



# Automating Information between Microsoft Project and SharePoint

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# Automating Information between Microsoft Project and SharePoint Contents

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Reasons to connect SharePoint with Project



Connecting Project Online & Project for the web to SharePoint



Setting dynamic item level permissions on SharePoint



Updating SharePoint when data changes in Project

# Objectives and Licensing Considerations

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The objective of this webinar is to introduce you to the basic tools and the differences between each product so that you can develop your own solutions that integrate data from one program to another.



Licensing requires a minimum of Project Plan 1 but may require Plan 3



Additional licensing for Power Automate per user plan may also be required if you elect to use Project for the web.

# Use Cases for SharePoint Integration

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## Sharing information with non-project users

- Examples of this might include executive sponsors, external users (customers), board members or other people who do not have an active role in the project but do have interest in the outcomes of the project.

## Ability of PMs to add additional information to the project

- An example of this would be adding in weekly or monthly status reports which are tracked over time for the project

## Non-project related user information (private)

- This is the primary use case for today's webinar
- In this scenario, contractors are given a “work assignment” and then each contractor submits time logs against that assignment. The other contractors are not permitted to see the individuals' assignments or time logs, but the PM creates them and has the ability to view/edit those assignments. In addition, there are admin users that need access.

# Process Overview

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## Set up SharePoint

- Add groups for admin, contractors and PMs
- Create a list in SharePoint to store the titles and basic details of a project
- Create a list in SharePoint to store Assignments
- Connect it to the Project list.



## Set up Power Automate

- Create a Power Automate flow that runs when a project is created that will create an item in the SharePoint list.
- Create a Power Automate flow that assigns permission to the assignment
- Create a Power Automate flow that modifies the SharePoint project list when the project is complete.

# Set Up Groups in Sharepoint

We need groups to assign the basic permissions to allow them to see the lists they have individual permissions for. You can use the auto generated groups or create groups:

- Admins (Full or Contribute)
- PMs (Contribute)
- Contractors (Read)

Add members to each group accordingly. While adding them note the ID number at the end of the URL, we will need the admin and PM group IDs later.

Tip – Use Contribute instead of Edit, Edit gives the user permission to delete lists and that's more control than they need.

EDIT LINKS

## People and Groups > Create Group

Name and About Me Description  
Type a name and description for the group.

Name:  
PMs

About Me:  
[Click for help about adding HTML formatting.](#)

Owner  
The owner can change anything about the group such as adding and removing

Group owner:

Group Settings  
Specify who has permission to see the list of group members and who has permission to add and remove members from the group.

Who can view the membership of the group?  
☒ Group Members ☐ Everyone

Who can edit the membership of the group?  
☒ Group Owner ☐ Group Members

Membership Requests  
Specify whether to allow users to request membership in this group and allow users to request to leave the group. All requests will be sent to the e-mail address specified. If auto-accept is enabled, users will automatically be added or removed when they make a request.

Allow requests to join/leave this group?  
☐ Yes ☒ No

Auto-accept requests?  
☐ Yes ☒ No

Caution: If you select yes for the Auto-accept requests option, any user requesting access to this group will automatically be added as a member of the group and receive the permission levels associated with the group.

Send membership requests to the following e-mail address:  
jeff@lynchinteractive.com

Give Group Permission to this Site  
Specify the permission level that you want members of this SharePoint group to have on this site. If you do not want to give group members access to this site, ensure that all checkboxes are unselected.

Choose the permission level group members get on this site: <https://lynchinteractive.sharepoint.com/sites/MPUGDemoSite>

☐ Full Control - Has full control.

☐ Design - Can view, add, update, delete, approve, and customize.

☐ Edit - Can add, edit and delete lists; can view, add, update and delete list items and documents.

☒ Contribute - Can view, add, update, and delete list items and documents.

☐ Read - Can view pages and list items and download documents.

☐ Restricted View - Can view pages, list items, and documents. Documents can be viewed in the browser but not downloaded.

View site permission assignments

[https://lynchinteractive.sharepoint.com/sites/MPUGDemoSite/\\_layouts/15/people.aspx?MembershipGroupId=16](https://lynchinteractive.sharepoint.com/sites/MPUGDemoSite/_layouts/15/people.aspx?MembershipGroupId=16)

EDIT LINKS

## People and Groups > PMs

New Actions Settings

Site	Name	About Me
Site	<input type="checkbox"/> Jeff Lynch	
Site	<input type="checkbox"/> Tracy Lynch	

# Create a List in SharePoint – Project List

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1. From Site Contents select New List and name it “Project List”
2. Create columns for:
  - Project Manager (Person)
  - Start Date (Date)
  - Status (choice field with Active, Complete)
  - Project ID(single line of text)

The ID will allow for updates to the SharePoint list based on changes to the project.

Columns	
A column stores information about each item in the list. The following columns are currently available in this list:	
Column (click to edit)	Type
Title	Single line of text
Modified	Date and Time
Created	Date and Time
Start Date	Date and Time
Project Owner	Person or Group
Project Status	Choice
Project ID	Single line of text
Created By	Person or Group
Modified By	Person or Group
<hr/>	
▢ <a href="#">Create column</a>	
▢ <a href="#">Add from existing site columns</a>	
▢ <a href="#">Column ordering</a>	
▢ <a href="#">Indexed columns</a>	

# Create a List in SharePoint – Assignments

- Create a new list in SharePoint to store assignments.
- Add fields including:
  - Project (Lookup)
  - Contractor (Person)
  - Hours Assigned (Number)
- Modify the Title column to have some default text like TBD – we will change this when we set permissions to have a standard format.

■ List name, description and navigation

- Versioning settings
- Advanced settings
- Validation settings
- Audience targeting settings
- Rating settings
- Form settings
- Delete this list
- Permissions for this list
- Workflow Settings
- Enterprise Metadata and Keywords Settings

Columns

A column stores information about each item in the list. The following columns are currently available in this list:

Column (click to edit)	Type	Required
Title	Single line of text	✓
Modified	Date and Time	
Created	Date and Time	
Project	Lookup	
Contractor	Person or Group	
Hours Assigned	Number	
Created By	Person or Group	
Modified By	Person or Group	

EDIT LINKS

Settings > Edit Column

Name and Type

Give a name for this column.

Column name: Title

The type of information in this column is: Single line of text

Additional Column Settings

Specify detailed options for the type of information you selected.

Description:

Require that this column contains information:

☒ Yes ☐ No

Enforce unique values:

☐ Yes ☒ No

Maximum number of characters: 255

Default value:

☒ Text ☐ Calculated value

TBD

Column Formatting:

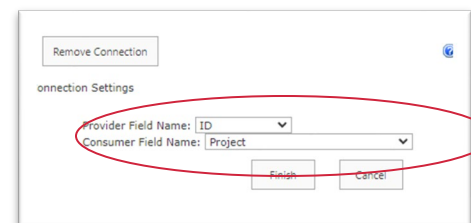
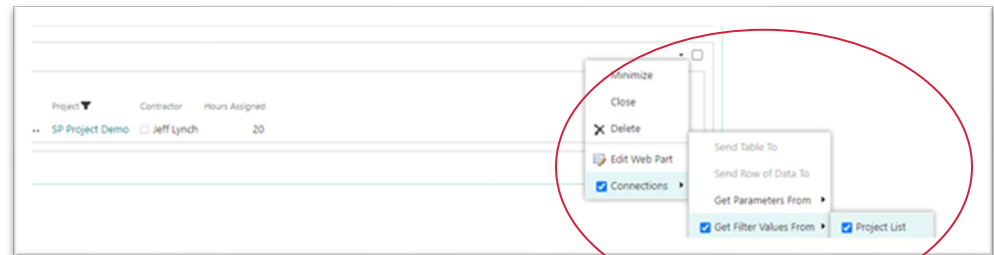
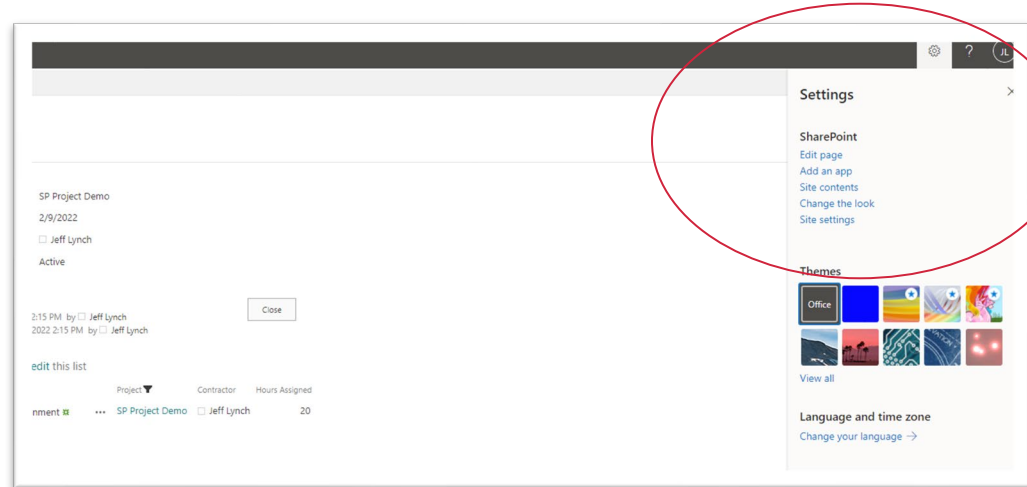
Change the display of this column by adding JSON below. Remove the text from the box to clear the custom formatting. Learn more about formatting columns with JSON.



# Connect the Project List and Assignments List

The purpose of this is to display all assignments on the edit and display pages for a project

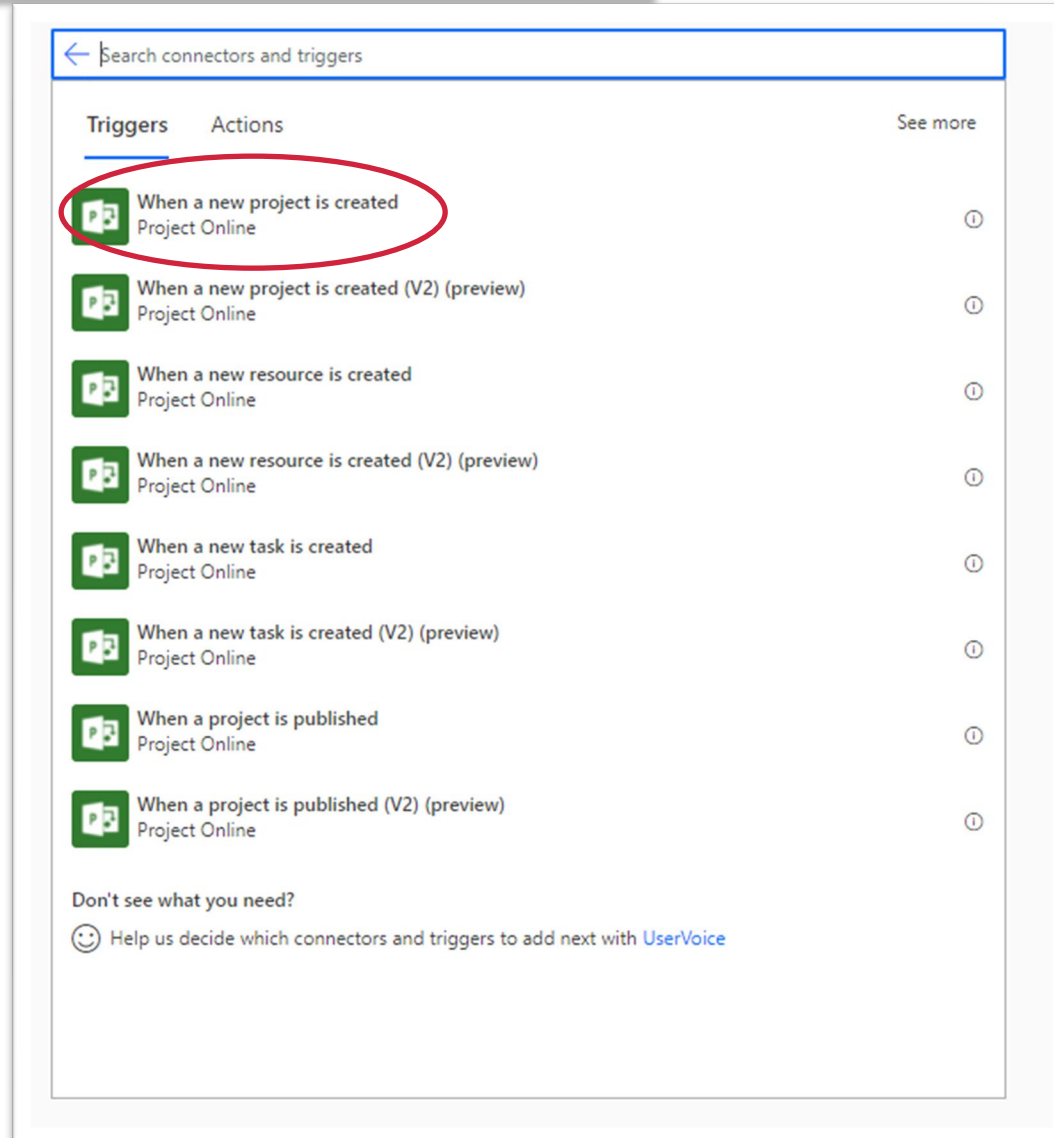
- This method requires you to use Classic SharePoint
- Click either the edit or the title field of a project. You will do the other with the same steps afterwards
- Click in top right cog the Edit Page option
- Add a Web Part – Select the Assignments List
- Move that to the bottom of the page and then click the small black down arrow on the right and “Connections” > “Get Filter Values From”>”Project List”.
- In the pop up enter the Project column in the Consumer Field Name dropdown (note, you may need to allow pop ups to see the control).



# Create a Flow to Create Projects – Project Online

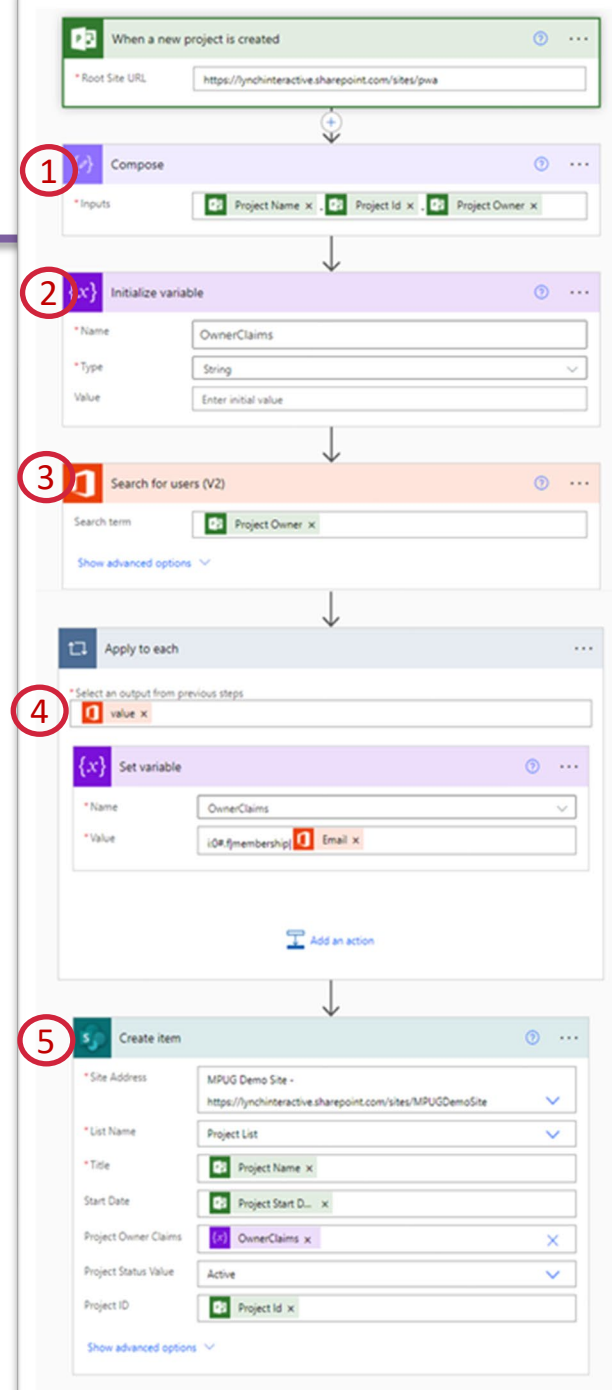
Project Online provides specific “Triggers” to use out of the box.

We will use the “When a new project is created” for this demo.



# Create a Flow to Create Projects – Project Online

1. Compose – This step creates the Title we will use when creating the Project in SharePoint
2. Initialize Variable – we need a vessel to store the owner's information – we have to initialize a variable like this outside of a sub routine
3. Search for User – SharePoint uses the “Claims” for a user, which is a specially formatted string with their information. We use the Search for User because it allows us to use their name, and it will return their email address.
4. Apply to each/Set Variable – Power Automate doesn't know there is only one Jeff Lynch so it asks you to loop through all of them (even if there is just one) because the name is not necessarily unique. We then set the claims with the string “i:0#.f|membership|{email}”
5. Create item – finally we create the project in SharePoint that will be used for our assignment tracker. Note that we add a field for Project ID so that when it's updated later, we can correctly match the Project with SharePoint. Also, we use the variable set for the Project Owner Claims field.



# Create a Flow to Create Projects – Project for the web

Project for the web works differently. P4w uses the Microsoft Dataverse to store all the project information.

The triggers used are similar but instead of being specific, they are general.

In this case we use the “When a row is added, modified or deleted” trigger.

Instead of simply entering our domain, we select the type of change (added, modified or deleted), the Table and the Scope

When a row is added, modified or deleted

\* Change type: Modified

\* Table name

\* Scope

Show advanced options

When a row is added, modified or deleted

\* Change type: Modified

\* Table name: Projects

\* Scope

Show advanced options

# Create a Flow to Create Projects – Project for the web

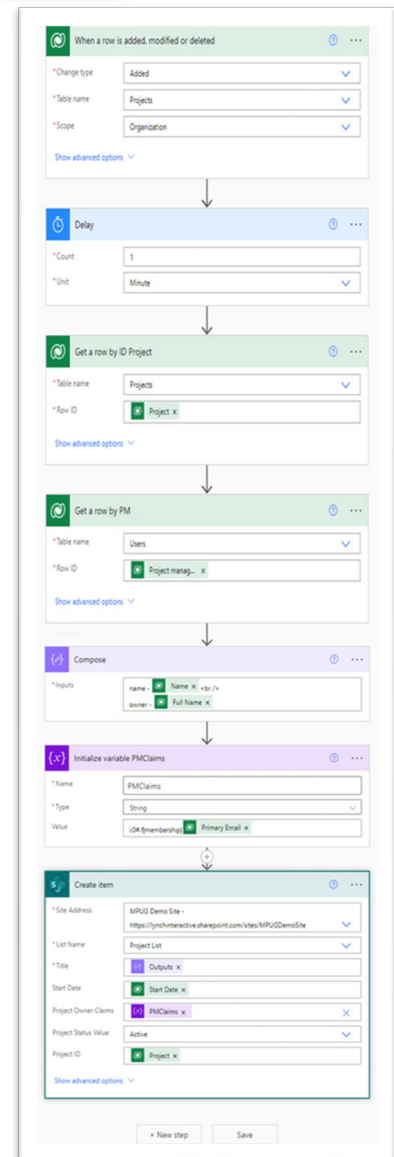
P4W uses the Dataverse. The Dataverse is updated every time you do something in the project, and the project is created at the time you click the new project button, not when you click a save button.

What this means is that when you click the button and it's called “untitled project” that is the name of the project at creation. If we used the Modified trigger, it would run every time you updated anything in the project.

To solve this, we add a delay, and then after the 1 minute we get the row that was created and use that to fill in the SharePoint information. This makes it so the flow only runs once when the project is created but it uses data from the modified title. It also means the first thing you need to do is name the project and assign a PM.

Next, we get the user from the Dataverse users table so that we can get their email address for the claims.

Finally, we create the project in SharePoint with the data we have gathered.



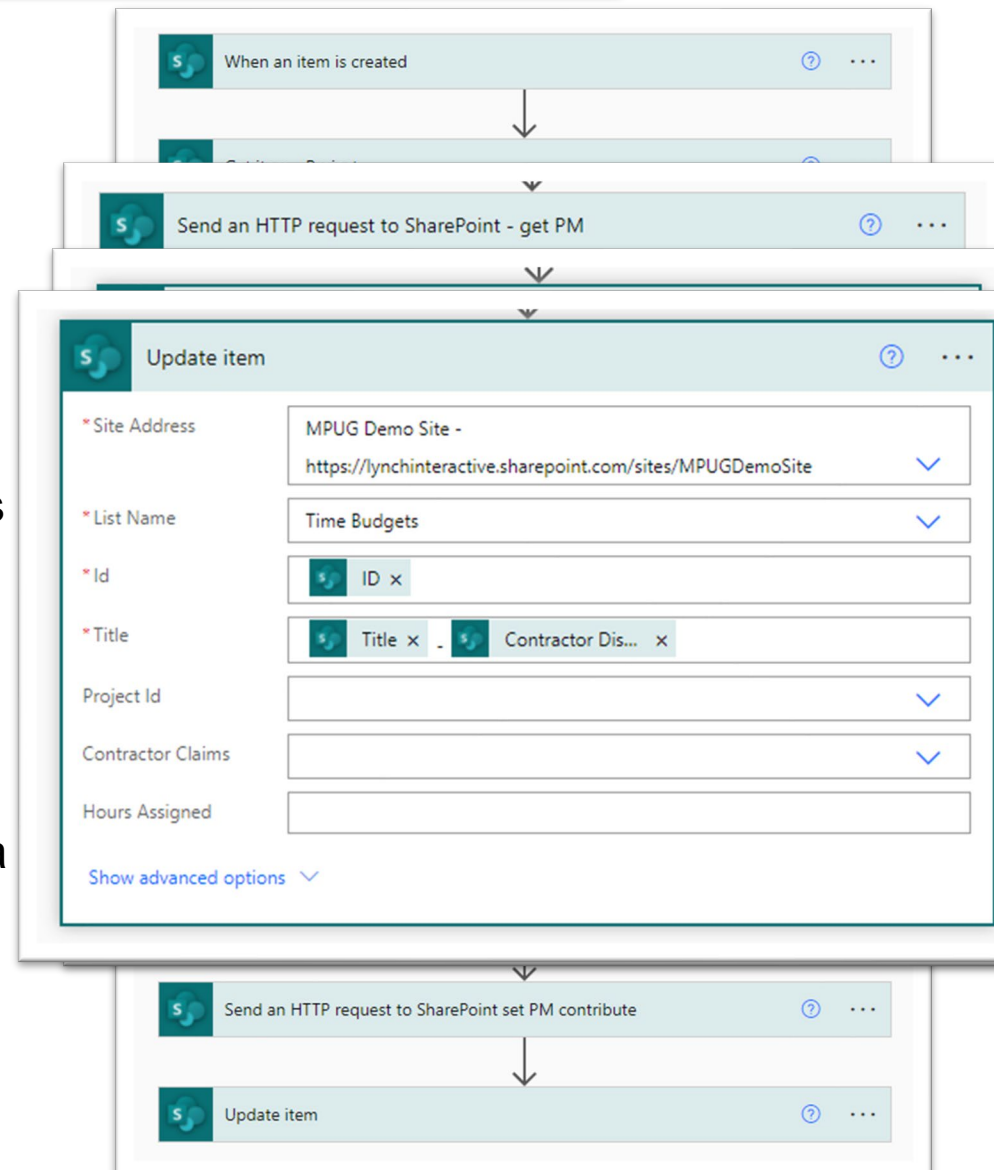
# Create a Flow to Set Permissions on New Assignments

Setting permissions on an item involves 3 simple steps:

1. Get the SharePoint ID of the group or user
  - A. We use a variable (Integer) to format that ID from the value returned in the HTTP request.
2. Break inheritance of permissions
3. Assign new permissions

We use the “http request to sharepoint” action to achieve all 3.

Finally, Update the assignment with a Title that is consistent and formatted.



# Set Permissions – Cheat Sheets

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Use a cheat sheet to keep the frequently used uri calls.

Here are my permission cheat sheets.

## Permission URI Commands

get user

```
_api/web/SiteUsers/getByEmail('name@company.com')
```

requesterID - body('GetRequesterID')['d']['id']

for use in permission assignment - variable is Integer

break inheritance

```
_api/lists/getByTitle('List Name')/items(Item ID)/breakroleinheritance(copyRoleAssignments=false,clearSubscopes=true)
```

Set permission

```
_api/lists/getByTitle('MyList')/items(1)/roleassignments/addroleassignment(principalid=12,roledefid=1073741827)
```

## OOTB Permission Codes

Full Control	1073741829
Contribute	1073741827
Read	1073741826

# Create a Flow to Set Projects to Complete when Updated in Project

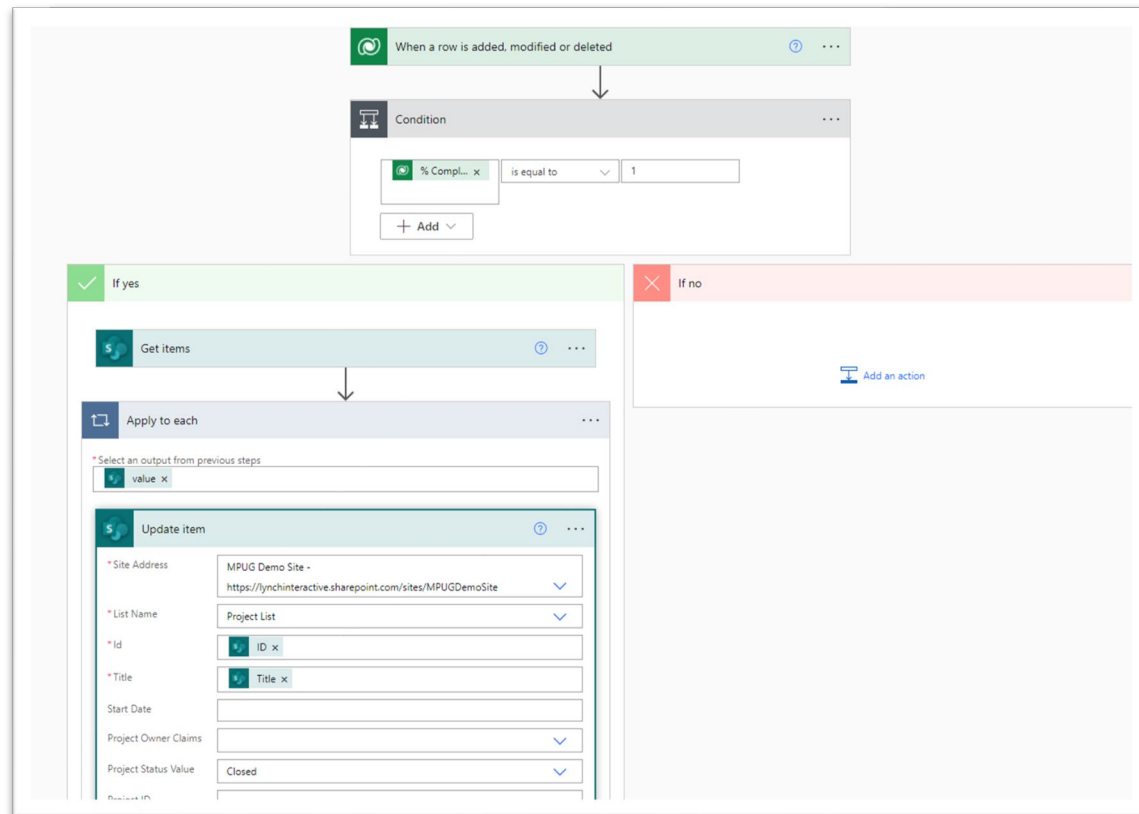
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Project Online has a trigger for when a project is published.

P4W we use a trigger for when a row is modified in Dataverse.

Use a condition to check if the Project Percent Complete is 100 in the case of Project Online and 1 for P4W.

If it is, update the SP list to show the project closed.





# Automating Information between Microsoft Project and SharePoint - Summary

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1. There are endless possibilities to mimic your company processes using SharePoint in conjunction with Project
2. Power Automate provides triggers and actions that work with SharePoint, Project Online and P4W.
3. Understanding the condition of data at the time you are working with it is critical to a successful and reliable program.
4. Understanding the differences between P4W (Dataverse) and Project Online (classic SharePoint) and SharePoint will provide clarity as you plan your next project!



**Thank You!**

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