Amazon S3**: Includes actions for "Get S3 object content" (Premium), "Get S3 object metadata" (Premium), and "List S3 regions" (Premium). Each action has a "Preview" button and a help icon.
- Amazon SQS**: Includes actions for "Sends a message to the SQS queue" (Premium) and "Deletes a message from the SQS queue" (Premium). Each action has a "Preview" button and a help icon.
- Amazon Redshift**: Includes actions for "Get rows" (Preview, Premium), "Get row" (Preview, Premium), and "Get tables" (Preview, Premium). Each action has a "Preview" button and a help icon.
- Amazon S3 Bucket (Independent Publisher)**: Includes actions for "Get S3 object content" (Premium), "Get S3 object metadata" (Premium), and "List S3 regions" (Premium). Each action has a "Preview" button and a help icon.

Each integration entry includes a "See more" link at the bottom right.

# GitHub

The screenshot shows the Zapier integration catalog for GitHub. It lists various GitHub-related actions:

- GitHub**: GitHub is described as a web-based Git repository hosting service. It offers all of the distributed revision control and source code management (SCM) f... [Read more](#)
- Action: Add selected repository to an organization secret [Preview](#) [Help](#)
- Action: Check if a user is a repository collaborator [Preview](#) [Help](#)
- Action: Compare two commits [Preview](#) [Help](#)
- Action: Create a pull request [Preview](#) [Help](#)
- Action: Create a reference [Preview](#) [Help](#)
- Action: Create a repository dispatch event [Preview](#) [Help](#)
- Action: Create a repository using a template [Preview](#) [Help](#)
- Action: Create an issue [Preview](#) [Help](#)
- Action: Create or update a repository secret [Preview](#) [Help](#)
- Action: Find issues by state and keyword [Preview](#) [Help](#)
- Action: Get a particular issue of a repository [Preview](#) [Help](#)
- Action: Get a pull request [Preview](#) [Help](#)
- Action: Get a reference [Preview](#) [Help](#)

# Metadata

- Each SharePoint action will fetch specific metadata attributes regarding the Document Library/SharePoint List.
- With Power Automate you can:
  - **Retrieve** specific metadata
  - **Transform** the metadata to a format you desire (using functions)
  - **Utilize** the metadata to conduct tasks using other SharePoint Actions
  - Create **customized** (Instant, Scheduled, or Event-Triggered) reports leveraging metadata
  - **Trigger** another action (send email, request approval) using the metadata as the input

Get document library files properties

**body/value**  
List of Items

**Body**  
List of Items

**ID**  
List item id. Use this value for specifying the item to act on in other list related actions.

**Title**

**Created**  
When this item was created.

**Modified**  
When this item was last changed.

**Name**  
File name of the item in document libraries, display name of the item in lists.

**File name with extension**  
For libraries, returns file name including extension. For lists, returns the title property.

**Folder path**  
Path to the folder the item is in, relative to the site address.

**Full Path**  
Full path of an item or a folder or a file

**Content approval status**  
The content approval status. It can be one of the following: Draft, Pending, Approved, or Rejected

**Comments associated with the content approval of this list item**  
The comments associated with moderation of the list item.

**Checked out**  
True when the file is checked out, false otherwise.

**Version number**  
The version number of the file or the list item.

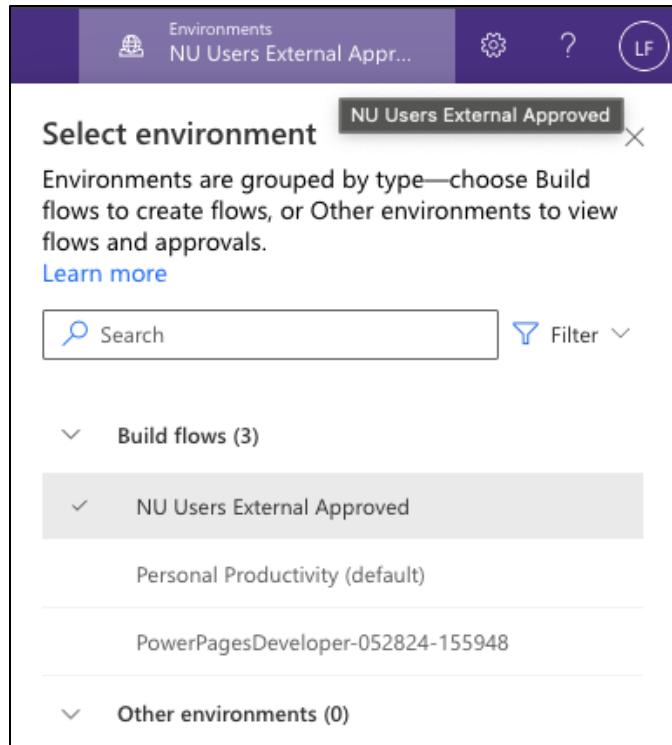
**Trigger Window Start Token**  
A token expressing the time of the last flow check. Use this if you want to check if one or more columns were modified since the last flow check.

**Trigger Window End Token**  
A token expressing the time of the current flow check. Use this if you want to check if one or more columns were modified since the last flow check.

**body/value-key-item-output**  
Table item entity

# Flow Environments

- A space where a maker stores and manages their apps and related business data.
  - **Personal Productivity environment:** Does not allow data to be passed from any Microsoft 365 service to an external platform. Default for all Northwestern Users
  - **NU Users External Approved environment:** Allows data to be passed to an external platform. Default for all Northwestern Users.
  - **FSM Users environment:** Does not allow data to be passed from any Microsoft 365 service to an external platform.
- Data protection policies are assigned to each environment to manage the flow of Northwestern's Microsoft 365 business data to external platforms.



NOTE: Please contact [Collaboration Services](#) for guidance with Power Automate Environments.

# Power Automate Vocabulary

**Environment** (Personal)

**Flow** (Instant)

**Connector** (SharePoint)

**Actions** (Create File)

**Dynamic Content + Functions**

# Workflows

Fun Stuff!

# TEAM UPDATES

A research institute conducting interdisciplinary studies needs a streamlined workflow for handling research proposal approvals and data access requests. The institute's research teams consisted of **Principal Investigators (PIs)**, **graduate students**, and **data engineers**, all of whom required a structured process to request, review, and approve research-related documents.

Previously, researchers **submitted approval requests via email**, which led to:

- Delays in obtaining approvals from PIs and data engineers.
- Difficulty tracking the status of pending requests.
- Compliance risks due to lack of standardized documentation.
- Inefficiencies in data access provisioning.

# SharePoint Metadata

The screenshot shows a SharePoint document library interface. At the top, there's a navigation bar with options like '+ New', 'Upload', 'Edit in grid view', 'Sync', 'Add shortcut to OneDrive', 'Pin to Quick access', 'Automate', 'Integrate', and three dots. Below the navigation bar is a search bar with the placeholder 'Search' and a 'Rules' button with a dropdown arrow. The main area is titled 'Documents' with a 'View' dropdown. A table lists four items:

Name	File Size	Created	Created By	Modified	Owner	Data Level	Team	Status
Data Collection	2 items	October 2, 2023	Kevin Luu	Tuesday at 3:53 PM	Llewellyn Fernandes Tobin Magle	Level 1 Level 3	Data Science	New
Grant Proposals	5 items	September 28, 2023	Kevin Luu	Tuesday at 3:53 PM	Kristin Anne McLean	Level 1	Grants and Compliance Project Management	New
NIH Correspondence	2 items	October 3, 2023	Kevin Luu	Tuesday at 3:53 PM	Brian Jeffery Roland	Level 2	Grants and Compliance Project Management Data Science Community Engagement	New
Results and Findings	4 items	Monday at 3:21 PM	Llewellyn Fernandes	Tuesday at 3:53 PM	Kevin Luu	Level 2	Project Management Data Science	New

- Modified SharePoint Document Library
- Custom Metadata Tags identifying responsibility and ownership
- Status updates along with priorities
- Data Levels for controlled access

# Connecting to a SharePoint Site

Workshop\_Flow\_3

When a file is created (properties only)

Parameters Settings Code View About

Site Address \* RCDS-TEST - https://nuwildcat.sharepoint.com/sites/NUIT-RCDS-TEST

Library Name \* PowerAutomate Documents

Advanced parameters Showing 2 of 2

Limit Columns By View Use all columns (Do not limit)

Folder Select a folder, or leave blank for the whole library

> How often do you want to check for items?

Connected to ybd1121@ads.northwestern.edu. Change connection

---

Create an Automated Cloud Flow

---

Select a SharePoint action to trigger when a file is created

---

Send out an Email

---

Send out a Teams message

# Notification Actions

The screenshot shows the configuration interface for the 'Send an email (V2)' action. It includes fields for 'To' (llewellyn.fernandes@northwestern.edu, kevin.luu@northwestern.edu), 'Subject' (Power Automate Email), and 'Body'. The body contains a message template: 'This email is to notify you, a new file named [Name] has been added to the document library by [Created By Email]'. Advanced parameters and importance levels are also shown.

The screenshot shows the configuration interface for the 'Post message in a chat or channel' action. It includes fields for 'Post As' (Flow bot), 'Post In' (Chat with Flow bot), and 'Recipient' (NetID@ads.northwestern.edu). The message body is identical to the one in the first screenshot. Advanced parameters and connection status are also shown.

Trigger Notifications based on the output of other Actions

You can send **emails** when a new file gets added/created

You can send notifications via **Teams Message**

Update Microsoft Planner

# **INTEGRATED LIBRARY FLOW**

# Using SharePoint's Integrated Automated Flows

The screenshot shows a SharePoint document library interface. At the top, there is a navigation bar with various icons: New, Share, Copy link, Sync, Add shortcut to OneDrive, Download, Automate, and a three-dot menu. Below this is a list of documents with columns for File Size, Modified, Owner, Data Level, Responsible, and Status (Not started). A red box highlights the 'Automate' dropdown menu. A secondary red box highlights the 'Create a flow' option within the Power Automate submenu.

**Create a flow**

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

- Request manager approval for a selected file
- Request approval in Microsoft Teams when a SharePoint item is c...
- Post a message to Microsoft Teams for a selected file
- Add an Outlook task for a selected file
- Create a Microsoft Planner task for a selected file in SharePoint

Show more ▾

[See your flows](#)

[Learn more about Power Automate](#)

Select the **Integrate** option in the Menu bar

Select **Power Automate**

Select **Create a Flow**

Choose a Template or build your own

## ROUTINE NOTIFICATIONS

A university research team conducting a longitudinal study needed a structured way to communicate with participants over the course of the project. They routinely sent appointment reminders, follow-up surveys, compliance notifications, and study updates but relied on manual emails and spreadsheets for tracking.

The team relied on **manual emails and spreadsheets**, leading to:

- **Missed communications** and follow-ups.
- **Inconsistent tracking** of participant interactions.
- **Difficulty coordinating** across team members.
- **Lack of a centralized record** for compliance.

# Working with Lists

Create item

Parameters   Settings   Code View   Testing   About

Site Address \*  
RCDS-TEST - https://nuwildcat.sharepoint.com/sites/NUIT-RCDS-TEST

List Name \*  
Workshop Attendees

Advanced parameters  
Showing 5 of 6   Show all   Clear all

Title  
Email Address X

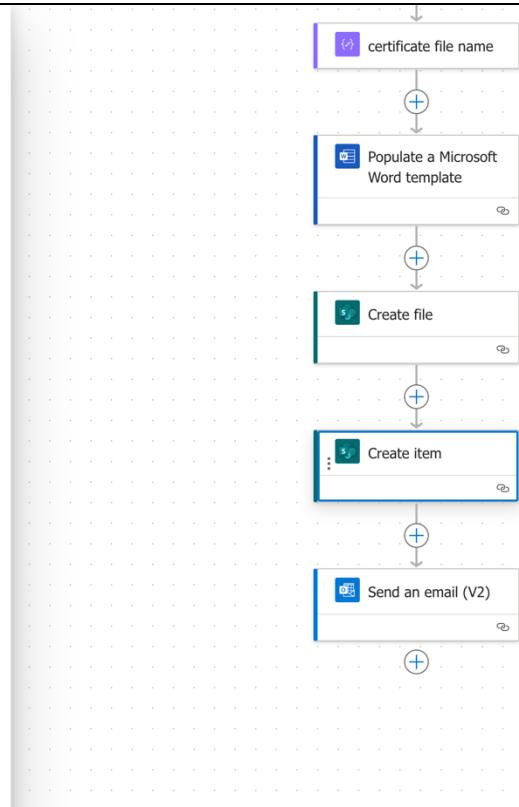
First Name  
First Name X

Last Name  
Last Name X

Confidence  
How confident ar... X

Response Time  
Submission time X

Connected to ybd1121@ads.northwestern.edu. [Change connection](#)



## Adding data to Lists

Modify metadata to work with the column types

Leverage Dynamic data from other Connectors

Build data pipelines converting excel files to lists

# Modifying Files

Populate a Microsoft Word template

Parameters    Settings    Code View    Testing    About

Location \*  
SharePoint Site - RCDS-TEST

Document Library \*  
Documents

File \*  
/NIH Correspondence/workshop attendance certificate.docx

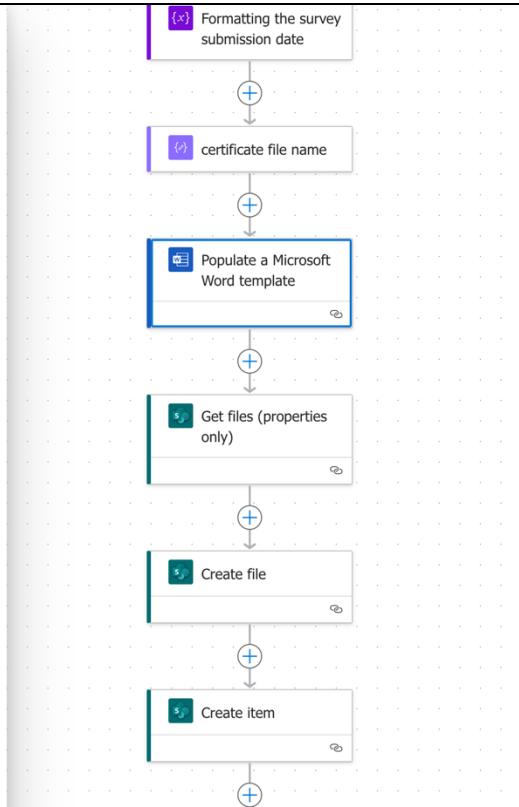
Advanced parameters  
Showing 3 of 3

Last Name  
Last Name x

First Name  
First Name x

Date  
Survey Response ... x

Connected to ybd1121@ads.northwestern.edu. [Change connection](#)



Premium Feature

Automated responses to forms

Send gift cards to survey participants

Share data with requestors based on form responses

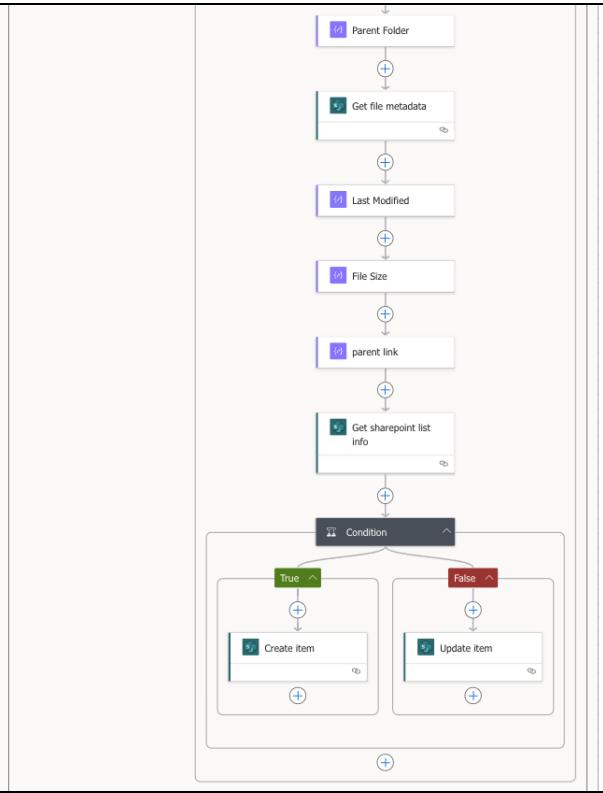
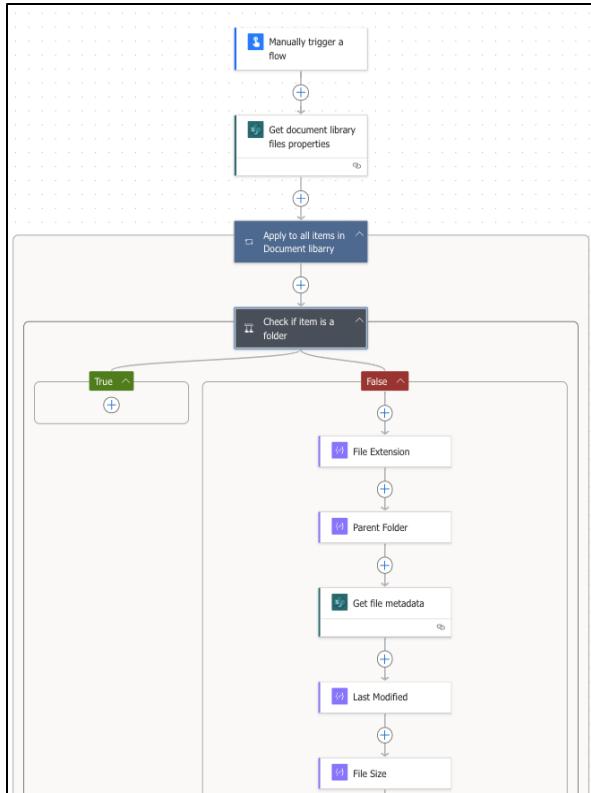
# DOCUMENT TRACKER

A university research team stores a large number of documents, datasets, and reports in a SharePoint library. As their projects expand, managing document versions, tracking updates, and ensuring proper access control have become challenging. Team members often struggle to find the latest files, leading to inefficiencies and potential data inconsistencies. To improve organization and collaboration, they need a structured way to track documents, monitor changes, and maintain version control within SharePoint.

## **Challenges:**

- Difficulty locating the latest versions of documents
- Lack of clear ownership and update tracking
- Inefficient collaboration due to scattered files
- Compliance concerns with institutional data policies

# SharePoint List



This is the final flow of the day

This Flow encompasses all the Actions that we covered today

This flow contains Built-In Actions like Compose and Conditions

We connected to SharePoint

We perform actions that updates a SharePoint List

We send notification emails based on actions

# SharePoint List

The screenshot shows the 'Create item' configuration screen. At the top, there's a 'Create item' button and a 'Parameters' tab selected. Below it, the 'Site Address' is set to 'RCDS-TEST - https://nuwildcat.sharepoint.com/sites/NUIT-RCDS-TEST'. The 'List Name' is set to 'Document\_Library\_Structure'. The 'Advanced parameters' section lists various file metadata fields: Title, File Name, File Extension, Parent Folder, File Size (MB), Last Modified, File Location, File Status Value, File Link, and Folder Link. Each field has a placeholder value like '(ID)', '(Name)', or '(FullPath)'.

The screenshot shows the 'Update item' configuration screen. The 'Site Address' is set to 'RCDS-TEST - https://nuwildcat.sharepoint.com/sites/NUIT-RCDS-TEST'. The 'List Name' is set to 'Document\_Library\_Structure'. The 'Id' field is populated with the expression 'outputs(...)' and has a red border. The 'Advanced parameters' section lists the same file metadata fields as the 'Create item' screen, with their values preloaded from the SharePoint list.

Power Automate has SharePoint Actions specific to Lists

In this example, we showcase the **Create Item** and **Update Item** actions

Connect your SharePoint Site using the **Site Address**

Lists that exist in your Site will show up in your **List Name** as options

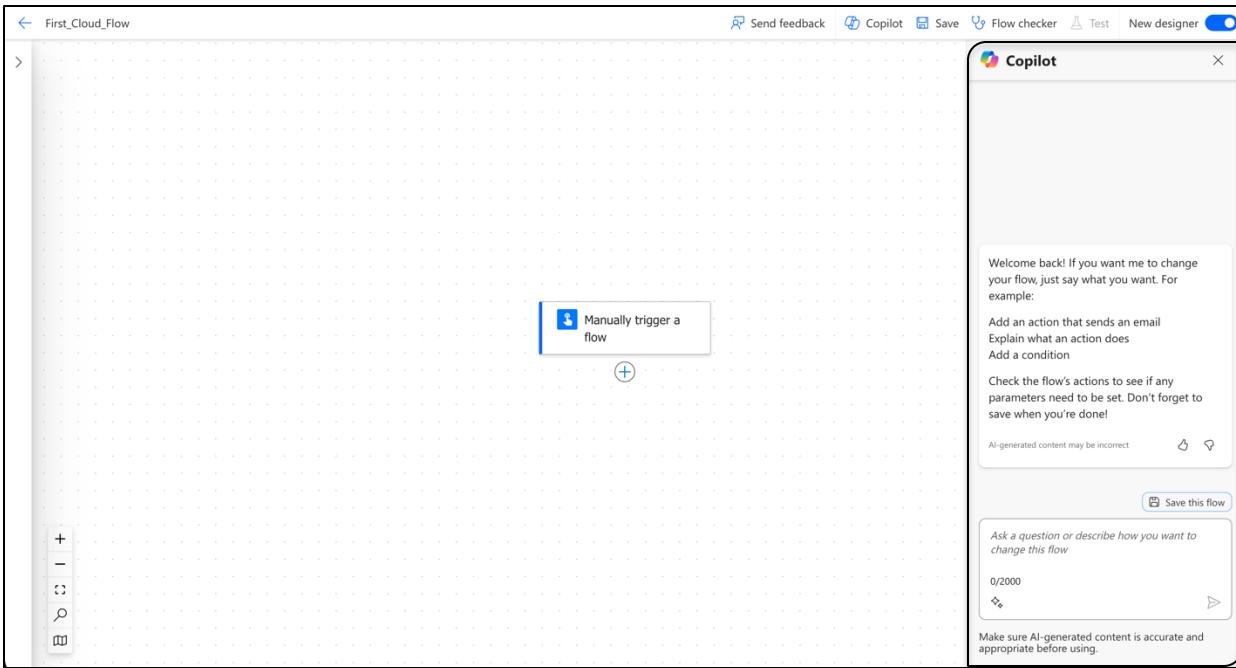
Upon selecting your list, the columns will preload as **parameters** to pass to your list

You can then insert your metadata into those fields

The data in the SharePoint list will modify every time the flow runs

# Closing Notes

# Copilot



Allows **open-ended** and **conversational** experiences while creating your flows.

As you build, you'll be able to ask questions and get assistance making improvements and changes.

You can ask it to **add actions** to your flows

**Write functions** using dynamic content present in your flow

**Still in testing phase!** Results don't always provide the solution you are looking for

Use it to understand Power Automate better

# Reach out!

## FIND WHAT YOU NEED



### PLANNING

- Writing a Data Management Plan
- Protecting the Sensitive Information in My Data



### DATA COLLECTION AND STORAGE

- Choosing Appropriate Storage
- Documenting Your Research
- Transferring Data to or from Northwestern
- Sharing Data with an External Collaborator



### DATA SHARING AND ARCHIVING

- Making Your Data Reusable
- Sharing Data Publicly
- Archiving Data When a Project is Done



### SUPPORT AND RESOURCES

- Talk to a Data Management Expert
- Northwestern Research Data Management Resources
- External Research Data Management Resources

[Research Data Management Website](#)

Office Hours: Every Monday  
3 p.m. – 4 p.m.  
Mudd Library,  
GIS Lab

Emails:  
[researchdata@northwestern.edu](mailto:researchdata@northwestern.edu)

[Consultation Calls](#)

# Power Automate Resources

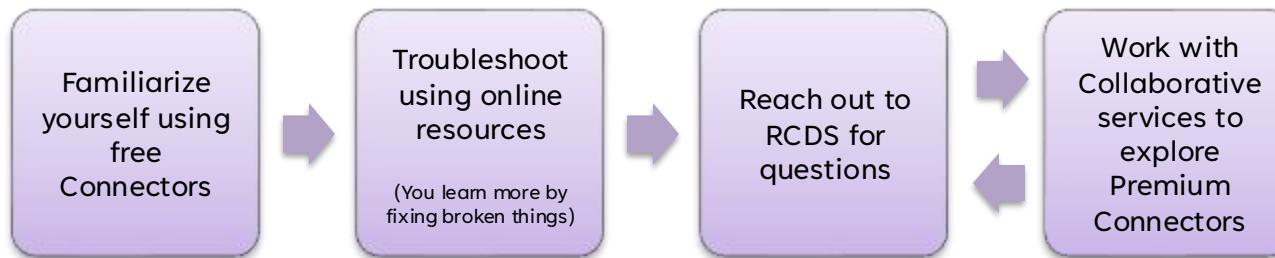
## YouTube Channels

- <https://www.youtube.com/@RezaDorrani>
- <https://www.youtube.com/@ShanesCows>
- <https://www.youtube.com/@PragmaticWorks>

## Northwestern IT

- [Collaboration Services](#)
- [Research Computing and Data Services](#)

## Power Automate Exploration Guide



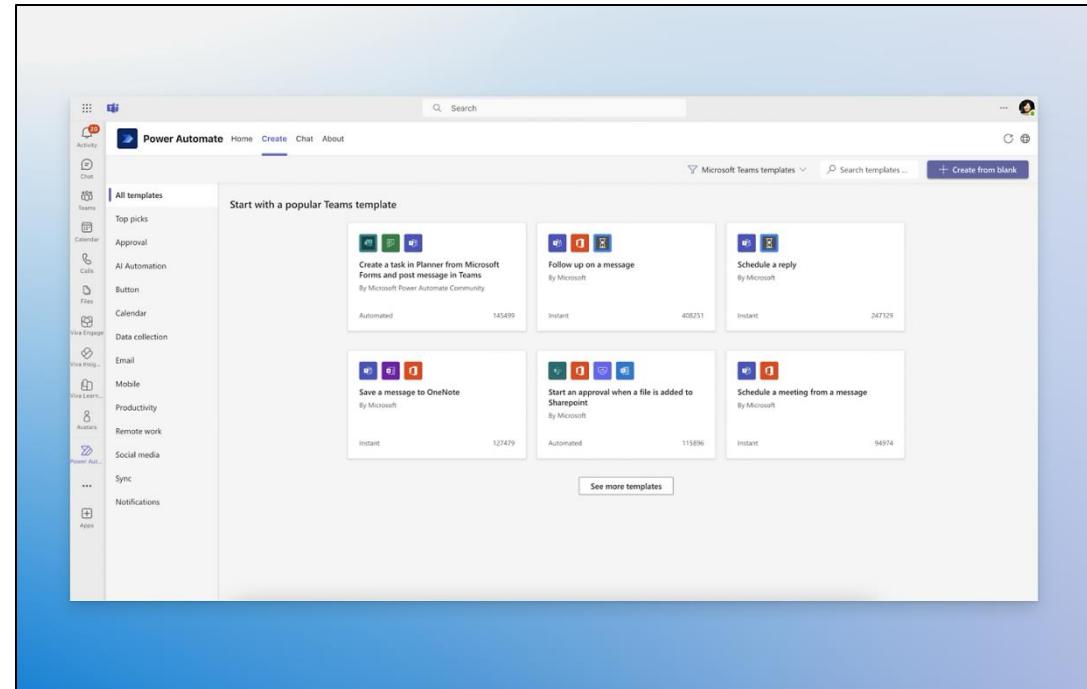
# Power Automate Notes

Appendix

# **INTRODUCTION**

# Features

- A comprehensive automation platform supported by AI.
- Use digital process automation (DPA) to automate apps, data, and services.
- Start from scratch, use a prebuilt template, or engage with Copilot to automate tasks and processes.
- Automate in Excel, SharePoint, or Teams without switching applications and interrupting your workflow.



Build an instant cloud flow

Triggered manually from any device, easy-to-share instant flows automate tasks so you don't have to repeat yourself.

Examples:

- Get an automatic mobile alert whenever a VIP client emails you
- Save all your email attachments to a folder automatically

Flow name

Add a name or we'll generate one

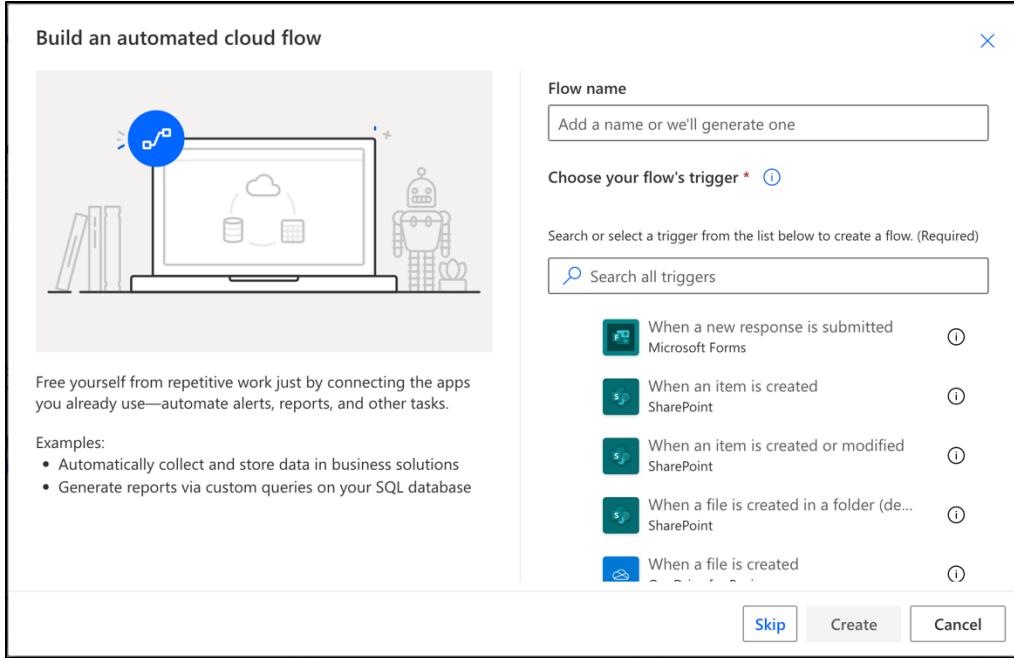
Choose how to trigger this flow \*

- Manually trigger a flow  
Flow button for mobile
- When Power Apps calls a flow (V2)  
Power Apps
- Run a flow from Copilot Skills
- When Power Virtual Agents calls a fl...  
Power Virtual Agents
- When a flow step is run from a busin...  
Microsoft Dataverse
- When a row is selected  
Microsoft Dataverse
- For a selected message (V2)

Skip Create Cancel

# Power Automate Flows

## Instant Cloud Flow



# Power Automate Flows

## Automated Cloud Flow

Build a scheduled cloud flow



Stay on top of what's important without the effort—you choose when and how often the flow runs.

Examples:

- Automate team reminders to submit expense reports
- Auto-backup data to designated storage on a regular basis

Flow name

Run this flow \*

Starting   \* at

Repeat every  \*   \*

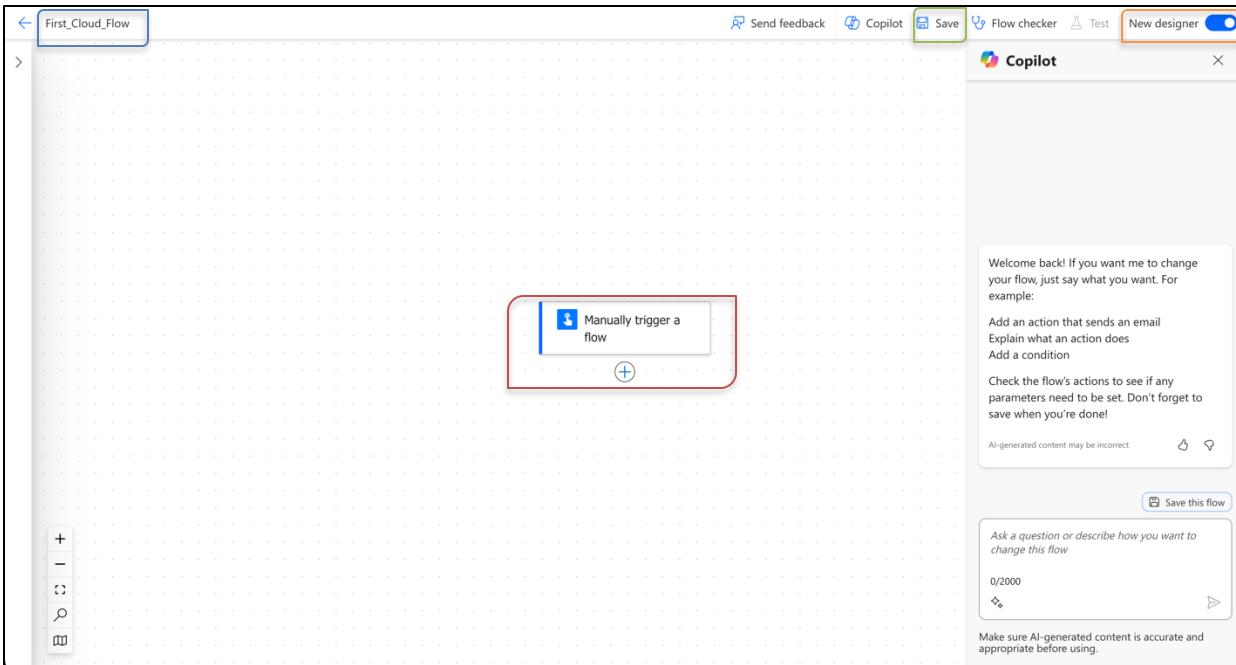
This flow will run:  
Every minute

[Skip](#) [Create](#) [Cancel](#)

# Power Automate Flows

## Scheduled Cloud Flow

# Creating a Flow



Create an Instant Cloud Flow

Skip Initial Flow Details

Toggle between **New designer** and Old

Add a **Flow Name**

Add a “**Manual Trigger**”

**Save**

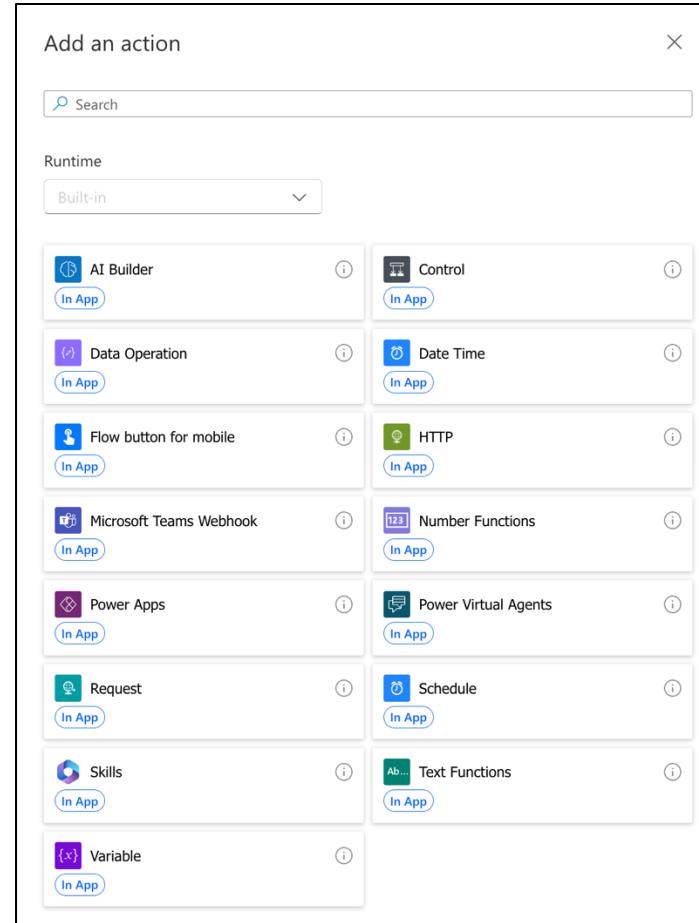
# Built-in Actions

## Definition:

- Built-in actions are natively available within Power Automate and don't require any additional connectors or services.

## Common Built-in Actions:

- Control Actions
- Variables
- Expressions
- Loops and Conditions



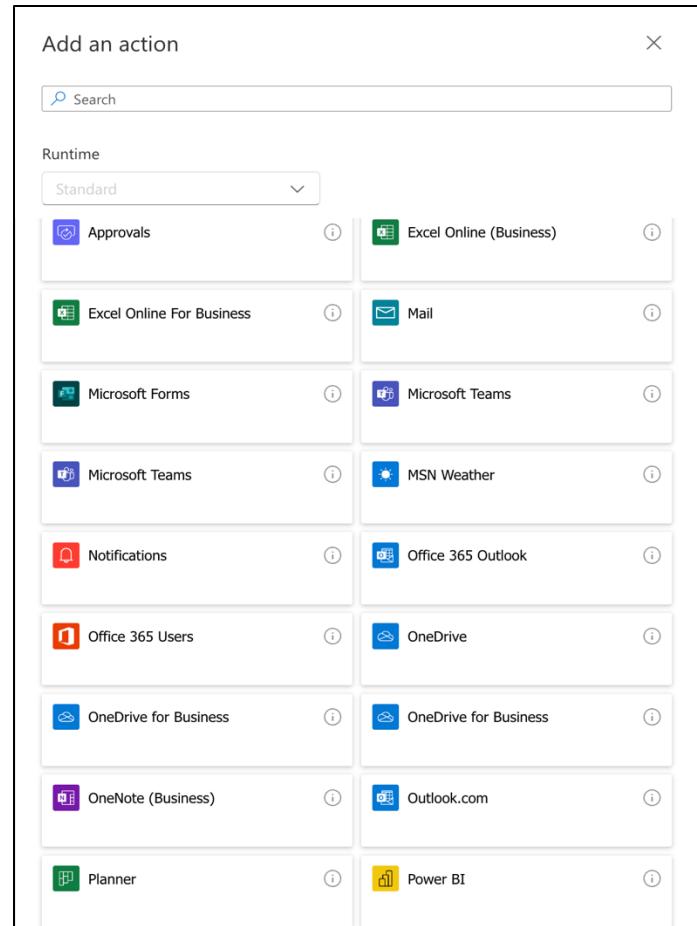
# Standard Actions

## Definition:

- Standard actions are available through Power Automate's included connectors that do not require a premium license.

## Common Standard Actions:

- Microsoft Services
- Notifications



# Premium Actions

## Definition:

- Premium actions require a premium license or subscription to access additional connectors and services.

## Common Premium Actions:

- Enterprise Systems
- Databases
- Advanced Services

Add an action

Search

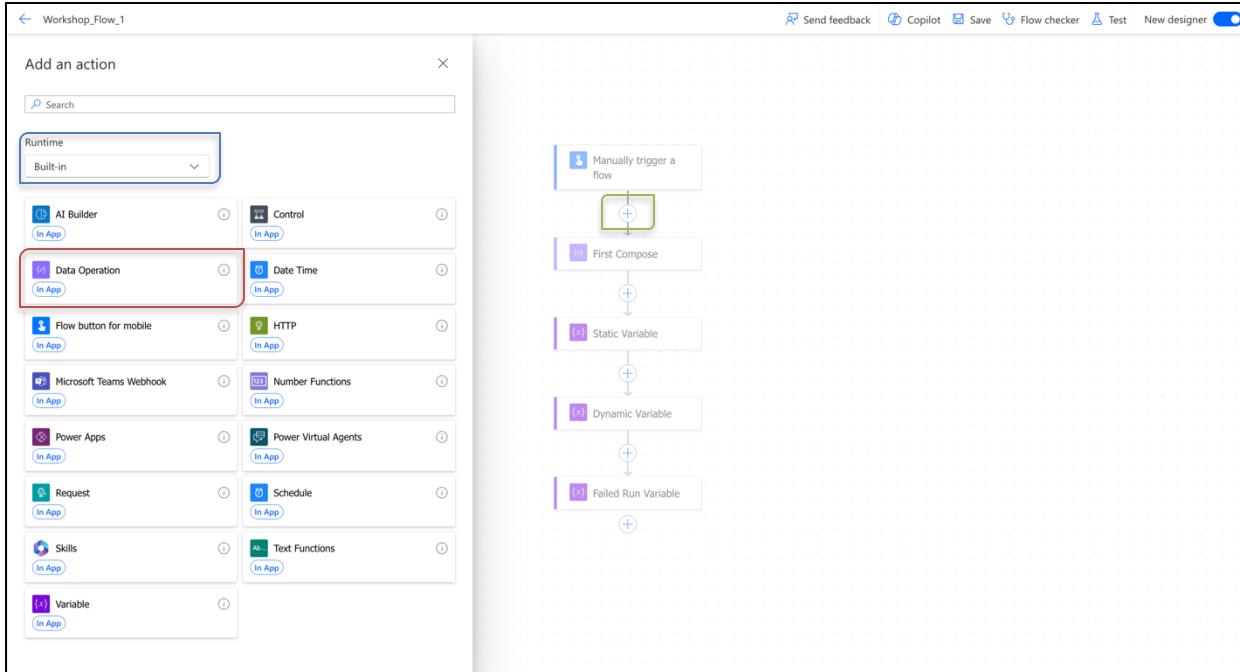
Runtime

Premium

Azure DevOps	Desktop flows
Microsoft Dataverse	Microsoft Dataverse
SQL Server	Exights gen. Document & more
1Me Corporate	1pt (Independent Publisher)
24 pull request (Independent Pu...	365 Training
3E Events	Abbreviations
Abortion Policy (Independent Pub...	absentify
Abstract Company Enrichment (I...	Abstract Email Validator (Indepen...
Abstract Exchange Rates (Indepe...	Abstract Holidays (Independent P...

# **WORKING IN A FLOW**

# Add actions



The screenshot shows the 'Add an action' dialog box within the Microsoft Flow designer. The 'Runtime' dropdown is set to 'Built-in'. The 'Data Operation' option is highlighted with a red box. The dialog lists various actions categorized by runtime, including AI Builder, Control, Data Operation, Date Time, Flow button for mobile, HTTP, Microsoft Teams Webhook, Power Apps, Request, Skills, and Variable.

## Compose Action

Add a new action using the + icon

Select Built-in runtime

Select Data Operation

Select Compose Action

# Add actions

The screenshot shows the Microsoft Power Automate designer interface. On the left, there is a sidebar with a 'Static Variable' card. The main workspace contains a flow diagram with the following steps:

```
graph TD; A[Manually trigger a flow] --> B[First Compose]; B --> C[Static Variable]; C --> D[Dynamic Variable]; D --> E[Failed Run Variable]
```

The 'Static Variable' action is highlighted with a red border.

## Variable Action

Add a new action using the + icon

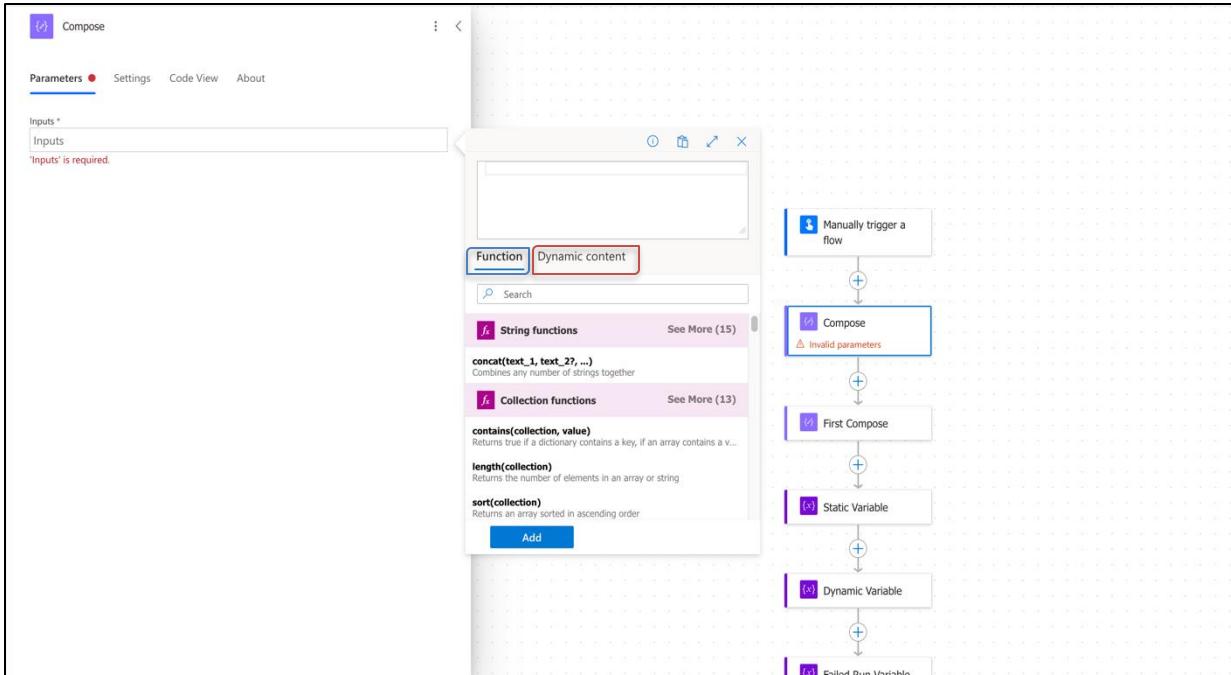
Select Built-in runtime

Select Initialize Variable

Set Variable Parameters

Rename Action

# Inputs to Actions



## Static Content

Text and numeric inputs

## Dynamic Content

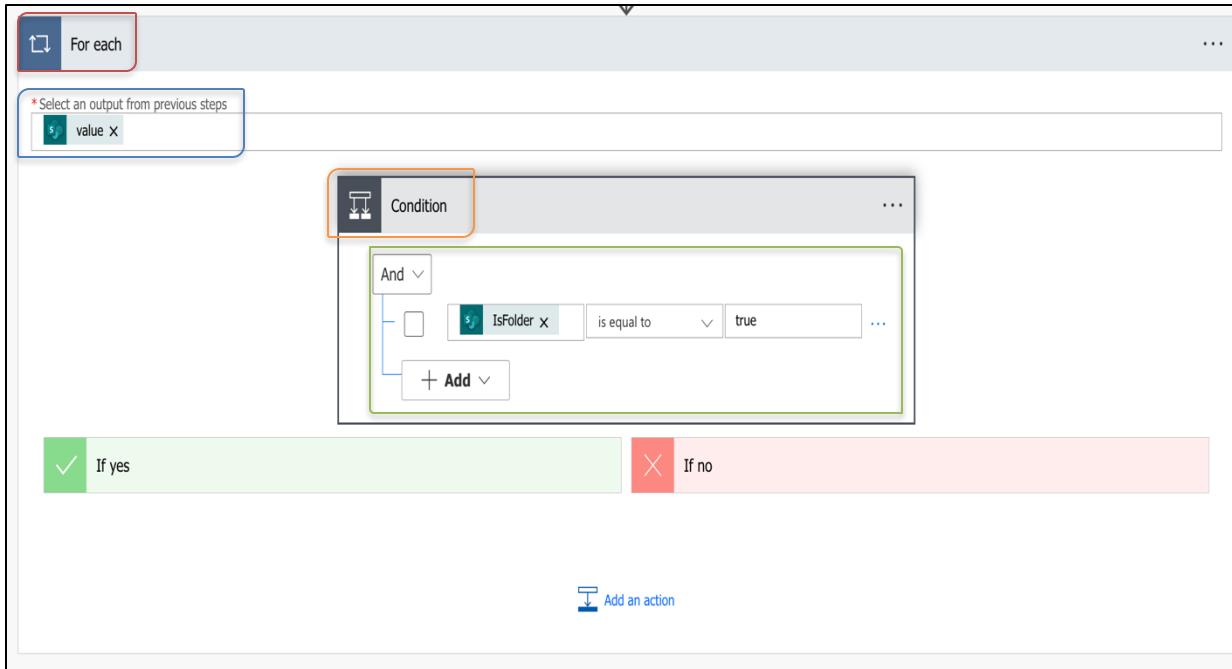
Data that is **automatically populated** based on the outputs of previous actions within a flow.

## Functions

Predefined operations that can be used to perform various tasks, such as data manipulation, calculations, and logic operations.

# **CONTROLS AND CONNECTORS**

# Exploring Controls



Your document library will have multiple files/folders

The "For each" action can perform an action of your choice to each file/folder in your document library by referencing the [action's dynamic variable](#)

In this reference, we have added a **Condition** action from the Control Built-In actions

The condition checks for folders in the document library

The Condition Action will branch into two operations you can perform based on its output

# Controls

## Overview

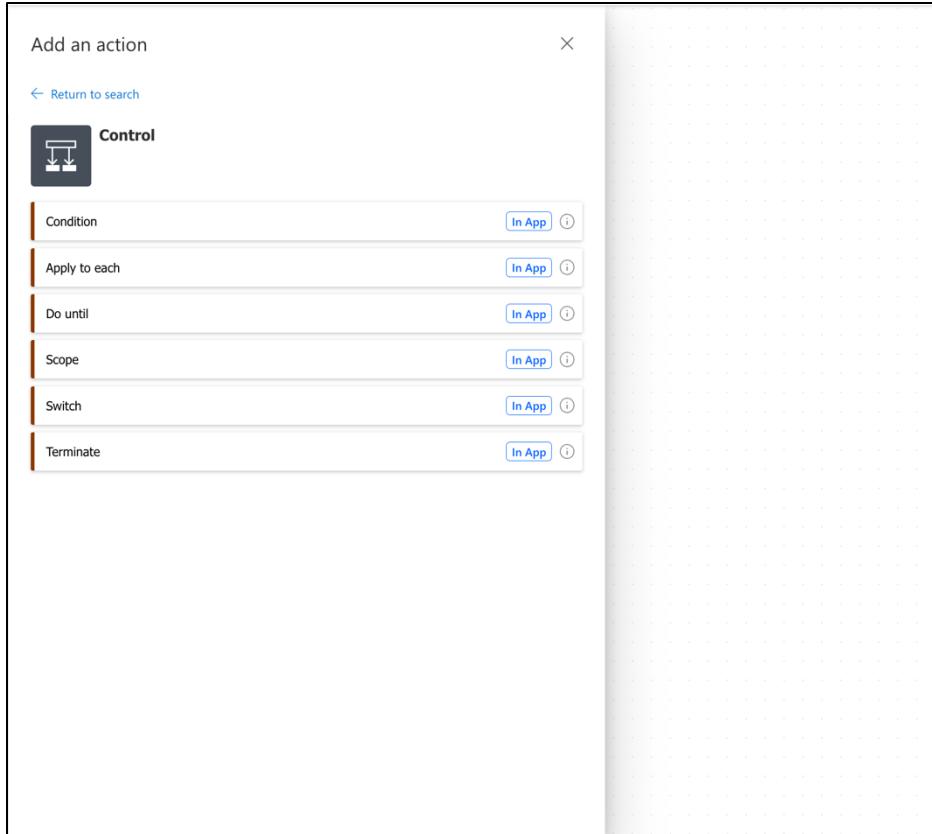
Controls in Power Automate enables you to create branching logic and iterative functions in your workflows, executing different actions based on specified conditions.

## Key Features

- If-Then Logic:** Executes actions if a condition is met (true) and optionally different actions if the condition is not met (false).
- Flexible Conditions:** Compare values using operators like equals, greater than, less than, and more.
- Loop Through Collections:** Process each item in an array or list, such as emails, files, or database records.

## Benefits

- Dynamic Workflows
- Automation
- Efficiency



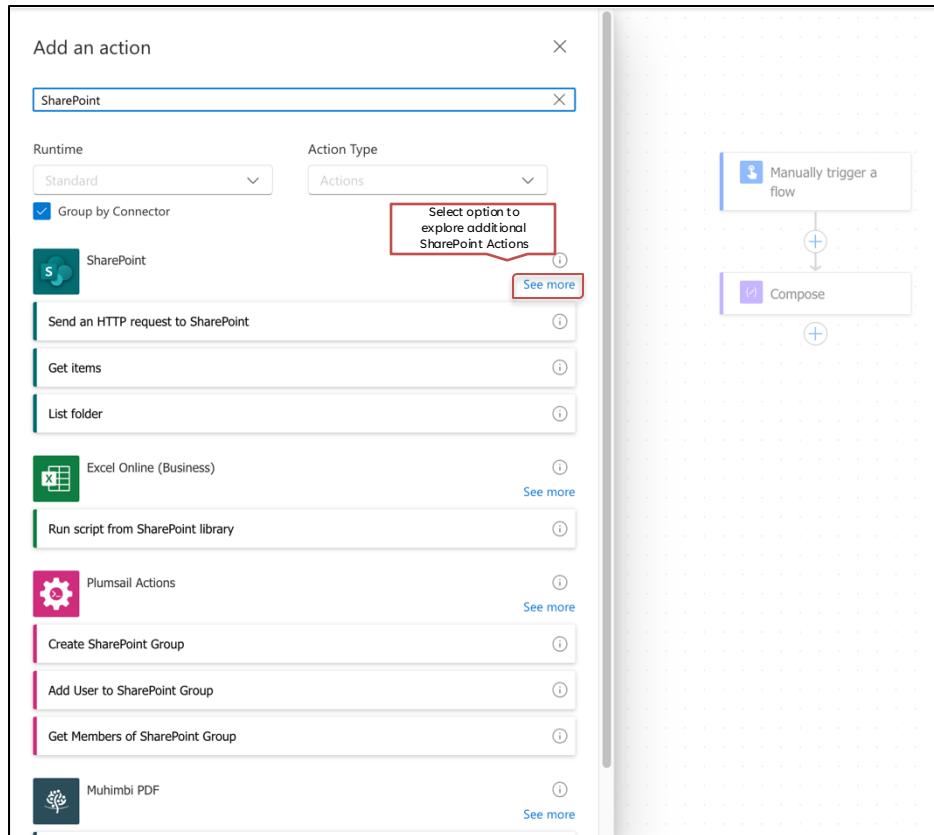
# SharePoint Connector

## Overview

SharePoint actions in Power Automate enable seamless integration with SharePoint sites, lists, and libraries, allowing for efficient automation of various tasks and workflows.

## Key Actions

1. Get Items
2. Create Item
3. Update Item
4. Delete Item
5. Get File Content
6. Create File
7. Update File Properties

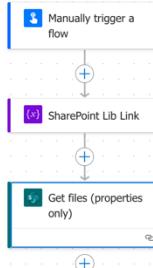


# Connecting to a SharePoint Site

The screenshot shows a configuration interface for a SharePoint action. At the top, there is a button labeled "Get files (properties only)". Below it, a "Parameters" section contains fields for "Site Address" (set to "RCDS-TEST - https://nuwildcat.sharepoint.com/sites/NUIT-RCDS-TEST") and "Library Name" (set to "Documents"). A "Get files (properties only)" action is selected. To the right of the action, there is a "See More" link. Below the action, there are several other parameters: "Advanced parameters" (with a dropdown showing "Showing 6 of 6"), "Filter Query" (with a placeholder "An ODATA filter query to restrict the entries returned (e.g. stringColumn ...)", "Order By" (with a placeholder "An ODATA orderBy query for specifying the order of entries."), "Top Count" (with a placeholder "Total number of entries to retrieve (default = all)."), "Limit Columns By View" (with a placeholder "Avoid column threshold issues by only using columns defined in a view"), "Limit Entries To Folder" (with a placeholder "Select a folder, or leave blank for the whole library"), and "Include Nested Items" (with a placeholder "Return entries contained in sub-folders (default = true)"). At the bottom, a note says "Connected to ybd1121@ads.northwestern.edu. Change connection".

Search SharePoint Action in action list

Select "See More" option



Select the "Get files (properties only)" action

Find or Enter in your SharePoint site address link

Select a Document library

Add in advanced parameters if needed

# **DYNAMIC CONTENT & FUNCTIONS**

# Dynamic Content

## Overview

On selecting Dynamic Variables as an input option to a current action you are trying to work with, you will be presented with output options from all the actions created before the current one.

## Key Items

- Select the “See More” option to expand the various options available for that action.
- Explore each action and test its output using a Compose Action

## Usage Scenarios

- Using the “For Each” control to parse through each item in a SharePoint Document Library.
- Use the “body/value” action as the the input for the “For Each” control

The screenshot shows the 'Variables' section in Microsoft Power Automate. At the top, there is a search bar and a 'Variables' button. Below this, a 'Document Library Link' is shown with the 'Get files (properties only)' action selected. A callout box highlights the 'body/value' option under the 'List of Items' section. To the right, a 'See More (69)' link is visible. Further down, other variables like 'Body', 'ID', 'Title', 'Created', 'Modified', and 'Manually trigger a flow' are listed, each with a brief description. A 'See More (17)' link is also present at the bottom right.

# Functions

## Overview

You select functions when you want to perform specific operations. You can perform this operation with static values and with Dynamic Content

## Key Items

- Function type will depend on the type of Dynamic content you are working with.
- Explore each function and test its output using a Compose Action

## Usage Scenarios

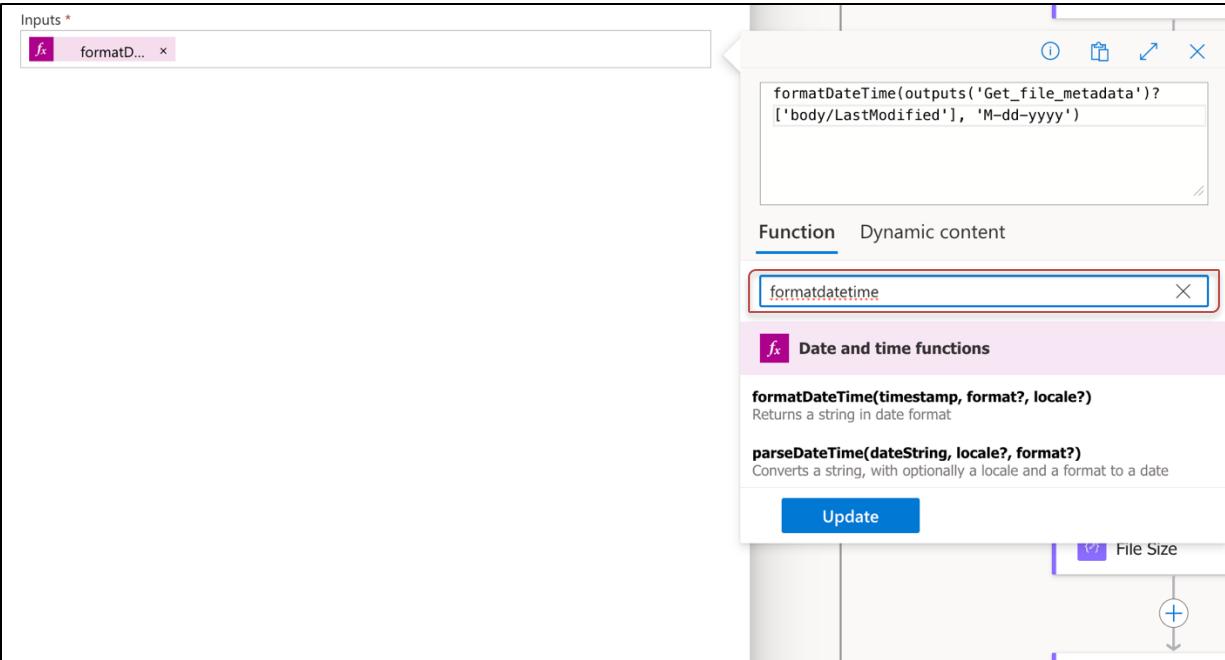
- In this instance, we are using the `formatDateTime` function to format the SharePoint "Get\_file\_metadata" "Last Modified" date to the "05-05-2024" format.

The screenshot shows a configuration interface for a 'Format' action. At the top, there is a code editor containing the expression: `formatDateTime(outputs('Get_file_metadata')?['body/LastModified'], 'M-dd-yyyy')`. Below the code editor, the title 'Function' is underlined, indicating the current category. A search bar labeled 'Search' is present. The interface is organized into sections by function type:

- String functions**: Contains the `concat(text_1, text_2, ...)` function, described as combining any number of strings together.
- Collection functions**: Contains the `contains(collection, value)` function, described as returning true if a collection contains a key, an array contains a value, or a string contains a substring; the `length(collection)` function, described as returning the number of elements in an array or string; the `sort(collection)` function, described as returning an array sorted in ascending order; and the `reverse(collection)` function, described as returning the collection in reverse order.
- Logical functions**: Contains the `if(expression, valueIfTrue, valueIfFalse)` function, described as returning a specified value based on whether the expression resulted in true or false; the `equals(object1, object2)` function, described as returning true if two values are equal; the `and(expression1, expression2)` function, described as returning true if both parameters are true; and the `or(expression1, expression2)` function, described as returning true if either parameter is true.

At the bottom right of the interface is a blue 'Update' button.

# Exploring Functions



Select Function in the Input Field

You can look up a specific functions to work with

Use Dynamic Variables as inputs to the functions

Work with multiple data types

Pair multiple functions together and perform combined operations

# **FLOW MENU AND TROUBLESHOOTING**

# Flow Menu

The screenshot shows the 'Workshop\_Flow\_1' details page. The top navigation bar includes options like Edit, Share, Save As, Delete, Run, Send a copy, Export, Process mining (preview), Analytics, Turn off, and Repair tips off. A 'Flow checker' button is also present.

**Details:** Shows the flow name 'Workshop\_Flow\_1', status 'On', creation date 'Jun 21, 09:40 AM', modified date 'Jul 2, 11:43 AM', type 'Instant', and plan 'The user who runs the flow'. Primary owner is listed as 'Owner Name'.

**Connections:** A box stating 'There aren't any connections for this flow.'

**Co-owners:** Shows two users: KL and LF. Buttons for 'Set primary owner' and 'Share' are available.

**Process mining (preview):** Includes a chart showing average run duration as 186 ms.

**Run only users:** States 'Your flow hasn't been shared with anyone.'

**Associated apps and flows:** States 'You don't have any apps or flows associated with this flow.' A 'Learn more' link is provided.

**28-day run history:** A table showing recent runs:

Start	Duration	Status
Jun 24, 11:32 AM (1 wk ago)	241 ms	Test failed
Jun 24, 10:16 AM (1 wk ago)	231 ms	Test succeeded
Jun 24, 10:13 AM (1 wk ago)	86 ms	Test failed
Jun 24, 10:11 AM (1 wk ago)	290 ms	Test succeeded
Jun 24, 10:08 AM (1 wk ago)	417 ms	Succeeded
Jun 24, 09:42 AM (1 wk ago)	118 ms	Failed
Jun 24, 09:41 AM (1 wk ago)	197 ms	Succeeded

A blue 'Edit' button is located at the bottom left of the table.

Flow Details outlining creation date and owner

Flow Menu highlights the different flow items

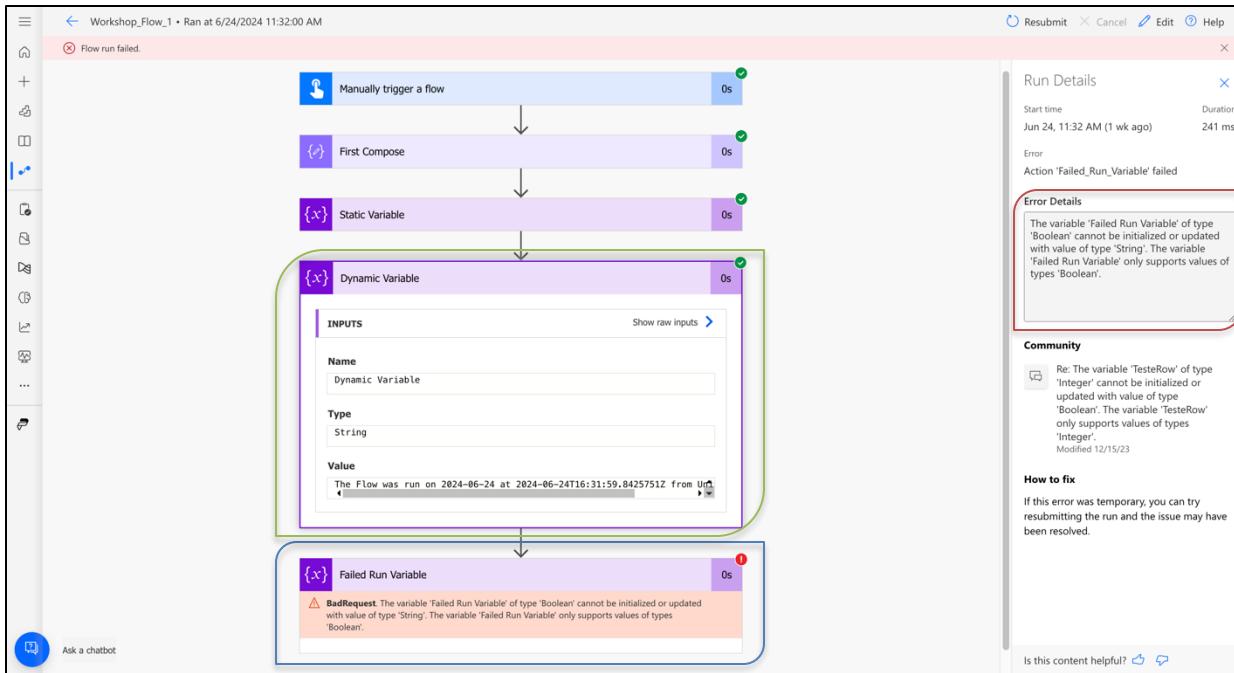
Co-owners contains user information the flow has been shared with

Flow Run History helps you keep track and investigate flow failures and runtime

Connections box will list all the external Actions your flow is connected to

You can have students only run the flow without them having access to the resources

# Failed Runs



Select Failed run from Run History

Investigate Error Detail

Check the failed Action and the Error Type

Read out some of the passed actions and check outputs