# [SPO File]SharePoint Online File Copy with Http Connector

Last updated by | Veena Pachauri | Mar 8, 2023 at 11:23 PM PST

Public doc is available:
https://docs.microsoft.com/en-us/azure/data-factory/connector-sharepoint-online-list ⧉

Copy file from SharePoint Online In general, it leverages AAD/service principal authentication and SharePoint API to retrieve file. Flow wise, use **Web activity** to authenticate and grab access token from SPO, then pass to subsequent **Copy activity** to copy data with **HTTP connector as source**.
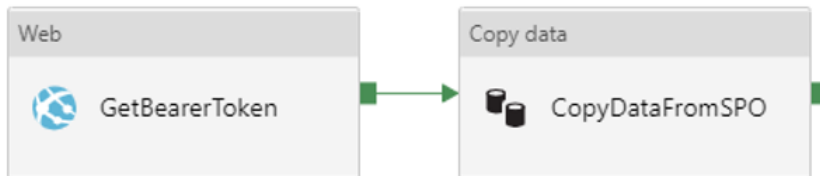
1. Register SharePoint Application and Grant permission

   1. Register AAD Application (with user's personnel account)

        1. Open azure portal aad app registration page: https://portal.azure.com/#blade/Microsoft_AAD_IAM/ActiveDirectoryMenuBlade/RegisteredApps ⧉
        2. New registration, enter your app name
        3. Go to "Certificates & secrets", create new client secret, you can set the expire to 1Y/2Y/Never
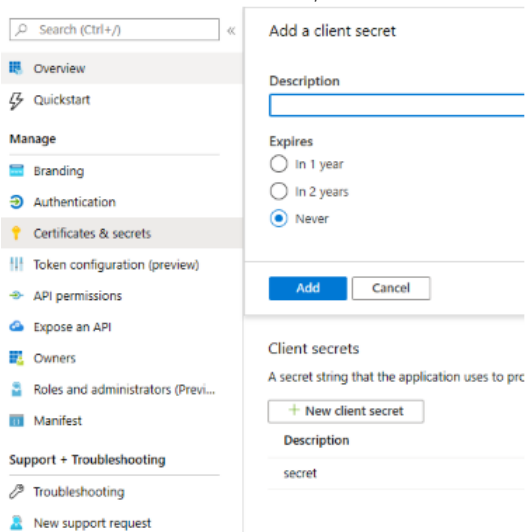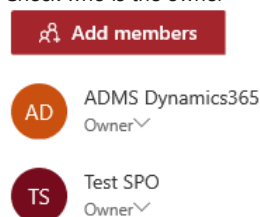
    2. Grant sharepoint site permission to your registered App **(need site owner permission)**

        1. How to find the site owner
            1. Go to site home page(eg. https://admsdynamics.sharepoint.com/sites/site2 ⧉), and click the "X members" in the right corner
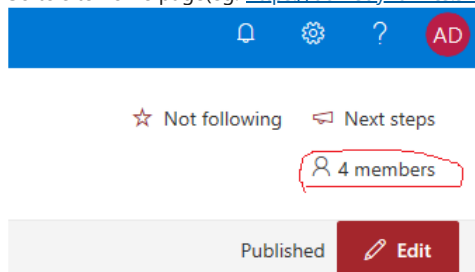
            2. Check who is the owner

        2. Open sharepoint site link: https://[Tenant-Name].sharepoint.com/sites/[Site-Name]/_layouts/15/appinv.aspx *(replace tenant/site name)*

3. Search the AppId you just registered in Step 1a and fill the empty fields and click **"Create"**
   App Domain: localhost.com ⬈
   Redirect URL: https://www.localhost.com ⬈
   Permission Request XML:

```xml
<AppPermissionRequests AllowAppOnlyPolicy="true">
    <AppPermissionRequest Scope="http://sharepoint/content/sitecollection/web" Right="Read"/>
</AppPermissionRequests>
```

App Id:

| e19a70e1-d1fc-4852-b43f-9€ | Lookup |

Title:

| spodemo |

App Domain:

| localhost.com |

Example: "www.contoso.com"

Redirect URL:

| https://www.localhost.com |

Example: "https://www.contoso.com/default.aspx"

Permission Request XML:

```
<AppPermissionRequests
AllowAppOnlyPolicy="true">
    <AppPermissionRequest
Scope="http://sharepoint/content/sitecollection/we
b" Right="Read"/>
</AppPermissionRequests>
```

4. Click **"Trust It"** for this app

2. Create ADF Pipeline

   1. Create Web Activity to get the access token
      - URL: https://accounts.accesscontrol.windows.net/[Tenant-ID]/tokens/OAuth/2 ⬈
      - Method: POST
      - Headers:
        - Content-Type: application/x-www-form-urlencoded
        - Body: grant_type=client_credentials&client_id=[Client-ID]@[Tenant-ID]&client_secret=[Clinet-Secret]&resource=00000003-0000-0ff1-ce00-000000000000/[Tenant-Name].sharepoint.com@[Tenant-ID]

General   **Settings**   User properties

URL *	https://accounts.accesscontrol.windows.net/7t
Method *	POST ▾
Headers *	＋ New 🗑 Delete

	NAME	VALUE
	Content-Type	application/x-www-form-urlencoded

Body	grant_type=client_credentials&client_id= ⋮ _ _ _ _ _ _ _ _ _ _ @7
Datasets	Select... ▾ ＋ New 🗑
	＋ Add dataset reference

- Debug run to see if the activity succeeds, and check the activity output on if it returns the access token in the payload.

3. Create Copy activity

   1. New dataset -> HTTP -> Binary type:
      - HTTP linked service
        - Base URL: https://<SiteUrl>/_api/web/GetFileByServerRelativeUrl('<relativePathToFile>')/$value
          (sample Base URL:
          https://microsofteur.sharepoint.com/teams/ganespol/_api/web/GetFileByServerRelativePath(decodedurl='/teams/ganespol/Shared Documents/output.txt')/\$value ⬈)

- Authentication Type: Anonymous (use token configured on copy activity source)
- Dataset config (nothing more):

General	Connection	Parameters

Linked service *	🔵 HttpServer1 ▾
Base URL	https://admsdynamics.sharepoint.com/sites/sit
Relative URL	
Compression type	none ▾

2. Configure copy activity HTTP source

- Request method: GET
- Additional header: "Authorization: Bearer <accessToken>" (accessToken is generated in Step2)
  - Tip: you can test with a static access token gotten from the previous Web activity output first, like the following screenshot. To chain Web & Copy activity together, use expression (add dynamic content): @{concat('Authorization: Bearer ',activity('GetBearerToken').output.access_token)}

General	Source	Sink	Mapping	Settings	User properties

Source dataset *	🗋 BinarySpoFile ▾
Request method *	GET ▾
Additional headers	Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIng 1dCI6IIINRUxIVDBndmlwbXhvU0RvWWZvb
Request body	
Request timeout	
Max concurrent connections	ⓘ

3. Configure Copy activity sink – Blob binary dataset

General	Source	Sink	Mapping	Settings	User properties

Sink dataset *	🗋 BinaryInBlob ▾
Copy behavior	None ▾ ⓘ
Max concurrent connections	ⓘ
Block size (MB)	ⓘ

4. Copy Multiple files in folder

ADF doesn't support directly copy an folder from SharePoint Online, there are workarounds could achieve this purpose.

1. Get a list of the files:

- Customer can maintain the file names in a text file manually, or
- Use Web Activity call SharePoint Rest Api to get the the list of files, there might be some work to parse the output of the Web activity to get the list of the relative file name, the Api to get files is `https://{site_url}/_api/web/GetFolderByServerRelativeUrl('/Folder Name')/Files`

2. Lookup Activity to loop the list of relative file name and pass the file name to copy activity, the rest is same as copy a single file, the only difference is replace <relativePathToFile> with the parameter file name.

Sample ADF Support File: SPOMultipleFilesCopy_support_live.zip

This link give all the rest apis for sharepoint online folder and files

https://docs.microsoft.com/en-us/sharepoint/dev/sp-add-ins/working-with-folders-and-files-with-rest ⬈

How good have you found this content?

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