How to upload/download files to/from a SharePoint using Microsoft graph APIs?

SharePoint

SharePoint is a web-based collaborative platform that integrates with Microsoft Office. Launched in 2001, SharePoint is primarily sold as a document management and storage system, but the product is highly configurable and usage varies substantially among organizations.

Microsoft Graph API

Microsoft Graph is the gateway to data and intelligence in Microsoft 365. It provides a unified programmability model that you can use to access the tremendous amount of data in Microsoft 365, Windows 10, and Enterprise Mobility + Security. Use the wealth of data in Microsoft Graph to build apps for organizations and consumers that interact with millions of users.

Please ref to following link to know more about Microsoft Graph.

Process

Pre-requisites

- Need to have Azure App (Client ID and Client Secret)
- Need to have Directory (Tenant ID)
- Need Application Permissions for that App (Files.Read.All, Files.ReadWrite.All, Sites.Read.All…)
- Token URL: "https://login.microsoftonline.com/{tenantId}/oauth2/token"
- **Upload: PUT**: "https://graph.microsoft.com/v1.0/drives/{drive-id}/items/{parent-id}:/{filename}:/content"
- **Download: GET**: "https://graph.microsoft.com/v1.0/drives/{drive-id}/items/{parent-id}:/{filename}"

*** For Demo, the scenario will be to move 4 files from local(D:\test\in) to OneDrive(My files/talend), and then download the file(test04.pdf) from SharePoint to local(D:\test\out)

NB. For your testing:

If you dont have the Azure App, you can use Graph Explorer to obtain a **temporary token** (valid for one hour) https://developer.microsoft.com/fr-fr/graph/graph-explorer
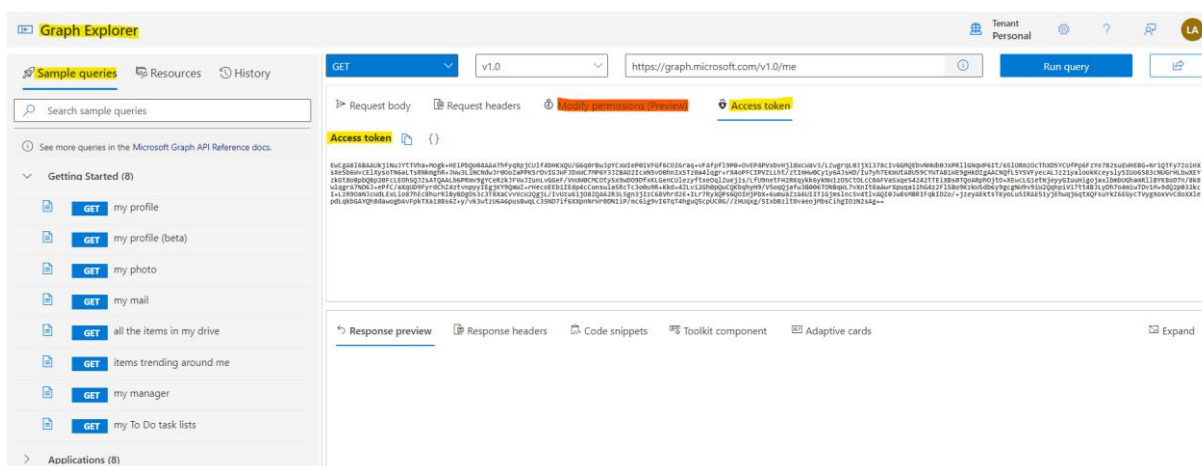
Google Traduction   Google Hangouts   Talend Best Practice...   Google Cloud Platf...   AWS Management...   talend Tutorial =>...   Condeco

OneDrive

Search everything

+ New   ↑ Upload   ↗ Share   🖼 Create album from folder   </> Embed

My files

□ My files
⟳ Recent
🖾 Photos
👥 Shared
🗑 Recycle bin

My files > talend

Drag files here

📁 D:\test\in

	Nom	Modifié le	Type	Taille
📊	test01	18/04/2022 17:23	Fichier CSV	3 Ko
📊	test02	02/12/2021 16:32	Feuille de calcul M...	12 Ko
📦	test03	19/06/2022 20:07	Archive WinRAR ZIP	6 Ko
📕	test04	11/10/2021 19:05	Document Adobe ...	336 Ko

📁 D:\test\out

Nom	Modifié le	Type	Taille
	Le dossier est vide.		
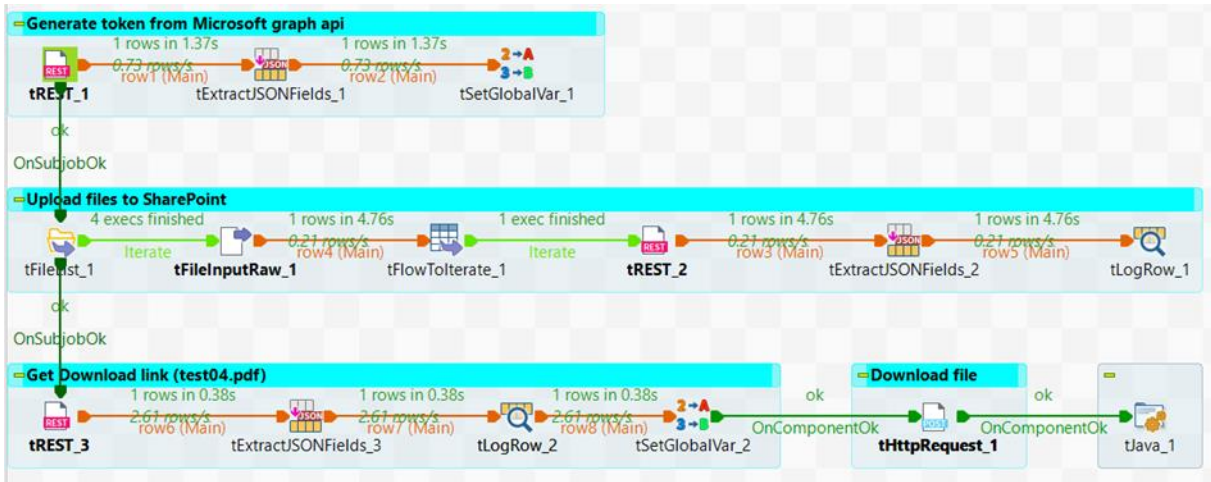
tFileList_1

Basic settings		
Advanced settings	Directory	"D:/test/in"
Dynamic settings	FileList Type	Files
View	☐ Includes subdirectories	Case Sensitive Yes ☐
Documentation	☑ Use Glob Expressions as Filemask (Unchecked means F
	Files	Filemask
		"test*"

`<b>tFileInputRaw_1</b><br>(tFileInputRaw_1)`

Basic settings		
Advanced settings	Schema	Built-In Edit schema ...
Dynamic settings	Filename	((String)globalMap.get("tFileList_1_CURRENT_FILEPATH"))
View	Mode	
Documentation	○ Read the file as a string	
	● Read the file as a bytes array	
	○ Stream the file	

1. **Iterate and upload files to SharePoint**

`<b>tREST_2</b><br>(tREST_2)`

Basic settings		
Advanced settings	Schema	Built-In ▾ Edit schema ...
Dynamic settings	URL	rosoft.com/v1.0/drives/63_____797d8e/items/63_____2797D8E%21365:/"+((String)globalMap.get("tFileList_1_CURRENT_FILE"))+":/content"
View	HTTP Method	PUT
Documentation	HTTP Headers	

name	value
"Authorization"	((String)globalMap.get("token"))
"Content-Type"	"text/csv"
"Accept"	"application/json"

HTTP Body | row4.content

tExtractJSONFields_2

Basic settings			
Advanced settings	Property Type	Built-In	
Dynamic settings	Schema	Built-In	Edit schema ⋯ Sync columns
View	Read By	Xpath	
Documentation	JSON field	Body	
	Loop XPath query	"/"	

Mapping

Column	XPath query	☐ Get Nodes
fileName	"name"	☐
size	"size"	☐
path	"parentReference/path"	☐
downloadURL	"@microsoft.graph.downloadUrl"	☐

2.Get download link

tREST_3
(tREST_3)

Basic settings		
Advanced settings	Schema	Built-In Edit schema ⋯
Dynamic settings	URL	"https://graph.microsoft.com/v1.0/drives/63-_____797d8e/items/65_____797D8E%21365:/test04.pdf"
View	HTTP Method	GET
Documentation	HTTP Headers	

name	value
"Authorization"	((String)globalMap.get("token"))
"Accept"	"application/json"

tExtractJSONFields_3

Basic settings			
Advanced settings	Property Type	Built-In	
Dynamic settings	Schema	Built-In	Edit schema ⋯ Sync columns
View	Read By	Xpath	
Documentation	JSON field	Body	
	Loop XPath query	"/"	

Mapping

Column	XPath query	☐ Get Nodes
fileName	"name"	☐
size	"size"	☐
path	"parentReference/path"	☐
lastModifiedDate	"lastModifiedDateTime"	☐
downloadURL	"@microsoft.graph.downloadUrl"	☐

3. Download and save file

**tHttpRequest_1
(tHttpRequest_1)**

Basic settings	Property	Built-In ▼	Edit schema ...
Advanced settings	URI	((String)globalMap.get("dowloadLink"))	
Dynamic settings	Method	GET	
View	☑ Write response content to file	"D:/test/out/"+((String)globalMap.get("fileName"))	
Documentation	☐ Create directory if not exists		

Headers

Header key	value

[+] [✕] [⇧] [⇩] [▣] [▢]

☐ Need authentication
☐ Die on error

Job Download_Files_From_SharePoint

Basic Run
Debug Run
Advanced settings
Target Exec
Memory Run

Execution

[▶ Run] [■ Kill] [Clear]

```
|fileName   |size |path          |downloadURL
|===========+=====+==============+===============================================
|test01.csv |2059 |/drive/root:/talend|https://psop2a.bn.files.1drv.com/y4p1MluZO3hiHIznGapX5rZL1_rWOTf1OV2OrPar

.-----------+-----+--------------+----------------------------
|
|===========+=====+==============+===============================================
|fileName   |size |path          |downloadURL
|===========+=====+==============+===============================================
|test02.xlsx|11672|/drive/root:/talend|https://psop2a.bn.files.1drv.com/y4pGa1MV1bwVJYRkwZJRcQNT-QPz_eZU1iuzqW

.-----------+-----+--------------+----------------------------
|
|===========+=====+==============+===============================================
|fileName   |size|path          |downloadURL
|===========+=====+==============+===============================================
|test03.zip |5514 |/drive/root:/talend|https://psop2a.bn.files.1drv.com/y4pb70xCK9R-O_b8ngOvHMVNPk1vaUMjoM_bs18W

.-----------+-----+--------------+----------------------------
|
|===========+=====+==============+===============================================
|fileName   |size |path          |downloadURL
|===========+=====+==============+===============================================
|test04.pdf |343099|/drive/root:/talend|https://psop2a.bn.files.1drv.com/y4pZqLOpVjxjIc4qvO5KG81MuzFMB-yrkQpODd

.-----------+-----+--------------+----------------------------
|
|===========+=====+==============+===============================================
|fileName   |size |path          |lastModifiedDate      |downloadURL
|===========+=====+==============+======================+========================
|test04.pdf |343099|/drive/root:/talend|2022-06-19T20:33:02.093Z|https://public.bn.files.1drv.com/y4mioj-pUOVyA

*** Successfully connected: true
*** RESPONSE_CODE        : 200
```
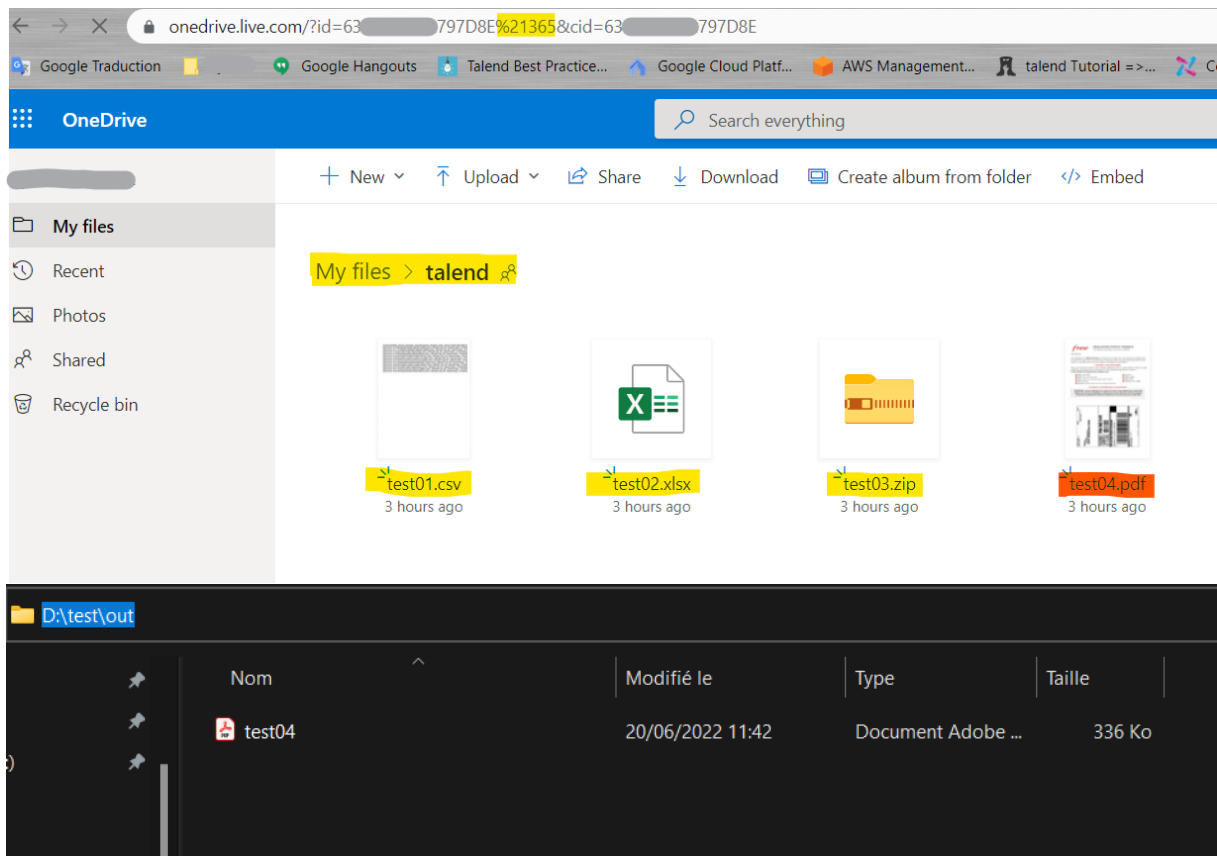
***You can adapt this solution according to your needs
More endpoints:

- Get all the elements of my disk: GET: "https://graph.microsoft.com/v1.0/me/drive/root/children"
- Get my recent files: GET: "https://graph.microsoft.com/v1.0/me/drive/recent"
- Get files shared with me: GET: "https://graph.microsoft.com/v1.0/me/drive/sharedWithMe"
- find my OneDrive space: GET:
  "https://graph.microsoft.com/v1.0/me/drive/root/search(q='**test04.pdf**')?select=name,id,webUrl"
- Get List items from SharePoint
  "https://graph.microsoft.com/v1.0/sites/%5B**{siteid}**%5D/drives/**{driveid}**/root/children"

Learn more queries in the Microsoft Graph API reference documentation.

Happy learning,
Kind regards,
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