

# **Power Apps and Power Automate Champion Training**

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Module 4: Intermediate Activities in Power Automate

Student Lab Manual

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## Contents

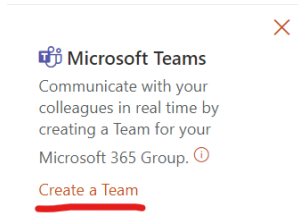
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## Lab 1 - Flow and SharePoint Integration

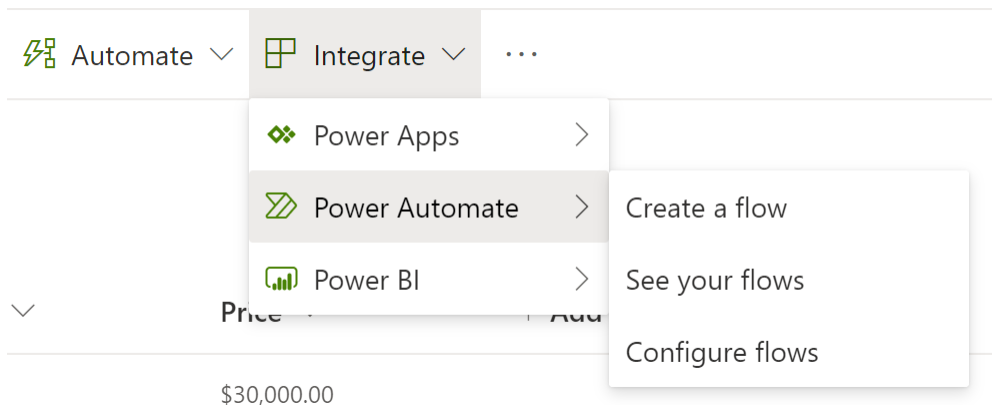
1. Open your site and login with your account

<https://YOURTENANTNAME.sharepoint.com/sites/YOURFIRSTANDLASTNAME>

2. Create Team for the site by clicking **“Create a Team”** on bottom left corner if not already created



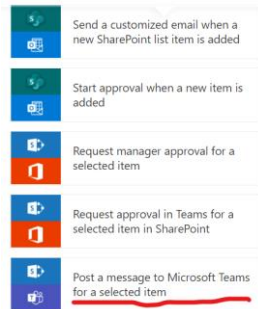
1. Go to Site Content and click **CarsList**
2. Create new Flow by clicking Integrate > Power Automate > Create a flow



3. Select **“Post a message to Microsoft Teams for selected item”** from template selection panel

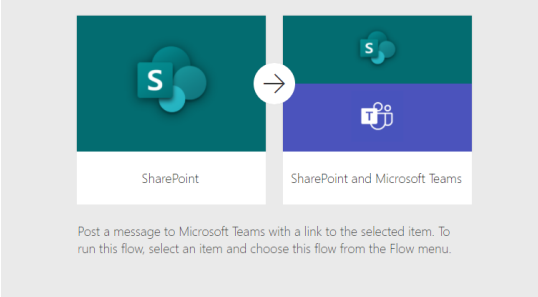
## Create a flow

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. Flow: Send a message to Microsoft Teams for a selected item

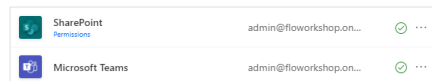


## 4. Press Continue to confirm required SharePoint and Teams connections

### Post a message to Microsoft Teams for a selected item

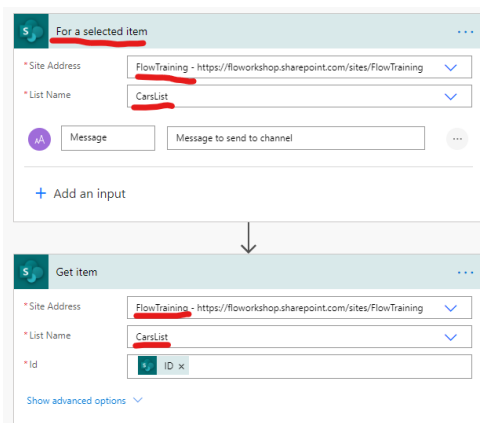


This flow will connect to:



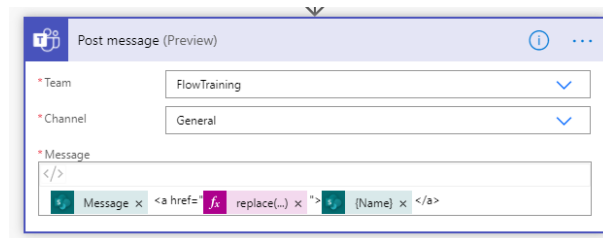
Continue

## 5. Trigger of the Flow will be SharePoint “For a selected item” and you can see that Site address and List name parameters are already populated automatically



6. For a “**Post message**” action set

- Team: **FlowTraining**
- Channel: **General**



7. Save the Flow and move back to SharePoint **CarsList**

8. Select 1 item and open **Automate** menu where you now should have the Flow you just created available to be executed

FlowTraining  
Private group

Edit Edit in grid view Share Copy link Delete Automate ...

CarsList

Title	Brand	
VW	VW	\$30,000.00
BMW	BMW	\$60,000.00
Tesla	Tesla	\$80,000.00

Request sign-off  
Post a message to Microsoft Teams for a selected item  
Power Automate

9. Click the “**Post a message to Microsoft Teams for selected item**” you will see the Flow launch panel on the right side of the page. On first run you will see the list of connections the Flow has and sign-in status for each of them. Click **Continue**

**Run flow**  
Post a message to Microsoft Teams for a selected item  
Owner: Flow Workshop

Post a message to Microsoft Teams with a link to the selected item. To run this flow, select an item and choose this flow from the Flow menu.

**Sign in**  
This flow uses the following apps. A green check means you're ready to go.

SharePoint	Permissions	...
Microsoft Teams		...

Continue Cancel

10. Provide a message which you want to post to a selected Teams channel and press **Run flow**

## Run flow

Post a message to Microsoft Teams for a selected item

Owner: Flow Workshop

Post a message to Microsoft Teams with a link to the selected item. To run this flow, select an item and choose this flow from the Flow menu.

Message \*

Please check this car ->

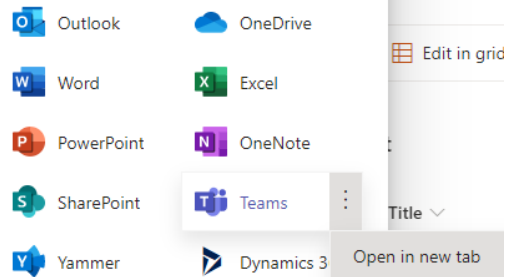
This flow uses SharePoint, and Microsoft Teams.  
[Review connections and actions](#)

Run flow

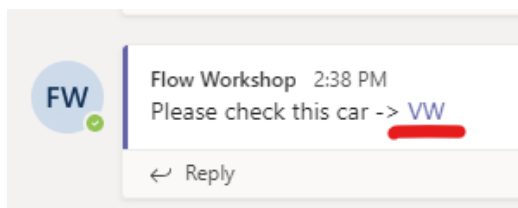
Cancel

11. Open <https://teams.microsoft.com> on browser and go to that Teams channel to verify that your message is posted

## Apps



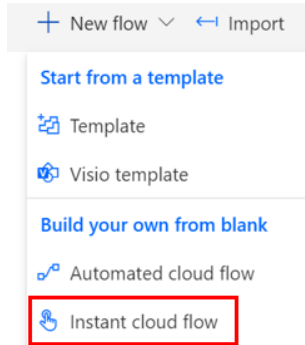
12. Click the name of the car brand you selected to see that you are directed to that item in SharePoint list



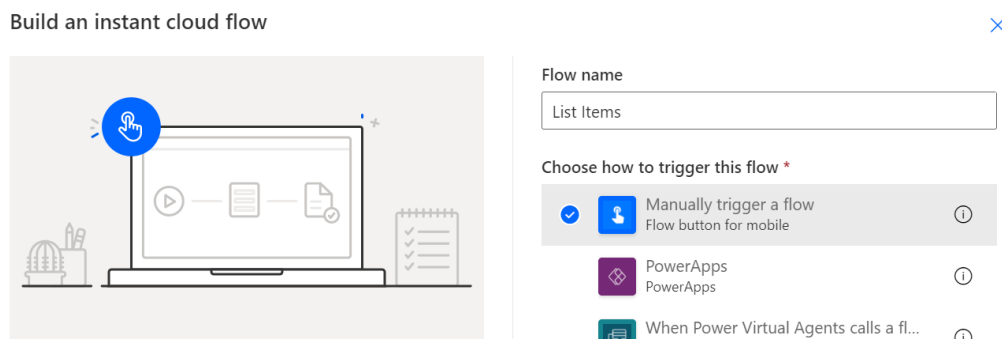


## Lab 2 - Working with SharePoint lists

### 1. Create new Flow using “Instant cloud flow” option

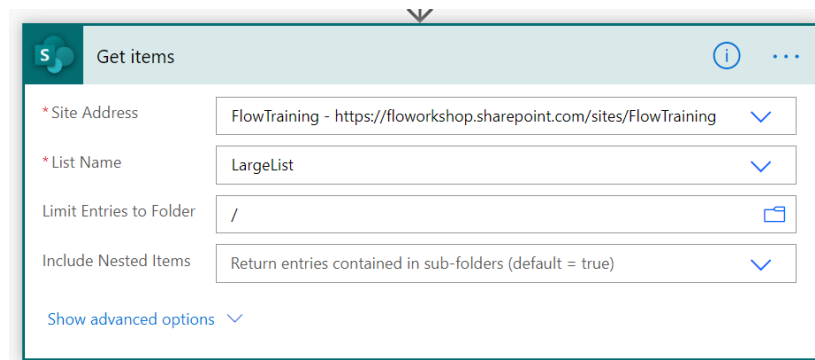


### 2. Name it “List Items” and choose “Manually trigger a flow”

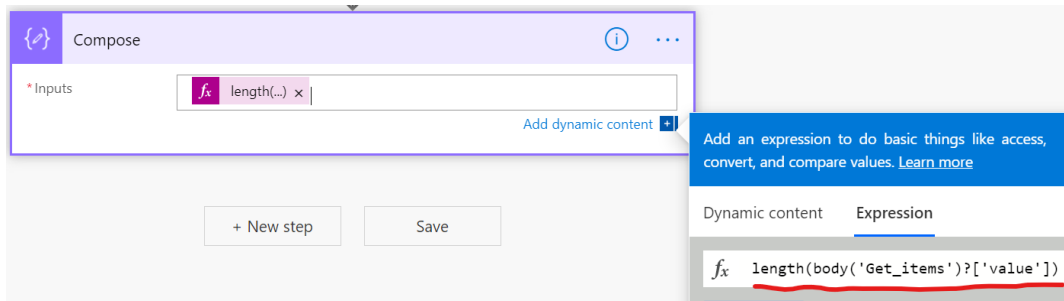


### 3. Add action “Get items” (SharePoint)

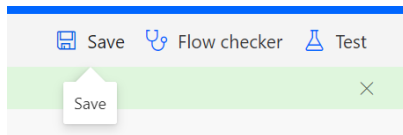
- Site Address: **FlowTraining**
- List Name: **LargeList**
- Limit Entries to Folder: **/** (without this ‘query limitation’ you will receive warning in Flow Checker)



4. Add **Compose** action with expression “`length(body('Get_items')['value'])`”



5. Click **Save**



6. Click **Test** and select **Manually**

### Test Flow

- ☒ **Manually**  
Perform the starting action to trigger it.
- ☐ **Automatically**

7. Check the value of the Compose action which should be **100** even that list contains thousands of items. Get items action returns only 100 items by default but that can be changed in by setting “Top Count” value which can be maximum **5000** (SharePoint list view threshold)

Compose

INPUTS

Inputs

100

OUTPUTS

Outputs

100

S

Get items

\* Site Address

FlowTraining - https://flk

\* List Name

LargeList

Limit Entries to Folder

/

Include Nested Items

Return entries contained

Filter Query

An ODATA filter query to

Order By

An ODATA orderBy quer

Top Count

5000

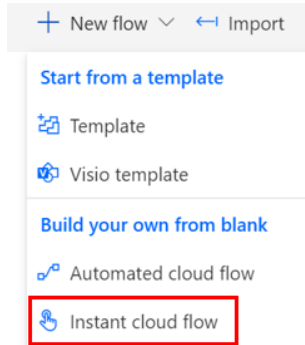
Limit Columns by View

Avoid column threshold

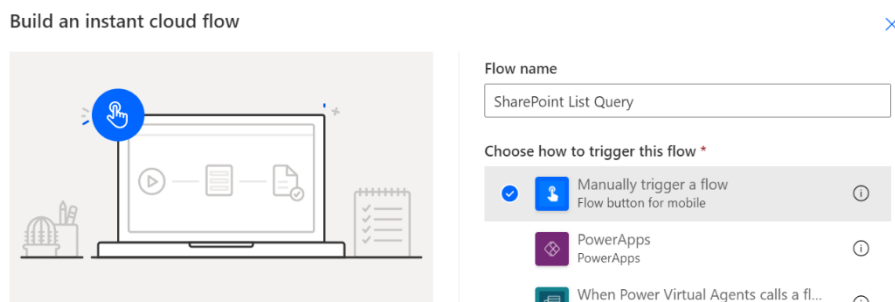
8. Test with Top Count 5000 and 5001 and see what happens

## Lab 3 - Query SharePoint lists and libraries

### 1. Create new Flow using "Instant cloud flow" option

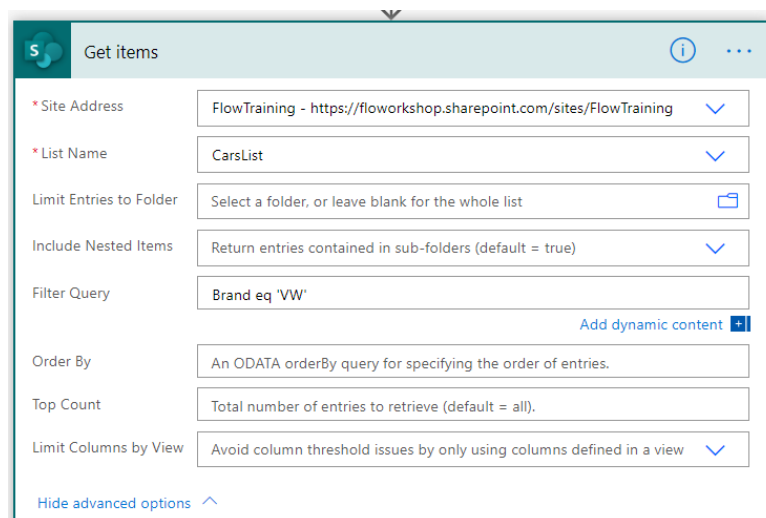


### 2. Name it "SharePoint List Query" and choose "Manually trigger a flow"

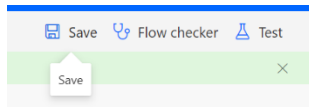


### 3. Create new Step - "Get items" (SharePoint)

- Site Address: **FlowTraining**
- List Name: **CarsList**
- Filter query: **Brand eq "VW"**



9. Click **Save**

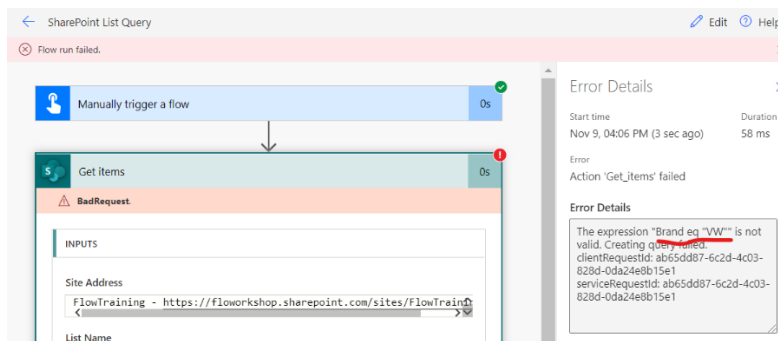


10. Click **Test** and select **Manually**

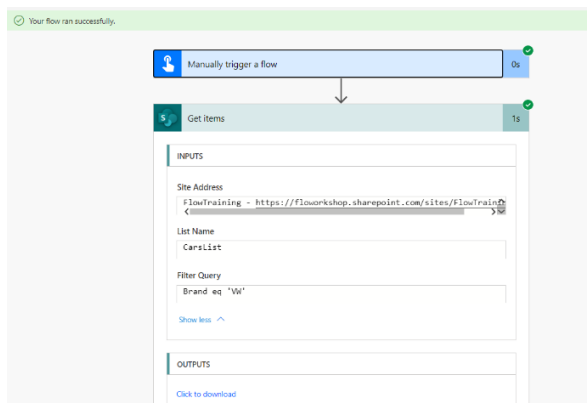
**Test Flow**

- ☒ Manually  
Perform the starting action to trigger it.
- ☐ Automatically

11. Flow run should fail. Why? ... because we used double quotes in filter and correct way is to use single quotes



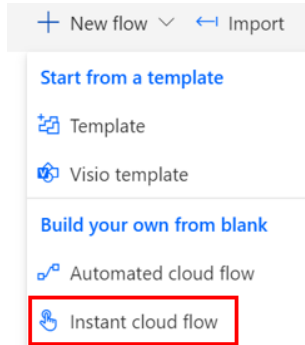
12. Fix the query like this **Brand eq 'VW'** and test again  
Also remember that the field name is case sensitive !!!



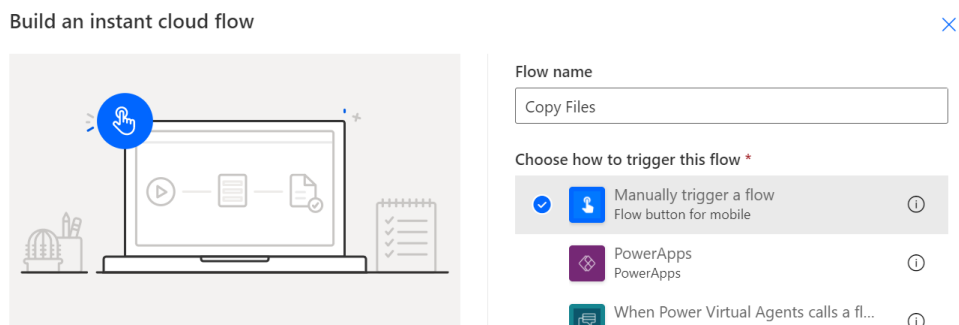
**Documentation:** <https://docs.microsoft.com/en-us/sharepoint/dev/sp-add-ins/use-odata-query-operations-in-sharepoint-rest-requests>

## Lab 4 - Copy files

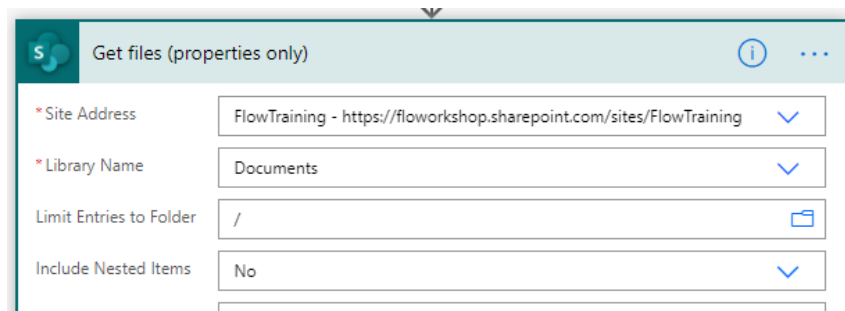
1. Create new Flow using “Instant cloud flow” option



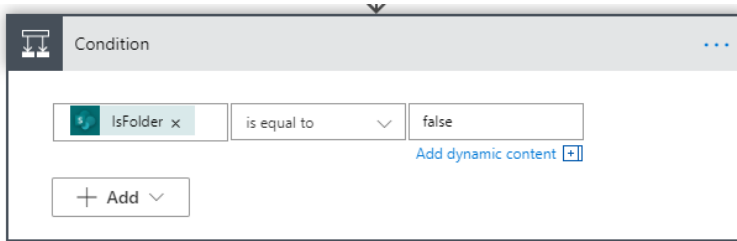
2. Name it “Copy files” and choose “Manually trigger a flow”



3. Create new Step - "Get files (properties only)" (SharePoint)
  - Site Address: **FlowTraining**
  - Library Name: **Documents**
  - Limit Entries to Folder: **/**
  - Include Nested Items: **No**



4. Create new step **Condition** and set condition to **IsFolder** “is equal to” **false** (Boolean value in this case **false** need to be all **lowercase**!)



Condition

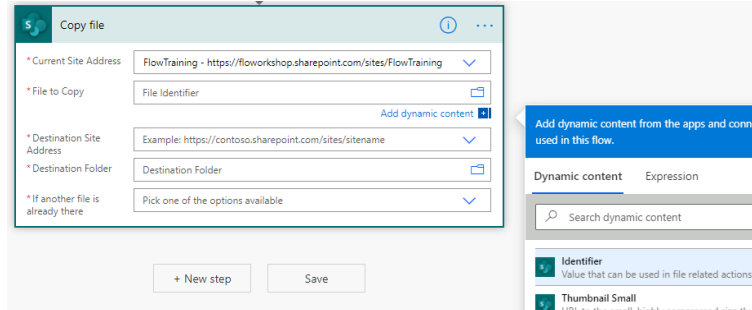
IsFolder x is equal to false

Add dynamic content

+ Add

**Notice** that **Apply to each** loop will be automatically added as we are working with collection of files and there could be more than 1 file to copy

5. Create new Step - "**Copy file**" to "**If yes**" branch
- Site Address: **FlowTraining**
  - File to Copy: **[Identifier]** (Dynamic content)
  - Destination Site Address: **FlowTraining**
  - Destination Folder: **/copydocuments**
  - If another file is already there: **Replace**



Copy file

\* Current Site Address FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining

\* File to Copy File Identifier

\* Destination Site Address Example: https://contoso.sharepoint.com/sites/sitename

\* Destination Folder Destination Folder

\* If another file is already there Pick one of the options available

+ New step Save

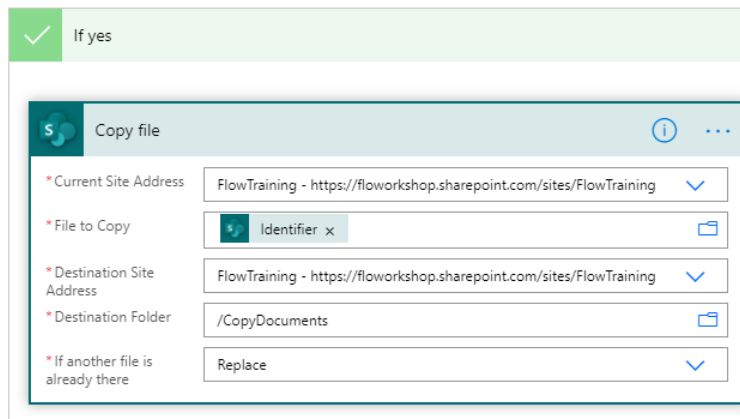
Add dynamic content from the apps and connections used in this flow.

Dynamic content Expression

Search dynamic content

Identifier Value that can be used in file related actions

Thumbnail Small URL to the small, highly compressed size thumbnail



✓ If yes

Copy file

\* Current Site Address FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining

\* File to Copy Identifier x

\* Destination Site Address FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining

\* Destination Folder /CopyDocuments

\* If another file is already there Replace

6. After you have configured previous step the Flow should look like below

The screenshot displays a Microsoft Flow configuration interface. The flow starts with a 'Manually trigger a flow' step, which leads to a 'Get files (properties only)' step. The 'Get files' step is configured with the following settings:

- \* Site Address: FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining
- \* Library Name: Documents
- Limit Entries to Folder: /
- Include Nested Items: No
- Filter Query: An ODATA filter query to restrict the entries returned (e.g. stringColumn eq 'stri
- Order By: An ODATA orderBy query for specifying the order of entries.
- Top Count: Total number of entries to retrieve (default = all).
- Limit Columns by View: Avoid column threshold issues by only using columns defined in a view

Below the 'Get files' step is an 'Apply to each' loop. The loop is configured to iterate over the 'value' output from the previous step. Inside the loop, there is a 'Condition' step that checks if the 'IsFolder' property is equal to 'false'. If the condition is 'If yes', the flow proceeds to a 'Copy file' step. The 'Copy file' step is configured with the following settings:

- \* Current Site Address: FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining
- \* File to Copy: Identifier
- \* Destination Site Address: FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining
- \* Destination Folder: /CopyDocuments
- \* If another file is already there: Replace

If the condition is 'If no', the flow proceeds to an 'Add an action' step.

7. Save and test the flow





### Test Flow

- ☒ Manually  
Perform the starting action to trigger it.
- ☐ Automatically



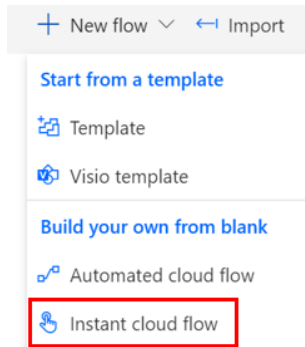
8. Go to **CopyDocuments** library in **FlowTraining** SharePoint site and verify that all documents in root of the Documents library are copied

## CopyDocuments

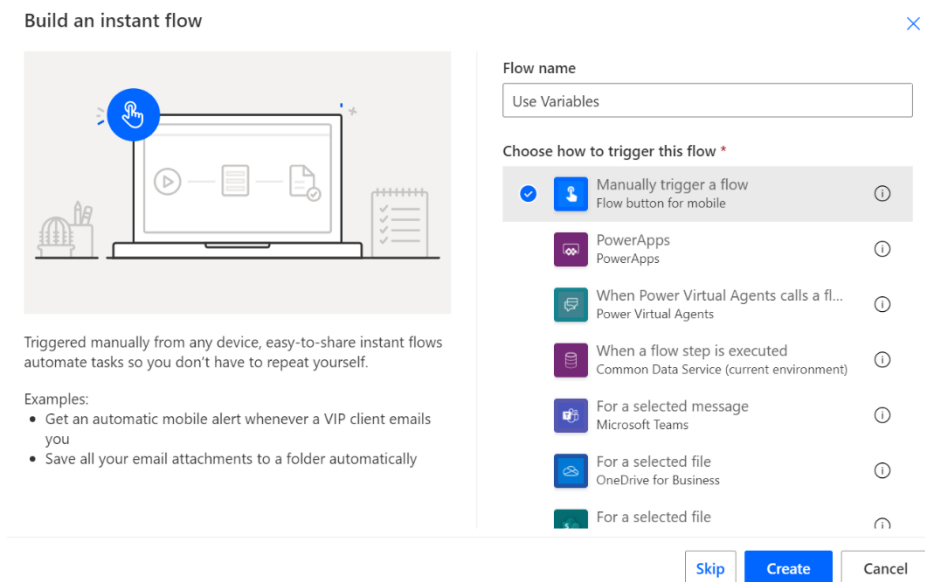
 Name ▾	Modified ▾	Modified By ▾
 champions.jpg	A few seconds ago	Flow Workshop
 DeptHome.jpg	A few seconds ago	Flow Workshop
 Just testing.docx	A few seconds ago	Flow Workshop

## Lab 5 - Use variables (flow internal variables)

### 1. Create new Flow using “Instant cloud flow” option

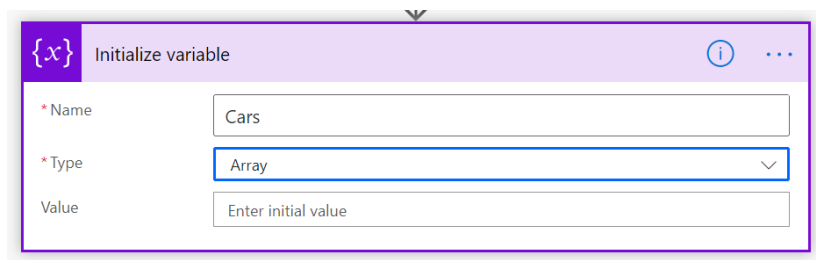


### 2. Name it “Use variables” and choose “Manually trigger a flow”



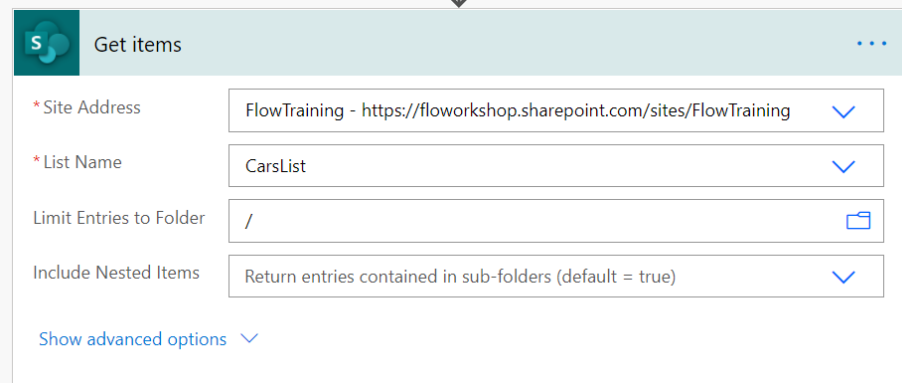
### 3. Add new step “Initialize variable”

- Name: **Cars**
- Type: **Array**



4. Create new Step - "Get items" (SharePoint)

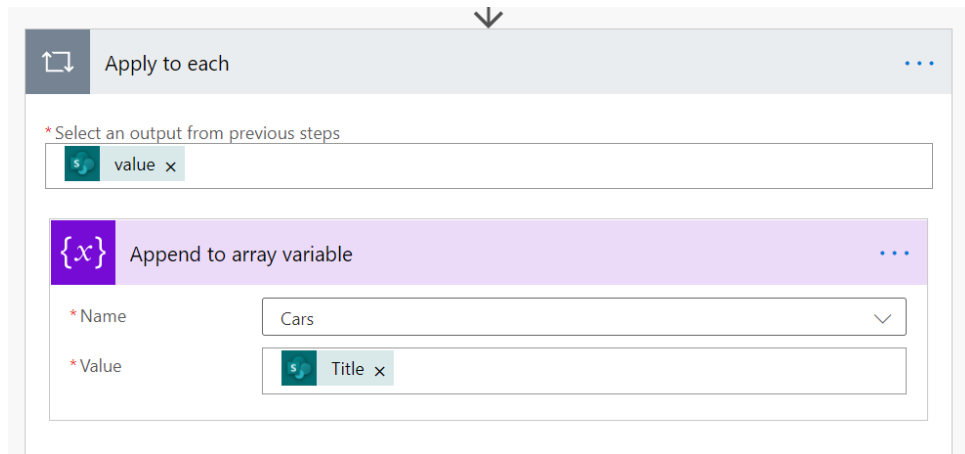
- Site Address: **FlowTraining**
- Library Name: **CarsList**
- Limit Entries to Folder: **/**



The screenshot shows the configuration for the 'Get items' step. The header bar is light blue with a SharePoint icon and the text 'Get items'. Below the header, there are four input fields: '\* Site Address' with the value 'FlowTraining - https://flowworkshop.sharepoint.com/sites/FlowTraining', '\* List Name' with the value 'CarsList', 'Limit Entries to Folder' with the value '/', and 'Include Nested Items' with the value 'Return entries contained in sub-folders (default = true)'. Each field has a dropdown arrow on the right. At the bottom, there is a link 'Show advanced options' with a dropdown arrow.

5. Add new step "Append to array variable"

- Name: **Cars**
- Value: **[Title]** (Dynamic content "Title" from previous step)
- **Notice** that Apply to each is automatically added when you select Title dynamic content from previous step



The screenshot shows the configuration for the 'Append to array variable' step. The header bar is light grey with a 'Apply to each' icon and the text 'Apply to each'. Below the header, there is a section '\* Select an output from previous steps' with a dropdown menu showing 'value x'. Below this, there is a purple bar with a '{x}' icon and the text 'Append to array variable'. Below the purple bar, there are two input fields: '\* Name' with the value 'Cars' and '\* Value' with the value 'Title x'. Each field has a dropdown arrow on the right.

6. Add new step “**Send an email (V2)**” after the Apply to each
- To: *Your O365 account email address*
  - Subject: **Cars List**
  - Body: **variables(‘Cars’)**

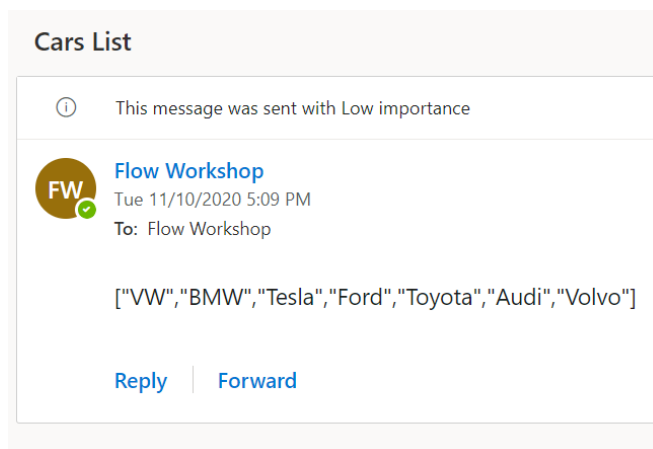
The screenshot shows the configuration for the 'Send an email (V2)' step. The 'To' field is populated with 'Flow Workshop'. The 'Subject' field contains 'Cars List'. The 'Body' field contains the expression 'variables(‘Cars’)'. A tooltip on the right side of the 'Add dynamic content' button reads: 'Add an expression to do basic things like convert, and compare values. [Learn more](#)'. Below the main configuration area, there are buttons for '+ New step' and 'Save'. At the bottom right, there is a 'Dynamic content' section with a tab for 'Expression' showing the formula 'variables(‘Cars’)' and an 'OK' button.

7. Save and test the Flow

#### Test Flow

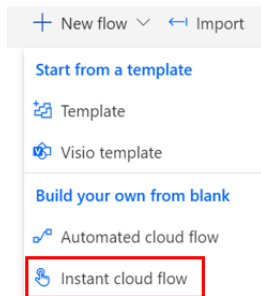
- ☒ Manually  
Perform the starting action to trigger it.
- ☐ Automatically

8. Open <https://outlook.office.com> and you should see email sent by your Flow including list of all cars (title) in **CarsList**

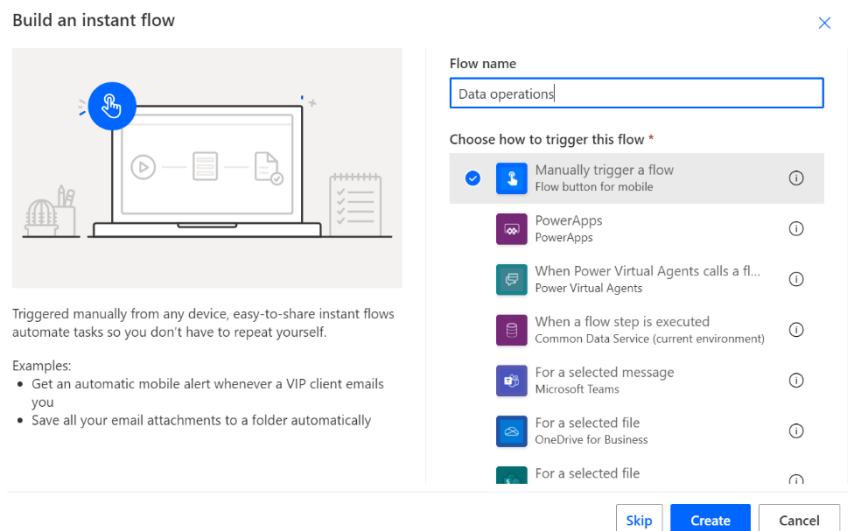


## Lab 6 - Data operations

### 1. Create new Flow using “Instant cloud flow” option

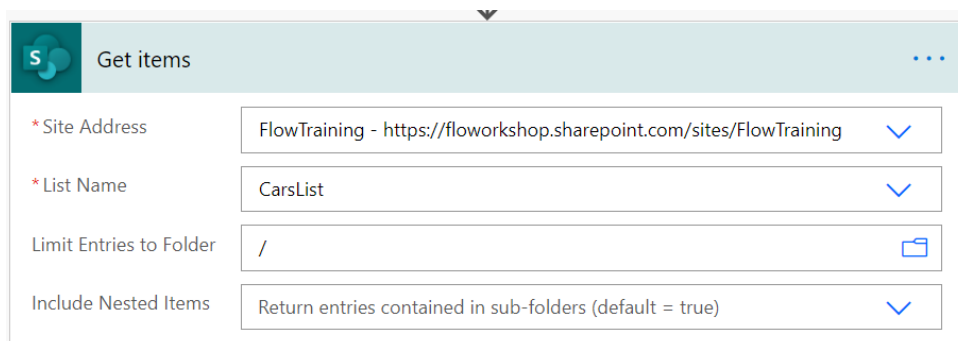


### 2. Name it “Data operations” and choose “Manually trigger a flow”



### 3. Create new Step - "Get Items (SharePoint)"

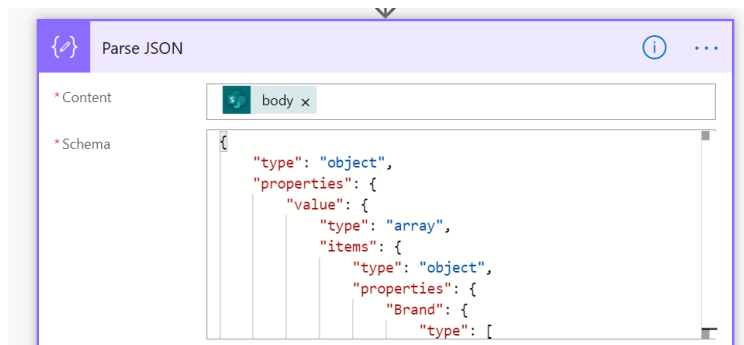
- Site Address: **FlowTraining**
- List Name: **CarsList**
- Limit Entries to Folder: **/**



4. Create a new step – “**Parse JSON (Data Operations)**”

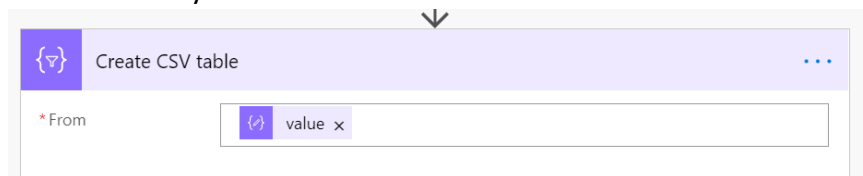
- Select **Body** dynamic property from previous action
- Paste following schema to **Schema** field

```
{
  "type": "object",
  "properties": {
    "value": {
      "type": "array",
      "items": {
        "type": "object",
        "properties": {
          "Brand": {
            "type": "string"
          },
          "Price": {
            "type": "integer"
          }
        }
      }
    }
  }
}
```



5. Create a new step – “**Create CSV table (Data Operations)**”

- In **From** add dynamic content – **value** from “**Parse JSON**”



6. Create a new step – “**Select (Data Operations)**”

- In **From** add dynamic content – **value** from “**Parse JSON**”
- Add a new key **Brand** and in value, add dynamic content – **Brand** from “**Parse JSON**”
- Add a new key **Name** and in value, add dynamic content – **Title** from “**Parse JSON**”

Select	
*From	{value} x
*Map	
Brand	{Brand} x
Price	{Price} x
Enter key	Enter value

7. Create a new step – “**Create HTML table (Data Operations)**”

- In **From** add dynamic content – **Output** from **Select**

Create HTML table 2	
*From	{Output} x

[Show advanced options](#)

8. Create a new step – “**Filter (Data Operations)**”

- In **From** add Dynamic content – **Output** from **Select**
- In “**Choose value**” add expression – “**item()?['Brand']**”
- Select “**is equal to**” and add **VW** to value

Filter array	
*From	{Output} x
Choose value	{item()} x
Comparison	is equal to
Value	VW

[Edit in advanced mode](#)

9. Save and test the Flow

**Test Flow**

- ☒ Manually  
Perform the starting action to trigger it.
- ☐ Automatically