

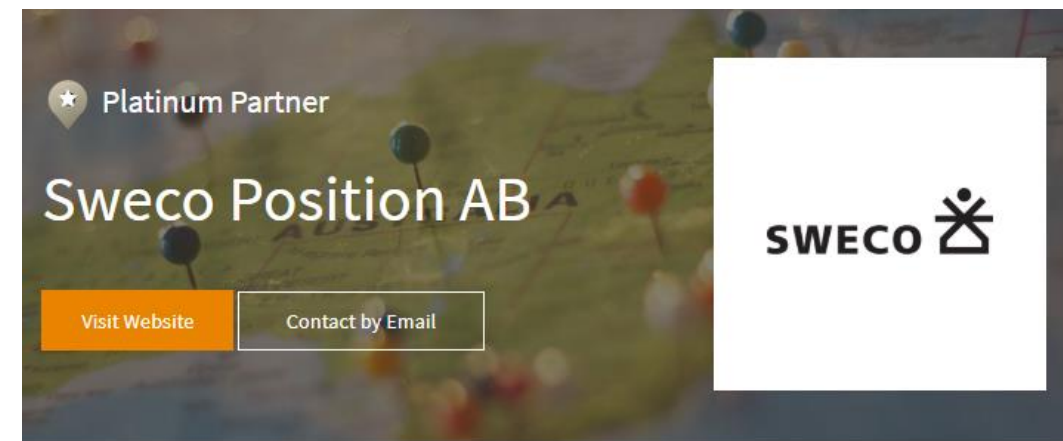
FME AND WEB CONNECTIONS

FME and Sweco

- Sweco : <https://www.safe.com/partners/sweco>
- Ask questions in the chat-window during the meeting
- Agenda:
 1. Presentation of Web services (Sigbjørn)
 2. Microsoft Graph (Anton)
 3. ProjectWise (Sigbjørn)



Anton Sandström - Anton.Sandstrom@sweco.se



About Sweco Position AB

Sweco plans and designs the communities and cities of the future. We have grown to become the market leader in Europe. A key challenge is to let data flow seamlessly between different systems and data sources. Sweco can provide solutions and training from our team of committed FME experts

Partner Tier:

Platinum Partner

Partner Since:

2005

Certifications:

34 employees hold FME certifications.

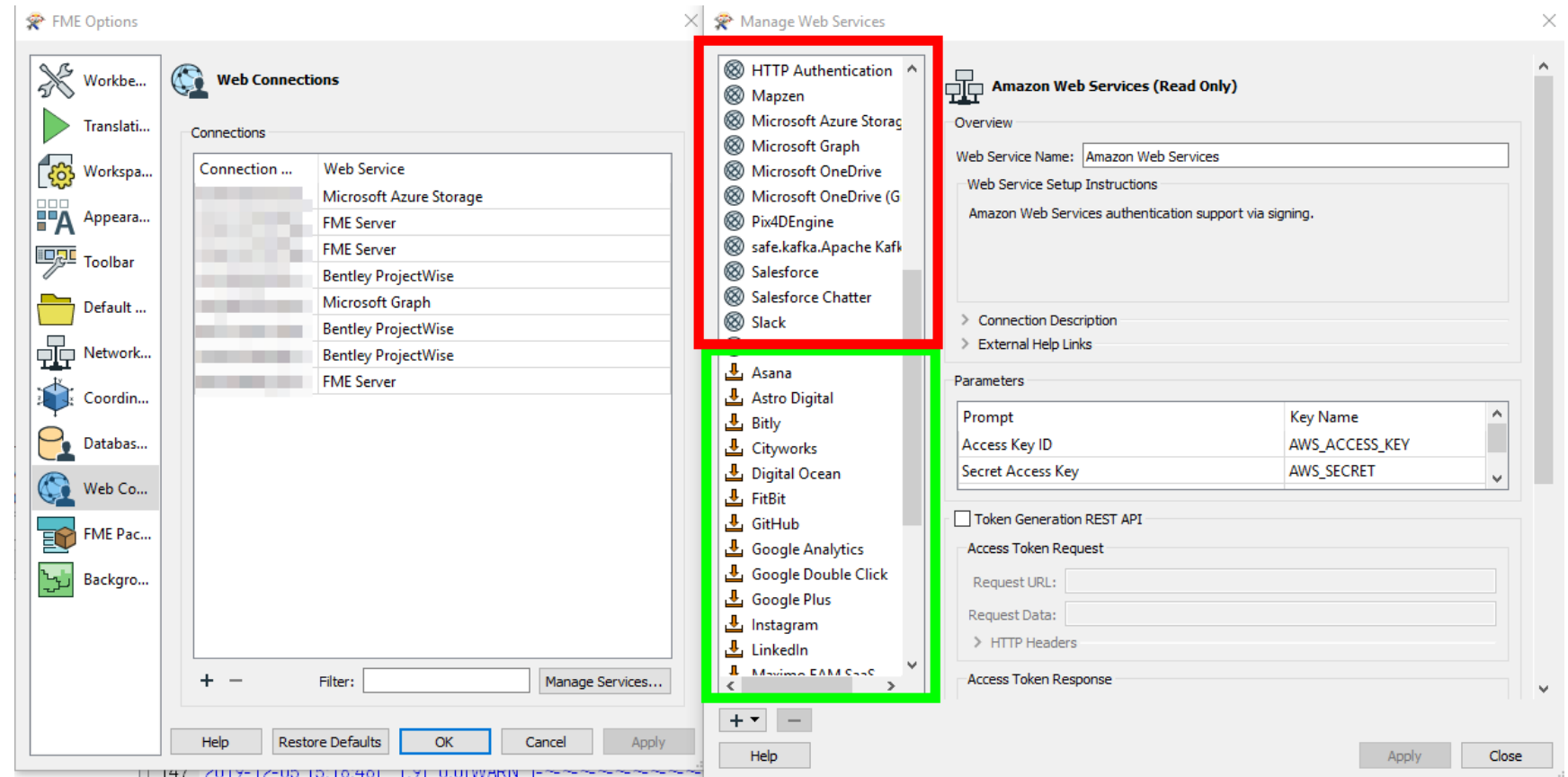
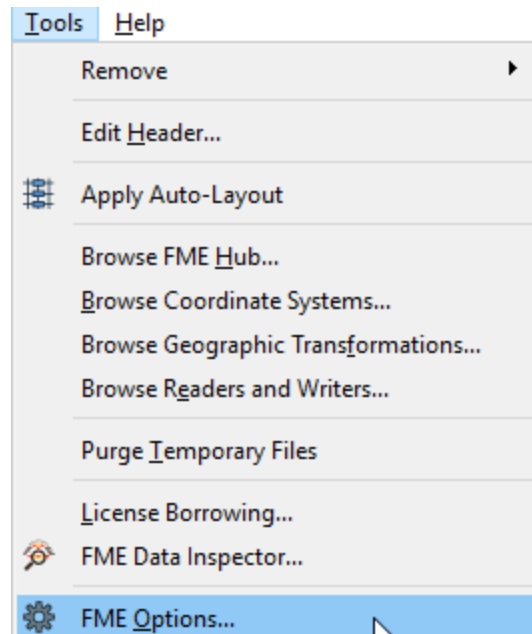
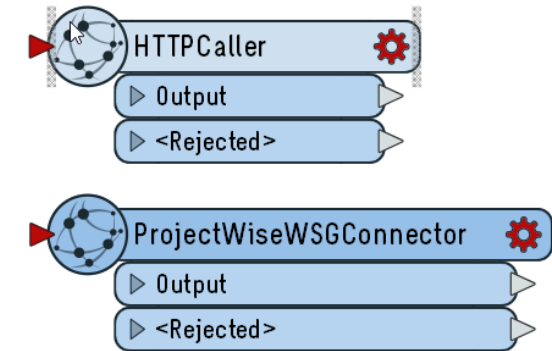


Sigbjørn Tillerli Herstad – sigher@sweco.no



FME Web connections

- Available Web connections



What if my connection is not there?

- <https://knowledge.safe.com/questions/76488/connection-to-microsoft-graph-api.html>
- Check knowledge.safe.com



Home / *FME Desktop /



Question by sigtill · Aug 15, 2018 at 06:25 PM · authentication rest api microsoft

Connection to Microsoft Graph API



Have anyone managed to connect to Microsoft Graph API? I am thinking about the authentication part <https://developer.microsoft.com/en-us/graph>

The authentication is described here: https://developer.microsoft.com/en-us/graph/docs/concepts/auth_overview

Any help?

Add comment



Best Answer
Answer by gerhardatsafe · Aug 21, 2018 at 01:12 AM
@sigtill

I uploaded a Microsoft Graph Web Connection to the FME Hub:
https://hub.safe.com/web_connections/microsoft-graph

You will need to create an app here to use the Web Connection: <https://apps.dev.microsoft.com/>

Once you add your client ID and client secret you can use the Web Connection as authentication in the HTTPCaller.

Add comment · Hide 7 · Share



sigtill · Aug 21, 2018 at 07:56 AM 0
Spot on Gerhard! I always forget the web-connections. And I havent used it a lot. I am guessing its also possible to create a similar web-connection towards Leica Conx (<https://knowledge.safe.com/questions/65547/data-to-from-leica-conx.html>) - I will have a dive into that when there is some spare-time!



sigtill · Sep 05, 2018 at 10:40 AM 1
It seems the token times out after 1 hour and I need to sign in again - is there an error in the refresh-token string? @GerhardAtSafe



gerhardatsafe · sigtill · Sep 05, 2018 at 04:54 PM 0
There could be 2 reasons for this:

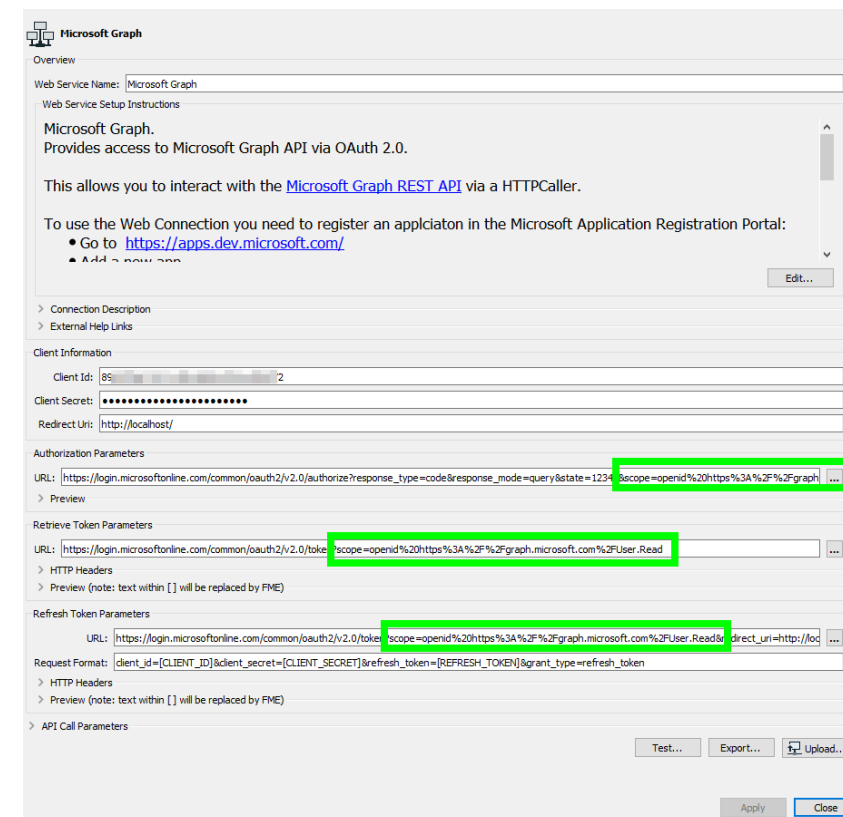
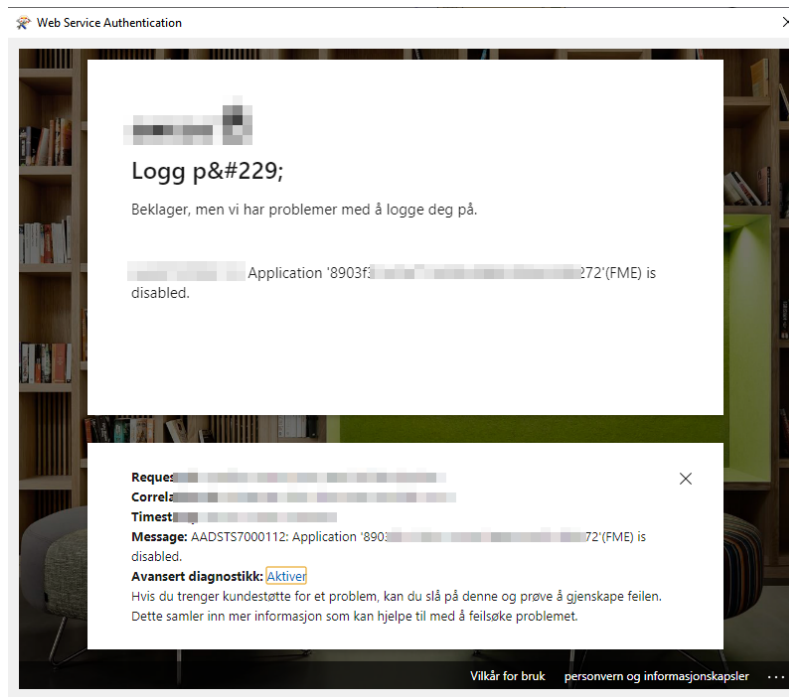
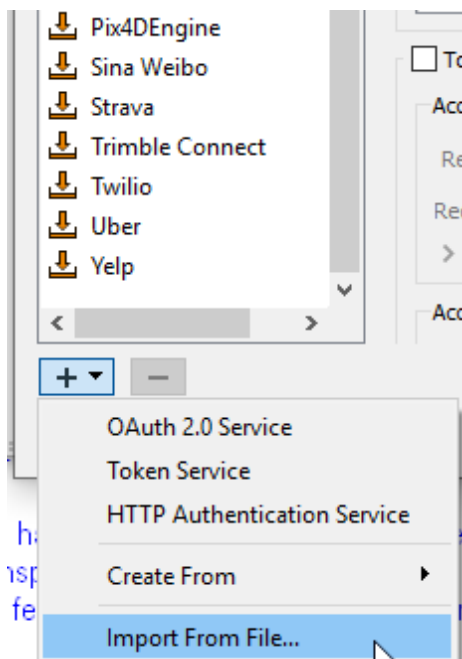
1. The redirect URI is missing in the refresh token request. We add it automatically to the retrieve token request, but not to the refresh request. You can try to add it as a query string to the token request. This is the example I followed by the way: <https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-oauth2-auth-code-flow>
2. You might need to grant the offline_access scope for your app the successfully retrieve refresh tokens: <https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-id-and-access-tokens#refresh-tokens>

Let me know if you get a chance to test these 2 options. I will update the Web Connection on the Hub as soon as get to it so if you can confirm a fix by then that would be really helpful.

Download new webconnection

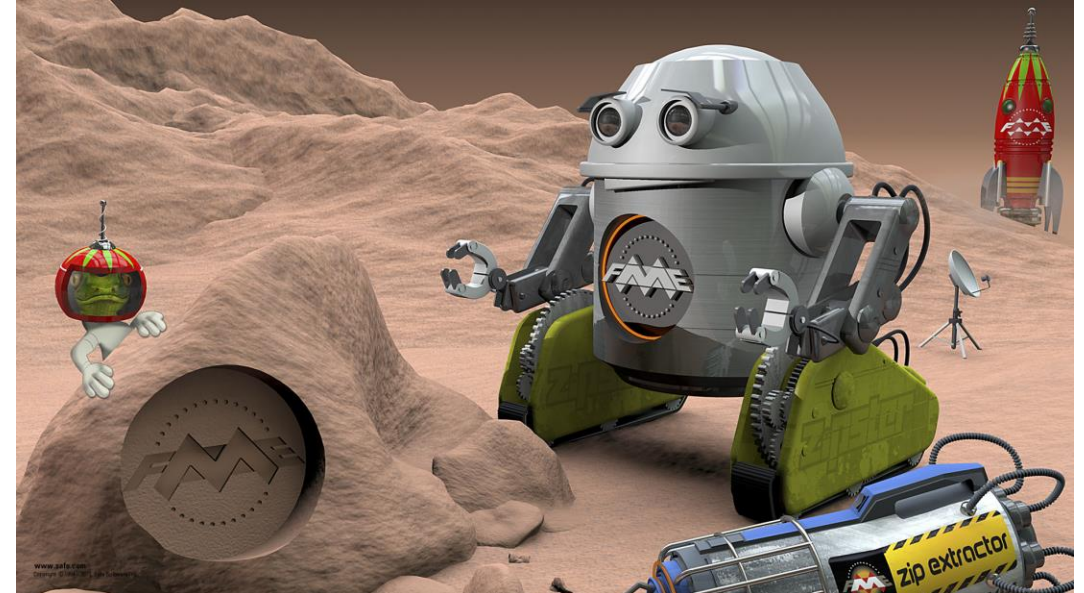
1. Download from HUB <https://hub.safe.com/> (Microsoft Graph.xml)
2. Install in FME
3. Create web application (SHOWN LATER)
4. Create New Web connection

Scope=
User.Read
&Mail.Read



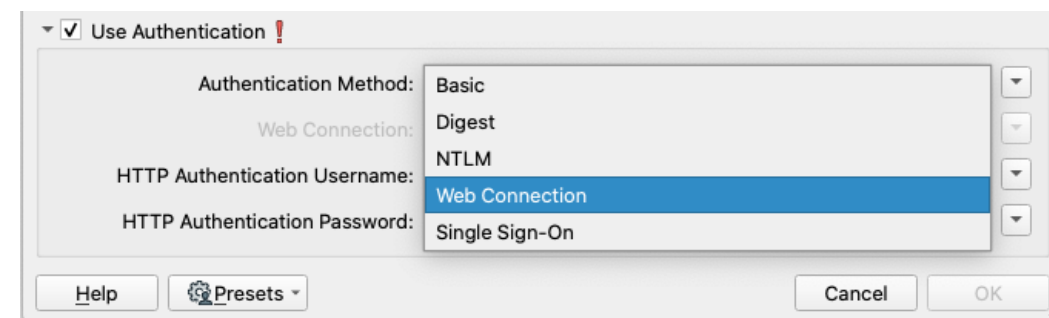
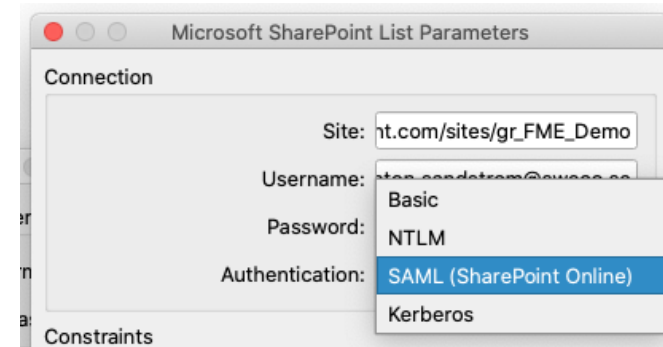
POLL

Have you used the new FME 2020 BETA?
(<https://www.safe.com/support/downloads/>)



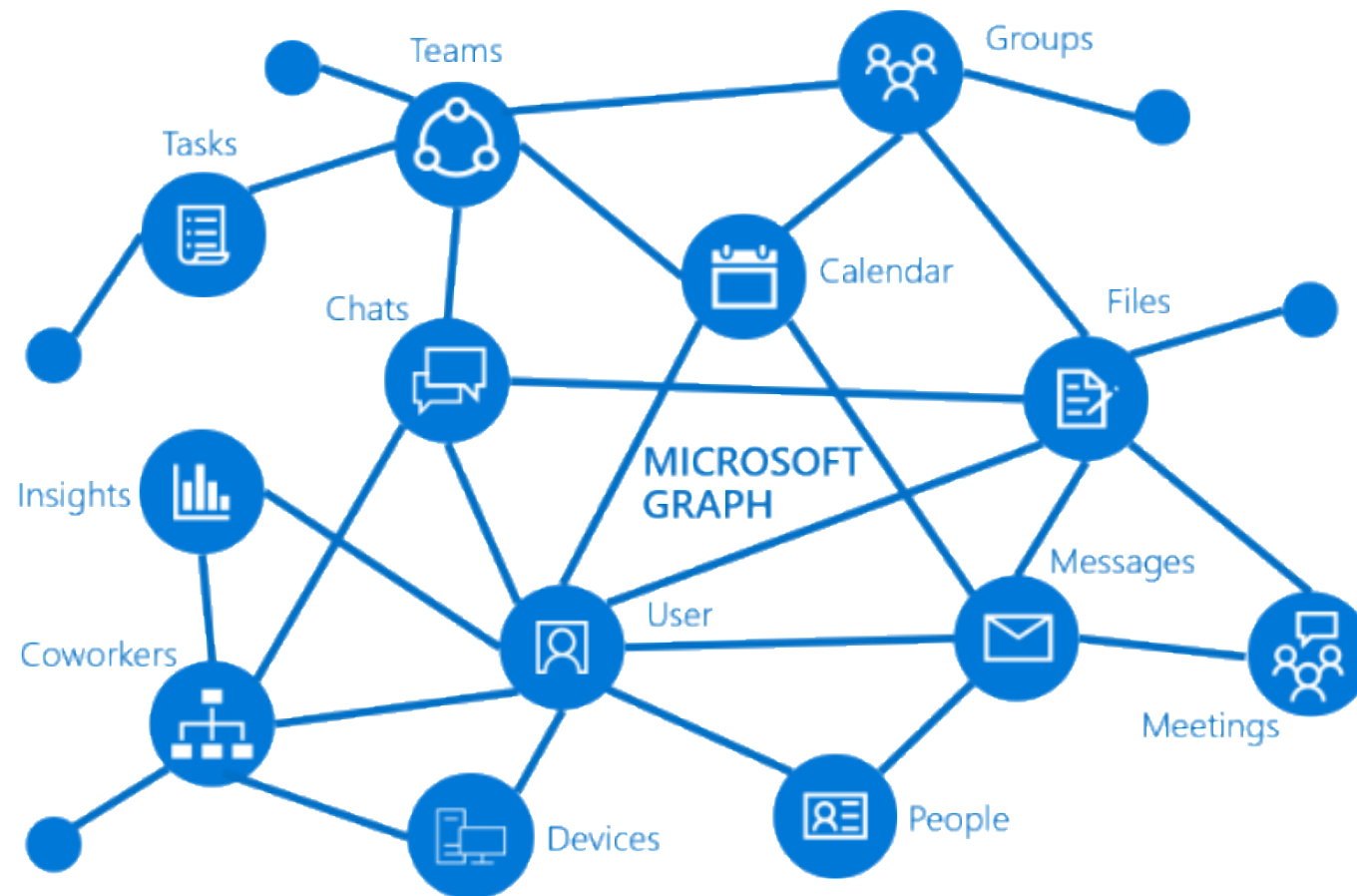
SharePoint and Microsoft Graph

- Our organization added two factor authentication making it impossible to use the Microsoft SharePoint List Reader (not having support for Web Connections).
- The solution was to use Microsoft Graph API with the HTTPCaller authenticating using Web Connections (with support for two factor authentication).



Microsoft Graph

- Gateway to Microsoft 365



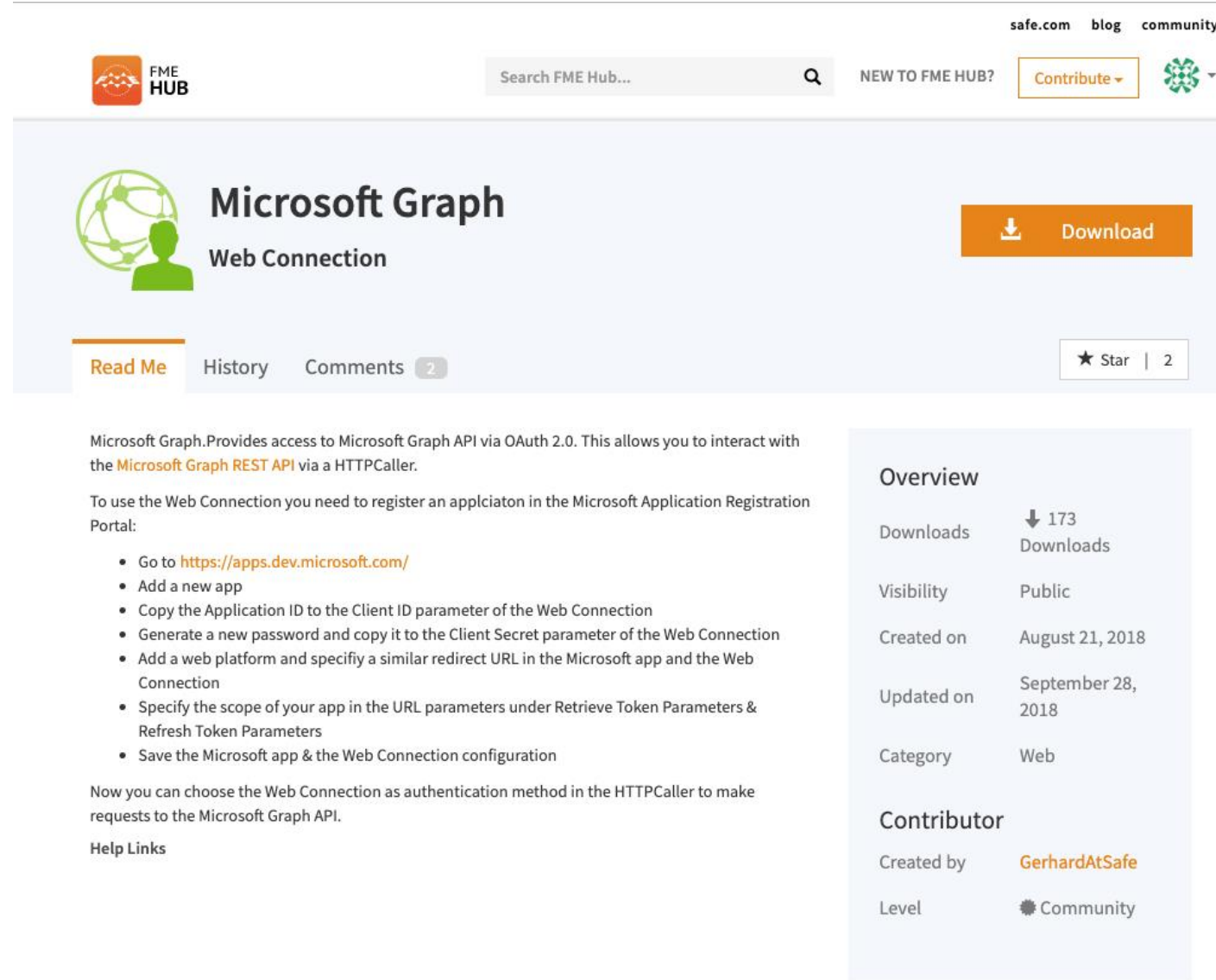
<https://docs.microsoft.com/en-us/graph/api/overview?view=graph-rest-1.0>

Microsoft Graph – What is needed?

- Organization is using Microsoft 365
- Access to create Apps in Microsoft 365
- FME!

Microsoft Graph – How to?

1. Download Microsoft Graph Web Connection from FME Hub*
2. Create App in Microsoft 365



The screenshot shows the FME Hub interface for the 'Microsoft Graph Web Connection'. At the top, there's a navigation bar with links to 'safe.com', 'blog', and 'community'. A search bar is present with the text 'Search FME Hub...'. Below this, the main header for 'Microsoft Graph Web Connection' features a green icon of a person with a globe and a 'Download' button. A 'Read Me' tab is active, showing a detailed description and a list of steps to set up the connection. On the right, an 'Overview' sidebar displays statistics like 173 downloads and the creator 'GerhardAtSafe'.

Microsoft Graph Web Connection

Read Me History Comments 2

Microsoft Graph. Provides access to Microsoft Graph API via OAuth 2.0. This allows you to interact with the **Microsoft Graph REST API** via a HTTPCaller.

To use the Web Connection you need to register an application in the Microsoft Application Registration Portal:

- Go to <https://apps.dev.microsoft.com/>
- Add a new app
- Copy the Application ID to the Client ID parameter of the Web Connection
- Generate a new password and copy it to the Client Secret parameter of the Web Connection
- Add a web platform and specify a similar redirect URL in the Microsoft app and the Web Connection
- Specify the scope of your app in the URL parameters under Retrieve Token Parameters & Refresh Token Parameters
- Save the Microsoft app & the Web Connection configuration

Now you can choose the Web Connection as authentication method in the HTTPCaller to make requests to the Microsoft Graph API.

Help Links

Overview

Downloads	↓ 173 Downloads
Visibility	Public
Created on	August 21, 2018
Updated on	September 28, 2018
Category	Web

Contributor

Created by	GerhardAtSafe
Level	Community

*<https://hub.safe.com/publishers/gerhardatsafe/web-connections/microsoft-graph>

Microsoft Azure

Sök resurser, tjänster och dokument (G+)

anton.sandstrom@swec...
SWECO AB

Start > Appregistreringar > Azure - API-behörigheter

Azure - API-behörigheter

Sök (cmd+)

Översikt

Snabbstart

Hantera

Anpassning

Autentisering

Certifikat och hemligheter

API-behörigheter

Exponera ett API

Ägare

Roller och administratörer (förh...

Manifest

Support och felsökning

Felsökning

Ny supportförfrågan

Uppdatera

Konfigurerade behörigheter

Program har behörighet att anropa API:er när de beviljas behörigheter av användare/administratörer som en del av medgivandeprocessen. Listan över konfigurerade behörigheter ska innehålla alla behörigheter som programmet behöver. [Läs mer om behörigheter och medgivande](#)

Lägg till en behörighet

Bevilja administratörsgodkännande för Sweco AB

Namn på API/behörigheter	Typ	Beskrivning	Administratörsmedgiva...	Status
Microsoft Graph (2)				
Sites.Read.All	Delegerat	Read items in all site collections	-	Beviljat för Sweco AB
User.Read	Delegerat	Sign in and read user profile	-	Beviljat för Sweco AB

13
2019-12-06

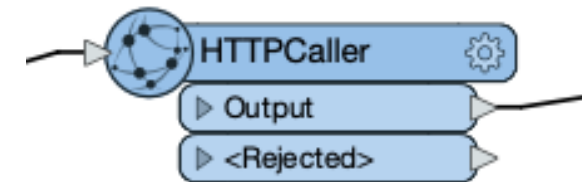
Calls needed to read a SharePoint List

- Get SiteId

GET `https://graph.microsoft.com/v1.0/sites/{hostname}:{server-relative-path}`

- Get Lists

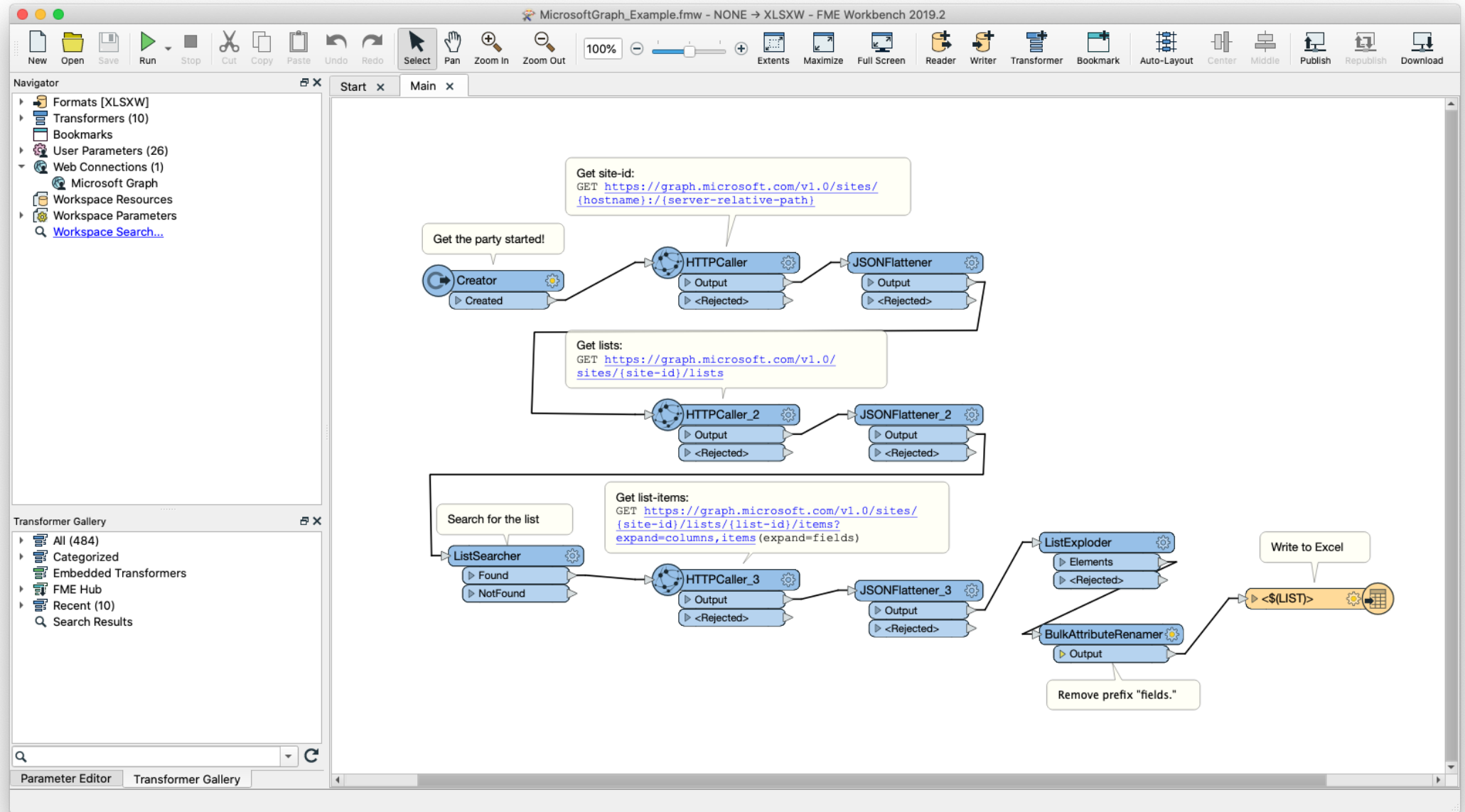
GET `https://graph.microsoft.com/v1.0/sites/{site-id}/lists`



- Get ListItems

GET `https://graph.microsoft.com/v1.0/sites/{site-id}/lists/{list-id}/items`

Demo



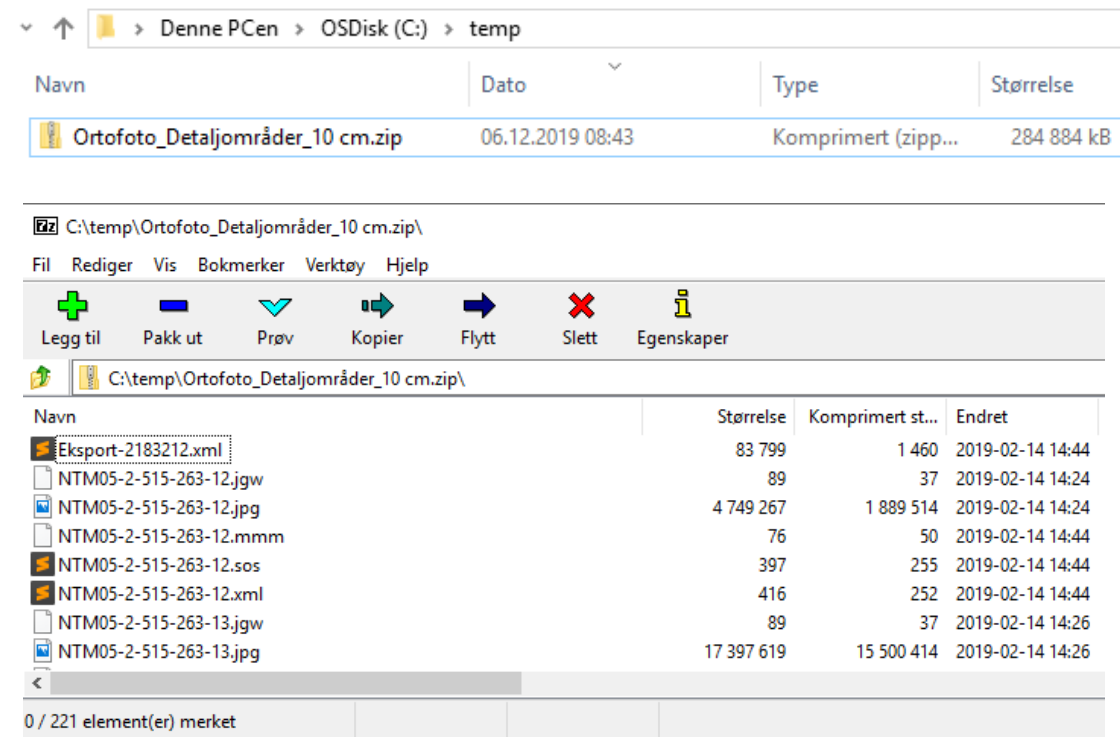
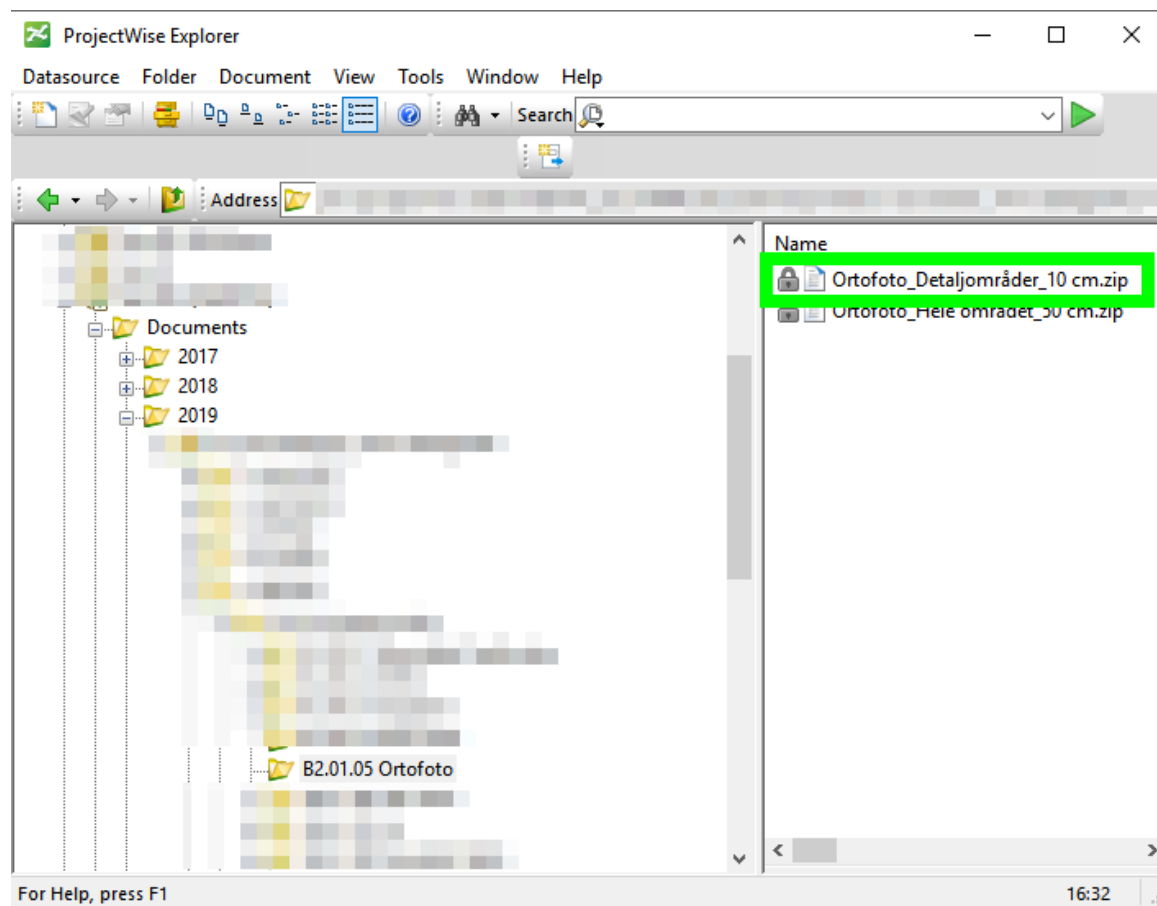
POLL

Do you use Microsoft 365 in your organization?



Bentley Projectwise

- Document management software - <https://www.bentley.com/en/products/brands/projectwise>



Create orthomosaic

How can we do this?

- Find all files in Projectwise folder
- Download files from Projectwise
- Read all jpeg within a zip-file
- Mosaic them together into one file
- Write Geotiff locally
- Upload Geotiff to Projectwise



How to automate this?

FME - DEMO

But I need JPEG? And different coordinate system? And

- DEMO



QC on filenames according to specification

Project demands: A_Architect_Number_Text

- A_Architect_62_Any text and here.jpg (OK)
- B_Architect_Any text and here.jpg (ERROR)

YES!

1. Projectwise Connection + FME → File list
2. VALIDATE
3. Write Excel

	A	B	C	D	E	F	G
1	Filename	Letter	Text	Number	Any text	Extension	Valid
2	A_Architect_62_Any text and here.jpg	A	Architect	62	Any text and	jpg	PASSED
3	B_Architect_Any text and here.jpg	B	Architect		Any text and	jpg	FAILED

Summary

1. FME can connect to any web service (for instance Microsoft Graph, Sharepoint, ProjectWise)
2. You can then integrate any existing FME workspace you have with that service
3. Sweco can help you go further!



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Sigbjørn Tillerli Herstad – sigher@sweco.no



FME World Tour 2020 – Stockholm, Oslo, Utrecht

Questions

- Call for Presentations
- Registration starts in January
- <https://www.safe.com/worldtour/>

