

Microsoft

# SHAREPOINT WEEK

16-20 MAY

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One Unmissable Week of Free Online  
**SharePoint Learning**

## Extending SharePoint with the Power Platform

*Michel Mendes*

# Speaker Presentation

## Michel Mendes



 [/in/michelcsmendes](https://www.linkedin.com/in/michelcsmendes)

 [@michelcarlo](https://twitter.com/michelcarlo)



Senior Consultant @ Avanade



Microsoft MVP (Office Apps & Services)



In the IT field since 2008



Developer Background

• .net/C# ► SharePoint ► M365 / Power Platform



Brazilian, since 2018 living in Dublin/Ireland

# Agenda



SharePoint & Power Platform



Power BI



Power Virtual Agents



Power Automate



Power Apps Canvas Apps (Standalone & Custom Forms)



Demo



Useful resources

# SharePoint & Power Platform:

## Why?

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Included in M365 license in most cases (already paying them)

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No need to maintain separate infrastructure

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Quick customisations, integration with other Microsoft 365 apps

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No Pro dev required

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End of life for InfoPath Forms & SP Designer Workflows

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Several samples in the community, blog posts, videos

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Continuous investment from Microsoft

# SharePoint & Power Platform



## Power Apps

Applications Development



## Power Automate

Workflow development  
Process Automation



## Power BI

Reporting/Analytics



## Power Virtual Agents

Chatbots



Standalone Canvas Apps

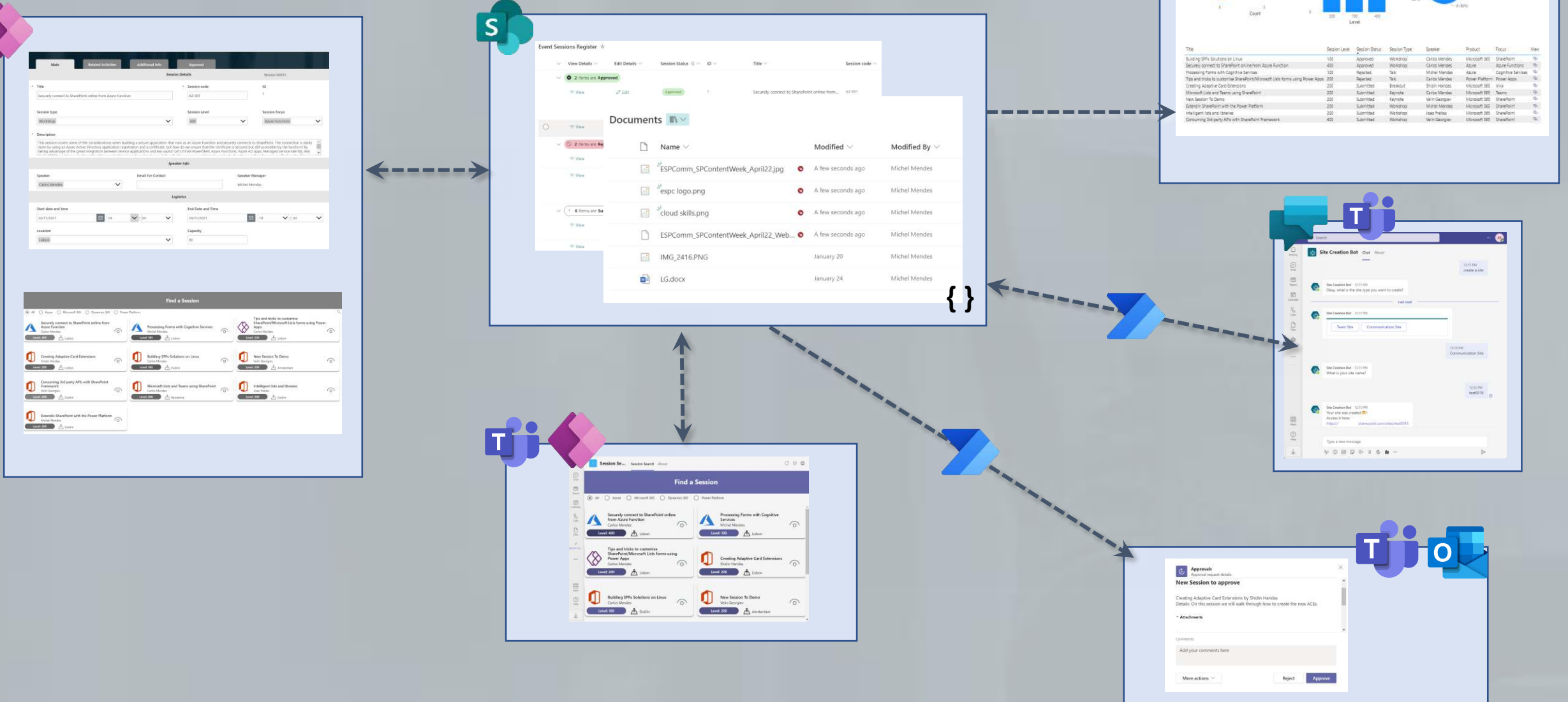
Custom List/Library Forms

Cloud flows on top of  
Lists or Libraries data

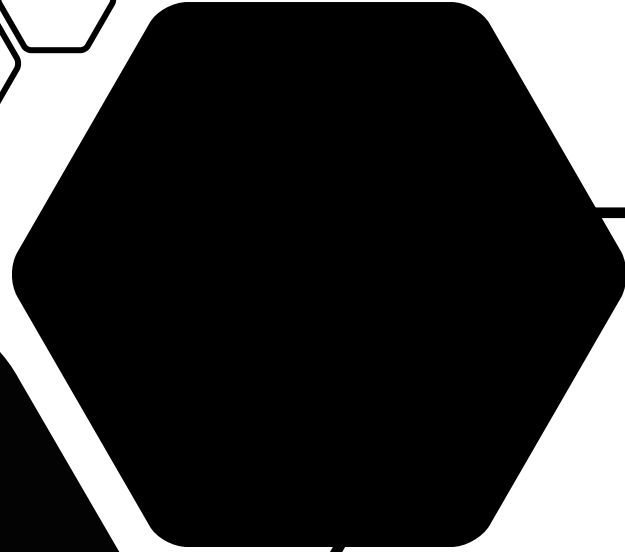
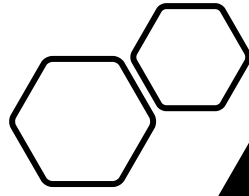
Reports/Dashboards top  
of Lists or Libraries data

Teams Bots calling Power  
Automate flows to  
interact with SharePoint  
Data  
(D4T)

# Sample Solution Architecture



Power BI

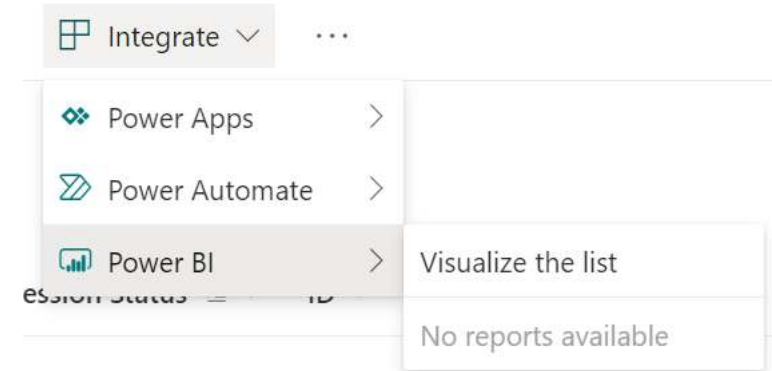


# Power BI



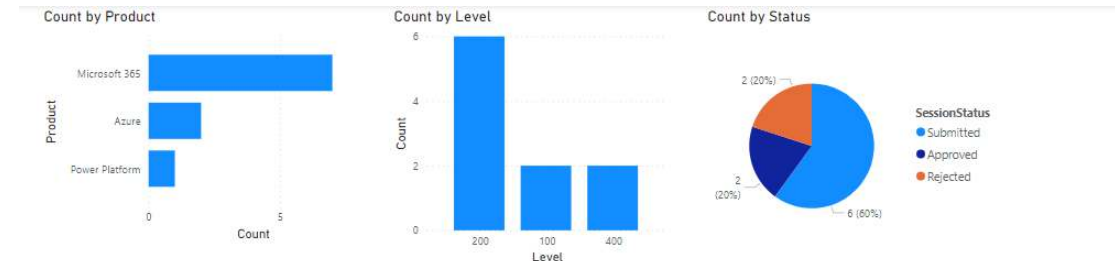
## Common Scenarios

- Create Report from List (limited features)
- Create Report from Power BI Desktop and connect to lists or libraries
- Embed Power BI reports in SharePoint Pages



## Usage requirement

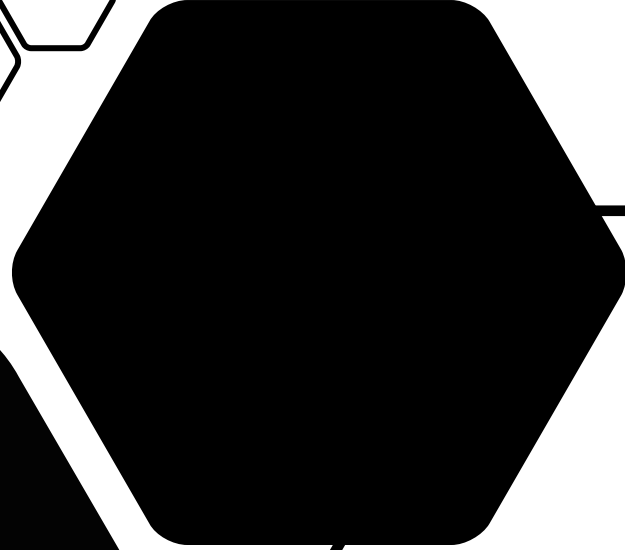
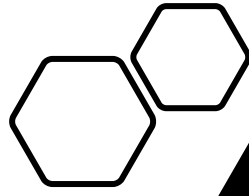
- Requires E5 or Power BI Pro to be able to share dashboards
- DirectQuery not supported
  - Import has to be used



Title	Session Level	Session Status	Session Type	Speaker	Product	Focus	View
Building SPFx Solutions on Linux	100	Approved	Workshop	Carlos Mendes	Microsoft 365	SharePoint	<a href="#">View</a>
Securely connect to SharePoint online from Azure Function	400	Approved	Workshop	Carlos Mendes	Azure	Azure Functions	<a href="#">View</a>
Processing Forms with Cognitive Services	100	Rejected	Talk	Michel Mendes	Azure	Cognitive Services	<a href="#">View</a>
Tips and tricks to customise SharePoint/Microsoft Lists forms using Power Apps	200	Rejected	Talk	Carlos Mendes	Power Platform	Power Apps	<a href="#">View</a>
Creating Adaptive Card Extensions	200	Submitted	Breakout	Shidin Haridas	Microsoft 365	Viva	<a href="#">View</a>
Microsoft Lists and Teams using SharePoint	200	Submitted	Keynote	Carlos Mendes	Microsoft 365	Teams	<a href="#">View</a>
New Session To Demo	200	Submitted	Keynote	Veilin Georgiev	Microsoft 365	SharePoint	<a href="#">View</a>
Extendin SharePoint with the Power Platform	200	Submitted	Workshop	Michel Mendes	Microsoft 365	SharePoint	<a href="#">View</a>
Intelligent lists and libraries	200	Submitted	Workshop	Joao Freitas	Microsoft 365	SharePoint	<a href="#">View</a>
Consuming 3rd party APIs with SharePoint Framework	400	Submitted	Workshop	Veilin Georgiev	Microsoft 365	SharePoint	<a href="#">View</a>



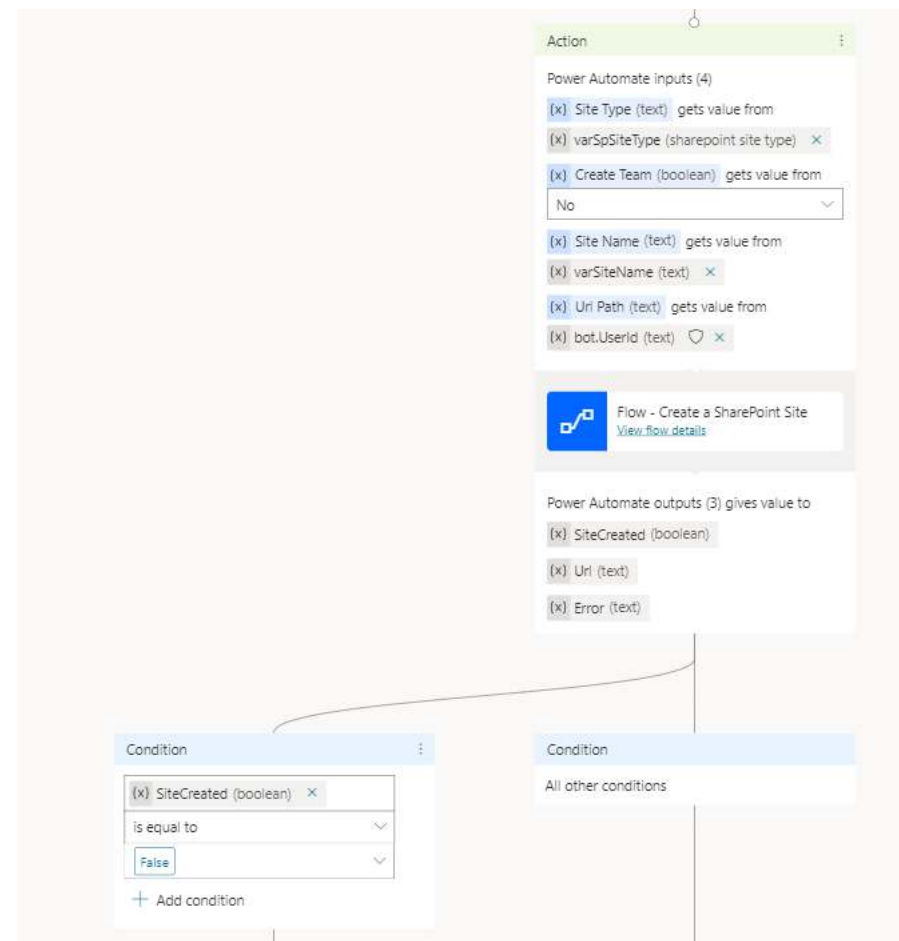
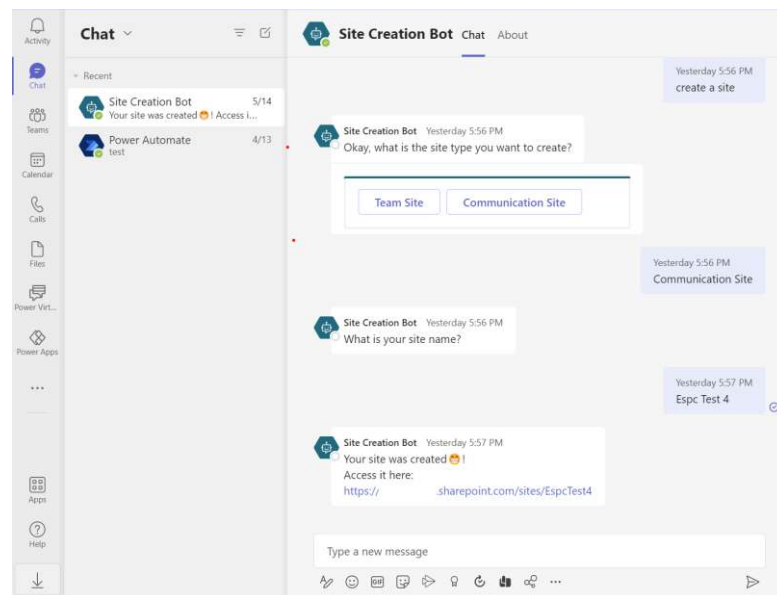
# Power Virtual Agents



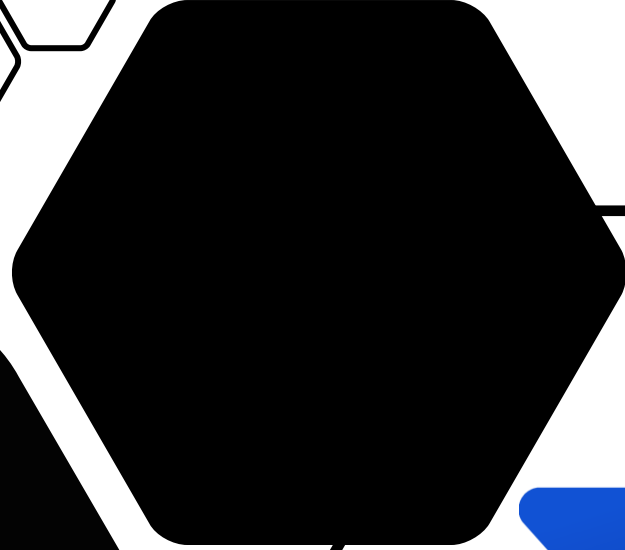
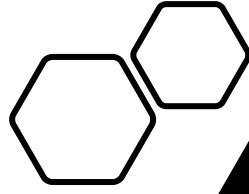
# Power Virtual Agents

- Call Flows from actions
  - Interact with SharePoint via Power Automate
  - Manipulate responses from Power Automate

- Dataverse for Teams
  - Included in M365 license for usage within Teams



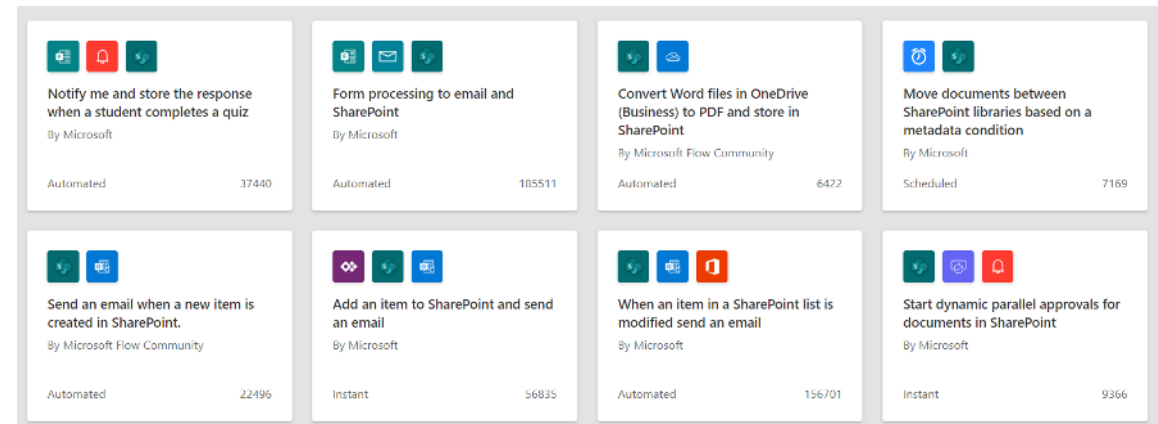
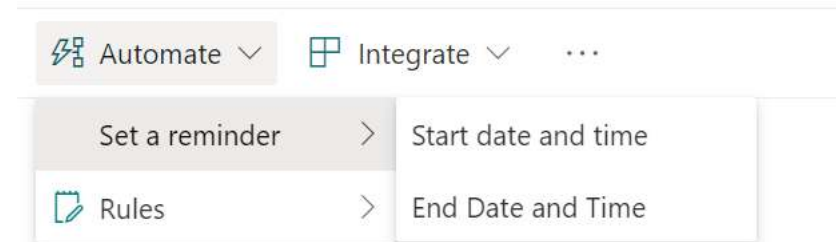
Power Automate



# Power Automate

## Common Scenarios for SharePoint Flows

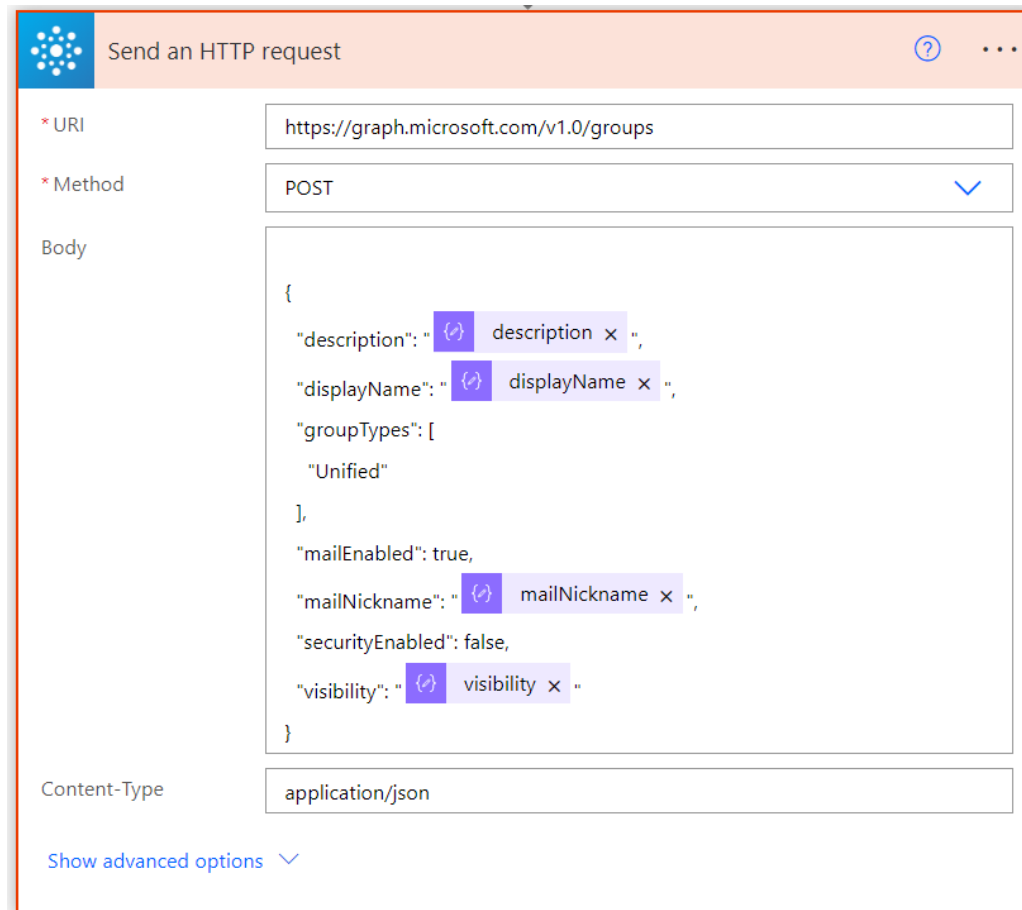
- Call Flows from list formatting buttons
- Recurring Flows
  - Due date reminders (OOB from List)
  - Pending items summary
- Approvals / Adaptive Cards
- Templates gallery



# Power Automate & Graph

Advanced Scenarios to Office 365 sources where there's no OOB action available

- Office 365 Groups – Send an HTTP Request (\*Preview)
  - Limited endpoints as of now
- Sample actions:
  - [Create an Office 365 group](#)
  - [Create a Planner Plan](#)
  - Can also be done using HTTP/HTTP to Azure AD (Premium)



Send an HTTP request

\* URI:

\* Method:

Body: 

```
{
  "description": "description x ",
  "displayName": "displayName x ",
  "groupTypes": [
    "Unified"
  ],
  "mailEnabled": true,
  "mailNickname": "mailNickname x ",
  "securityEnabled": false,
  "visibility": "visibility x "
}
```

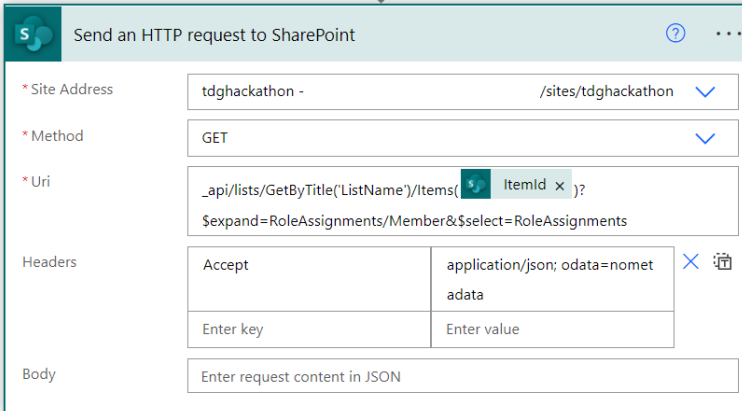
Content-Type:

[Show advanced options](#)

# Power Automate & SharePoint Rest API

Advanced Scenarios where there's no action available or actions don't handle the exact requirements

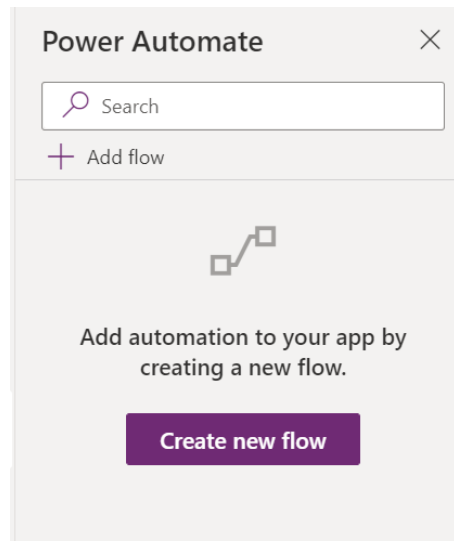
- SP Rest API (Send an HTTP Request to SharePoint)
  - Sample actions:
    - [Create sites](#)
    - Create lists
    - Retrieve item version history
- Canvas apps cannot call the SP Rest API directly, but Power Automate called from a Canvas app can
  - New Power Automate (preview) pane can create and edit Flows from an app



The screenshot shows the configuration for the 'Send an HTTP request to SharePoint' action. The fields are as follows:

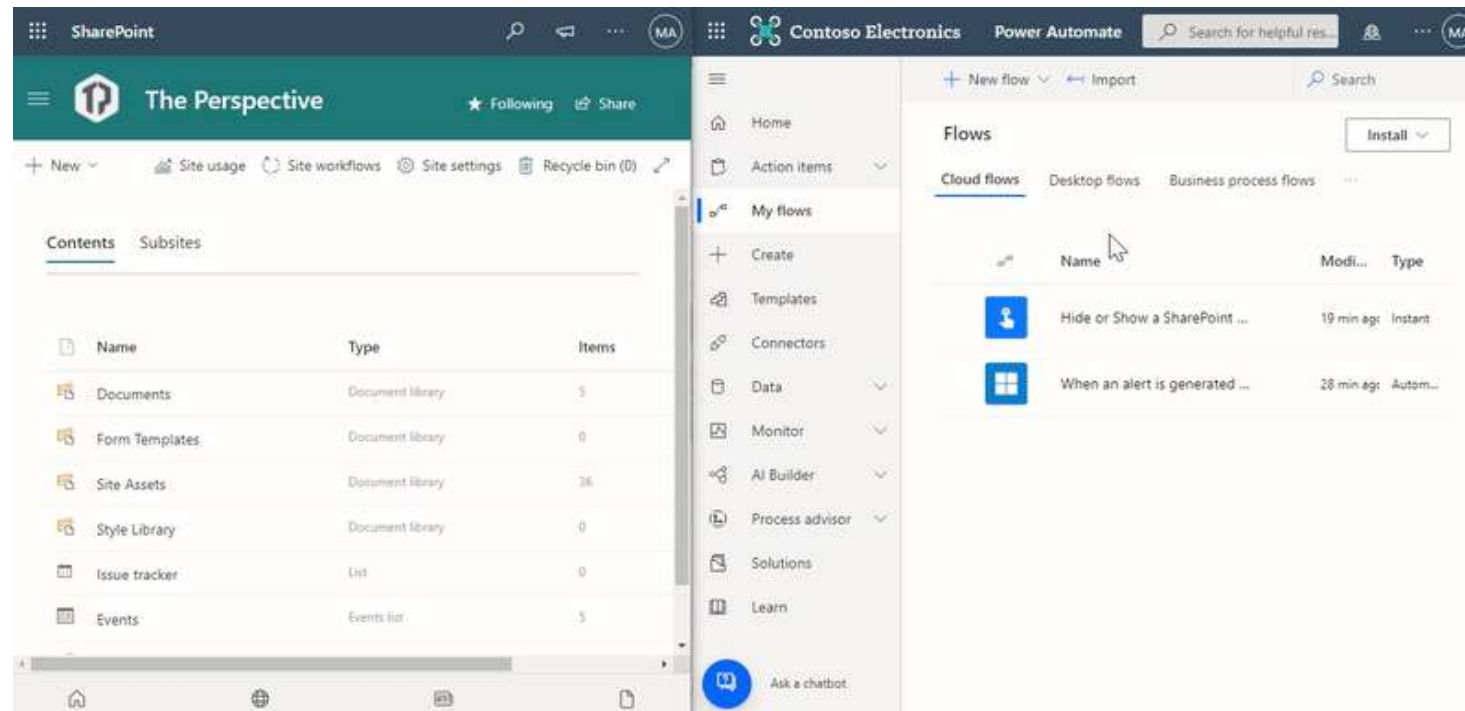
- Site Address:** tdghackathon - /sites/tdghackathon
- Method:** GET
- Uri:** \_api/lists/GetByTitle('ListName')/Items({ItemId})? \$expand=RoleAssignments/Member&\$select=RoleAssignments
- Headers:**

Accept	application/json; odata=nometadata
Enter key	Enter value
- Body:** Enter request content in JSON



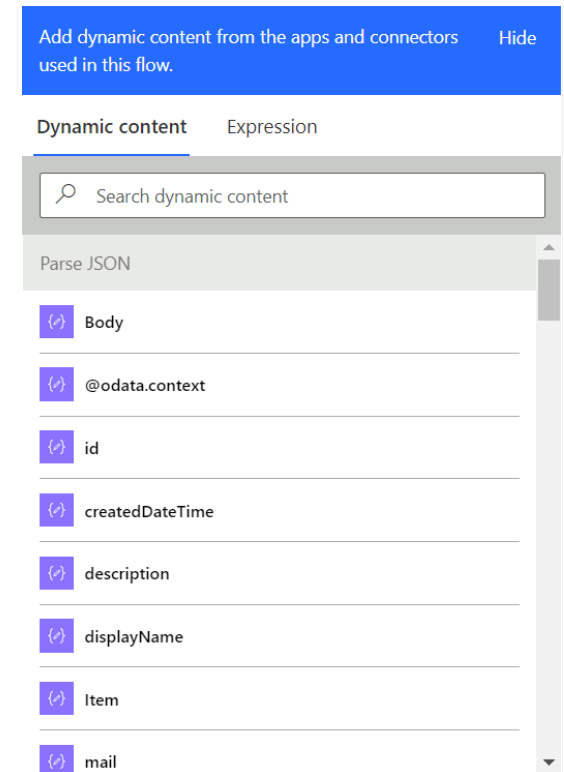
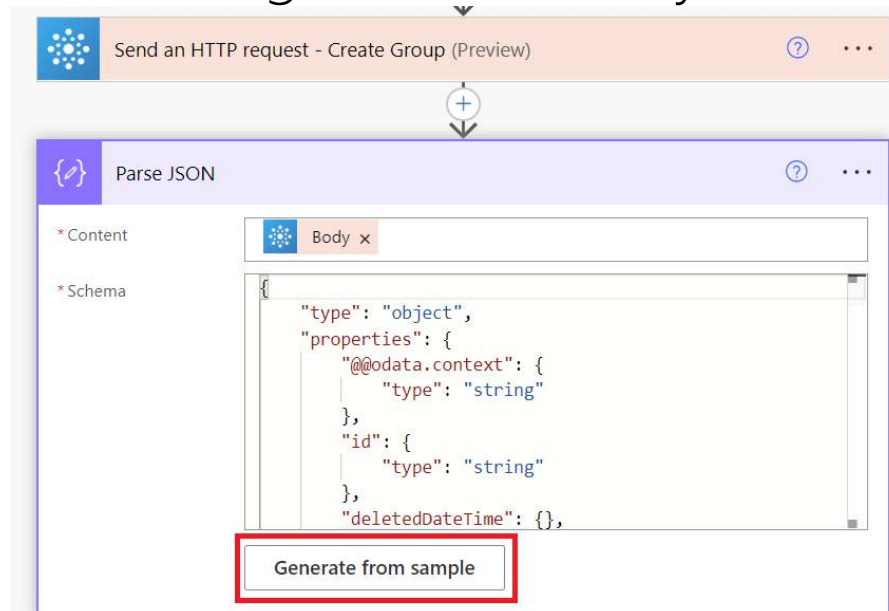
# Manual Flows & SharePoint Rest API

- Can do some actions usually only done using PowerShell/M365 CLI, as:
  - [Hide Page Title \(Switch PageLayoutType\)](#)
  - [Hide a list from site contents](#)
    - Equivalent to PS: `Set-PnPList -Identity "Issue tracker" -Hidden $true`
- Button (manual) flows as 'Scripts' when you cannot install PowerShell



# Parsing Graph and Rest API Responses

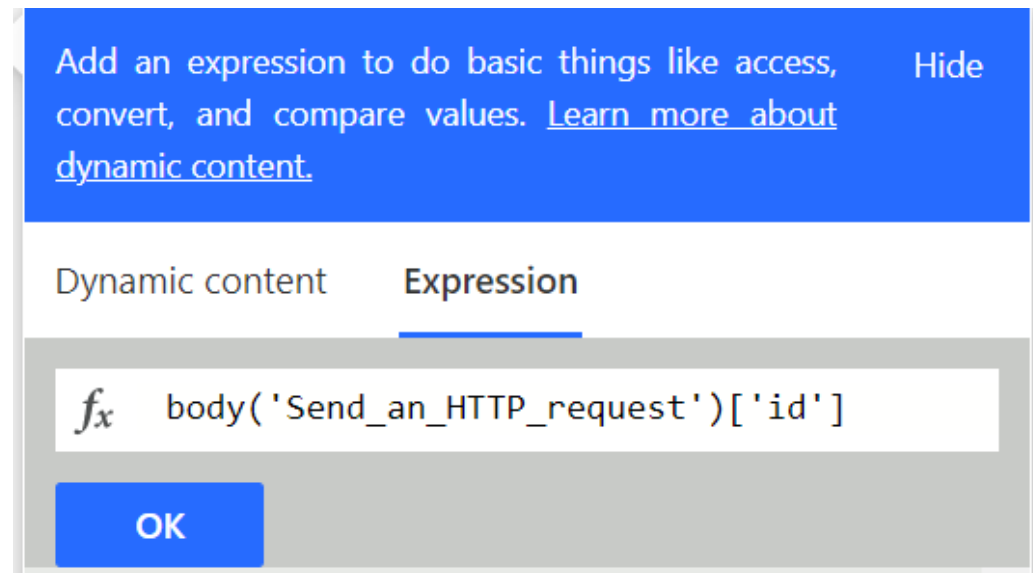
- Parse JSON
  - Run the flow once to grab the outputs,
    - Generate schema from sample
- Outputs are recognized in the Dynamic Content Pane





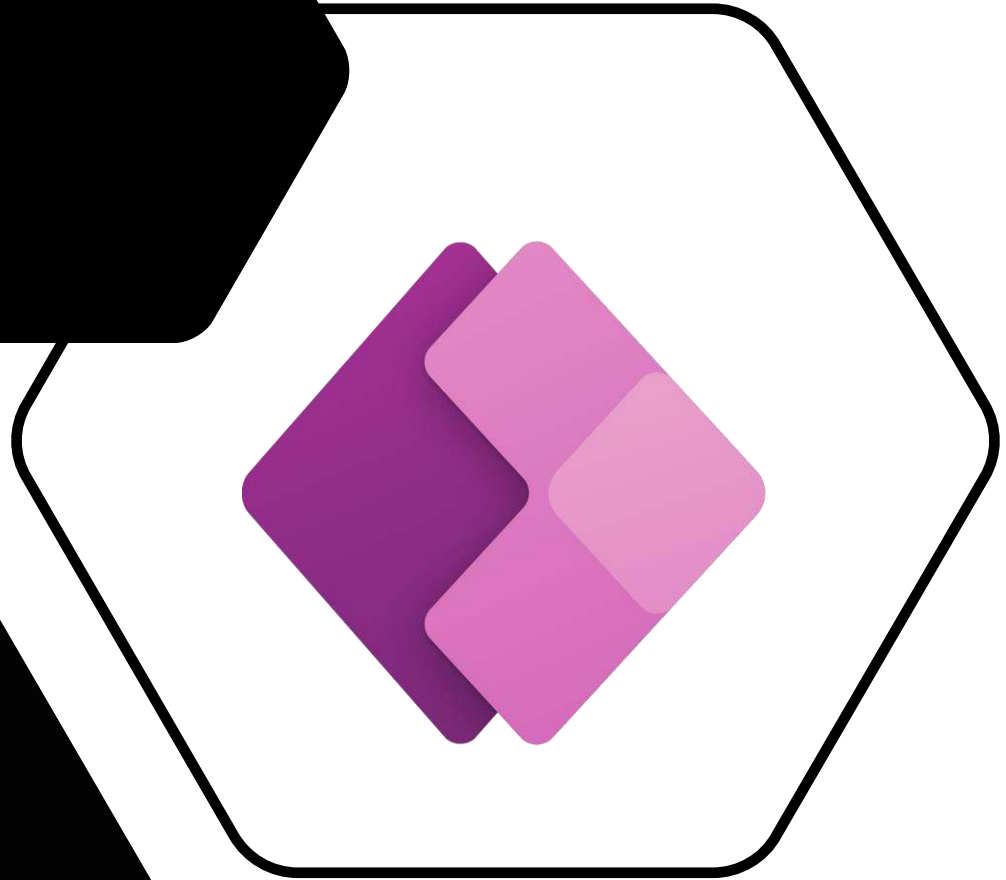
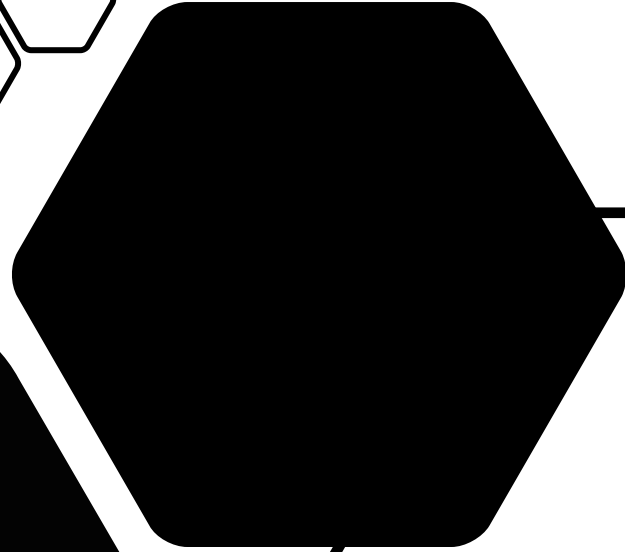
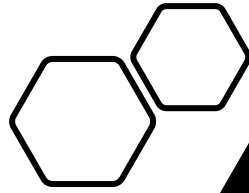
# Parsing Graph and Rest API Responses

- Reference objects directly in the Expression pane



- Still trickier? Check out some posts or samples from the community

# Power Apps Canvas Apps



# Power Apps – Standalone Apps

## Quick win

- Quicker to build than traditional development in several scenarios
- Ideal to target small business problems

The screenshot shows a Power Apps interface for requesting a team. At the top, there is a navigation bar with tabs for 'Approve requests', 'My requests', and 'Request a team'. Below this is a progress indicator with four steps: 1. Data classification (completed, green checkmark), 2. Team information (current step, blue circle), 3. Membership (pending, grey circle), and 4. Review and Submit (pending, grey circle). The main content area is titled 'Team Information' and contains three required fields: 'Team name\*' with a 'Check availability' button and a green message 'Team name is available'; 'Description\*' with a text area containing 'Team for the review of the BOM'; and 'Business reason\*' with a text area containing 'We would like to consolidate channels for the review of BOM via Teams to facilitate collaboration with the international participants in the process.' At the bottom, there is a 'Go to start' button, an auto-save timestamp 'Auto saved on Mar 05 05:50', and 'Back' and 'Next' buttons.

## Pain points comparing to traditional development/SPFx

- App can get slower if number of controls/data sources grow too much
- List connections cannot be dynamic

# Custom Forms built with Power Apps

## Reuse Out-of-the-box functionality

- Users may be already used to it
- Filtering, sorting, grouping
- List formatting
- More possibilities than JSON format

The image shows two screenshots. On the left is a SharePoint list titled 'Event Sessions Register' with columns for 'View Details', 'Edit Details', and 'Title'. It lists several sessions, including 'Securely connect to SharePoint', 'Building SPFx Solutions on Lin...', 'Processing Forms with Cognit...', 'Tips and tricks to customise S...', and 'Creating Adaptive Card Exten...'. On the right is a Power Apps form titled 'Session Details' (Version 00013) with tabs for 'Main', 'Related Activities', 'Additional Info', and 'Approval'. The form contains fields for 'Title' (Processing Forms with Cognitive Services), 'Session code' (CS-001), 'ID' (2), 'Session type' (Talk), 'Session Level' (100), 'Session Focus' (Cognitive Services), 'Description' (Nice session to be added), 'Speaker' (Michel Mendes), 'Email For Contact' (lalala@test.com), 'Speaker Manager' (No Manager Found for Michel Mendes), 'Start date and time' (17/11/2021 00:00), 'End Date and Time' (31/12/2001 00:00), 'Location' (Lisbon), and 'Capacity' (4).

## Quick win - rules/custom behaviours

- Basic customisations/rules with drag and drop and/or few formulas
- Regex (**IsMatch**) or custom logic to validate text fields

# Custom Forms – Differences with Standalone

## Accessible only from the List

- Not listed between other Canvas Apps in mobile app or make.powerapps.com

## Export to a different list is tricky (unsupported)

- Need to modify the exported zip and update the site URLs and List GUIDs.
- Community tool to modify the packages before deploying
  - <https://github.com/Zerg00s/FlowPowerAppsMigrator>
- Alternatively, for simpler forms CTRL+C in source form app, then CTRL+V in destination form in Power Apps Studio works
  - Clicking the menu does not work between apps
  - Copy app events/SP integration formulas manually

# Custom Forms – Differences with Standalone

Screen OnVisible/App OnStart events run only 1st time a form is open in a View

- Need to reset variables on the SharePoint integration events

The image shows a screenshot of a SharePoint custom form editor interface. On the left, a 'Tree view' sidebar is visible, showing a hierarchy of components: 'Screens', 'Components', 'App', and 'SharePointIntegration'. The 'SharePointIntegration' component is highlighted with a red box. Below the sidebar, a 'Session Activities' list is shown with a table of activities. The first activity, 'Create the Power Point Slides', is selected, and a context menu is open over it. The context menu items are 'Open', 'Edit', 'Edit in grid view', 'Share', and 'Copy link'. The 'Edit' item is highlighted with an orange box. On the right, a form is displayed with fields for 'Title', 'Due Date', 'Comments', and 'Activity Type'. The 'Save' and 'Cancel' buttons are highlighted with orange boxes. Above the form, five blue boxes represent event callouts: 'OnNew', 'OnView', 'OnSave', and 'OnCancel' are positioned above the 'Save' button, and 'OnEdit' is positioned below the 'Edit' button. Dashed arrows point from the 'New' button to 'OnNew', from the 'Open' menu item to 'OnView', from the 'Save' button to 'OnSave', from the 'Cancel' button to 'OnCancel', and from the 'Edit' menu item to 'OnEdit'. The top of the interface shows a dropdown menu with 'OnEdit' selected, highlighted with a red box.

# Delegation

- Max of 2000 items can be returned per query in Power Apps
  - Less than the SP threshold
- Filter data correctly to get right results



Items = `Filter(ListWithDelegationIssues, StartsWith(Title, "Item for Dublin"))`

Tree view: Screens, Components, Search, App, Screen1, Screen1\_2, Screen1\_1, Screen2, Gallery1

Gallery1 items:

- Item for Dublin #1  
1
- Item for Dublin #2  
2
- Item for Dublin #3  
3
- Item for Dublin #4  
4



Items = `Search(ListWithDelegationIssues, "Item for Dublin", "Title")`

Tree view: Screens, Components, Search, App, Screen1, Screen1\_2, Screen1\_1, Screen2, Gallery1

Gallery1 items: (Empty)

Search filter: `"Title" = Title` Data type: text


# Tricky Bits

## Limitations

- Content Types
- Field Limitations
  - Managed Metadata (20 item limit/No hierarchy view)
  - Location (View only)
  - Image (View only)
  - URL (Updates it as text - only URL and no description)

Content type  
Item

URL Sample Field  
https://microsoft.com

Image Sample Field  


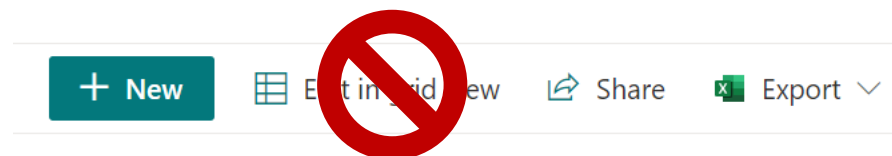
Location Sample Field: City  
Dublin

Location Sample Field: Country/Region  
IE

Managed Metadata Sample Field  
Term02 x  
Term02  
Term17  
Term18  
Term19  
Term20

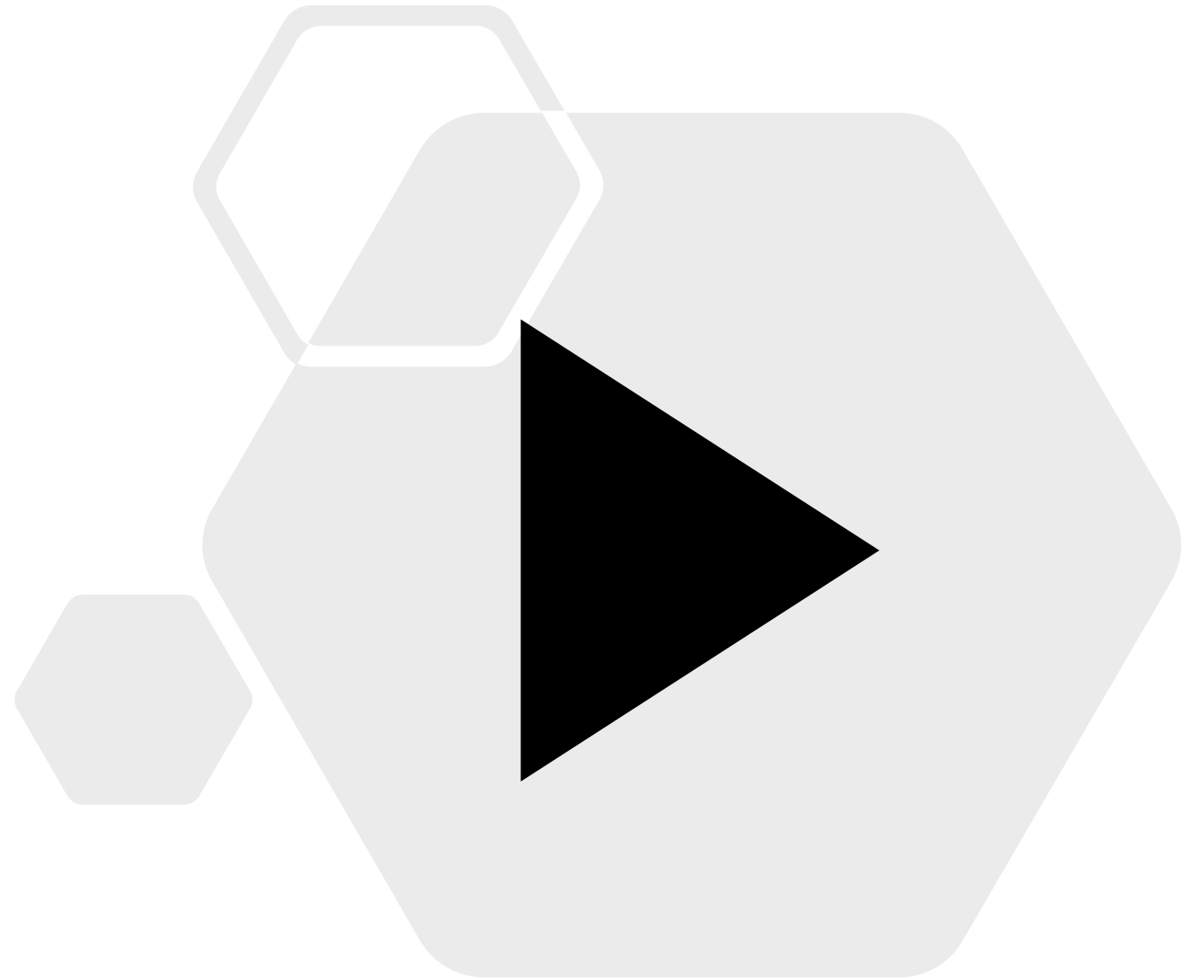
Avoid rule bypassing (it's not enforced in the back end)

- Disable quick edit (grid view)





Demo



# Useful resources

Get started with SharePoint Rest API:

<https://docs.microsoft.com/en-us/sharepoint/dev/sp-add-ins/get-to-know-the-sharepoint-rest-service>

Flow and Power Apps migrator (by MVP Denis Molodtsov - [@Zerg00s](#)):

<https://github.com/Zerg00s/FlowPowerAppsMigrator>

PnP WebPart Sample – Enhanced Power Apps webpart (by Hugo Bernier, Microsoft - [@bernierh](#)) :

<https://github.com/pnp/sp-dev-fx-webparts/tree/main/samples/react-enhanced-powerapps>

PnP Power Automate Samples:

<https://github.com/pnp/powerautomate-samples>

Custom View and Edit Buttons using List formatting:

<https://michelcarlo.com/2022/05/19/sharepoint-custom-view-and-edit-buttons-using-list-formatting/>

# Questions?



# Thank You!

